

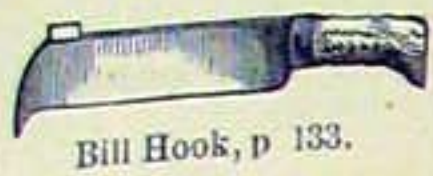
A CLASSIFIED SELECTION OF PICTORIAL ILLUSTRATIONS

FOR

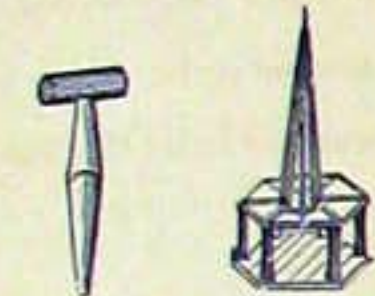
WEBSTER'S UNABRIDGED DICTIONARY.

Where the explanation of the letters or figures in the cut is not given under the cut itself, it may be found under the same cut in the body of the work. For index to the classified heads of arrangement, see p. x.

AGRICULTURE AND HORTICULTURE.



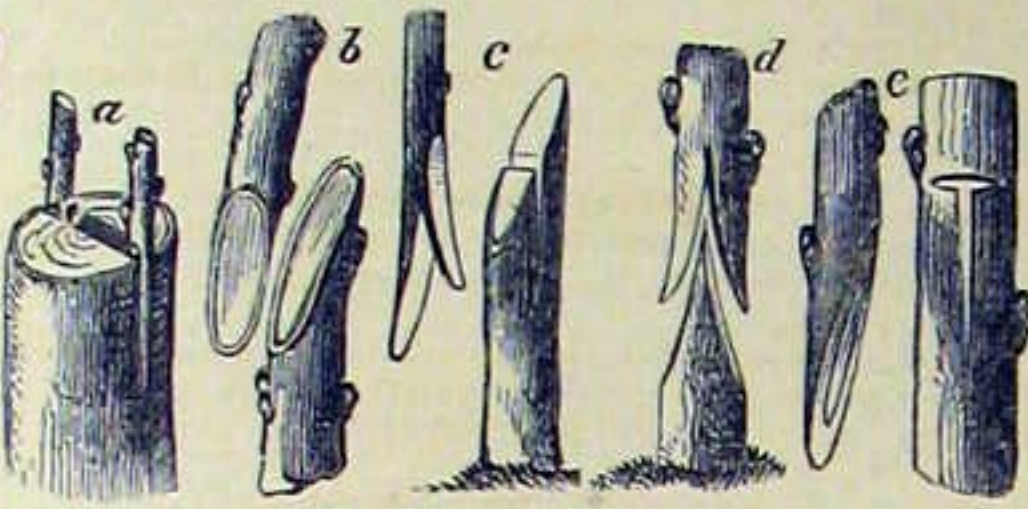
Bill Hook, p. 133.



Dibble, p. 370. S. Stand, p. 1283.

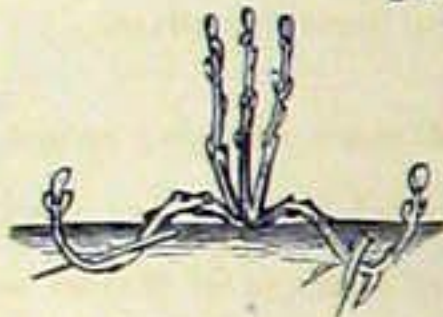


Inarching, p. 671.



Grafting, p. 583.

a, cleft-grafting; b, splice-grafting; c, whip or tongue-grafting; d, saddle-grafting; e, side-grafting.



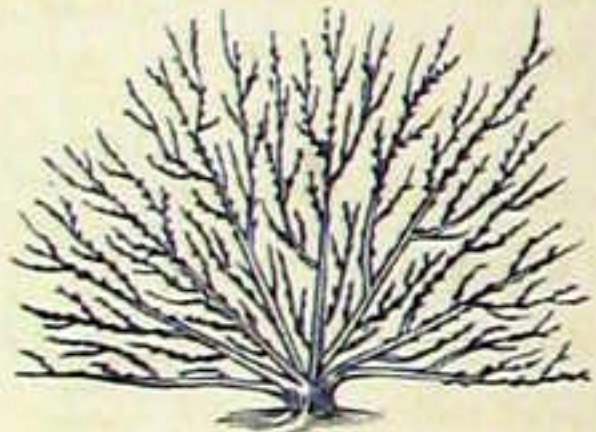
Layers, p. 758.



Quinceunx, p. 1076.

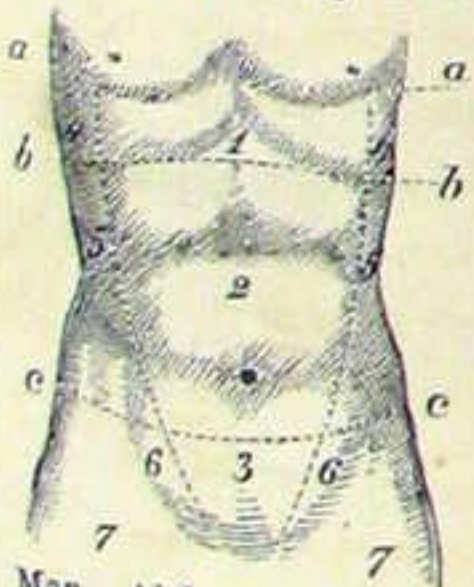


Queneuille Training, 1074.



Fan and Horizontal Training, p. 1401.

ANATOMY, PHYSIOLOGY, PHRENOLOGY, &c.

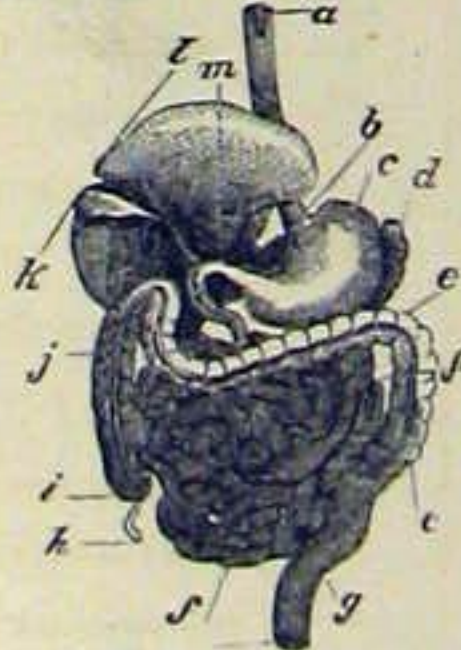


Man. Abdominal Region, p. 3.

Above the line b b (1), epigastric region; below c c, hypogastric region; space between b b and c c (2), umbilical region; space outside vertical lines, upper part (4 4), hypochondriac region; right and left of umbilical (2), lumbar regions (5 5); right and left of hypogastric region (6 6), iliac region; region of the pubis (3); 7, pelvis.

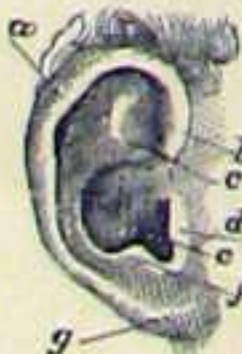


Aorta, p. 61.

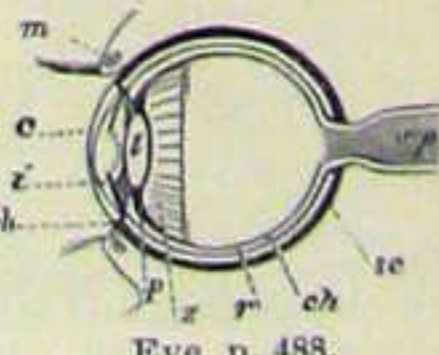


Digestive Apparatus of Man, p. 373.

a, esophagus; b, pancreas; c, stomach; d, spleen; e, colon; f, lesser intestine; g, rectum; h, appendix to caecum; i, caecum; j, larger intestine; k, biliary vesicle; l, liver; m, pylorus.



Ear, p. 423.



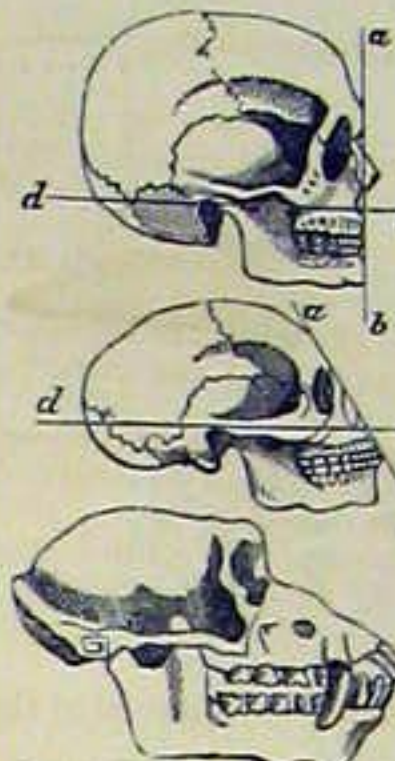
Eye, p. 488.



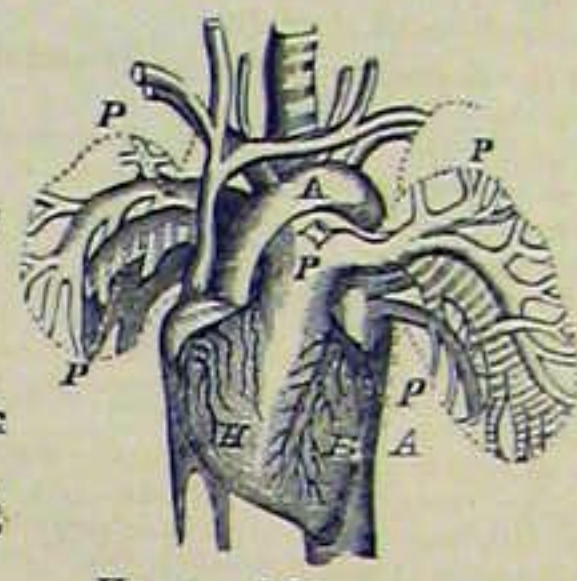
Ball and Socket Joint, p. 104.

a, helix; b, anti-helix; c, scapha or scaphoid (boat-like) fossa; d, tragus; e, anti-tragus; f, the concha; g, lobe or lobulus.

a, optic nerve; ac, sclerotic or external coat of the eye; ch, choroid coat; r, retina; z, zonule of zinn; p, position of the Petition canal; sch, position of the canal of Schlemmi; i, iris, the opening in the center forming the pupil; c, cornea; m, Meibomian glands.



Facial Angles, p. 490. European, African, monkey.



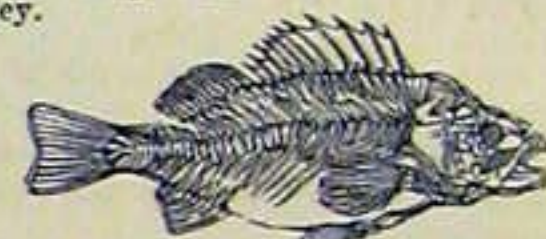
Heart and Lungs, p. 614.

Upper P P, pulmonary arteries; A, aorta; H H, right auricle and ventricle; lower P P, pulmonary veins.

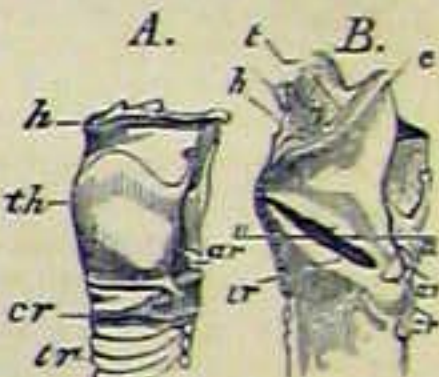


Section of Heart, p. 614.

a, vena cava, sup.; b, pulmonary artery; c, aorta; d, pulmonary artery; e, pulmonary veins; f, left auricle; g, mitral valve; h, left ventricle; i, septum; j, right ventricle; k, vena cava inferior; m, tricuspid valve; n, right auricle; o, pulmonary veins.

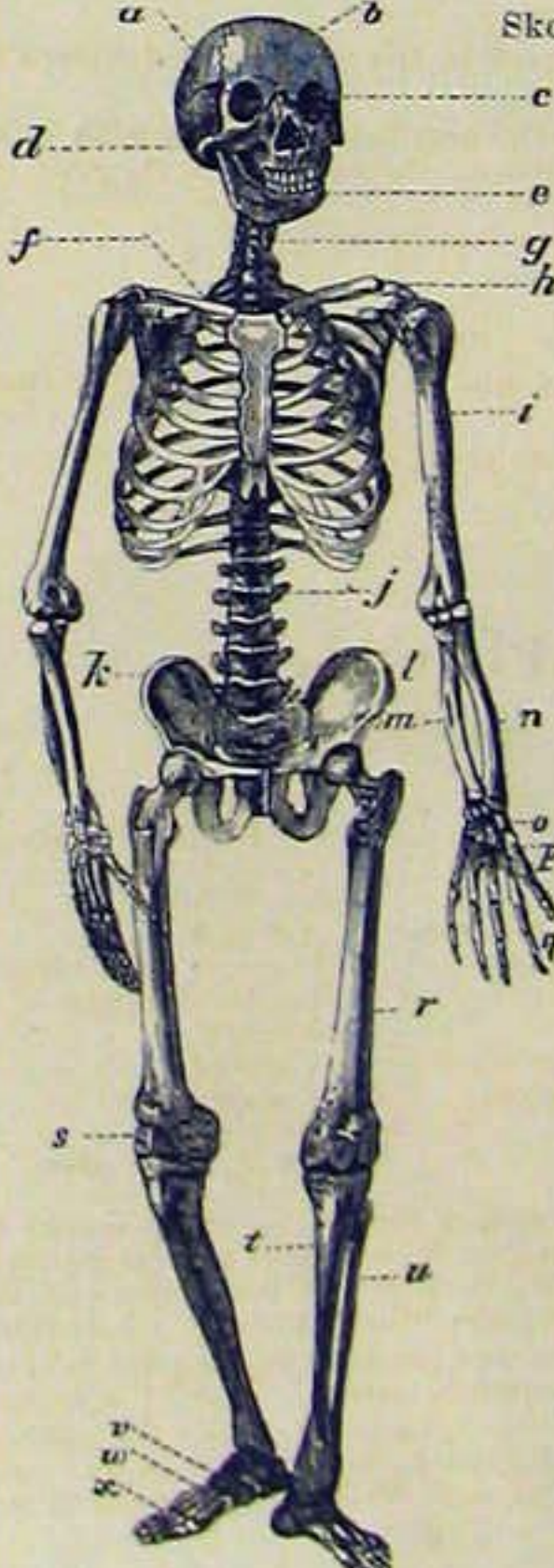


Skeleton of Perch, p. 1237.



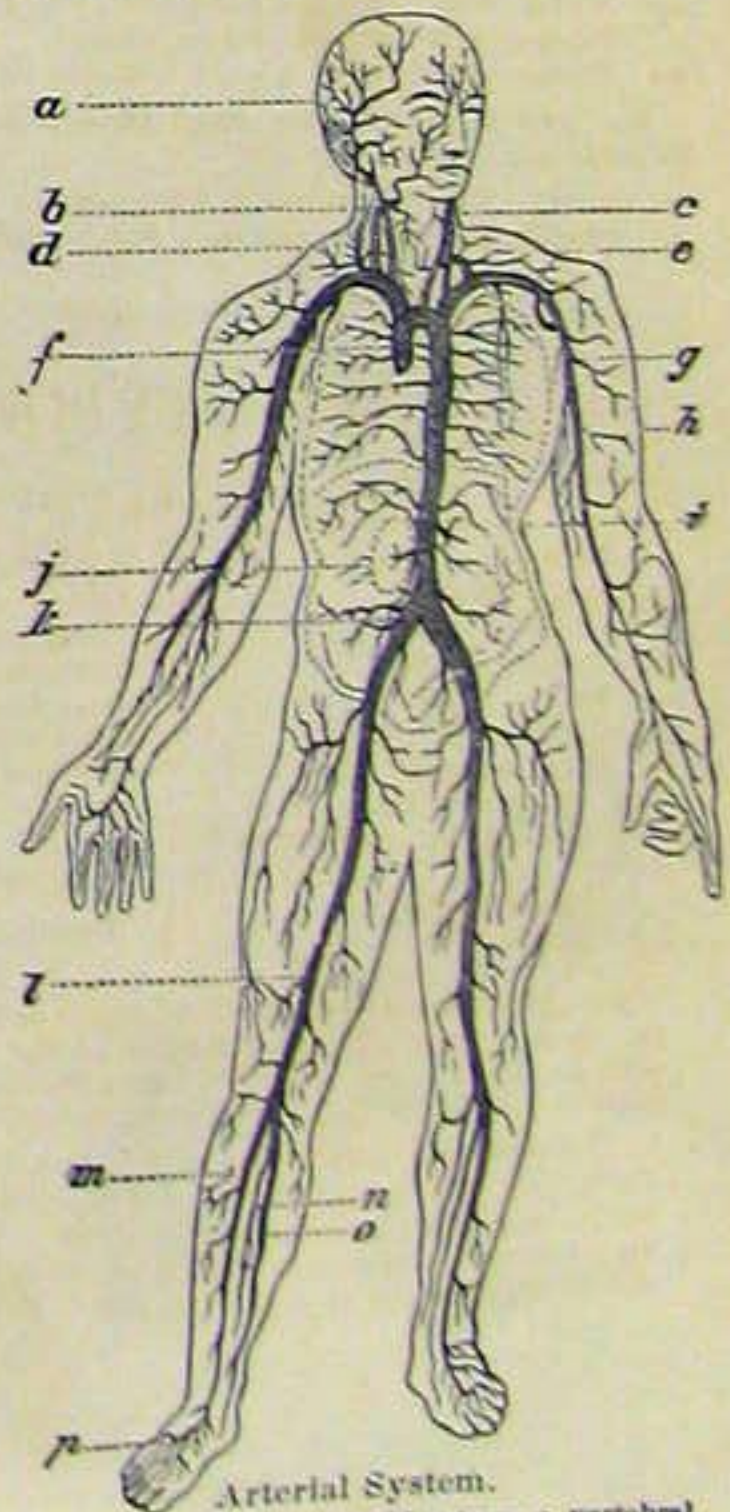
Larynx, p. 753.

A, lateral view of larynx; B, section of larynx; h, hyoid bone; th, thyroid cartilage; ar, arytenoid cartilage; cr, cricoid cartilage; tr, trachea; t, tongue; st, superior vocal cord; ir, inferior vocal cord; r, ventricle.



Skeleton of Man, p. 1237. Bony System.

a, parietal bone; b, frontal bone; c, orbit; d, temporal bone; e, lower jaw; f, clavicle; g, cervical vertebra; h, shoulder-blade; i, humerus; j, lumbar vertebra; k, ilium; m, ulna; n, radius; o, carpus; p, metacarpus; q, phalanges; r, femur; s, patella; t, tibia; u, fibula; v, tarsus; w, metatarsus; x, phalanges.

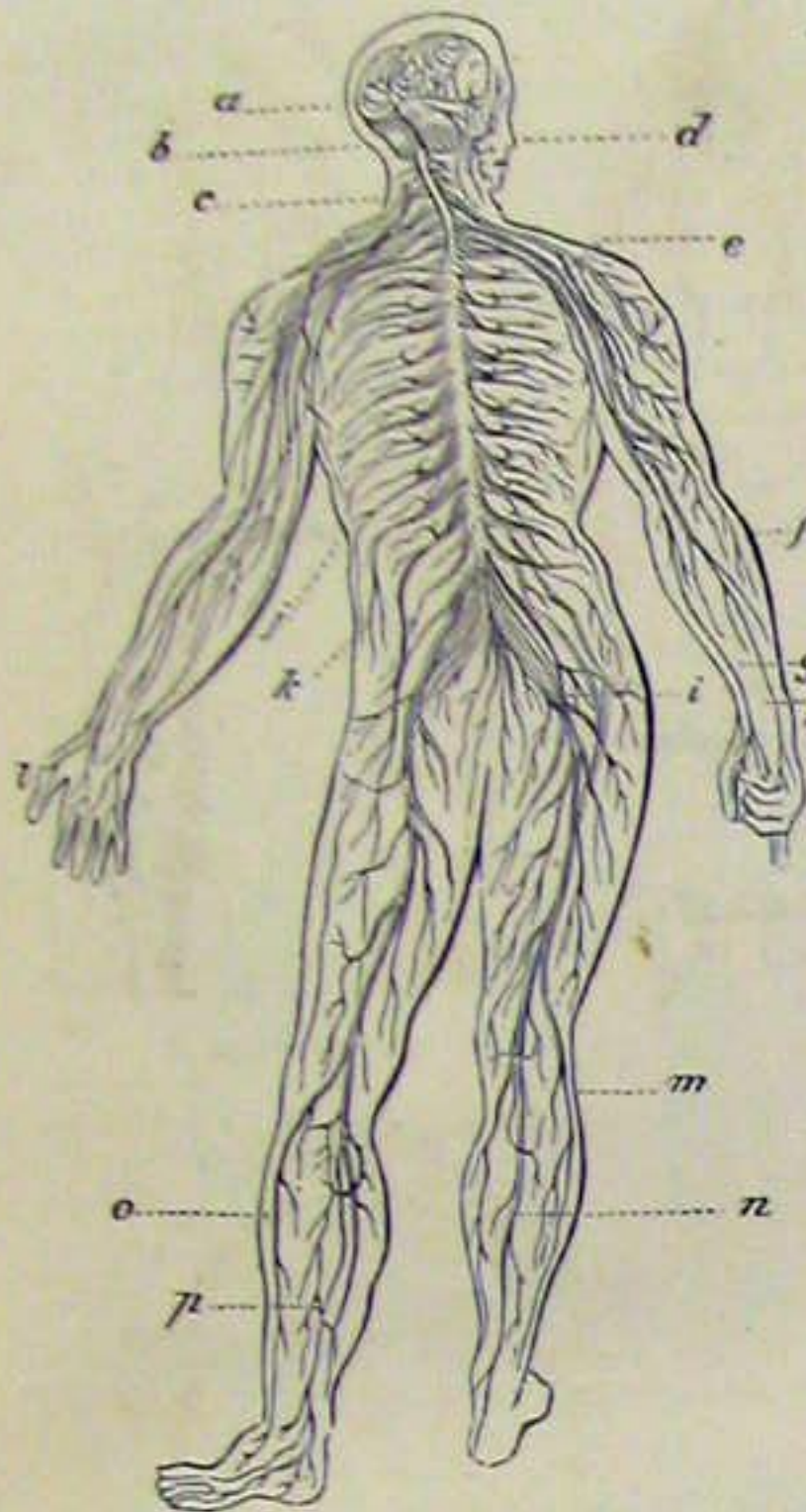


Arterial System.

a, temporal artery; b, carotid artery; c, vertebral artery; d, subclavian artery; e, aorta, or great artery; f, axillary artery; g, brachial artery; h, radial artery; i, ulnar artery; j, renal artery; k, iliac artery; l, femoral artery; m, posterior tibial artery; n, anterior tibial artery; o, peroneal artery; p, pedal artery.

(1697)

ANATOMY, PHYSIOLOGY, &c. — Continued.

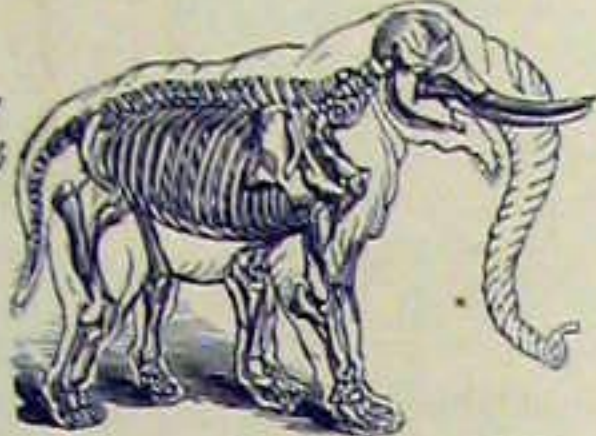


Nervous System, p. 882.

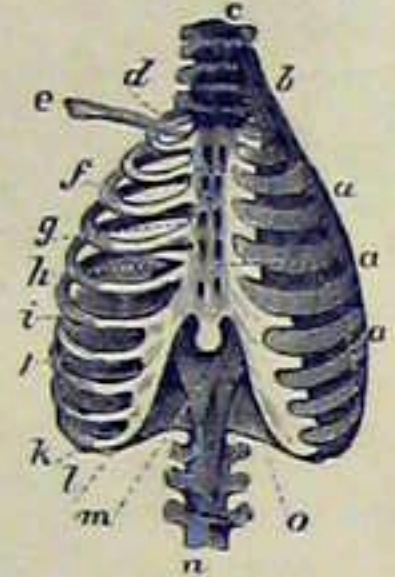
a, brain; b, cerebellum, or lower, or little brain; c, spinal marrow; d, facial nerve; e, brachial plexus, formed by the union of several nerves proceeding from the spinal marrow; f, internal cutaneous nerve of the arm; g, mesial nerve of the arm; h, cubital or ulnar nerve; i, sciatic plexus, giving rise to the principal nerve of the inferior members; j, intercostal nerves; k, femoral plexus; l, radial and muscular cutaneous nerve of the arm; m, o, external peroneal nerve; n, tibial nerve; o, external saphenous nerve.



Lungs, p. 794.

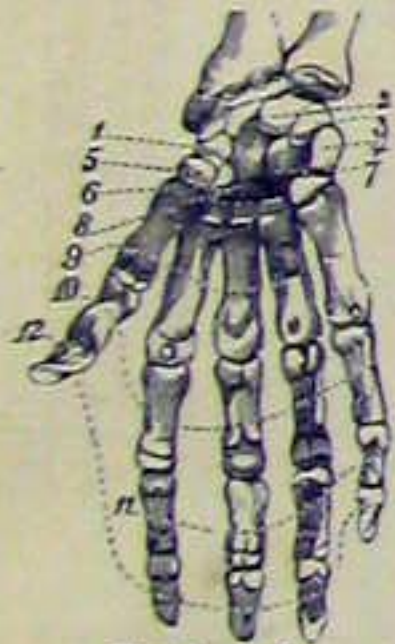


Skeleton of Elephant, p. 1237.



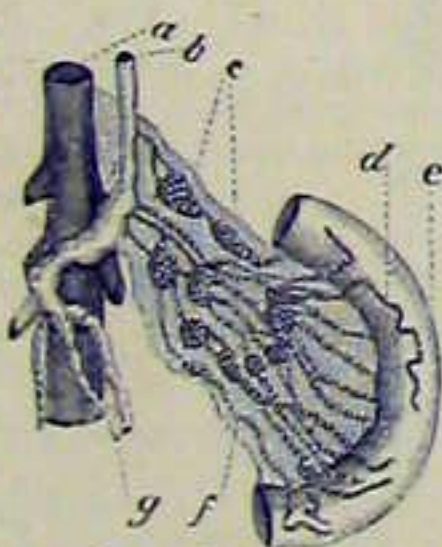
Thorax, p. 1377.

c, n, spine; a, a, a, intercostal muscles; b, chest muscles; d, thoracic muscles; e, clavicle; f, third rib; g, sternum, or breast-bone; h, diaphragm; i, j, ribs; k, l, false ribs; m, o, base of diaphragm.



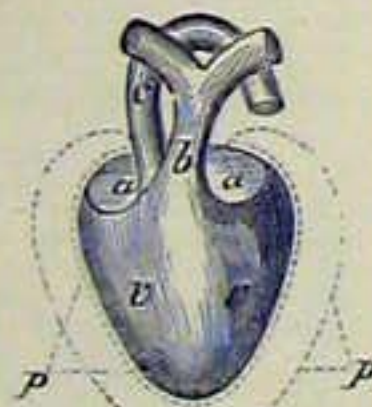
Hand, p. 604.

1, scaphoides; 2, groove for flexor carpi radialis tendon; 3, cuneiform; 4, lunare; 5, trapezium; 6, uncliform; 7, trapezoides; 8, magnum; 9, five metacarpal bones; 10, first row of phalanges; 11, second row of phalanges; 12, third row of phalanges.



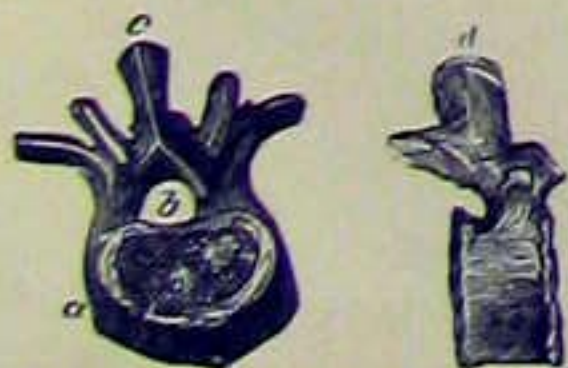
Lacteals, p. 747.

a, aorta; b, thoracic canal; c, lymphatic glands; d, radicals of the chyloferous vessels; e, intestine; f, mesentery; g, lacteals.



Pericardium, p. 970.

a, a, auricles; v, v, ventricles; b, c, vessels proceeding from the heart; p, p, serous membrane.



Vertebrae in Man, p. 1471.

a, atlas, or vertebra supporting the head; b, ring; c, spinous process; d, dorsal vertebra.

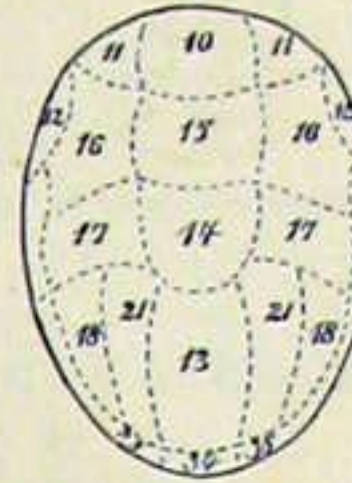
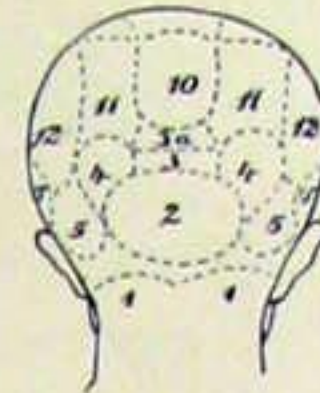


Spinal col. in Man, p. 1272.



Teeth, p. 1393.

a, a, incisors; b, canine; c, c, bicuspid; d, d, d, molars.



Phrenology, p. 982.

1, Amativeness; 2, Philoprogenitiveness; 3, Concentrativeness; 3 a, Inhabitiveness; 4, Adhesiveness; 5, Combaticiveness; 6, Destructiveness; 6 a, Alimentiveness; 7, Secretiveness; 8, Acquisitiveness; 9, Constructiveness; 10, Self-esteem; 11, Love of approbation; 12, Cautiousness; 13, Benevolence; 14, Veneration; 15, Firmness; 16, Conscientiousness; 17, Hope; 18, Wonder; 19, Ideality; 19 a, (Not determined); 20, Wit; 21, Imitation; 22, Individuality; 23, Form; 24, Size; 25, Weight; 26, Coloring; 27, Locality; 28, Number; 29, Order; 30, Eventuality; 31, Time; 32, Tune; 33, Language; 34, Comparison; 35, Causality.

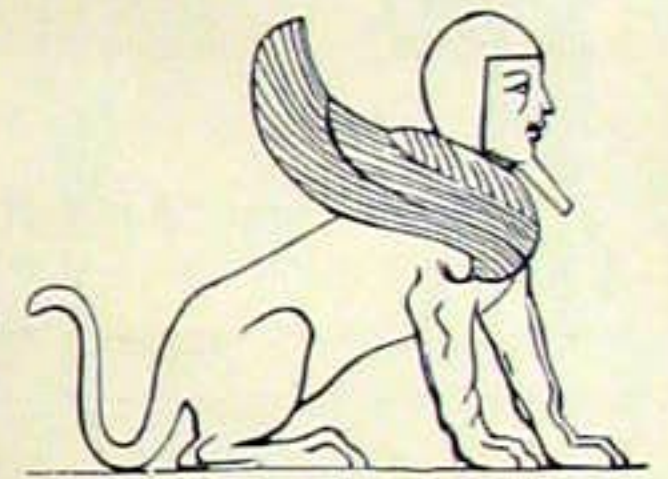
ANTIQUITIES.—DRESS, UTENSILS, &c.



Amphora, p. 47.



Ark of the Covenant, p. 74.



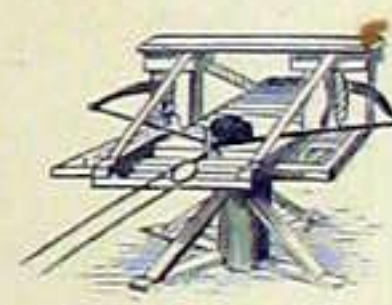
Androsphinx, p. 51.



Ampulla, p. 47.



Ampyx, p. 47.



Ballista, p. 104.



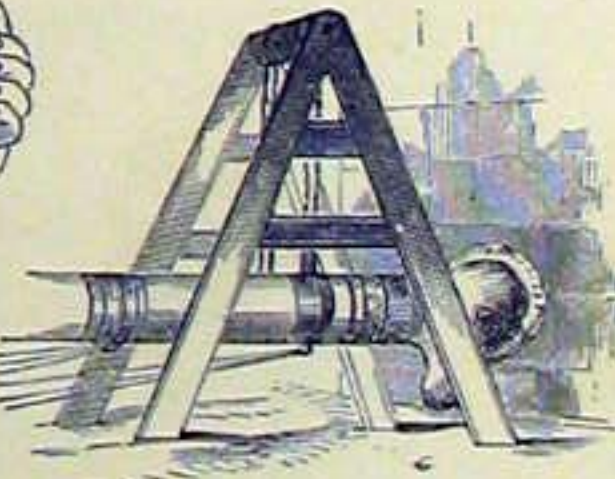
Clepsydra, p. 238.



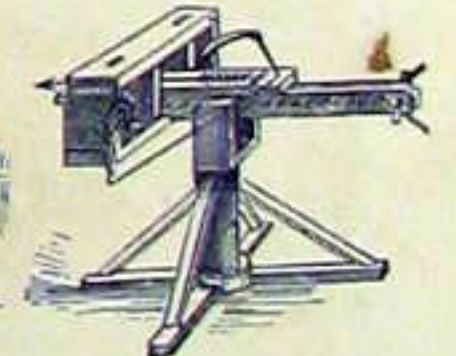
Cestus, p. 213.



Gauntlet, p. 561.



Battering Ram, p. 114.



Catapult, 205.



Colossus of Rhodes, p. 252.



Corium, p. 294.

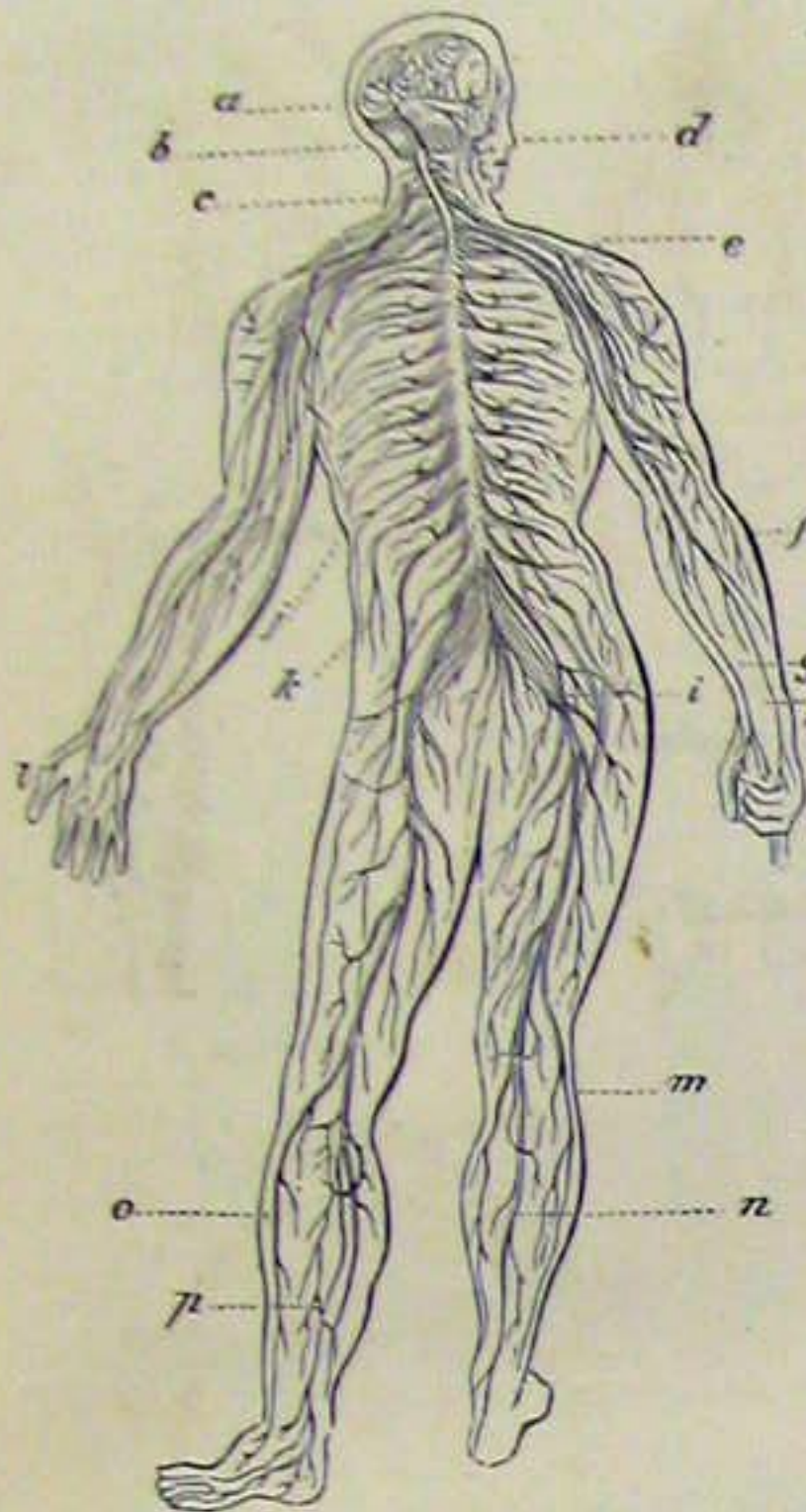


Hieroglyphics (from an Egyptian obelisk), p. 626.



Fasces, p. 497.

ANATOMY, PHYSIOLOGY, &c. — Continued.

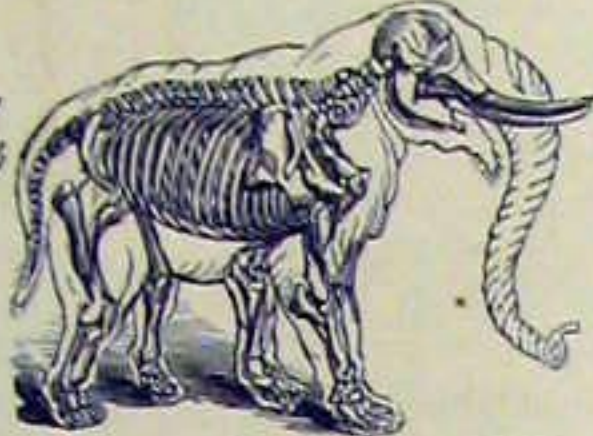


Nervous System, p. 882.

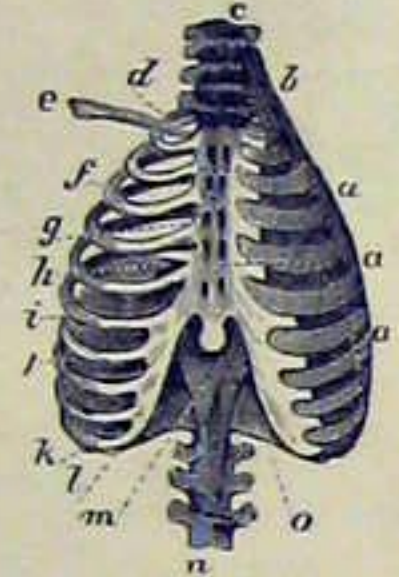
a, brain; b, cerebellum, or lower, or little brain; c, spinal marrow; d, facial nerve; e, brachial plexus, formed by the union of several nerves proceeding from the spinal marrow; f, internal cutaneous nerve of the arm; g, mesial nerve of the arm; h, cubital or ulnar nerve; i, sciatic plexus, giving rise to the principal nerve of the inferior members; j, intercostal nerves; k, femoral plexus; l, radial and muscular cutaneous nerve of the arm; m, o, external peroneal nerve; n, tibial nerve; o, external saphenous nerve.



Lungs, p. 794.

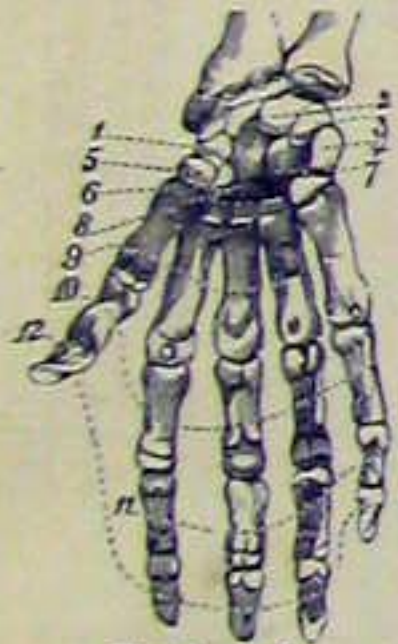


Skeleton of Elephant, p. 1237.



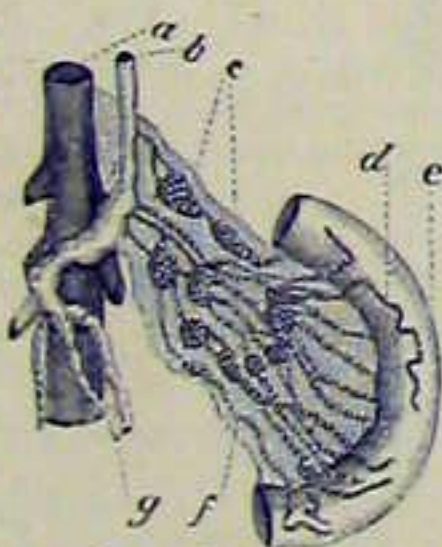
Thorax, p. 1377.

c, n, spine; a, a, a, intercostal muscles; b, chest muscles; d, thoracic muscles; e, clavicle; f, third rib; g, sternum, or breast-bone; h, diaphragm; i, j, ribs; k, l, false ribs; m, o, base of diaphragm.



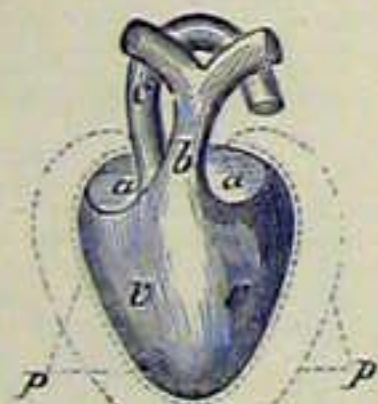
Hand, p. 604.

1, scaphoides; 2, groove for flexor carpi radialis tendon; 3, cuneiform; 4, lunare; 5, trapezium; 6, uncliform; 7, trapezoides; 8, magnum; 9, five metacarpal bones; 10, first row of phalanges; 11, second row of phalanges; 12, third row of phalanges.



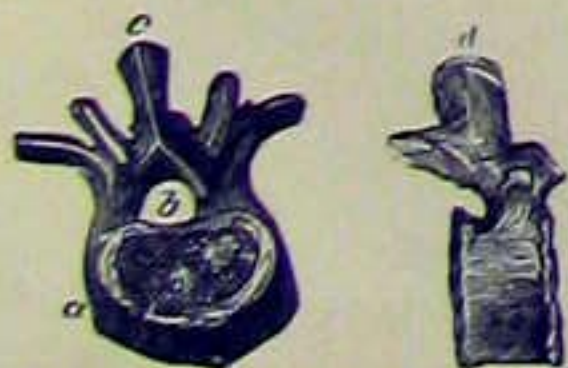
Lacteals, p. 747.

a, aorta; b, thoracic canal; c, lymphatic glands; d, radicals of the chyloferous vessels; e, intestine; f, mesentery; g, lacteals.



Pericardium, p. 970.

a, a, auricles; v, v, ventricles; b, c, vessels proceeding from the heart; p, p, serous membrane.



Vertebrae in Man, p. 1471.

a, atlas, or vertebra supporting the head; b, ring; c, spinous process; d, dorsal vertebra.

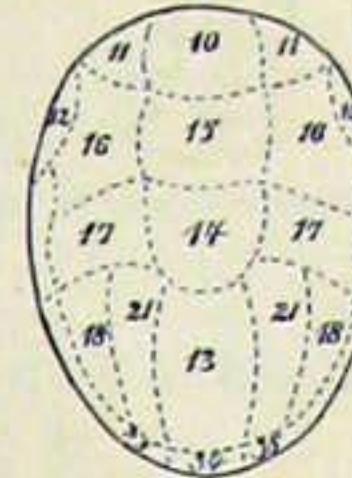
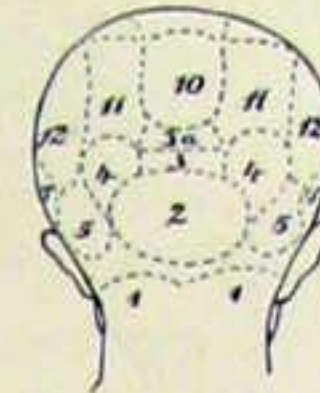


Spinal col. in Man, p. 1272.



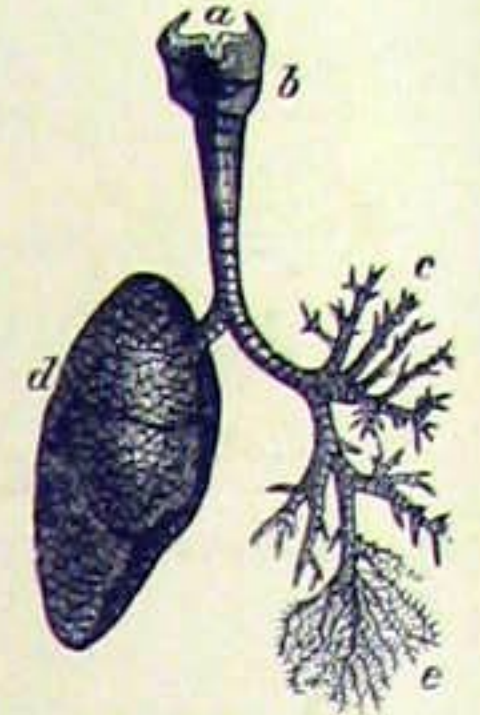
Teeth, p. 1393.

a, a, incisors; b, canine; c, c, bicuspid; d, d, d, molars.



Phrenology, p. 982.

1, Amativeness; 2, Philoprogenitiveness; 3, Concentrativeness; 3 a, Inhabitiveness; 4, Adhesiveness; 5, Combaticiveness; 6, Destructiveness; 6 a, Alimentiveness; 7, Secretiveness; 8, Acquisitiveness; 9, Constructiveness; 10, Self-esteem; 11, Love of approbation; 12, Cautiousness; 13, Benevolence; 14, Veneration; 15, Firmness; 16, Conscientiousness; 17, Hope; 18, Wonder; 19, Ideality; 19 a, (Not determined); 20, Wit; 21, Imitation; 22, Individuality; 23, Form; 24, Size; 25, Weight; 26, Coloring; 27, Locality; 28, Number; 29, Order; 30, Eventuality; 31, Time; 32, Tune; 33, Language; 34, Comparison; 35, Causality.



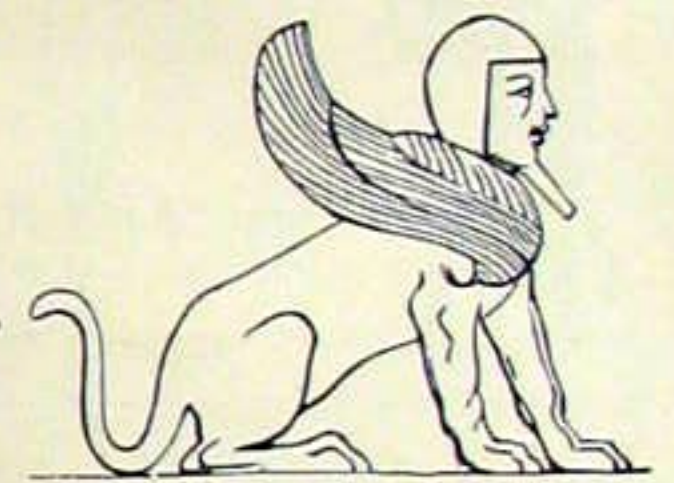
Trachea, p. 1398.

a, larynx; b, trachea; c, bronchial divisions; d, one of the lungs; e, bronchial ramifications.

ANTIQUITIES.—DRESS, UTENSILS, &c.



Amphora, p. 47.



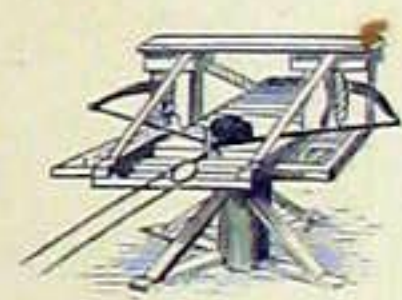
Androsphinx, p. 51.



Ampulla, p. 47.



Ampyx, p. 47.



Ballista, p. 104.



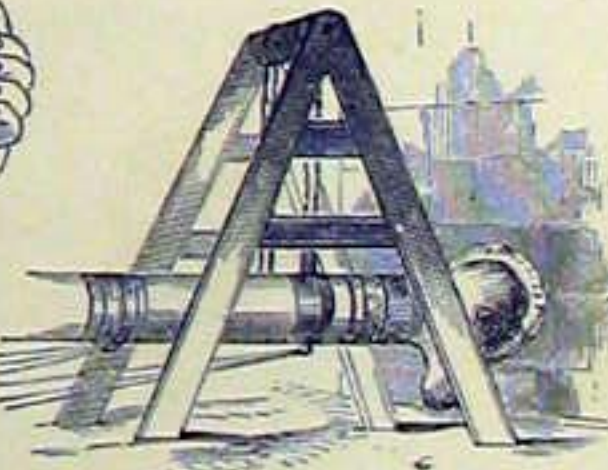
Clepsydra, p. 238.



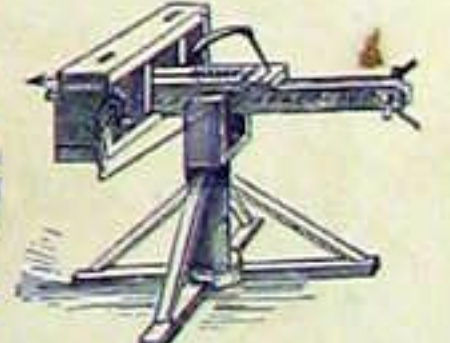
Cestus, p. 213.



Gauntlet, p. 501.



Battering Ram, p. 114.



Catapult, 205.



Colossus of Rhodes, p. 252.



Corium, p. 294.



Hieroglyphics (from an Egyptian obelisk), p. 626.



Fasces, p. 497.

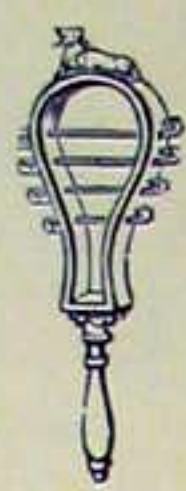
ANTIQUITIES, DRESS, Etc.—Continued.



Gladiator, p. 571.



Scutum, p. 1188.



Sistrum, p. 1235.



Tasset or Tace, p. 1355.



Obelisk, p. 900.



Toga, p. 1390.



Trident, p. 1412.



Ancient War horse, caparisoned, p. 1492.

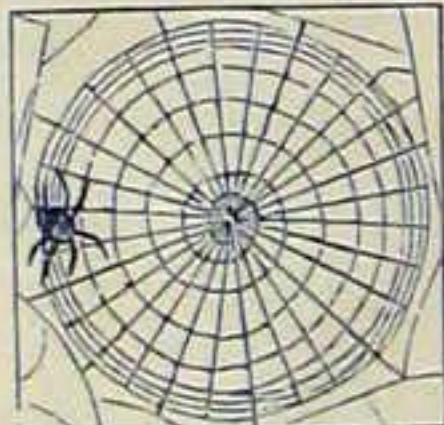
ARACHNIDANS.



Arachnid (Mygale fodiens), p. 70.



Garden Spider, p. 70.



Geometric Net of Garden Spider, p. 1271.



Scorpion, p. 1182.



Spinneret of a Spider, magnified, p. 1272.



Nest of Trap-door Spider, p. 1406.

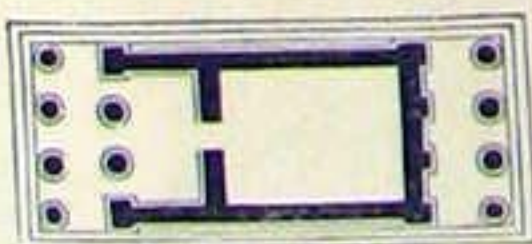


Tarantula, p. 1354.

ARCHITECTURE.



Acroteria, p. 16.



Amphiprostyle, p. 47.



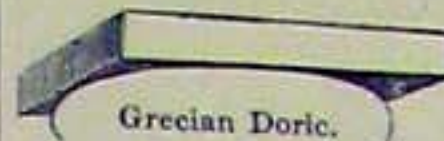
Amphitheater, p. 47.



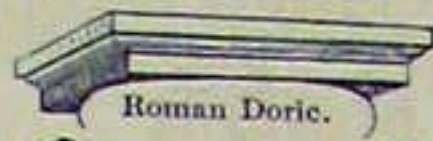
Antefixa, p. 57.



Annulet, p. 55.



Grecian Doric.



Roman Doric.



Corinthian Doric.

Abacus, p. 1.



Abbey, p. 3.



Acanthus, p. 9.



Antæ, p. 56.



Arcade, p. 71.



Astragal, p. 86.



Atlantes, p. 88.

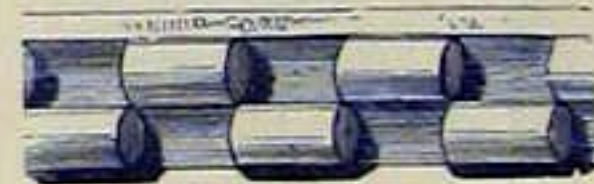


Balcony, p. 103.

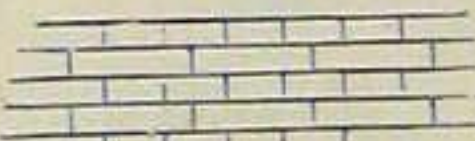


Arch, p. 71.

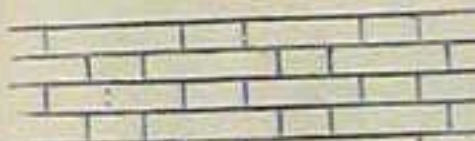
K, keystone; S, S, springers; I, I, impost, or plat-band; C, chord, or span of arch; C, C, columns.



Billet, p. 133.



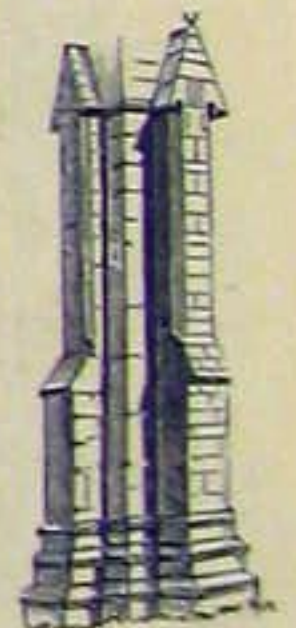
English Bond, p. 150.



Flemish Bond, p. 150.



Bracket, p. 157.



Buttress, p. 179.



Bucrania, p. 171.



Capitals, p. 194.

1, Gothic; 2, Composite; 3, Tuscan; 4, Ionic; 5, Doric; 6, Corinthian.



Cantilever, p. 192.



Castellated, p. 203.



Caryatid, p. 201.

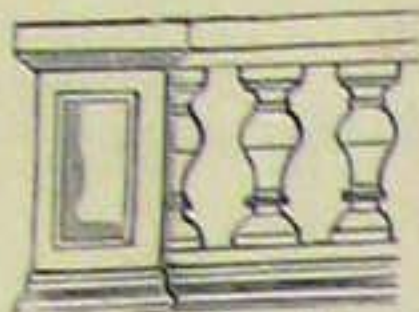


Catherine-wheel Window, p. 206.



Chaptrel, p. 218.

ARCHITECTURE — Continued.



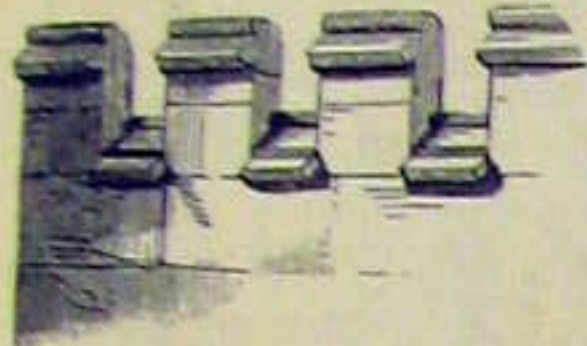
Balustrade, p. 105.



Band, p. 105.



Bartizan, p. 111.



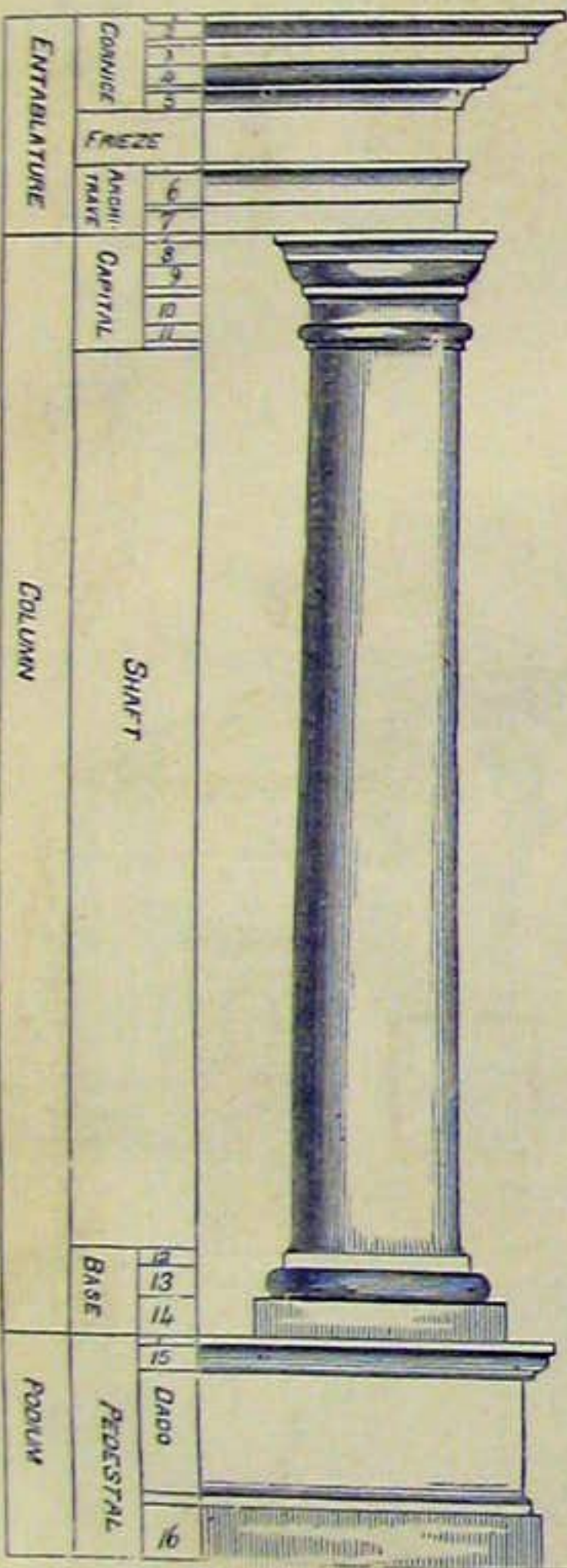
Battlement, p. 115.



Bay-window, p. 115.



Canopy, p. 192.



Column, p. 253.

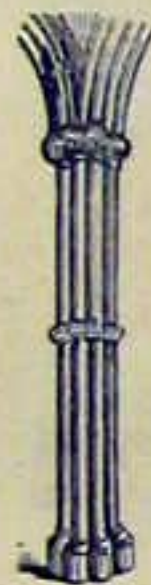
1, fillet; 2, cyma recta; 3, corona; 4, ovolo; 5, cavetto; 6, upper fascia; 7, lower fascia; 8, abacus; 9, ovolo; 10, colareno, or neck; 11, astragal; 12, fillet, or reglet; 13, torus; 14, plinth; 15, surbase; 16, base.



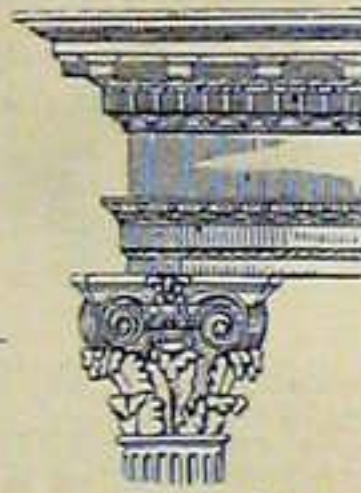
Chevron, p. 223, def. 3.



Cinque foil, p. 231.



Clustered Column, p. 243.



Composite Order, p. 263.



Consoles, p. 279.



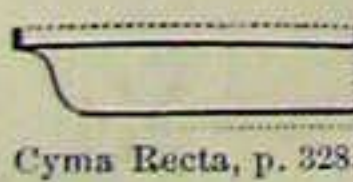
Curb-roof, p. 324.



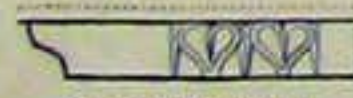
Corbels, p. 293.



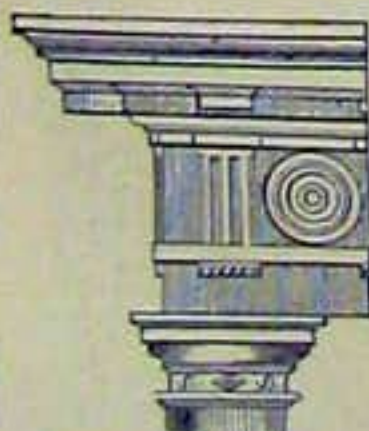
Cupola, p. 323, def. 1.



Cyma Recta, p. 328.



Cyma Reversa, p. 328.



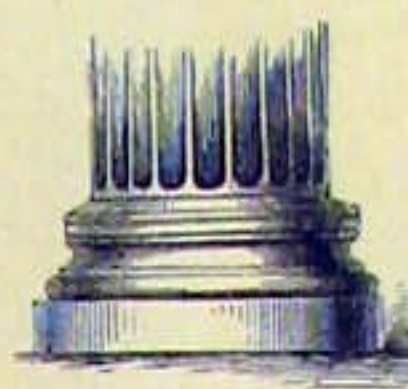
Doric Order, p. 405.



Entablature, p. 451.



Baldachin, p. 104.



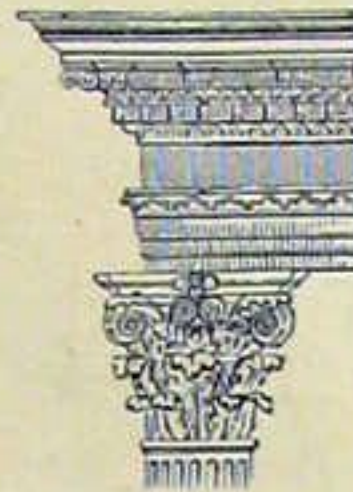
Base, p. 111.



Bastion, p. 113.



Crenelated Molding, p. 311.



Corinthian Order, p. 294.



Cornice, p. 295.



Crocket, p. 314.



Dormer Window, p. 405.



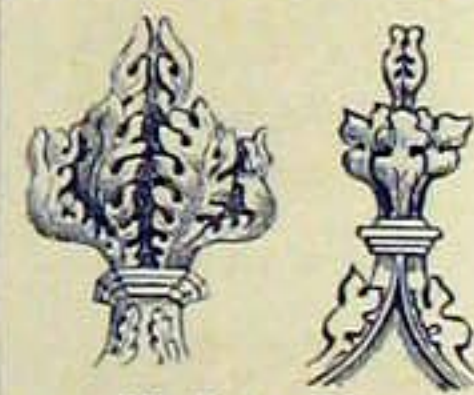
Echinus, p. 47.



Festoon, p. 507.



Engaged Column, p. 448.



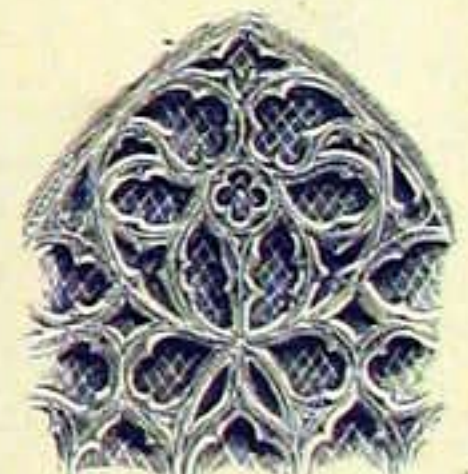
Finials, p. 515.



Flying-buttress, p. 526.



Folios, p. 527.



Foliations, p. 528.



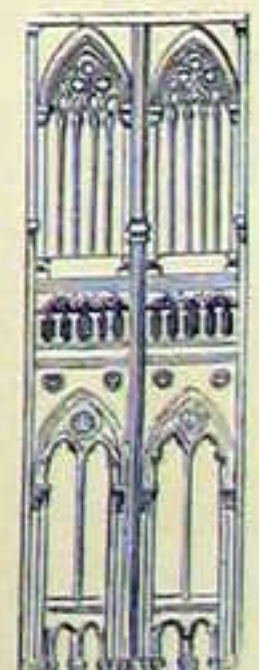
Fret, p. 543.



Gable, p. 553.



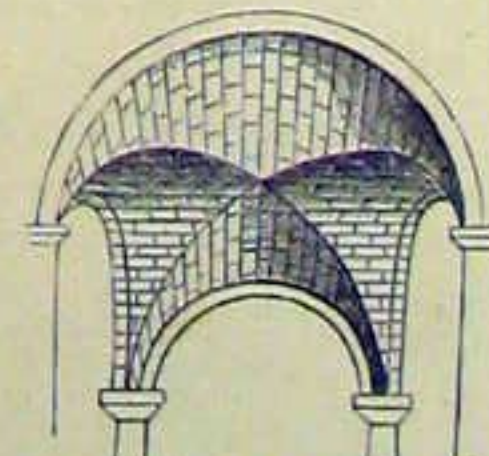
Gargoyle, p. 559.



French Gothic Window, Tournay Cathedral, p. 581.



Guilloche, p. 595.



Groined Arch, p. 591.

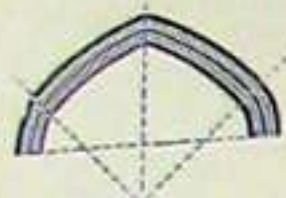


Guttae, p. 598.

ARCHITECTURE—Continued.



Hammer-beam Roof, p. 604.



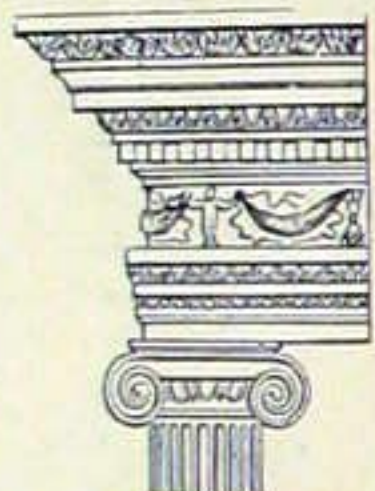
Haunch, four-centered Arch, p. 604.



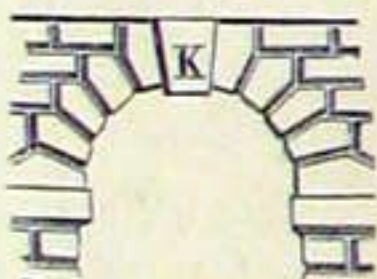
Hanging-buttness, p. 606.



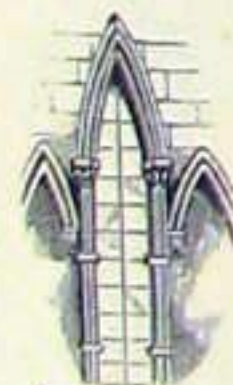
Hip roof, p. 629.



Ionic Order, p. 715.



K, key-stone, p. 737.



Lancet Window, p. 749.



Lattice-work, p. 755.



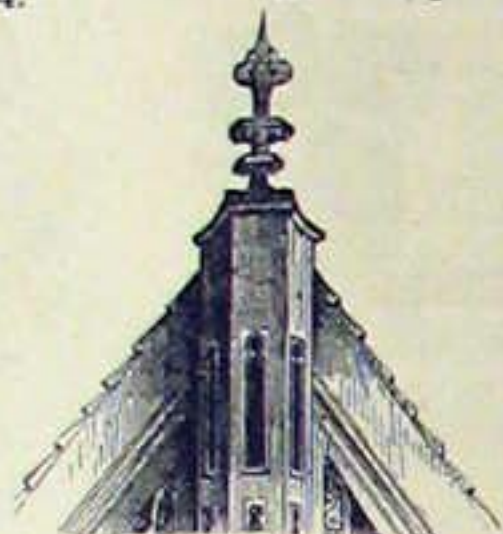
Metope p. 835.



Haunch, p. 611.
A A, haunches of an arch.



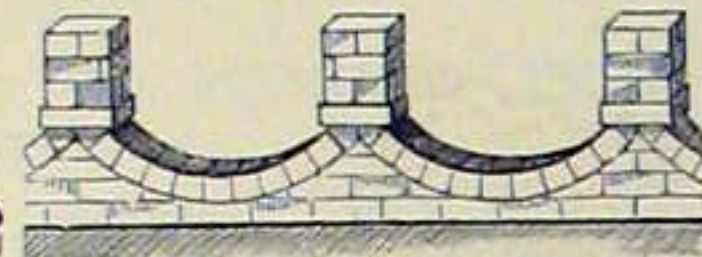
Helices, p. 619.



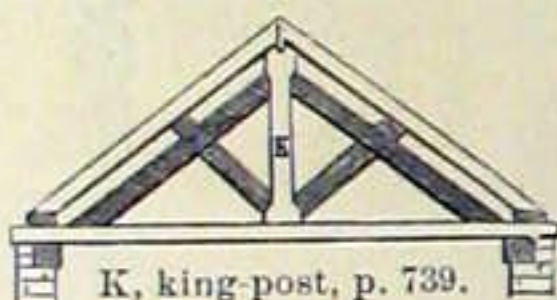
Hip-knob, p. 628.



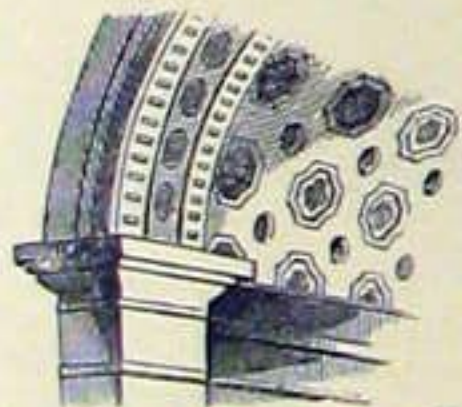
Impost, p. 666.



Inverted Arches, p. 713.



K, king-post, p. 739.



Lacunars in Ceiling, p. 747.



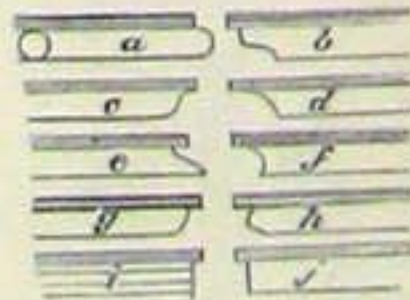
Leaves, p. 761.



Linen-scroll, p. 776.



Louver Window, p. 790.



Moldings, p. 851.

a, astragal; b, ogee; c, cymatium; d, cavetto; e, scotia, or casement; f, apophyses; g, ovolo, or quarter round; h, torus; i, reeding; j, band.



Hood-molding, p. 636.
a a, hood-moldings.



Inclave, p. 673.



Interlacing Arches, p. 706.



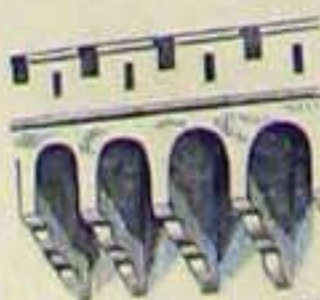
Lattice-window, p. 755.



Lozenge Molding, p. 791.



Lotus, p. 790.



Machicolation, p. 797.



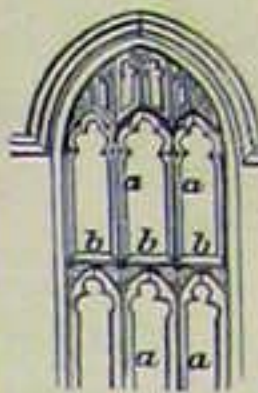
Moorsque Moorish Capital, p. 859.



Modillion, p. 850.



Moorsque Moorish Archway, p. 859.



Mullions, p. 866.
a a, mullions; b b b, transom.



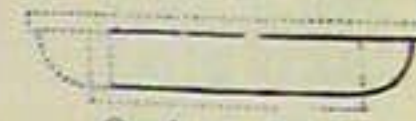
Multifol, p. 866.



Mutule, p. 871.



Niche, p. 885.



Ovolo, p. 934.



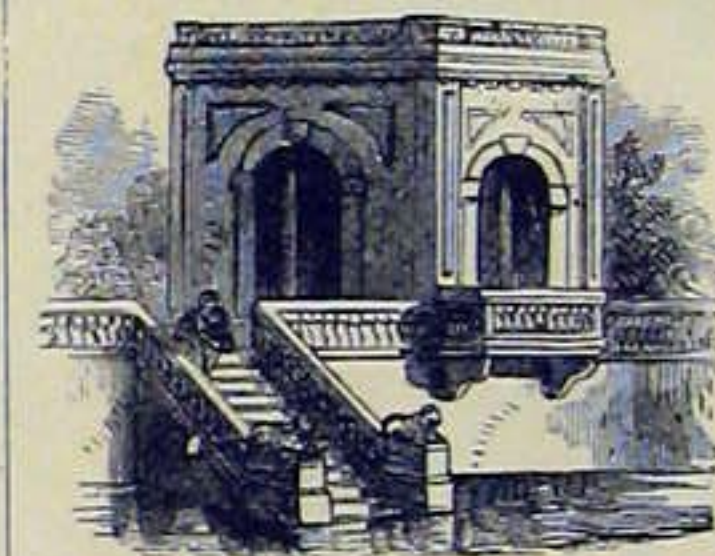
Patera, p. 956.



Nave, p. 877.



Oriel, p. 921.



Pavilion, p. 959.



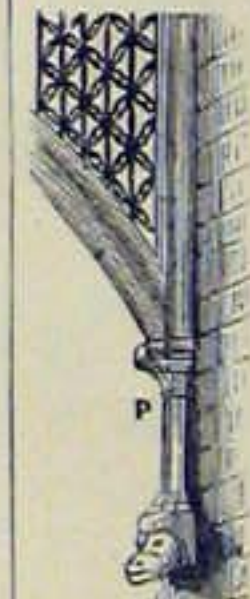
Pedestal, p. 962.



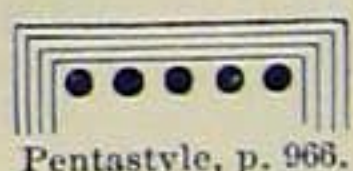
Pendant, p. 964.



Pediment, p. 962.
a, pediment; b, cornice.



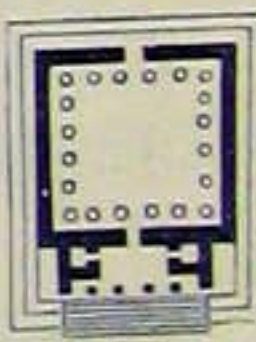
Pendant-post, p. 964.



Pentastyle, p. 966.



Pent Roof, p. 967.



Peristyle, p. 971.



Pilaster, p. 986.



Pinnacle, p. 989.



Pitch of a Roof, p. 992.
A B C, A B D, Roman pitch; A E B, Gothic pitch; A F B, A G B, Elizabethan pitch.



Porch, p. 1013.



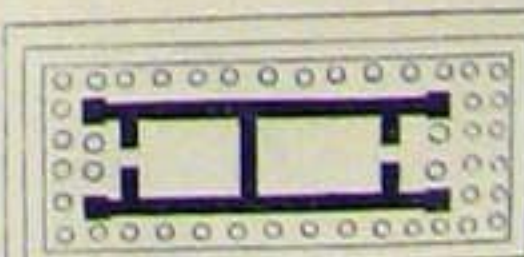
Portico, p. 1015.



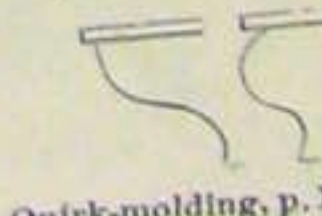
Poppy-head, p. 1012.



Quarterfoil, p. 1073.



Pseudo-dipteral, p. 1056.



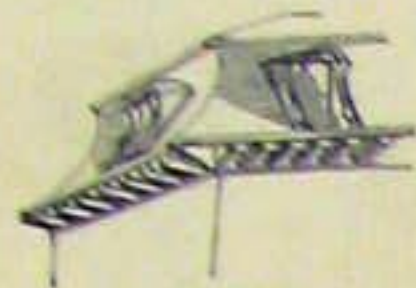
Quirk-molding, p. 1077.



Queen-post Roof, p. 1074.

a, a, queen-posts; b, tie-beams; c, c, struts or braces; d, d, purlins; e, straining beam; f, f, common rafters; g, g, wall-plates; A, ridge-piece.

ARCHITECTURE — Continued.



French Roof.



Ogee Roof.



Hip Roof.



Conical Roof.



Curb Roof.



M Roof.



Gable Roof.



Shed Roof.

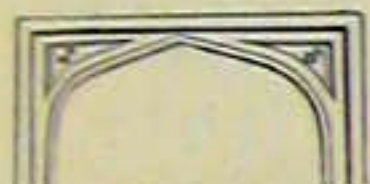
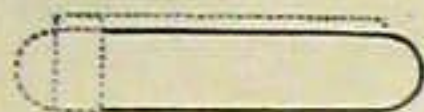
Roofs, p. 1147.



Scroll, p. 1186.



Soffits, p. 1253.

s, s, Spandrels,
p. 1264.Straight-arch,
p. 1304.

Torus, p. 1396.



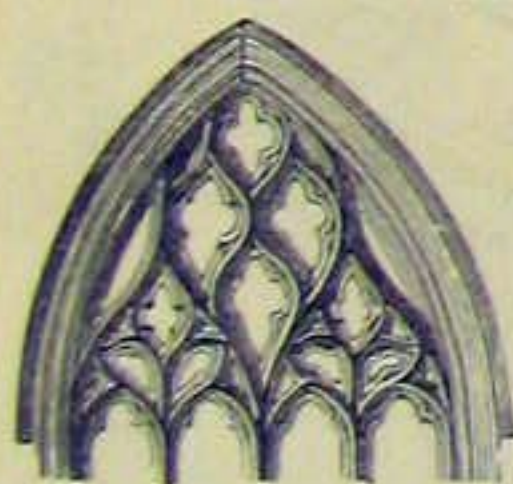
Steeple, p. 1293.



Ancient Termini, p. 1366.



Tower, p. 1398.



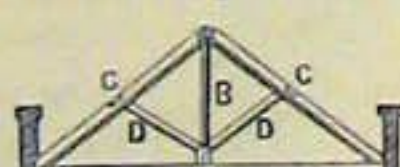
Flowing Tracery, p. 1398.



Trefoils, p. 1409.



Triglyphs, p. 1413.

King-post
Truss, p. 1420.A A, tie-beam; B, king-
post; C C, rafters.Queen-post
Truss, p. 1420.

Britannia Tubular Bridge, p. 1422.



Turnstile, p. 1427.



Vermiculated, p. 1469.



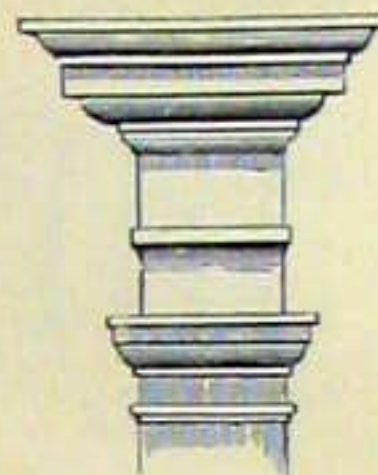
Volutes of Corinthian and Ionic Capitals, p. 1484.



Turret, p. 1427.



Veranda, p. 1467.



Tuscan Order, p. 1427.



Watch-tower, p. 1495.

Elizabethan
Window, p. 1517.

ART, OBJECTS OF; ORNAMENTS, INSTRUMENTS, &c.

Arabesque,
p. 69.

Arcograph, p. 72.

Caduceus,
p. 183.Cornucopia,
p. 295.

Bust, p. 178.



Cipher, p. 231.



Easel, p. 425.



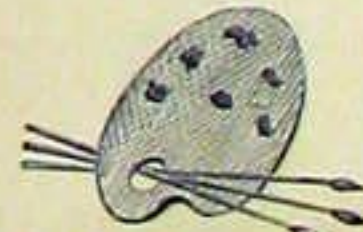
Fountain, p. 539.



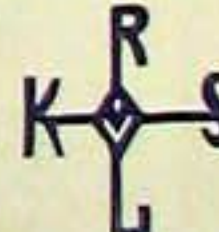
Hermes, p. 623.



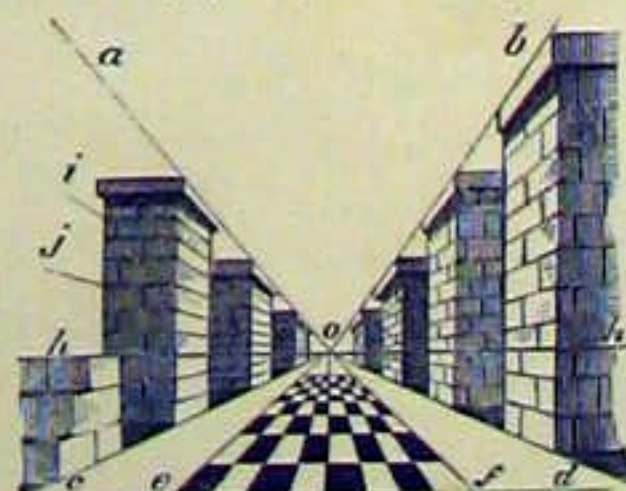
Line of Beauty, p. 776.



Palette, p. 940.



Monogram, p. 855.



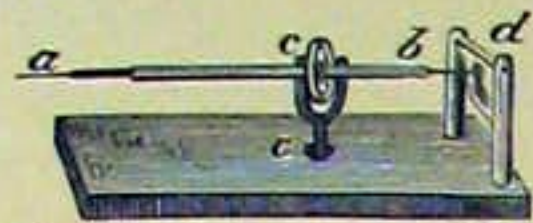
Linear Perspective, p. 974.

h h, horizon; o, point opposite the eye; a o, b o, c o, d o,
e o, f o, h o, i o, j o, vanishing lines.

Mosaic, p. 861.



Silhouette, p. 1230.



Silhouette Instrument, p. 1230.
a b, slender rod; c, gimbal's; d, small frame; e, foot-board.



Parquetry, p. 950.



Vase, p. 1463.

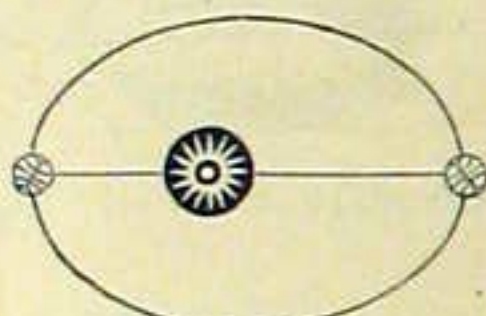


Portland Vase, p. 1015.

ASTRONOMY.



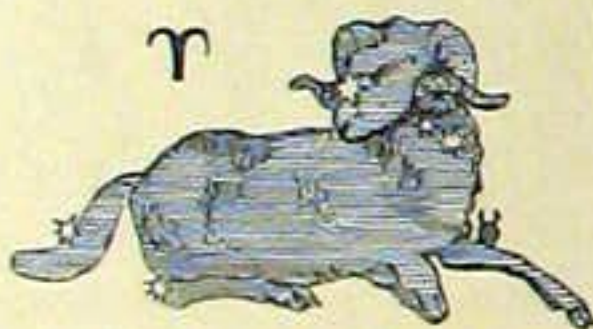
Aquarius, and Sign, p. 69.



Apsides, p. 69.



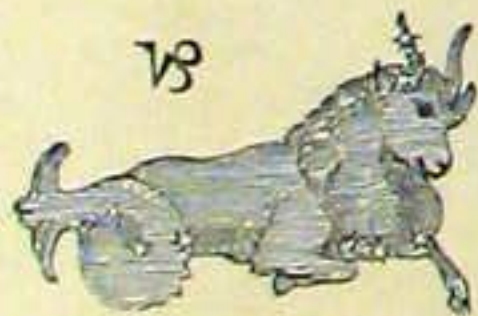
Armillary Sphere, p. 75.



Aries, and Sign, p. 74.



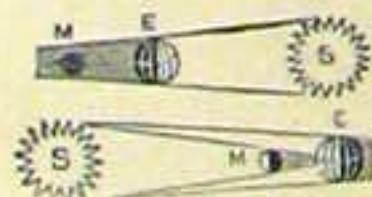
Cancer, and Sign, p. 190.



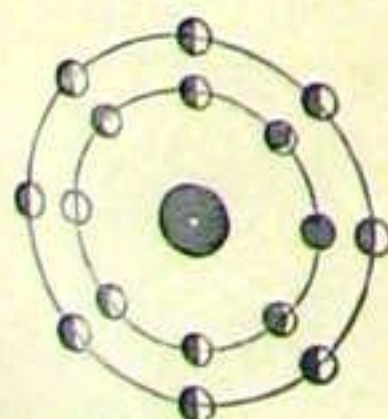
Capricornus, and Sign, p. 195.



Comet, p. 254.



Eclipse, p. 427.
S, sun; E, earth; M, moon.



Moon, Phases of, p. 857.



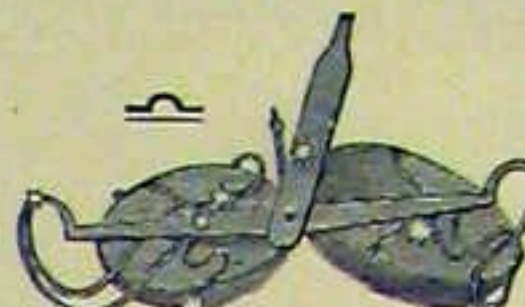
Mural Circle, p. 868.
A, reading microscope; B C D E F, wall to which the circle is attached.



Gemini, and Sign, p. 563.



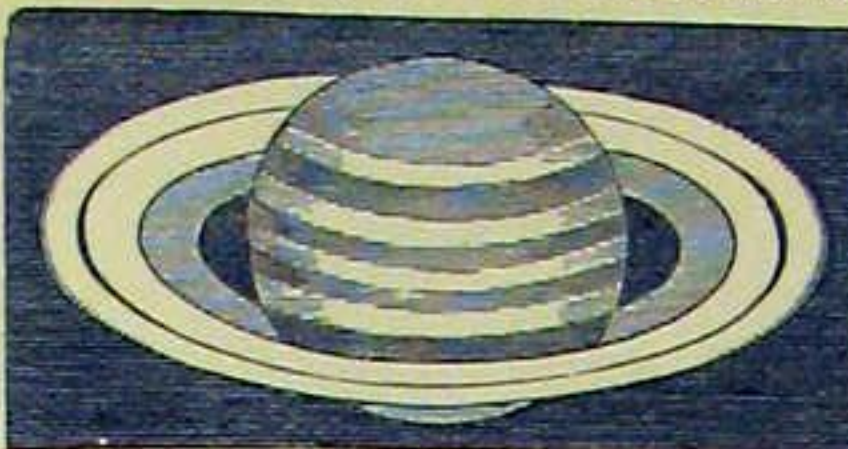
Leo, and Sign, p. 765.



Libra, and Sign, p. 770.



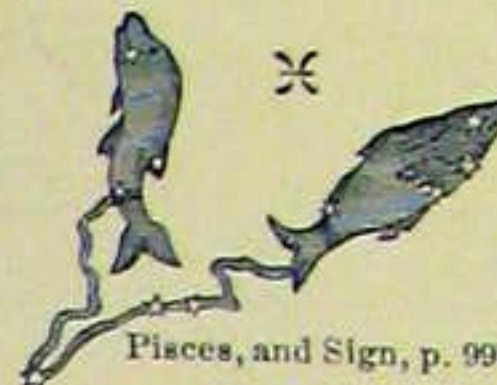
Orrery, p. 922.



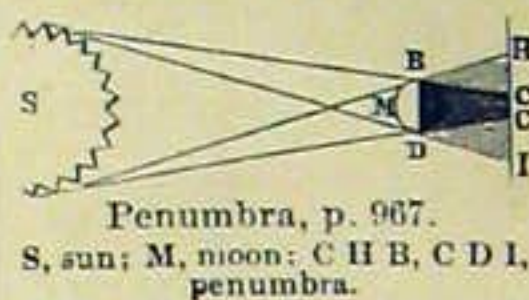
Saturn and Rings.



Sagittarius, and Sign, p. 1163.



Pisces, and Sign, p. 991.



Penumbra, p. 967.
S, sun; M, moon; C H B, C D I, penumbra.



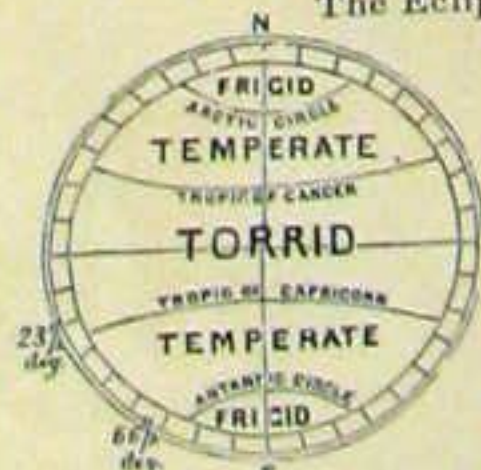
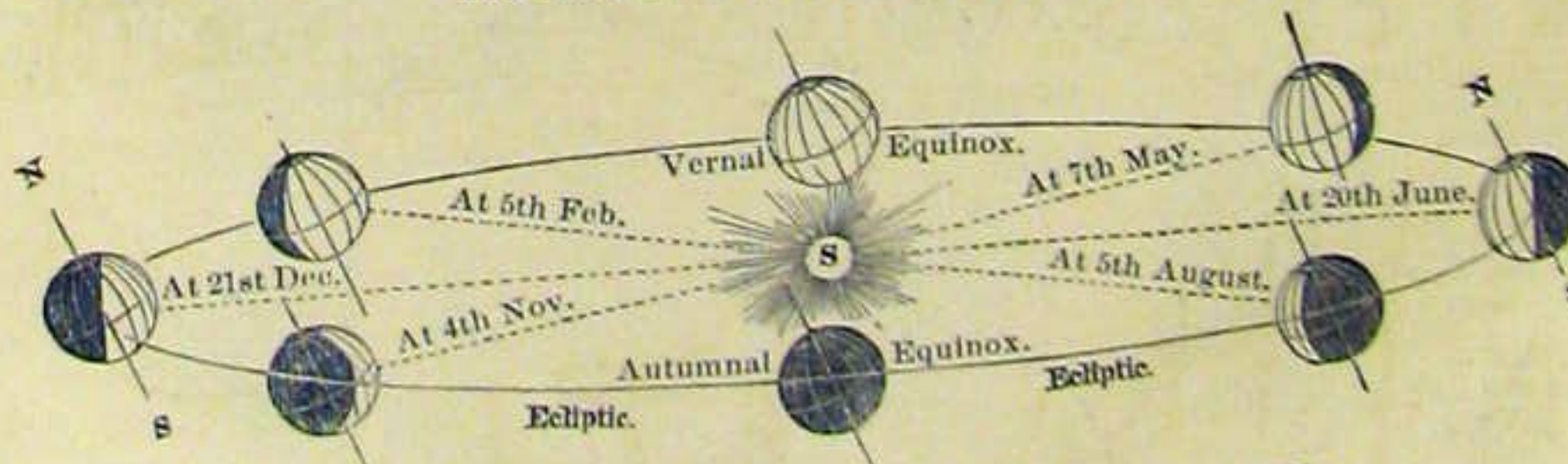
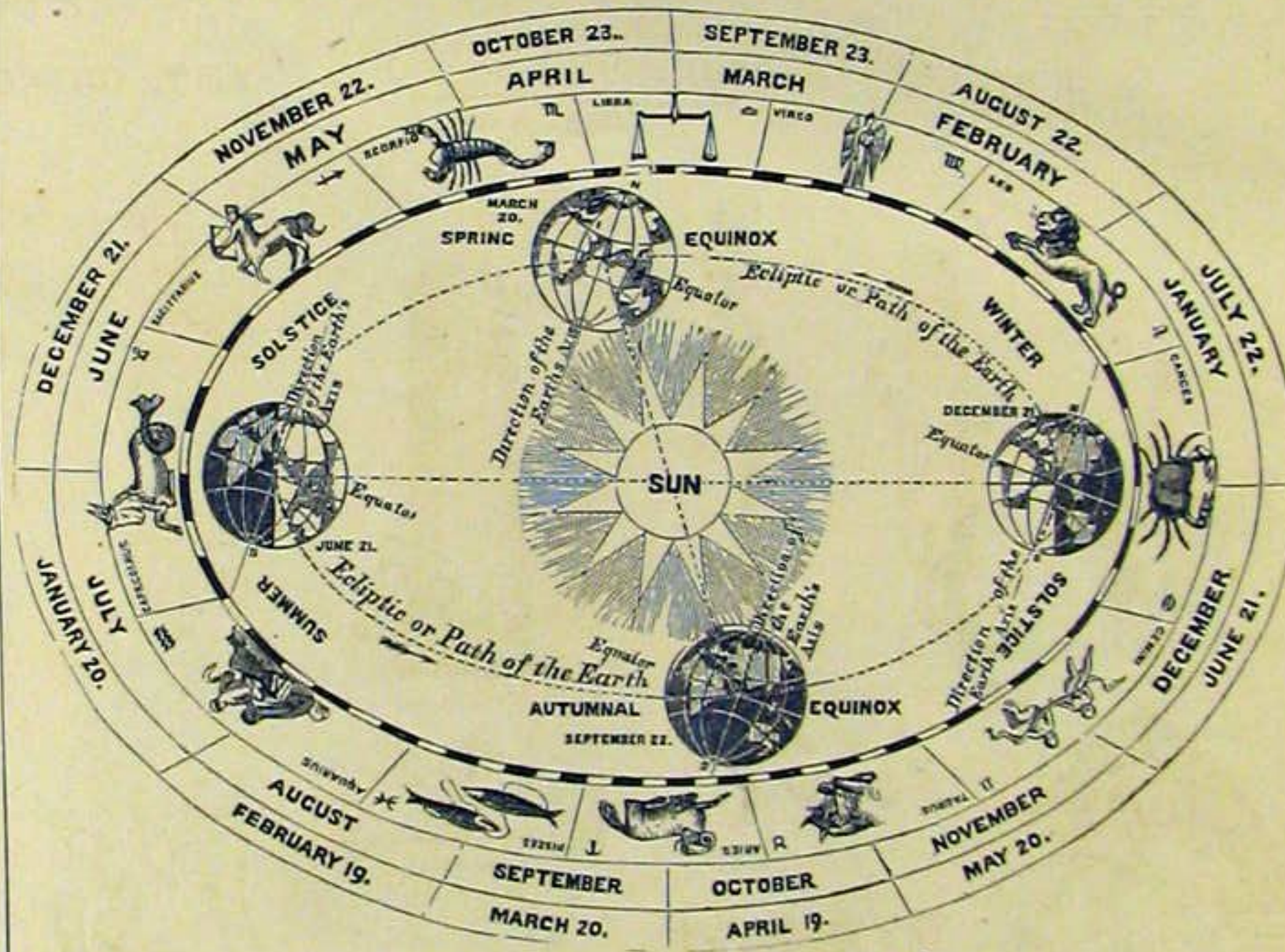
Reflecting Circle, p. 1105.



Sextant, p. 1210.



Scorpio, and Sign, p. 1182.

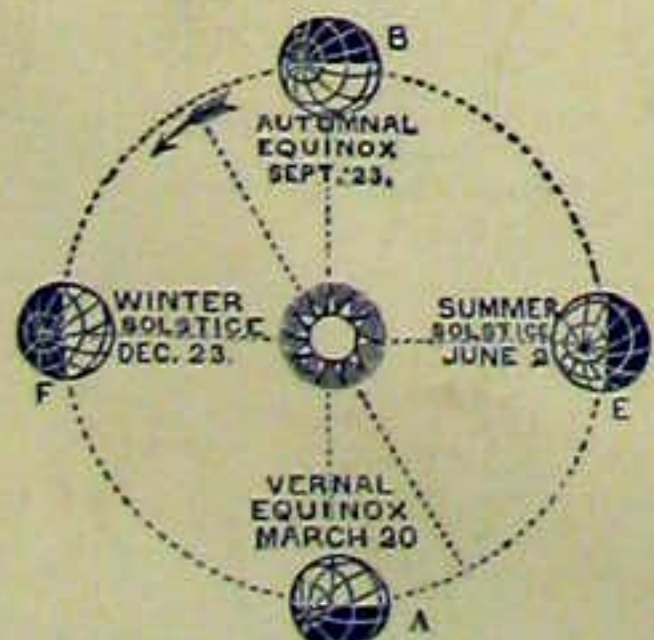
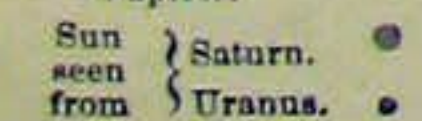
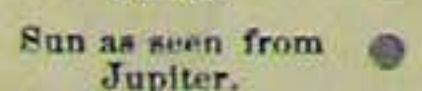
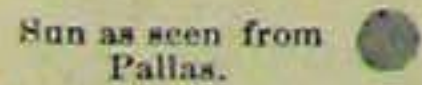
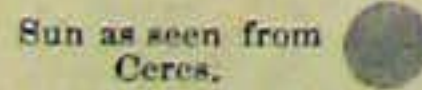
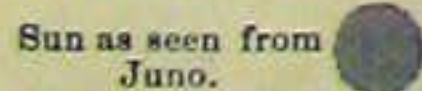
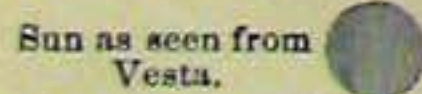
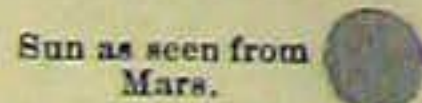
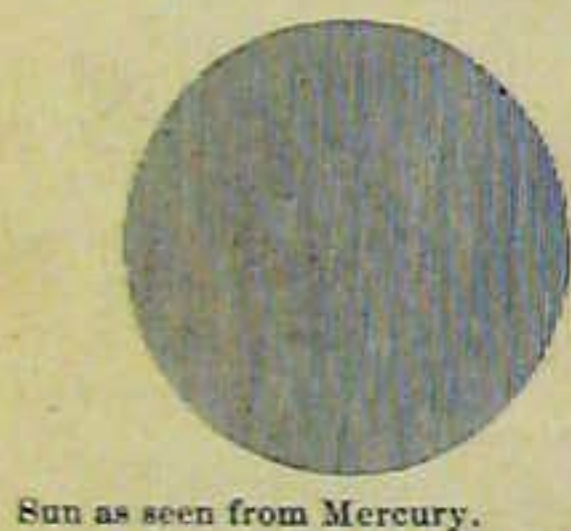
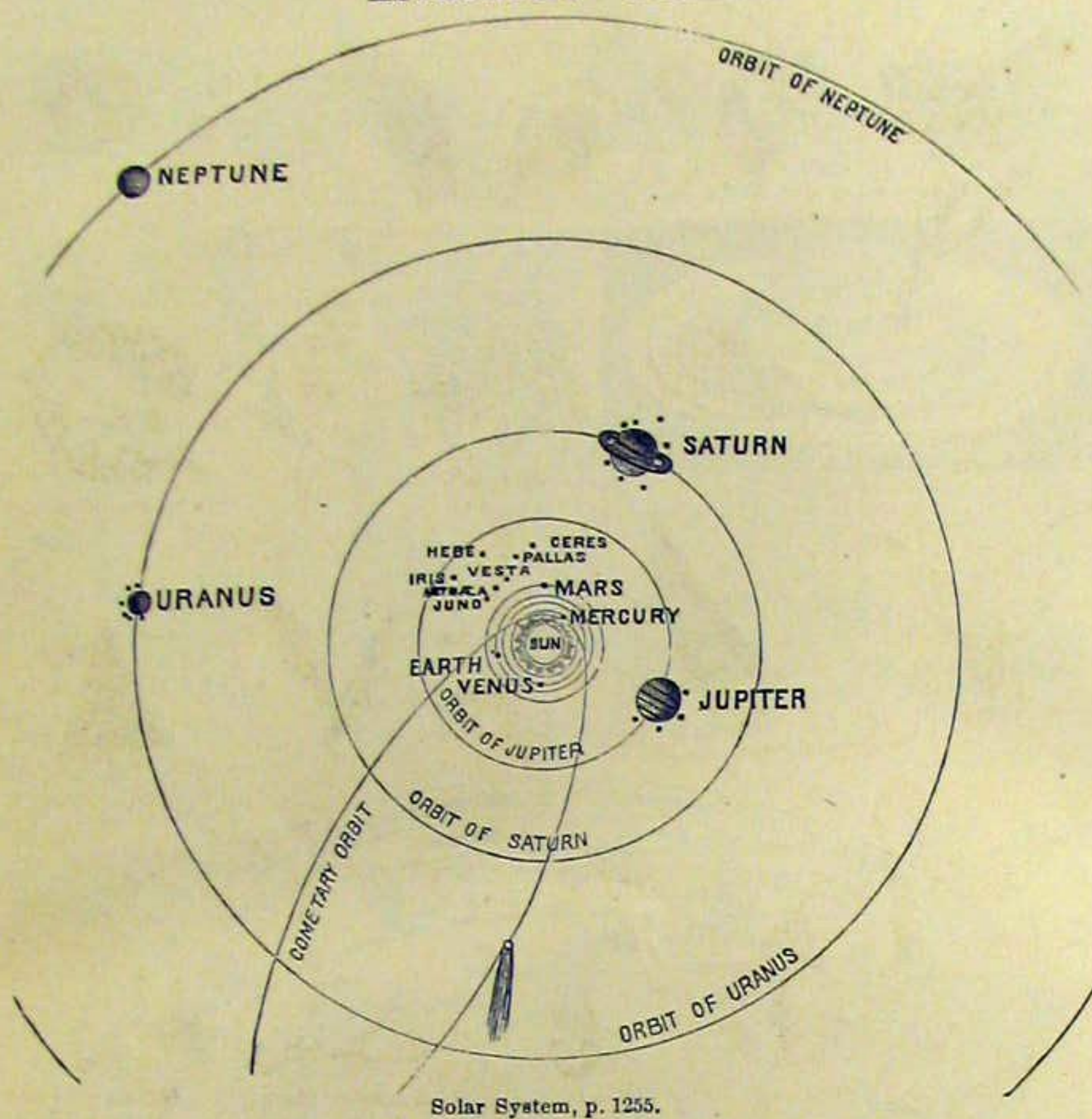


Taurus, and Sign, p. 1356.

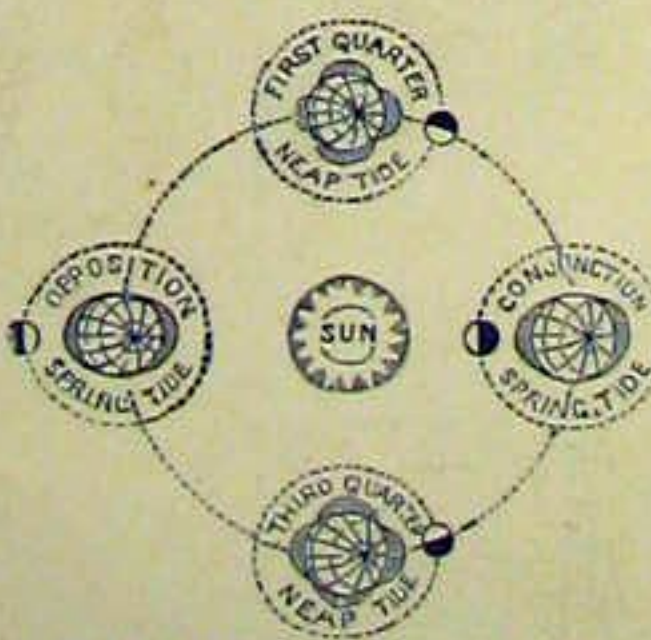


Ursa Major, p. 1455.

ASTRONOMY — Continued.

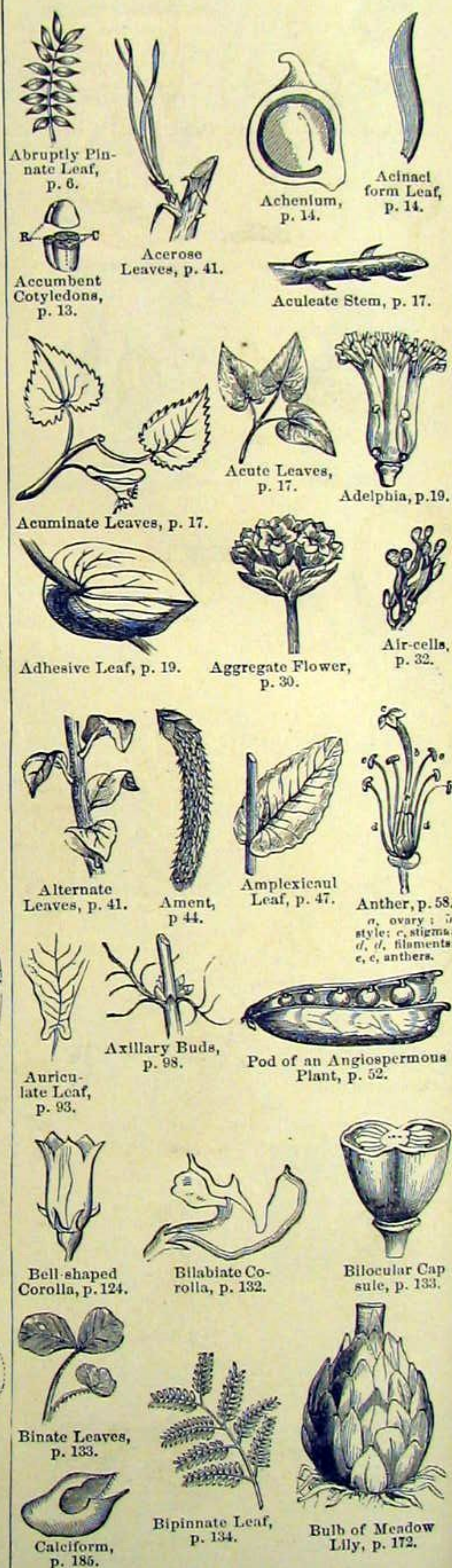


A and B, equal day and night; E, longest day, or summer solstice; F, shortest day, or winter solstice.

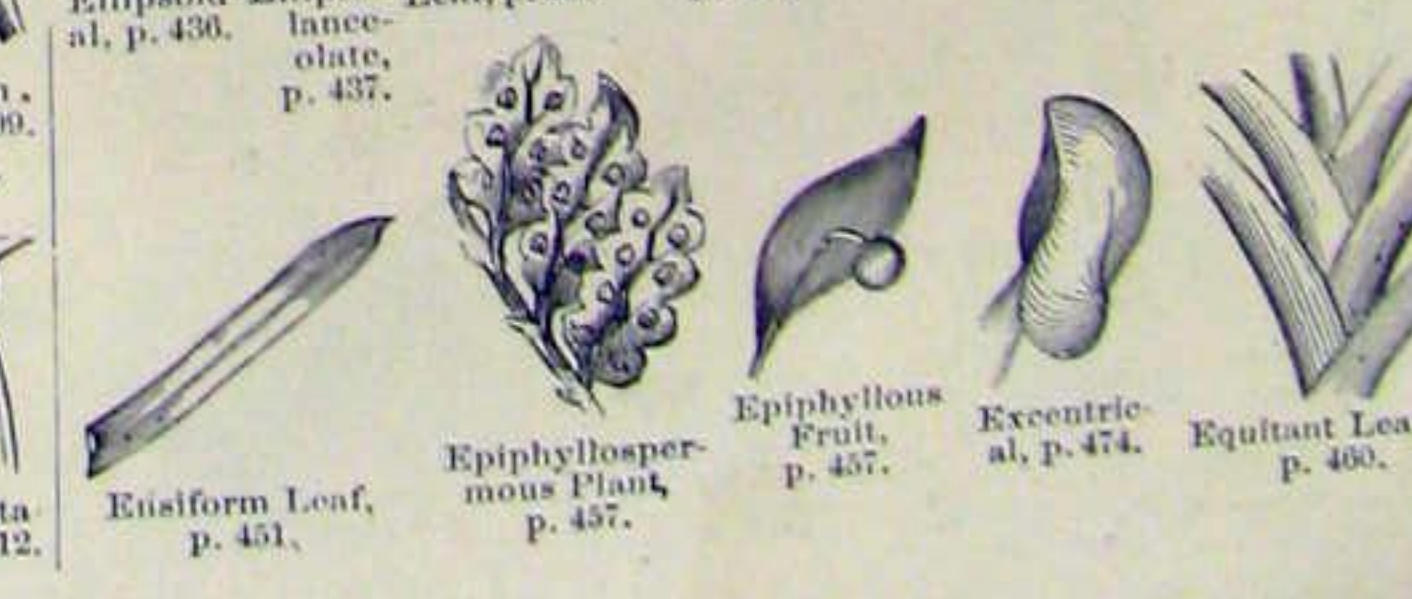
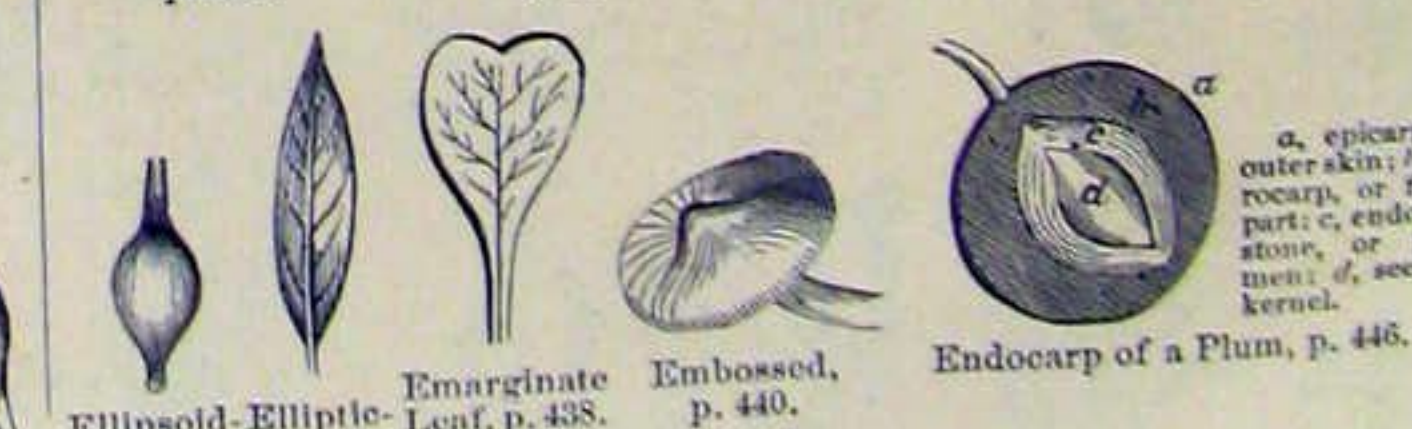
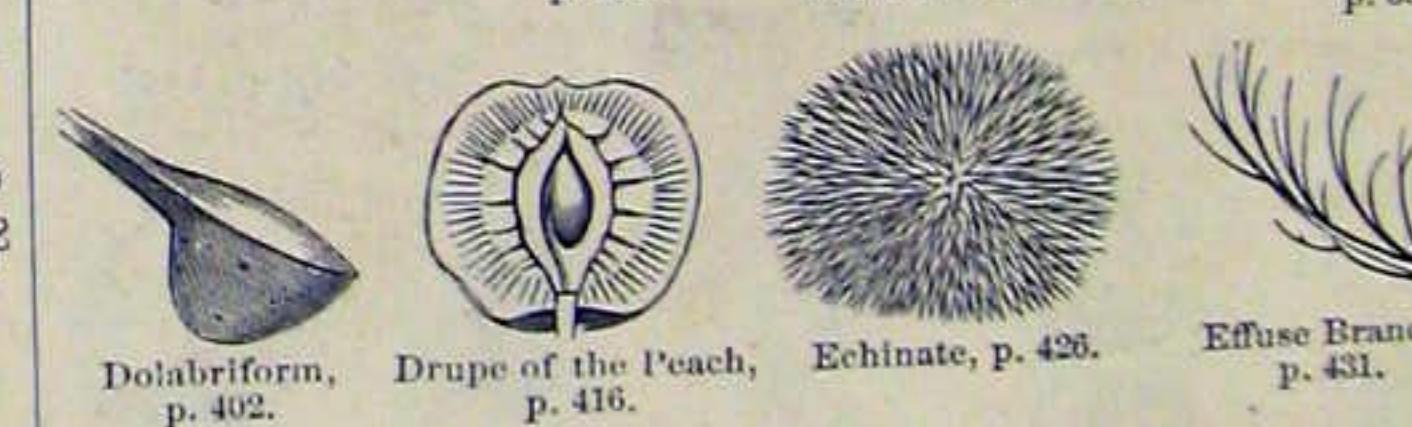
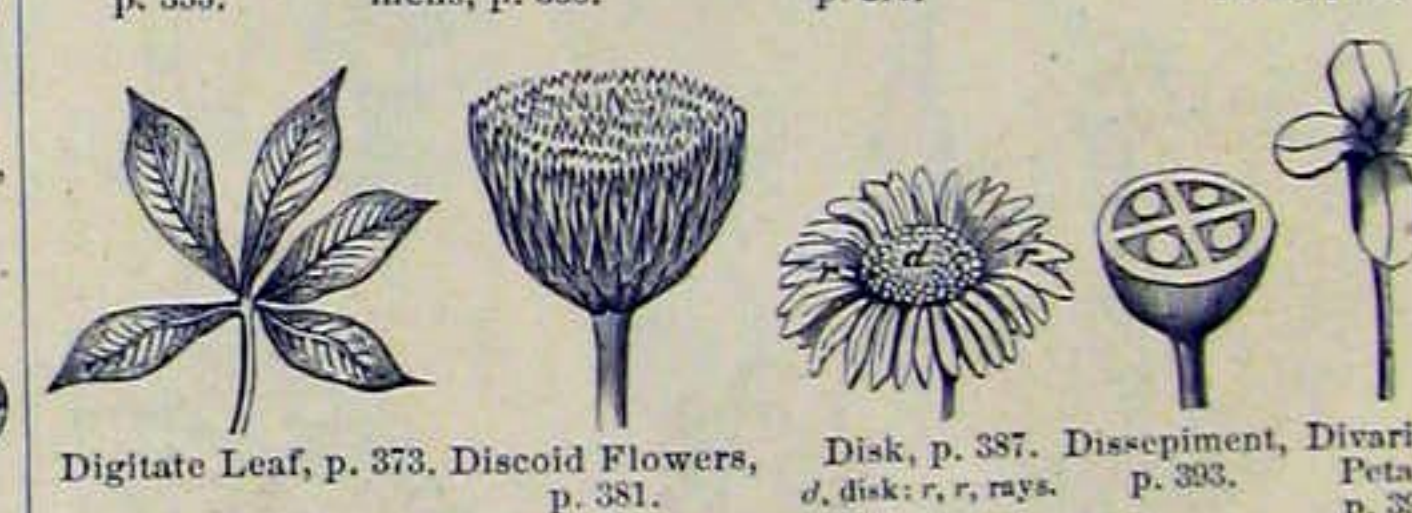
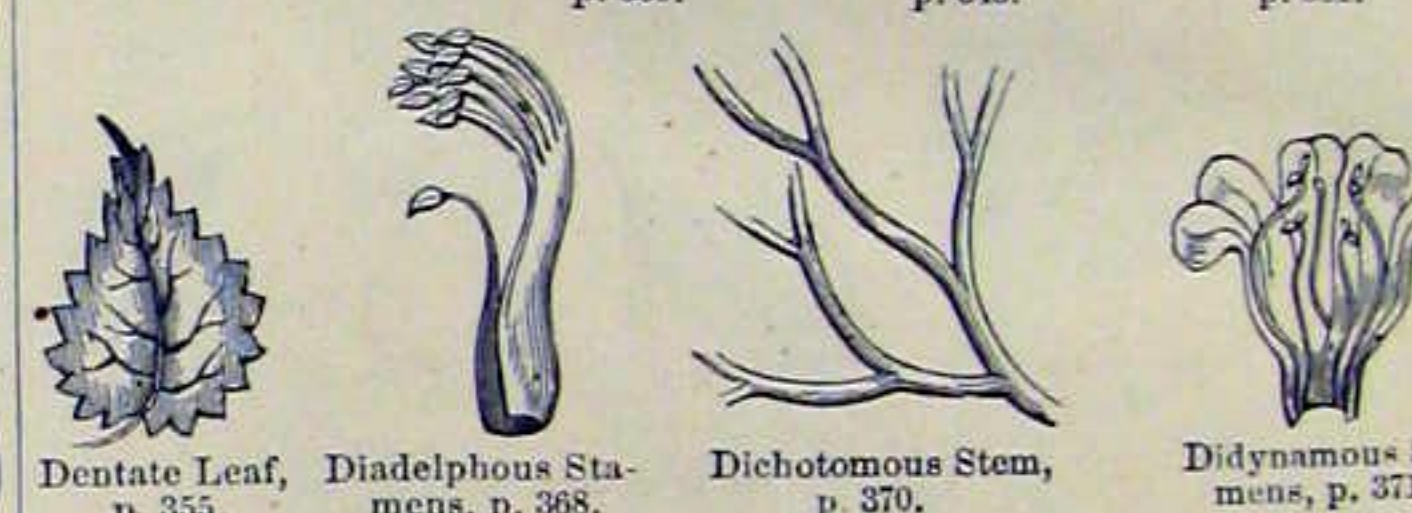
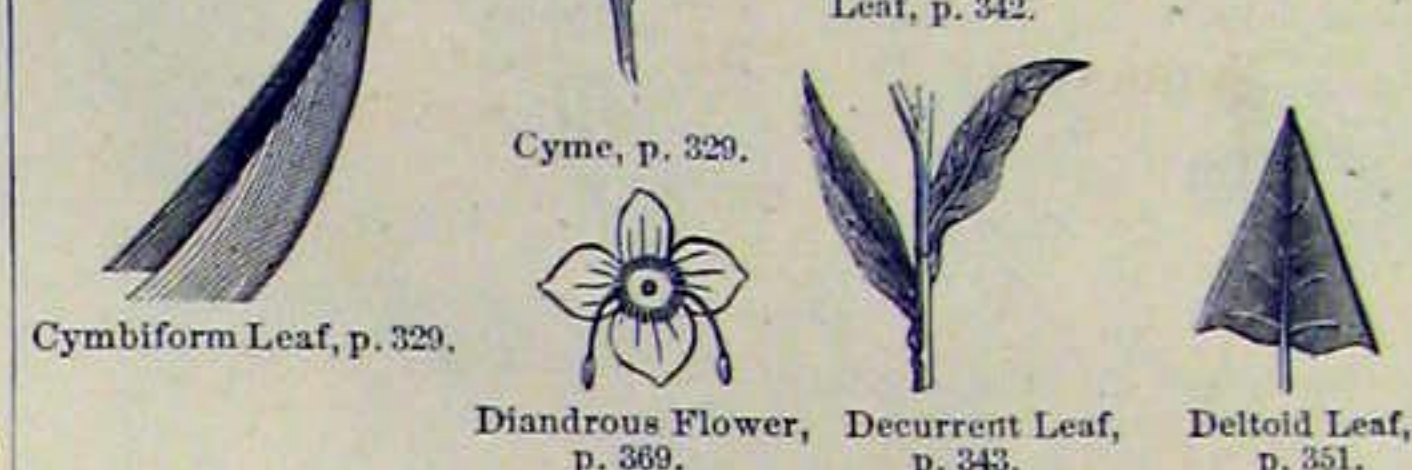
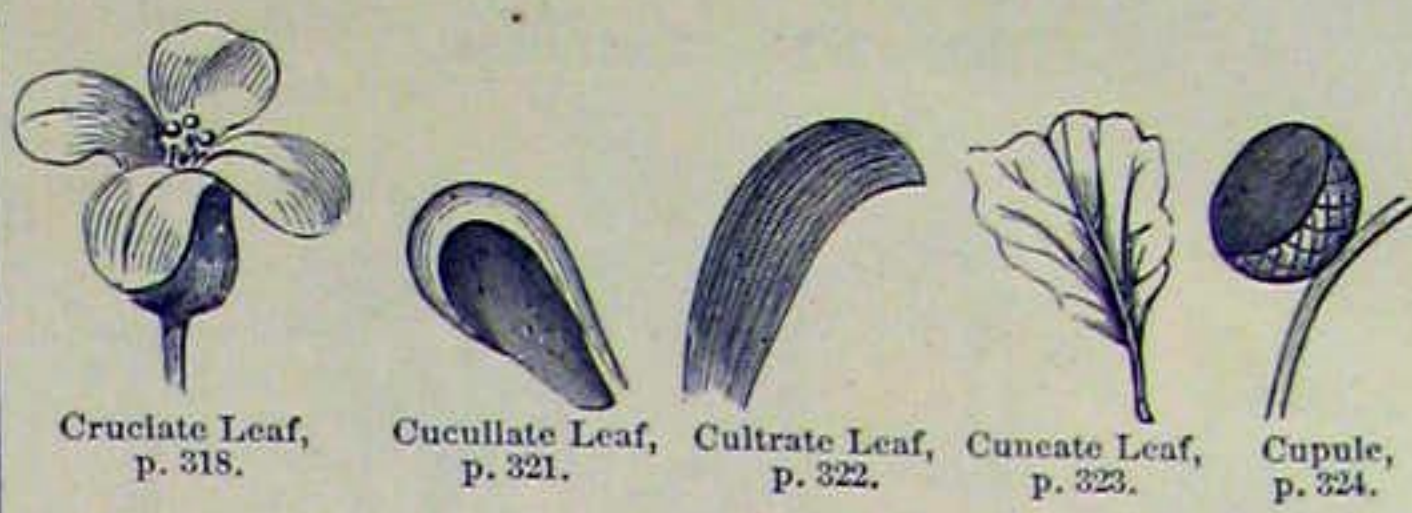
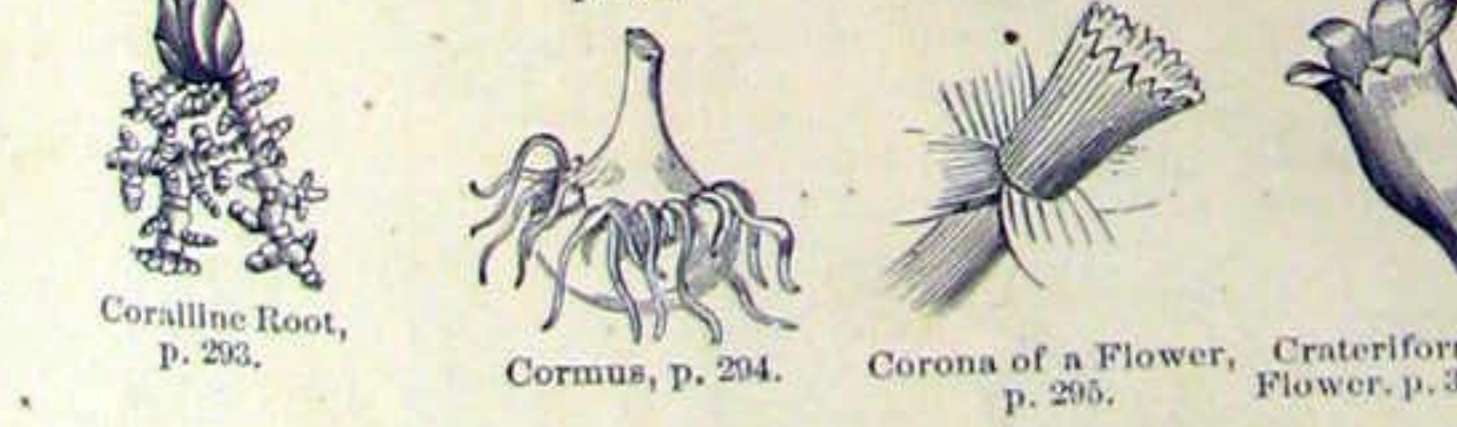
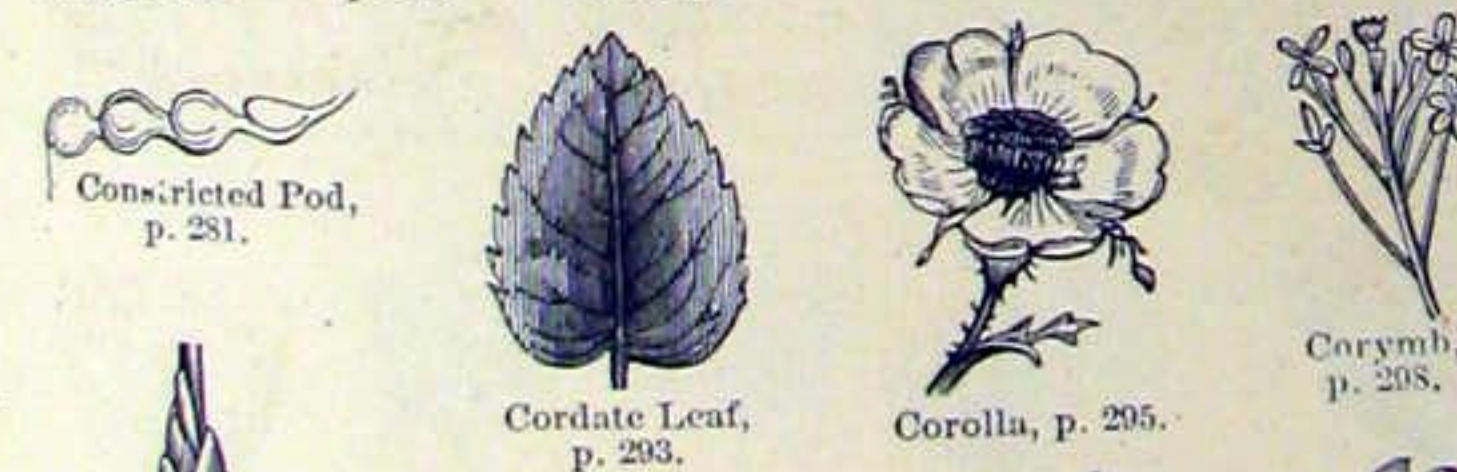
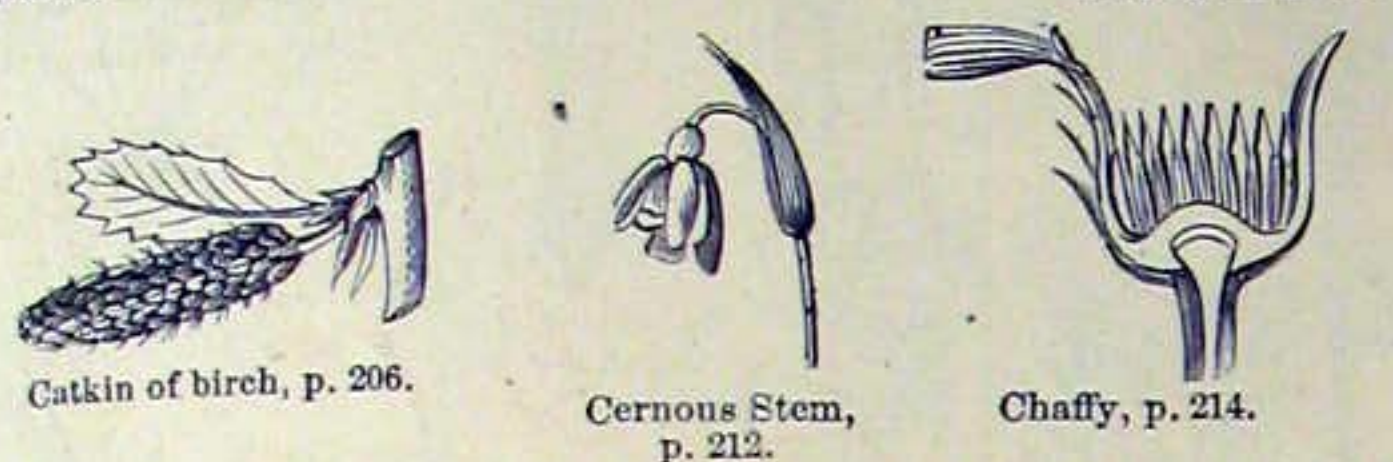
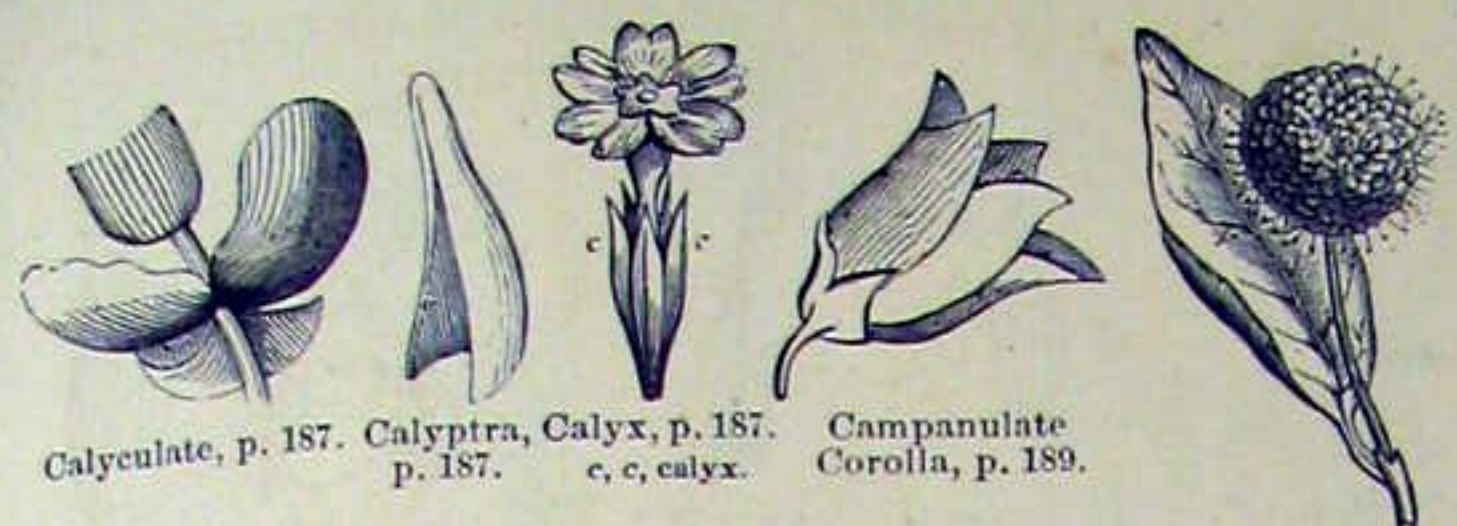


BOTANY.

PARTS OF PLANTS, FORMS OF ORGANS, AND THE LIKE.

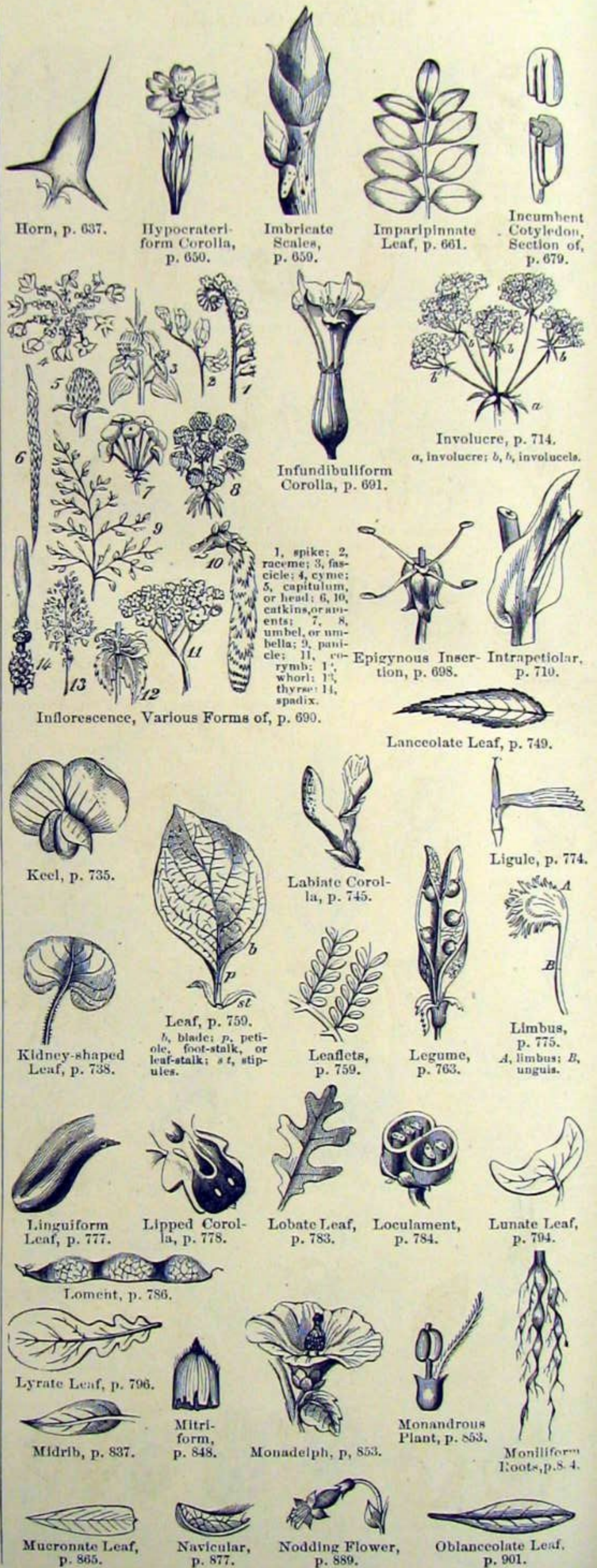


BOTANY — Continued.



a, epicarp, or outer skin; b, sarcocarp, or fleshy part; c, endocarp, stone, or pulment; d, seed, or kernel.

BOTANY — Continued.



BOTANY—Continued.



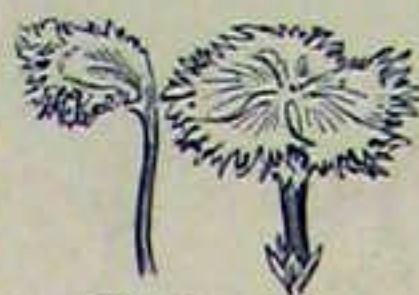
Monopetalous or Gamopetalous Flower, p. 855.



Napiform Root, p. 874.



Obovate Leaf, p. 902.



Petals, p. 976.



Petiole, p. 977.



Pinnate Leaves, p. 989.



Pinnatifid Leaf, p. 989.



Obcordate Leaf, p. 899.



Monosepalous Flower, p. 855.



Pistils and Ovary of an Octagynous Flower, p. 906.



Nodulous Root, p. 889.



Operculum, p. 914.



Pistil, p. 991.



Pitcher, p. 992.



Plicate Leaf, p. 1000.



Plumose Leaf, p. 1001.



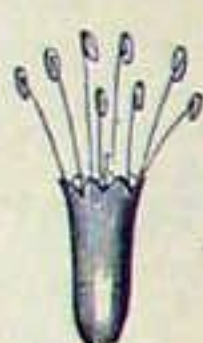
Plumule, p. 1002.



Plurilocular Capsule, p. 1002.



Ochreate Stem, p. 906.



Stamens of an Octandrous Flower, p. 906.



Opposite Leaves, p. 916.



Palmate Leaf, p. 941.



Pod, p. 1003.



Polyadelphia, p. 1008.



Polyandrous, p. 1008.



Polyspermous Capsule, p. 1010.



Premorse Leaf, p. 1029.



Orbiculate Leaf, p. 918.



Ovary, p. 929.



Ovate Leaf, p. 929.



Ovate-acuminate Capsule, p. 929.



Ovate-cylindrical Capsule, p. 929.



Palmatisect Leaf, p. 941.



Panduriform Leaf, p. 943.



Panicle, p. 943.



Panicle, p. 943.



Papilionaceous Flower, p. 945.



Pappus, p. 945.



Pectinate Leaf, p. 961.



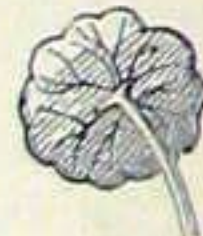
Pedate Leaf, p. 962.



Pedatifid Leaf, p. 962.



Pedicel, p. 962.



Peltate Leaf, p. 964.



Pentagynous, p. 966.



Perfoliate Leaf, p. 969.



Peristome, p. 971.



Peduncle, p. 962.



Pencilled Leaf, p. 964.



Pentapetalous, p. 966.



Perigynous, p. 970.



Pileate, p. 987.



Ramentaceous Leaf, p. 1084.



Quinquefoliate Leaf, p. 1077.



Radicle, p. 1081.



Raceme, p. 1080.



Reflected Petals, p. 1105.



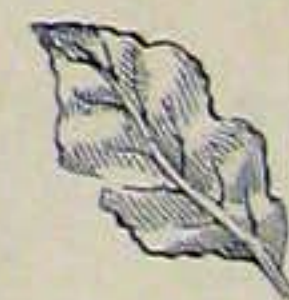
Retuse Leaf, p. 1132.



Receptacle, p. 1095.



Ramose Root, p. 1084.



Repand Leaf, p. 1118.



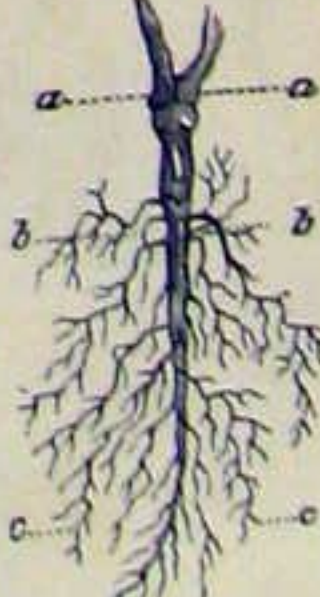
Reticulate Leaf, p. 1130.



Ringent Corolla, p. 1141.



Revolute Stigma, p. 1135.



Root, p. 1148.
a a, crown, or head of root; b, rootlets; c, c, fibers.



Rotate Corolla, p. 1150.



Sagittate Leaf, p. 1163.



Runcinate Leaf, p. 1157.



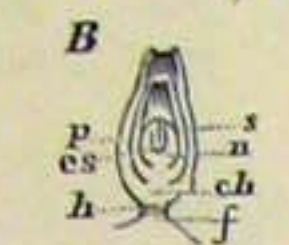
Samara, p. 1167.



Rhizoma, p. 1136.

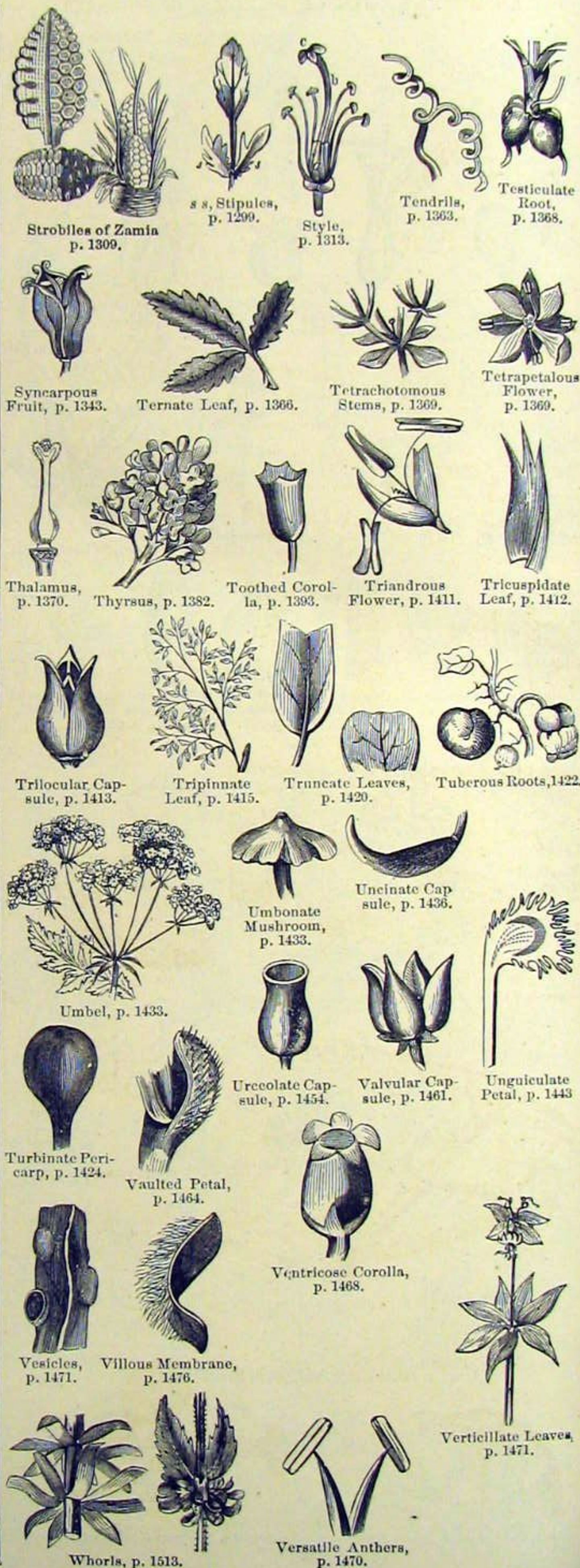
a, b, drupe of peach; c, nut, filbert; d, strobile of pine; e, f, capsule of poppy; g, capsule of Aristolochia.

BOTANY — Continued.

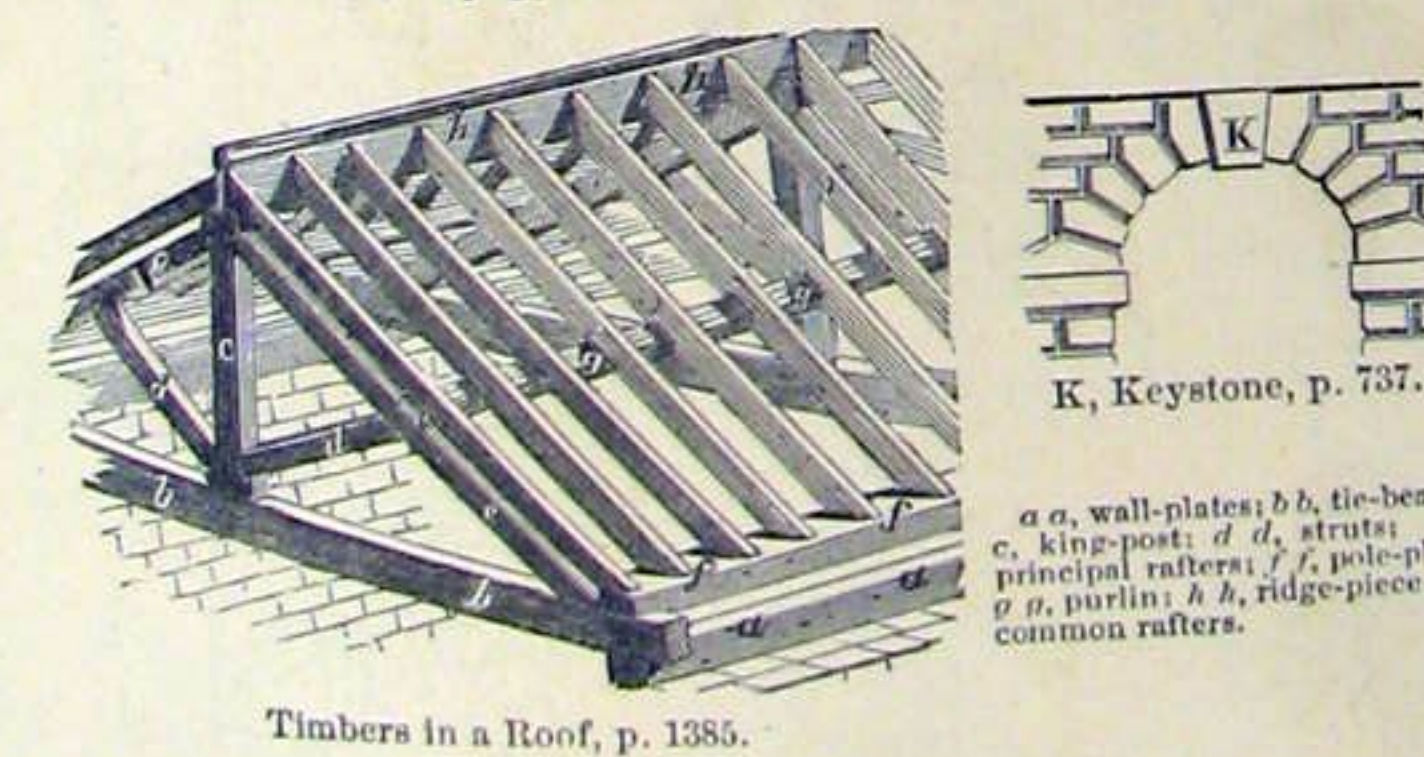
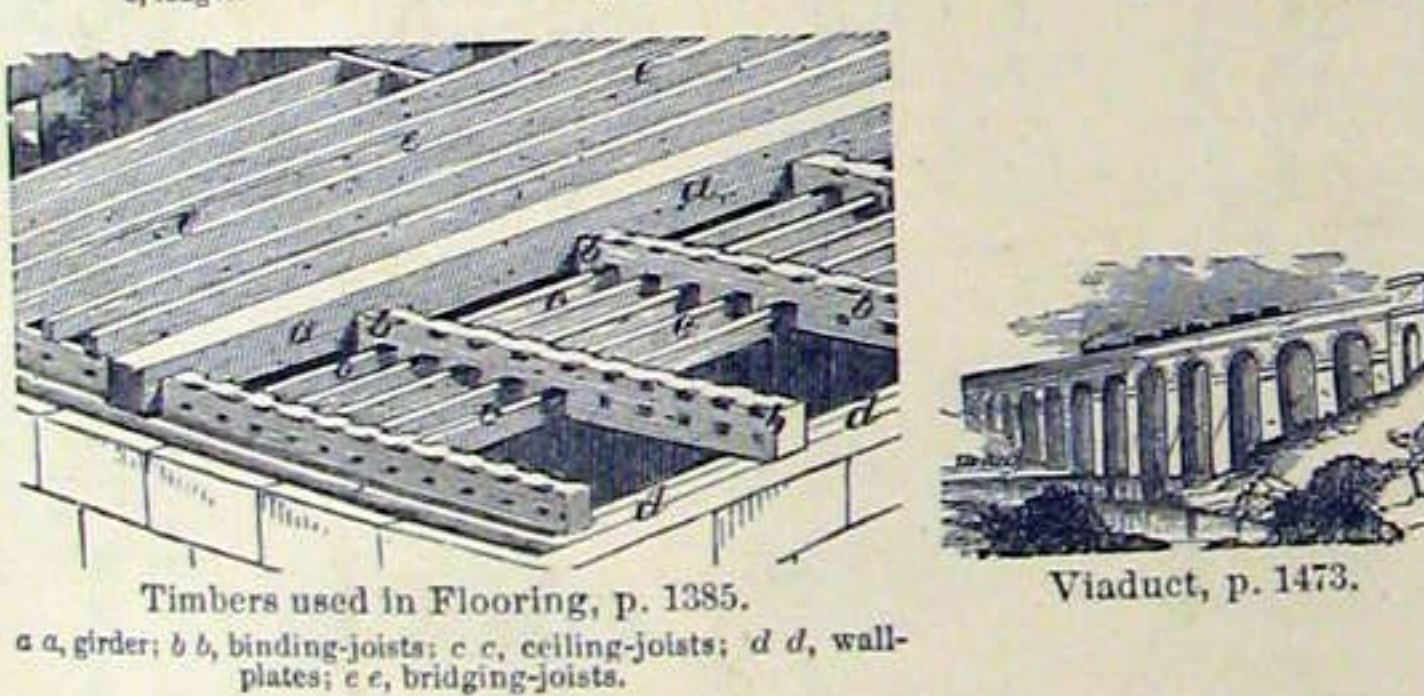
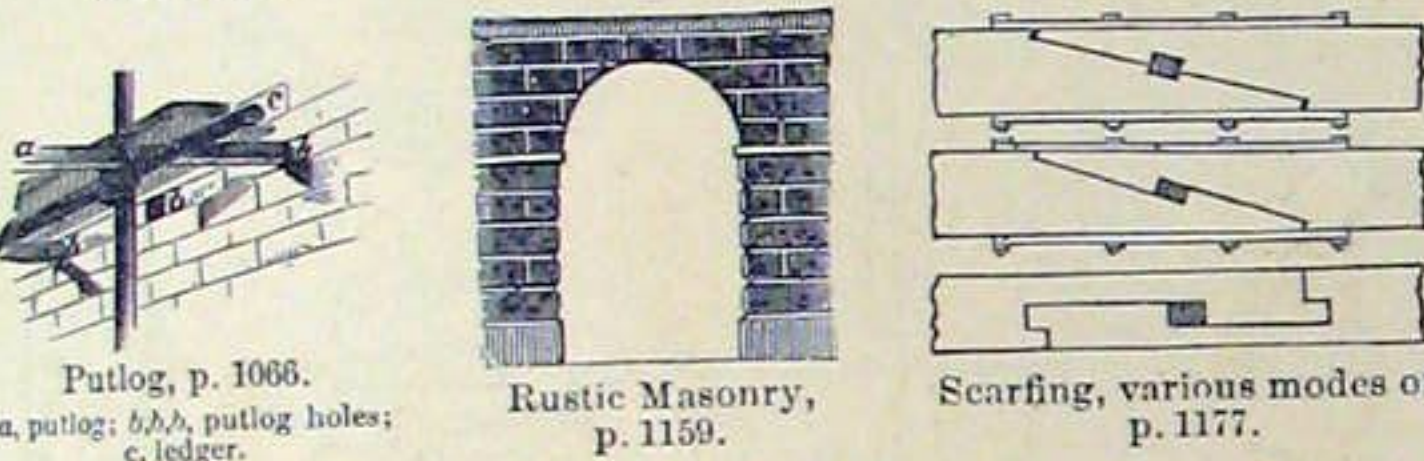
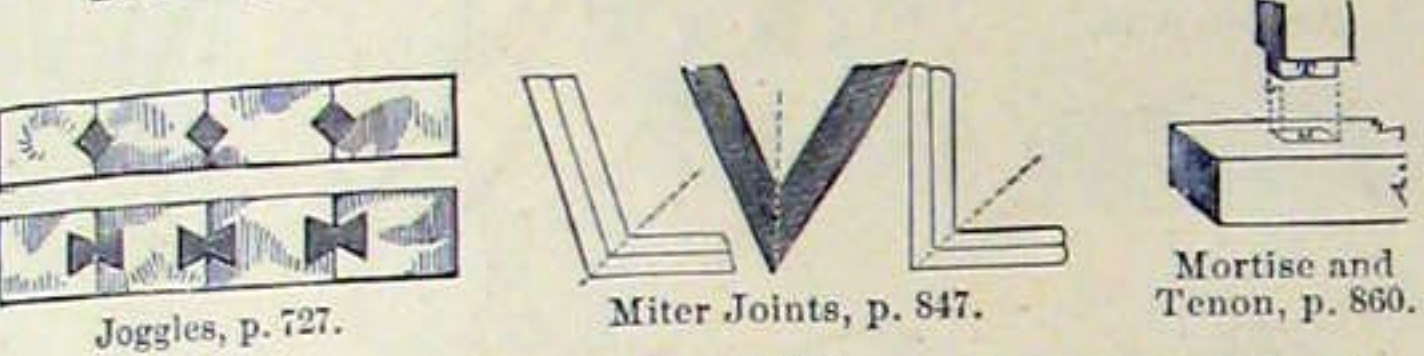
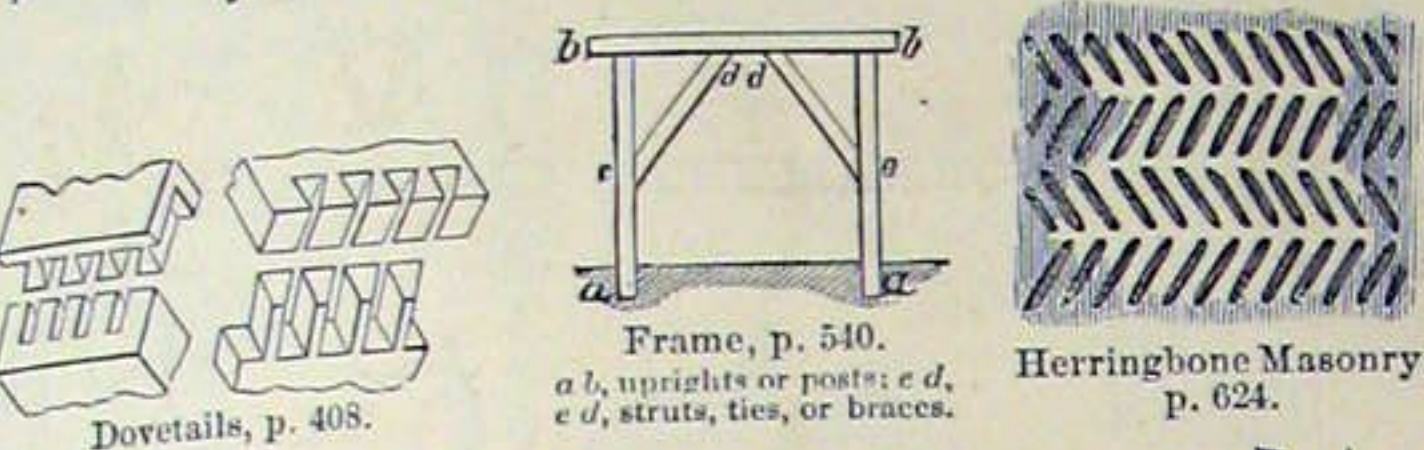
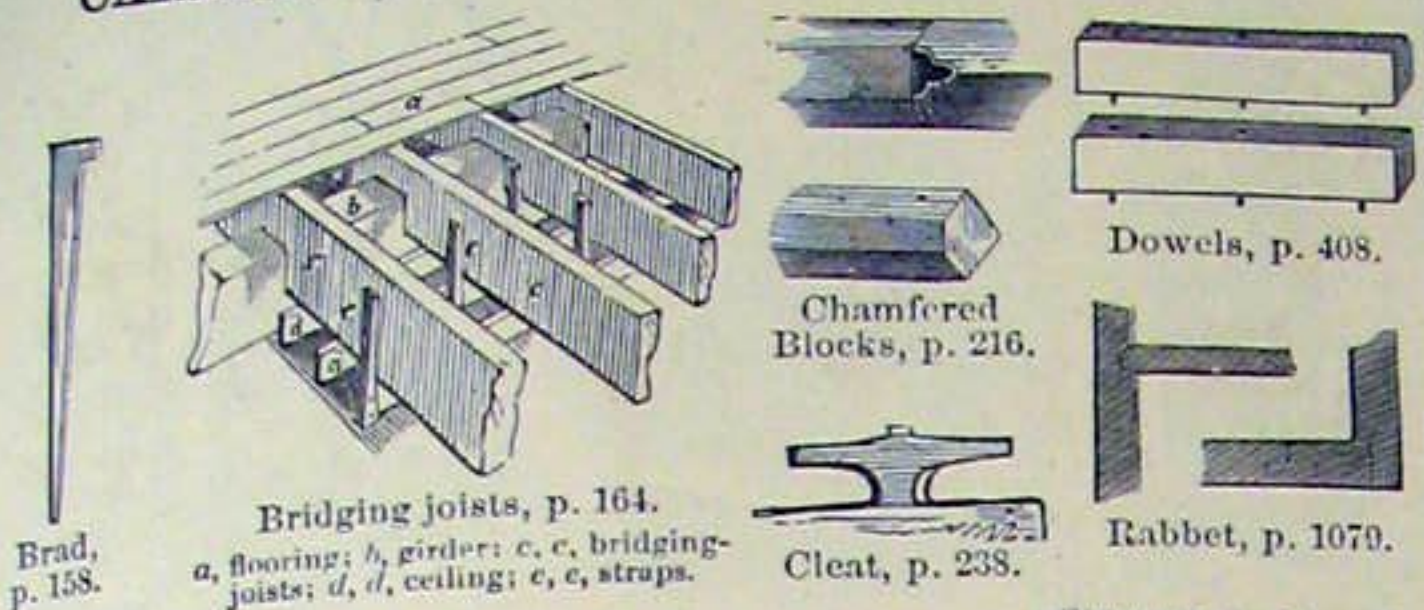


Seed, p. 1194.

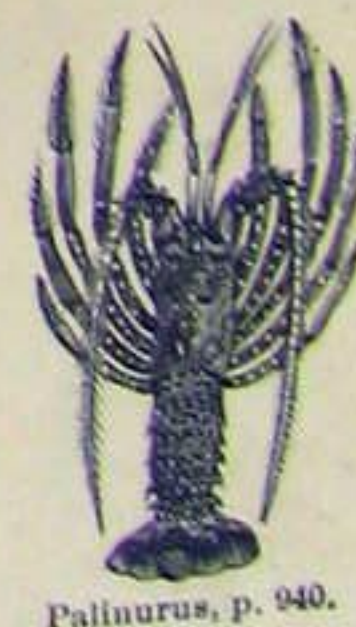
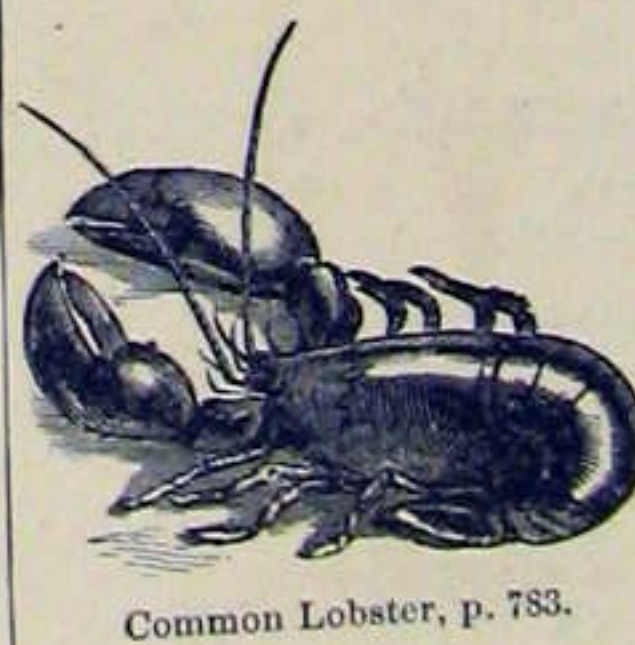
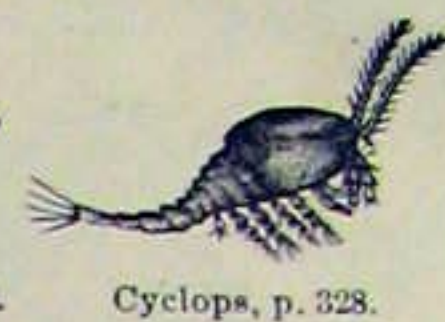
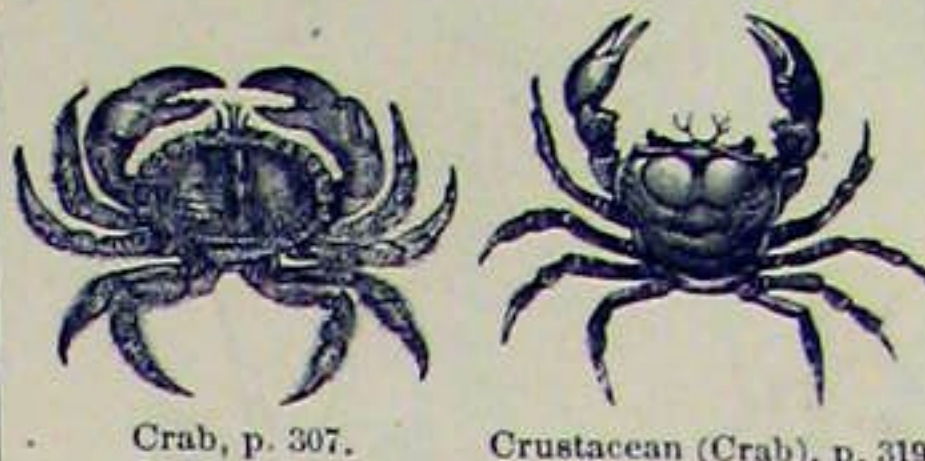
A, section of anatropous seed; B, section of orthotropous seed; r, raphe; h, the future hilum; f, funiculus, connecting seed with placenta; m, micropyle or foramen of the ovule; p, primine; s, secundine; n, nucleus; cs, endosperm; ch, chalaza.



CARPENTRY, JOINERY, AND MASONRY.



CRUSTACEANS.



CRUSTACEANS—Continued.



Parthenope horrida, p. 932.



Purse-crab, p. 1064.



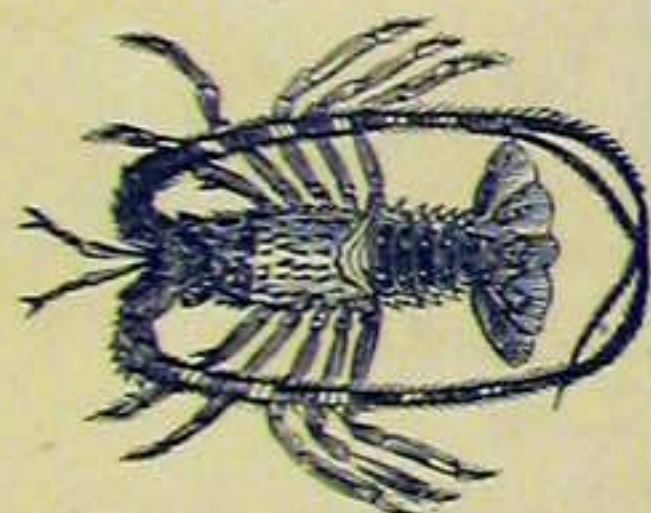
Scyllarian, p. 1188.



Shrimp, p. 1224.



Thelphusian, p. 1372.



Sea crawfish, p. 1188.



Xantho-floridus, p. 1531.

DOMESTIC ECONOMY.—UTENSILS, FURNITURE, &c.



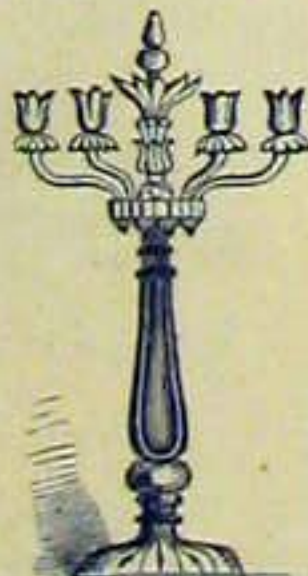
Andiron, p. 51.



Beaker, p. 116.



Buffet, p. 177.



Candelabrum, p. 190.



Caster, p. 203.



Colander, p. 249.



Extinguisher, p. 486.



Console table, p. 279.



Distaff, p. 394.



Ewer, p. 472.



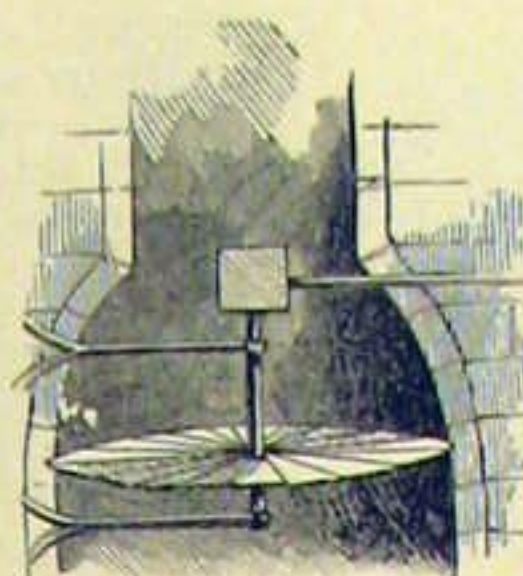
Sieve, p. 1228.



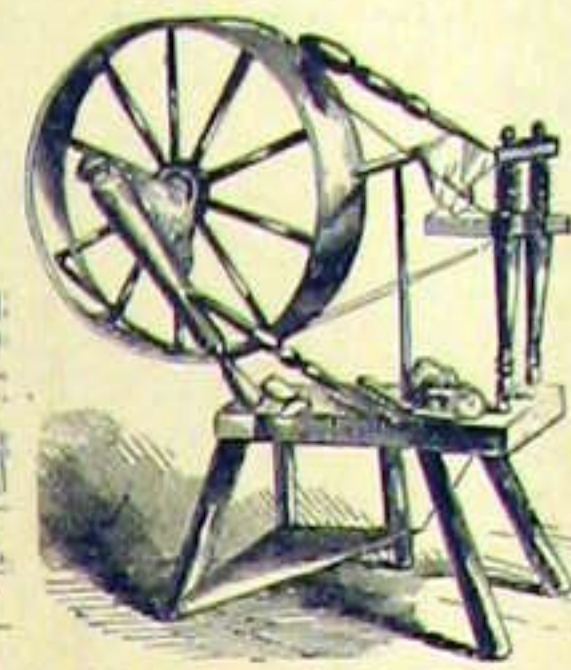
Go-cart, p. 577.



Gong, p. 579.



Smoke-jack, p. 1248.



Spinning-wheel, p. 1272.

DRESS, ORNAMENTS, INSIGNIA, &c.



Armlet, p. 75.



Baron's Coronet, p. 110.



Basque, p. 112.



Blouse, p. 144.



Clog, p. 240.



Ornamental Bracelet, p. 157.



Chemisette, p. 222.



Collar of Garter, p. 559.



Mitt, p. 848.



Sandals, p. 1168.



Snow-shoe, p. 1251.



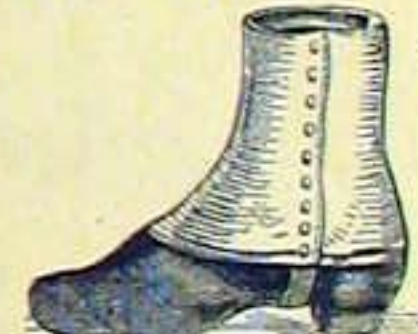
Paletot, p. 940.



Scotch Highlander with Fillibeg, p. 512.



Pilgrim's or Palmer's Serip, p. 1185.



Gaiter, p. 554.



Sporrans, p. 1276.



Spurs, p. 1279.



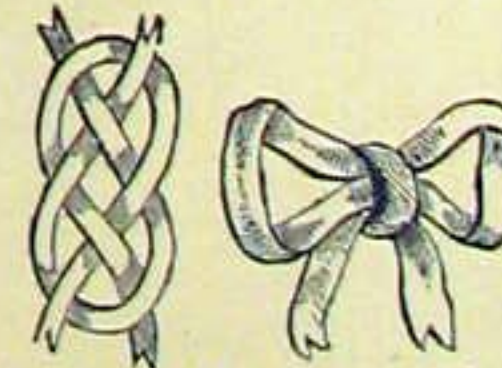
Jack-boot, p. 722.



Peruke, p. 975.



Star of Garter, p. 559.



True-love knots, p. 1419.

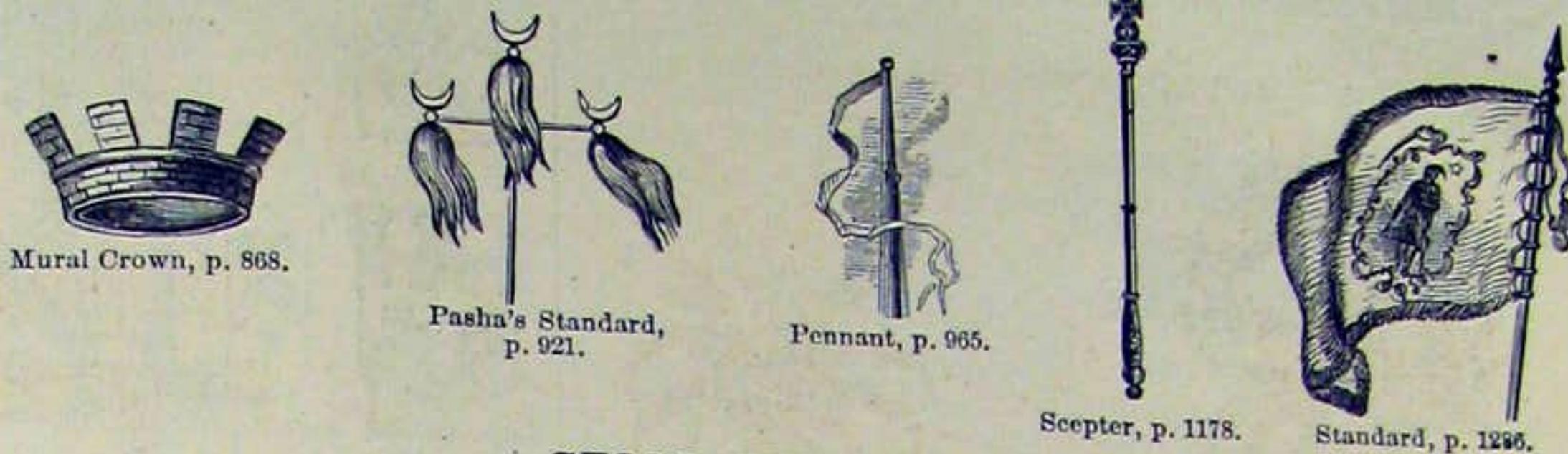
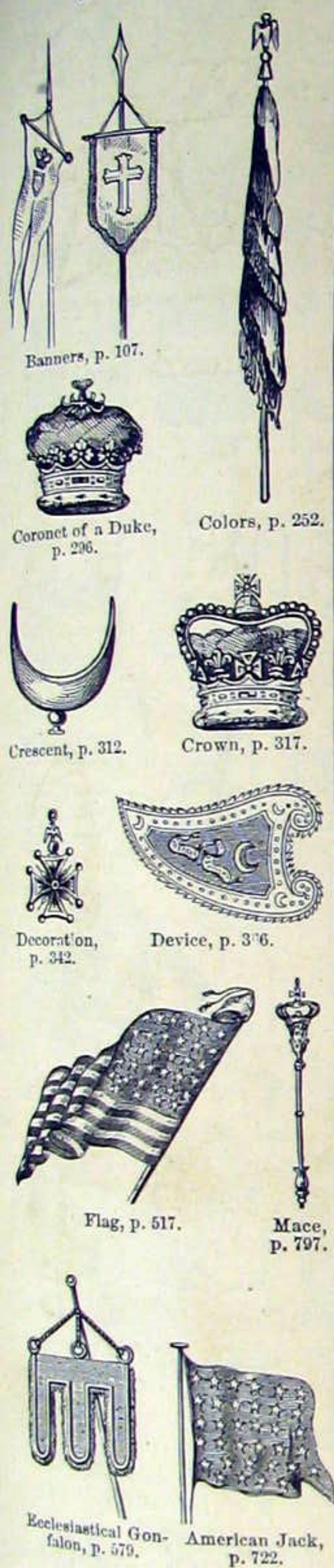


Victorine, p. 1474.



Visite, p. 1480.

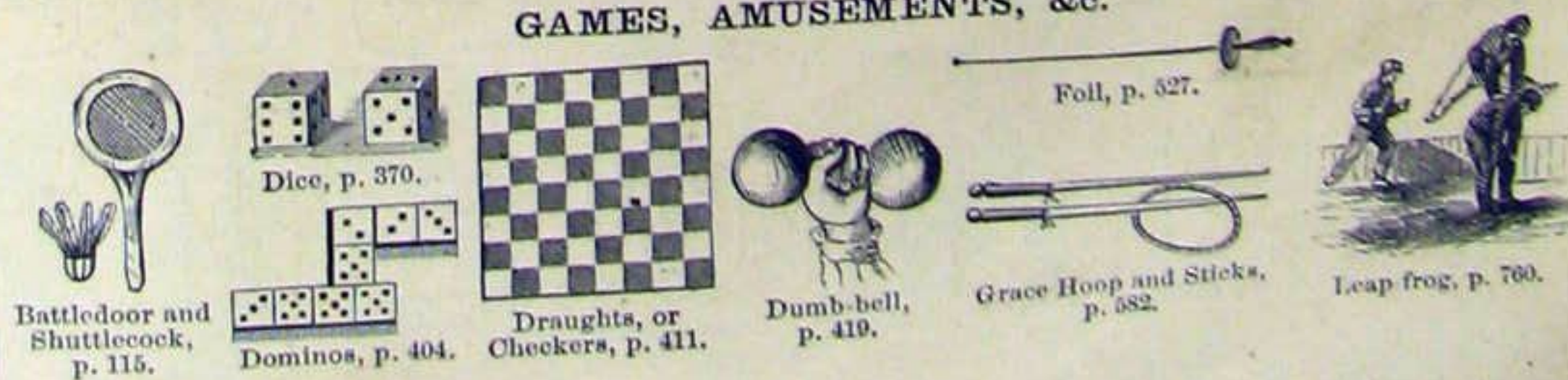
FLAGS, BANNERS, IN-SIGNIA, &c.



GEOGRAPHY, TERMS IN.



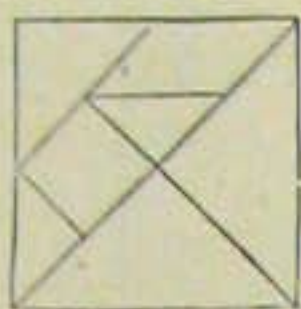
GAMES, AMUSEMENTS, &c.



GAMES, AMUSEMENTS, &c. — Continued.



See-saw, p. 1195.



Tangram, p. 1353.

For Fandango, Tennis Court, Ball, &c., see these words in the Vocabulary.

HERALDRY.

COLORS AND TINCTURES DESCRIBED BY LINES, DOTS, &c.



Yellow White Red Blue Green Purple Black Orange Murrey Ermine
OR. ARGENT. GULES. AZURE. VERT. PURPURE. SABLE. TENNE. SANGUINE. FUR.

Beside these Tinctures, there are nine Roundels, or Roundlets, used in Heraldry, the names of which are sufficient, in blazoning, to denote their color, without expressing the same. They are as follows:

Besants,
Plates,
Tortaux,
Hurts,
Pommes,
Golpes,
Pellets,
Oranges,
Guzes,

which are of

Or.
Argent.
Gules.
Azure.
Vert.
Purpure.
Sable.
Tenne.
Sanguine.

* Some heraldists describe this by horizontal, in place of perpendicular, with diagonal lines.



Accosted, p. 12. Adossed, p. 13. Affrontee, p. 28. Allerton, p. 37. Annulet, p. 55.



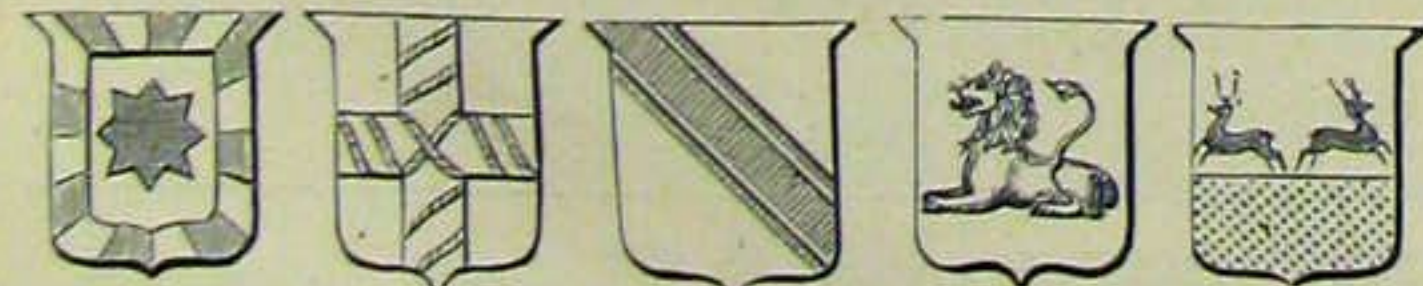
Argent, p. 73. Aspectant, p. 81. Azure, p. 99. Beville, p. 129. Bicorporate, p. 131.



Bordure, p. 152. Bottony, p. 154. Caboched, p. 182. Canton, p. 193. Checky, p. 221.



Chevron, p. 223. Chief, p. 223. Cleche, p. 238. Close, p. 241. Combatant, p. 254.



Compone, p. 263. Corded, p. 293. Cottised, p. 300. Couchant, p. 300. Counter-couchant, p. 302.



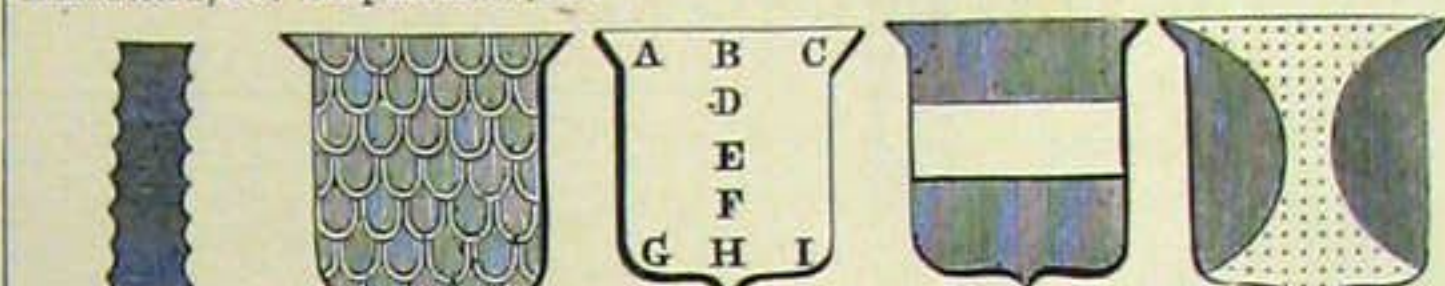
Courant, p. 304. Crescent, p. 312. Crest, p. 312. Crosslet, p. 316.



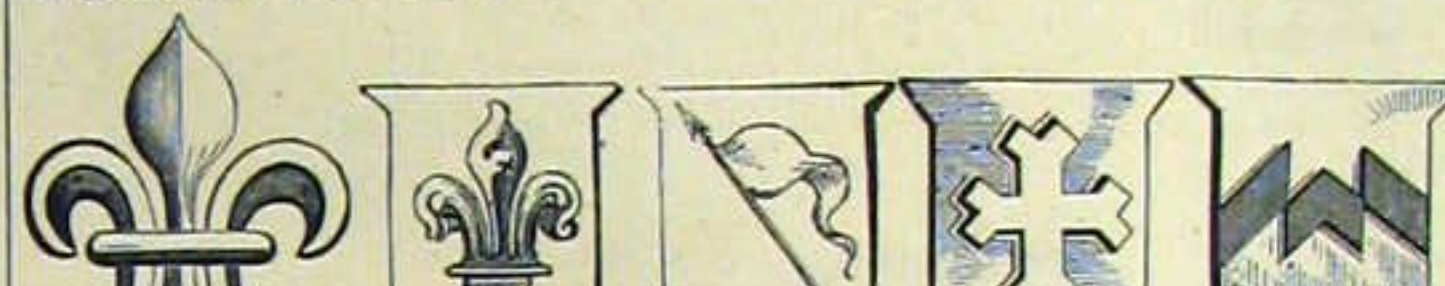
Debruised, p. 339. Dexter, p. 367. Displayed, p. 390. Dormant, p. 405. Dragon, p. 410.



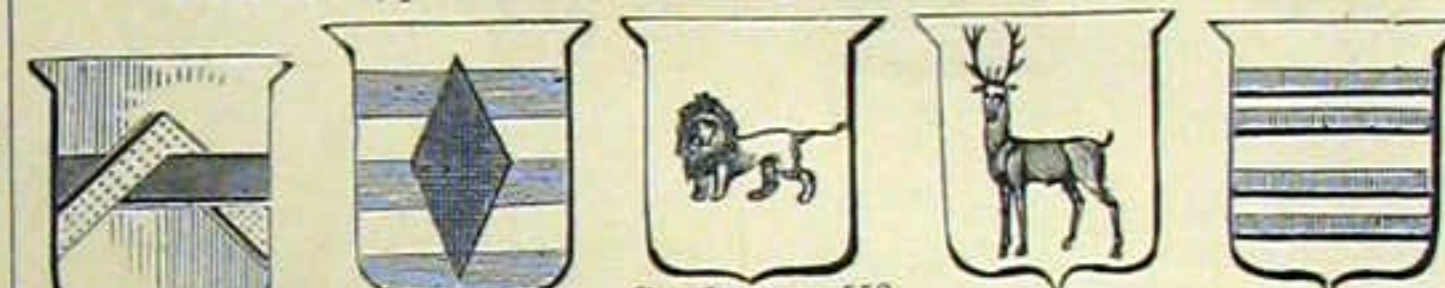
Embattled, p. 439. Empalement, p. 442. Engoulée, p. 448. Erased, p. 461. Ermine, p. 462.



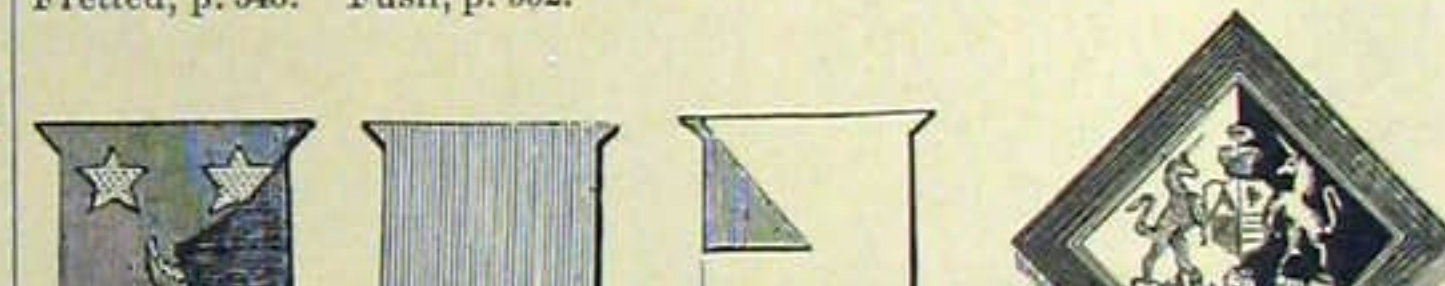
Engrailed, p. 448. Escaloped, p. 463. Points, p. 464. Fesse, p. 507. Flanch, p. 518.



Fleur-de-lis, p. 521. Flotant, p. 523. Fourche, p. 539. Fracted, p. 539.



Fretted, p. 543. Fusil, p. 552. Gardant, p. 558. At gaze, p. 562. Bars gemel, p. 563.



Gore, p. 580. Gules, p. 596. Gyron, p. 599. Hatchment, p. 510.



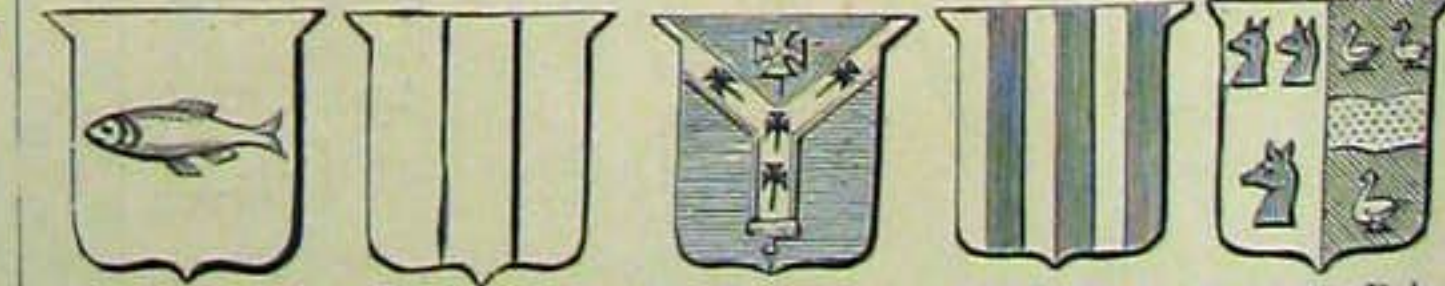
Impalement, p. 661. Increscent, p. 678. Inescutcheon, p. 683. Inflamed, p. 689. Interfretted, p. 706.



Invected, p. 713. Issuant, p. 720. Jessant, p. 726. Label, p. 745. Lattice, p. 755.

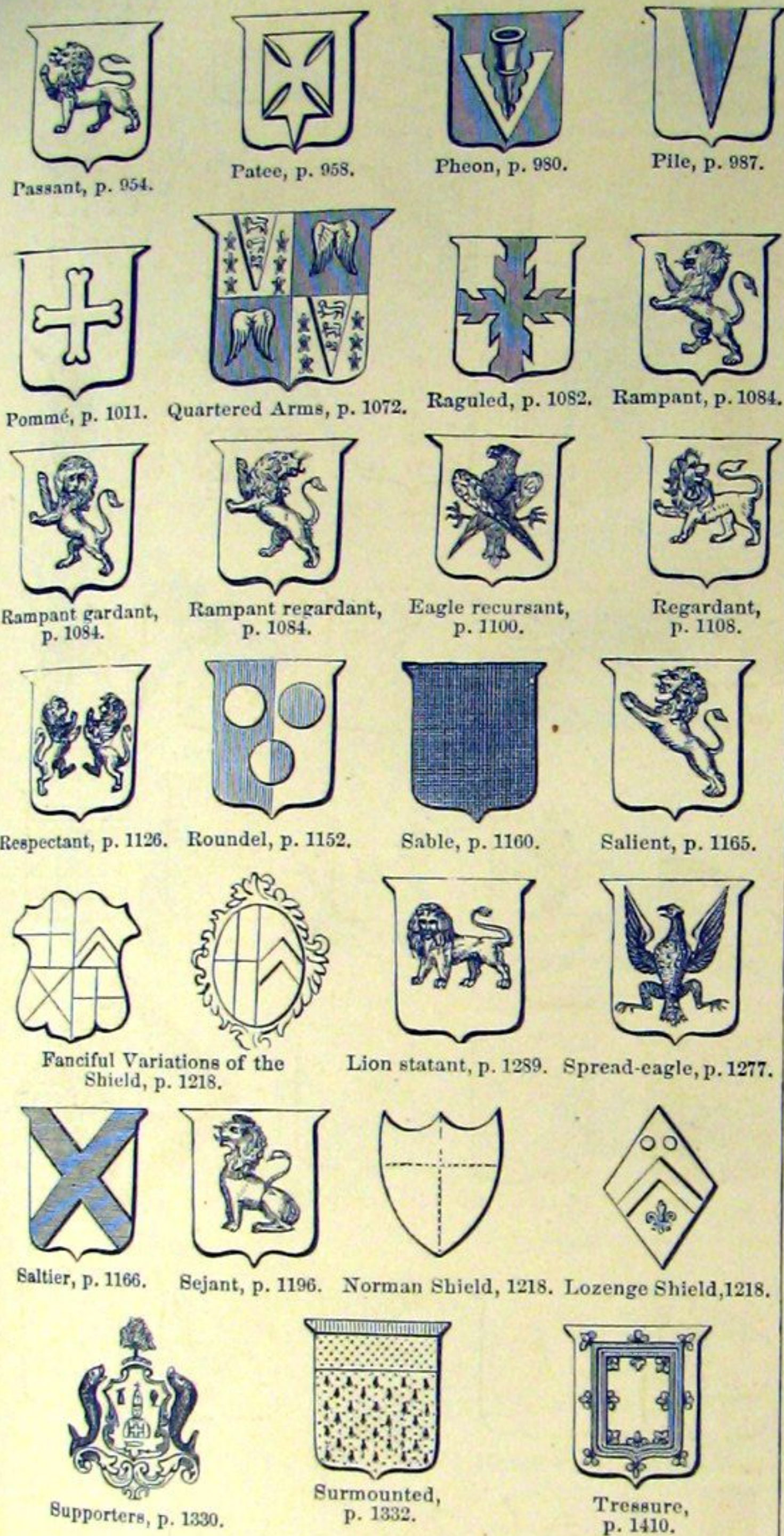


Lodged, p. 784. Lozengy, p. 792. Martlet, p. 815. Mascle, p. 816. Naissant, p. 873.

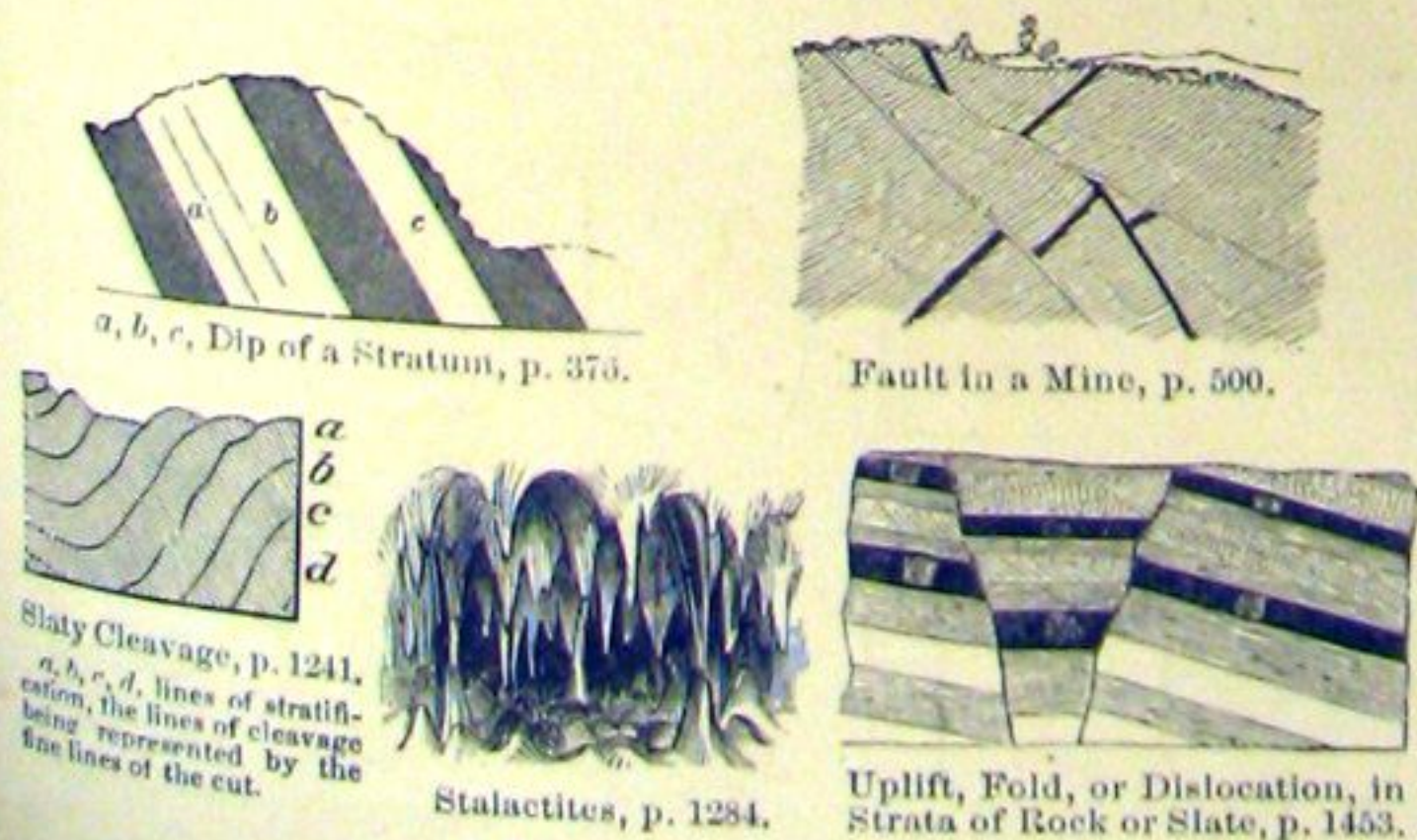


Natant, p. 875. Pale, p. 939. Pall, p. 940. Paly, p. 942. Party per Pale, p. 953.

HERALDRY — Continued.

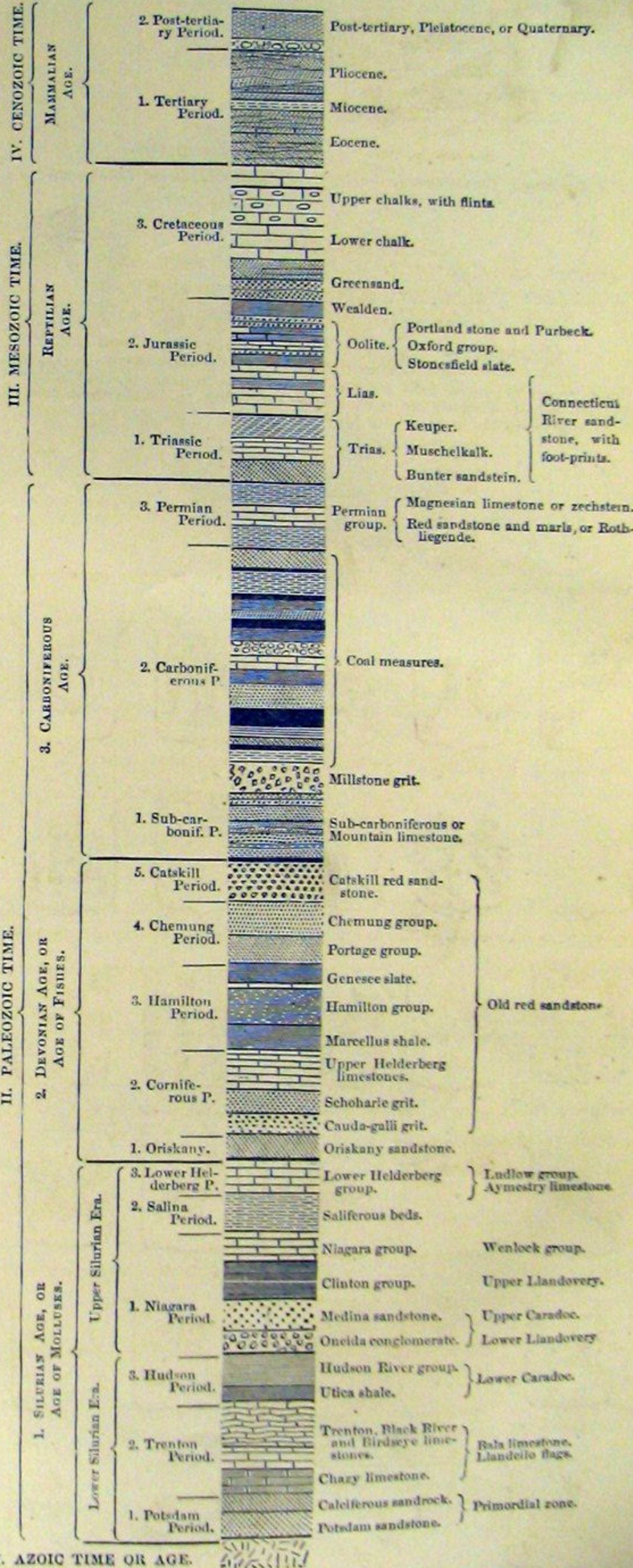


GEOLOGY.



The science of geology, as treating of the physical history of the globe, involves a description of the different strata which compose its crust, their order of succession, characteristic forms of animal and vegetable life, &c. The principal subdivisions of geological time, and the most important strata corresponding to each, with their relative positions, are indicated in the following diagram:—

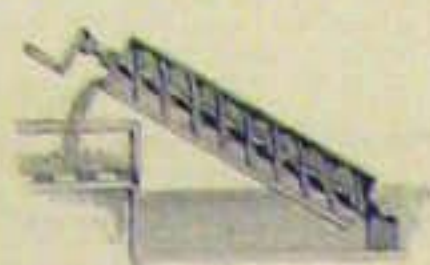
V. ERA OF MIND, OR AGE OF MAN.



HYDRAULICS.



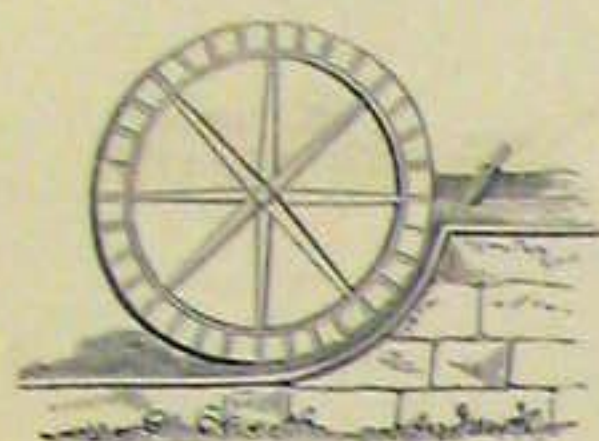
Aqueduct, p. 69.



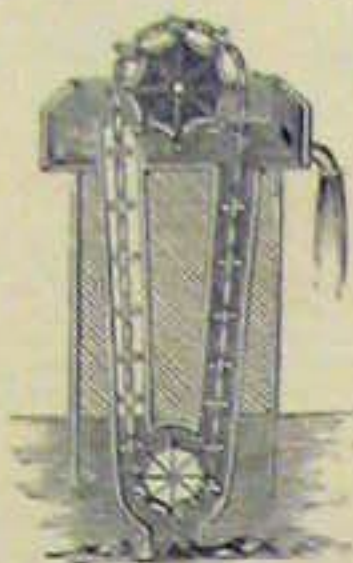
Archimedes' Screw, p. 72.



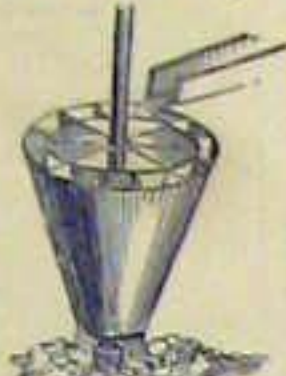
Barker's Mill, p. 109.



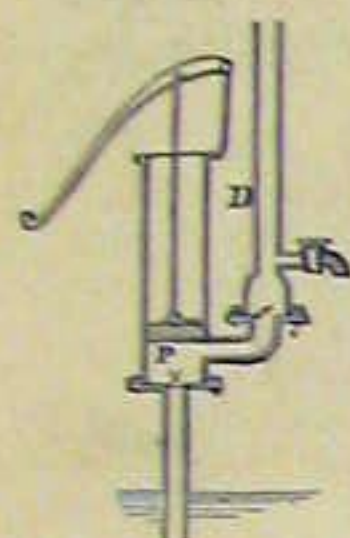
Breast-wheel, p. 162.



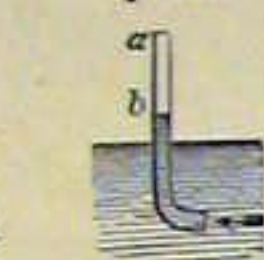
Chain pump, p. 214.



Danaloe, p. 333.

Forcing-pump, p. 532.
P, piston; D, delivery tube.Hydraulic Ram,
p. 647.

Noria, p. 892.

Overshot Wheel,
p. 932.

Pitot's Tube, p. 992.

a, bent glass tube; b, the level of water.

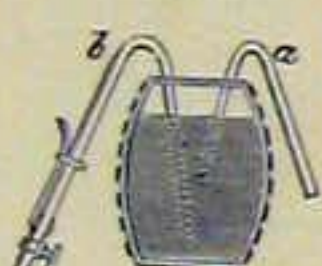
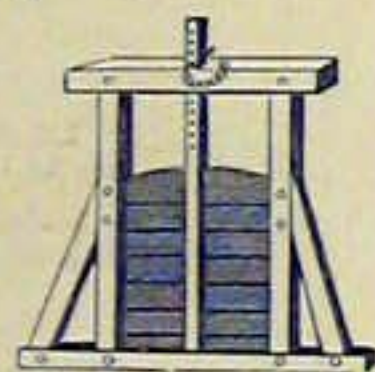


Suction Pump, p. 1061.

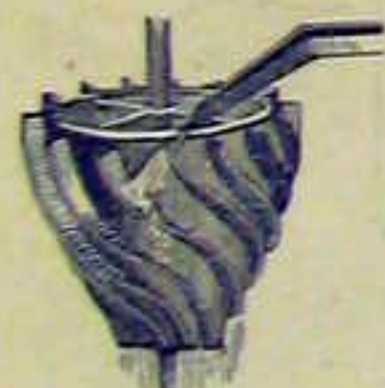
H, handle; A, C, cylinder, or barrel; P, piston; R, piston rod; v, v, valves; A B, pipe; C, mouth of pump.



Rotary Pump, p. 1150.

Siphons, p. 1234.
a, common siphon; b, improved siphon with exhausting tube.

Sluice, p. 1245



Tub-wheel, p. 1422.

Turbine Wheel, p. 1425.
B, curved partitions; D, working-wheel.Undershot Wheel,
p. 1439.

INSECTS, LARVÆ, PUPÆ, &c.



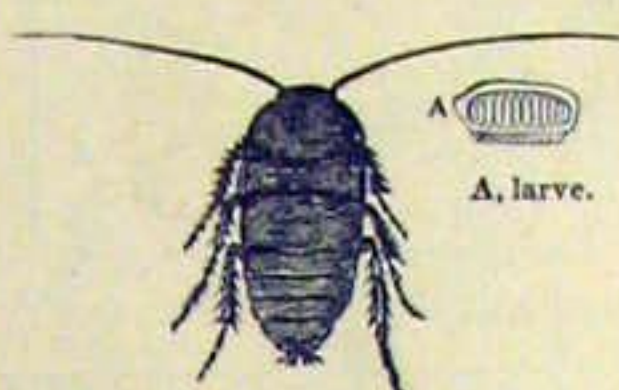
Stag-beetle, p. 120.

Bombyx, p. 149.
Silk-worm moth.Butterfly, p. 179.
Butterfly, Caterpillar, and Chrysalis.Antennæ, p. 57.
Firefly. a, a, antennæ.

Working Bee, p. 120.



Chrysalis of Silk-worm, p. 228.

Calandra, p. 184.
Corn-weevil.

Cockroach, p. 246.



A, larvæ.



Croton-bug, p. 316.

Death-watch,
p. 338.

Cricket, p. 312.

Dipterous Insect, 377.
a, a, balancers or poisers.

Dragon-fly, p. 410.

Earwig,
p. 424.

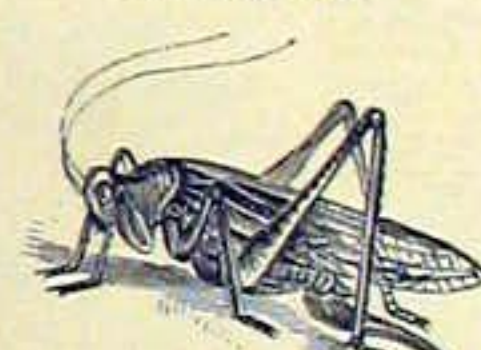
Drone-bee, p. 415.



Gadfly, p. 553.

Glow-worms, p. 575.
a, female; b, male.

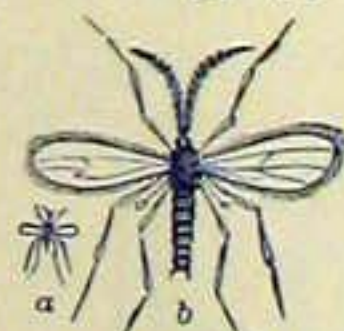
Grasshopper, p. 586.



Gryllus, p. 594.



Hemipter, p. 620.

Hessian Fly, p. 624.
a, natural size; b, magnified.

Honey-comb, p. 635.



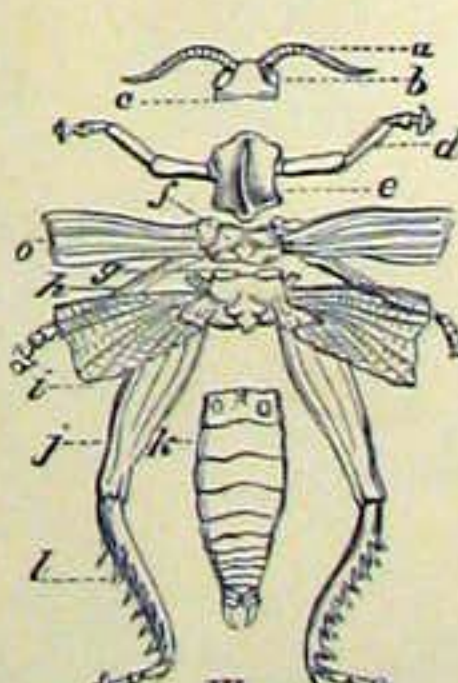
Horse-fly, p. 639.



Homopter, p. 635.



Hymenopter, p. 649.



Insect, p. 697.

a, antennæ; b, eyes; c, head; d, anterior legs or arms; e, prothorax; f, mesothorax; g, metathorax; h, middle or central legs or arms; i, central wings; o, anterior or first wings; j, posterior legs; k, abdomen; l, tibia; m, tarsus.

Larvæ, p. 753.
a, caterpillar; b, chrysalis; c, butterfly.

Lepidopter, p. 705.

INSECTS, LARVÆ, PUPÆ, &c. — Continued.



Libellula, p. 769.
Dragon-fly.



Moth, p. 861.
Feather-winged Moth.



Locust, p. 784.



One of the Lucanidæ,
p. 792.



Necrophore, p. 879.



Mantis, p. 810.



Mole cricket, p. 851.



Neuropter, p. 883.
Caddis-fly.



Papilio, p. 945.



Pupa, p. 1062.
Pupa and Caterpillar of
Peacock Butterfly.



Pterophorus Insect, p. 1057.



Rhipipter, p. 1136.



Silk-worm Moth, p. 1230.



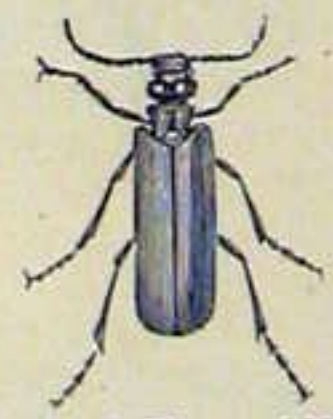
Scarab, p. 1177.



Silk-worm Pupa,
p. 1230.



Silk-worm, p. 1230.



Spanish Fly, p. 1265.



Sphinx, p. 1270.



Spring-tall, p. 1278.



Stag beetle, p. 1283.



Strepsipter, p. 1307.



Termite, or White
Ant, p. 1366.



Wasp,
p. 1494.



Whirligig,
p. 1510.

ICHTHYOLOGY.



Abdominal, p. 3.
The Parr.



Acanthopterygian, p. 9.
Perch.



Acipenser, p. 14.
Sturlet.



Anabas, p. 48.



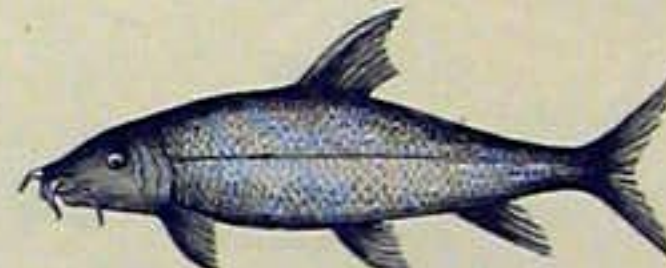
Anchovy, p. 50.



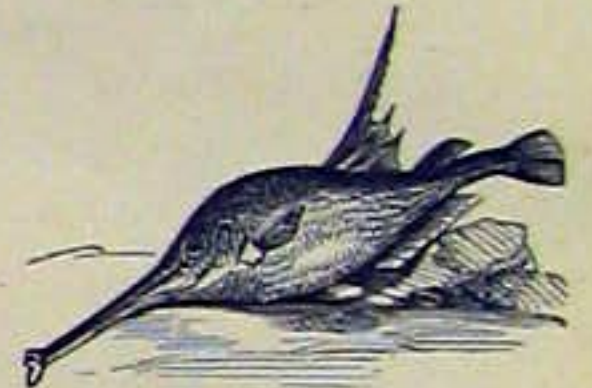
Angler, p. 52.
Sea-devil.



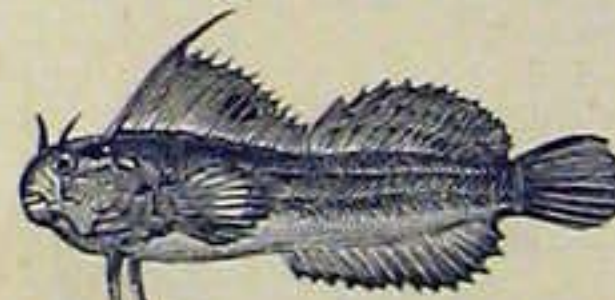
Apodal, p. 62.
Swordfish.



Barbel, p. 108.



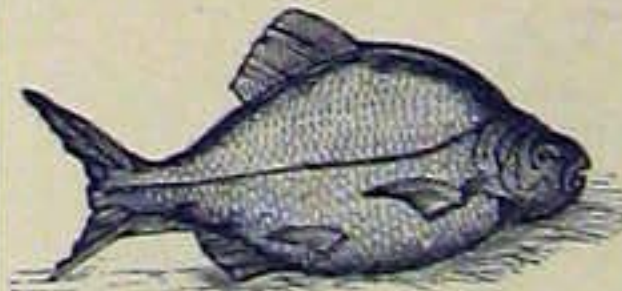
Bellows-fish, p. 123.



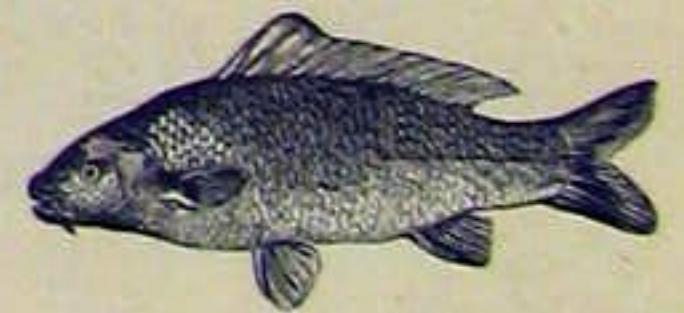
Ocellated Blenny, or Butterfly-
fish p. 141.



Bonito, p. 150.



Bream, p. 161.



Common Carp, p. 199.



One of the Chimæridæ, p. 224.
King of the Herrings.



Chub, p. 229.



Codfish, p. 247.



Cramp-fish, p. 308.

ICHTHYOLOGY — Continued.



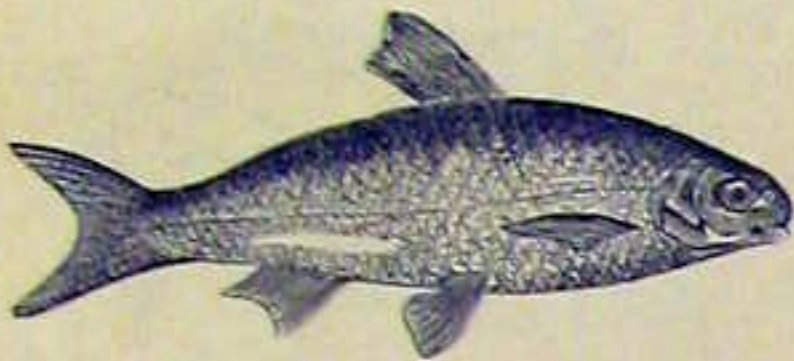
Dab, p. 330.



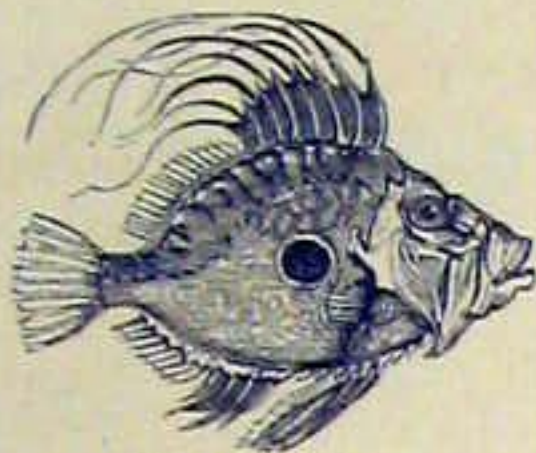
Flying Gurnard, p. 330.

Diodon, p. 376.
Globe-fish.

Dolphin, p. 403.



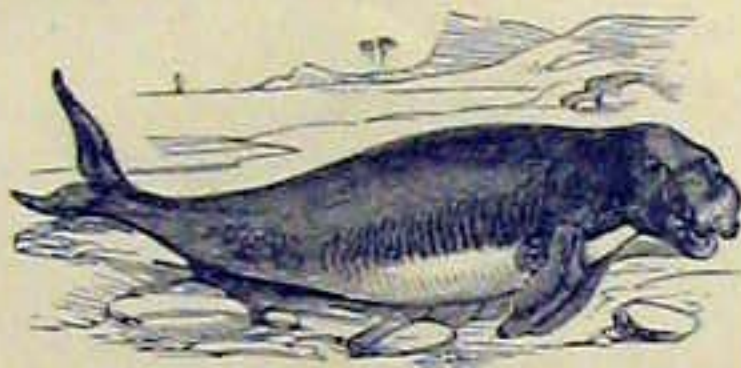
Dace, p. 330.



Dorce, p. 405.



Drum fish, p. 416.



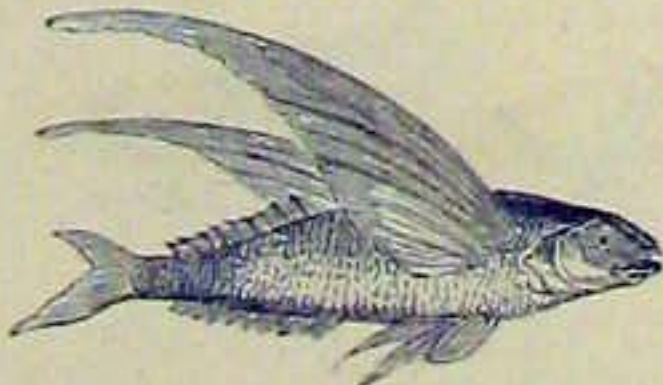
Dugong, p. 418.



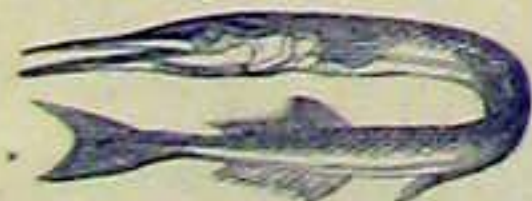
Father-lasher, p. 499.

Fins, p. 512.
1, ventral; 2, anal; 3, caudal; 4, pectoral; 5, first dorsal; 6, second dorsal.

Flounder, p. 524.



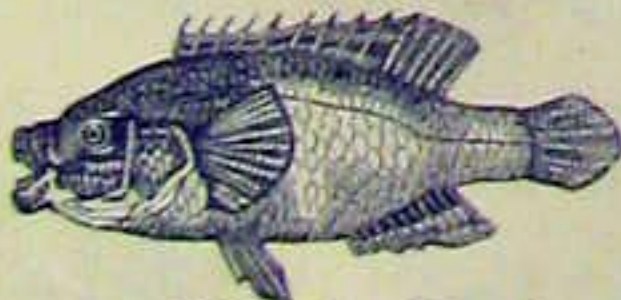
Flying-fish, p. 526.



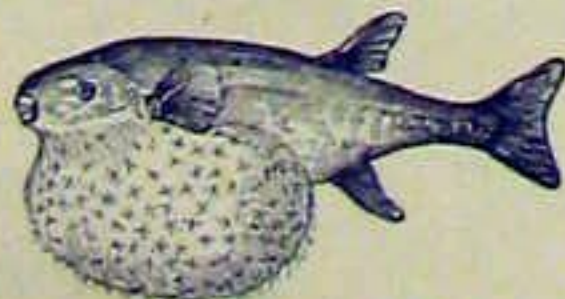
Gar-fish, or Sea-pike, p. 558.



Goby, p. 577.



Gilt-head, p. 569.



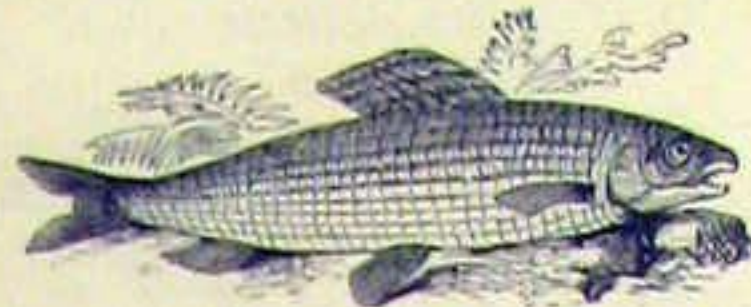
Globe-fish, p. 574.



Gold-sinny, p. 579.



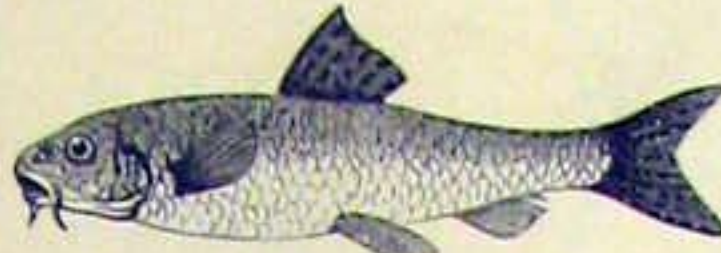
Graining, p. 584.



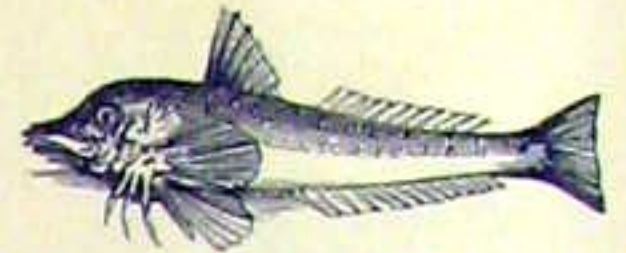
Grayling, p. 587.



Grampus, p. 584.



Gudgeon, p. 595.



Gurnard, p. 597.



Gymnote, p. 599.



Haddock, p. 601.



Hake, p. 602.



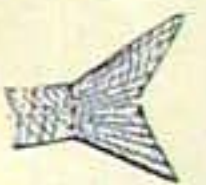
Halibut, p. 603.



Herring, p. 624.



Heterocercal, p. 624.

Homocercal
tail of a fish,
p. 634.

Hound fish, p. 641.



Lump fish, p. 793.



Lamprey, p. 749.



Ling, p. 776.



Loach, p. 782.



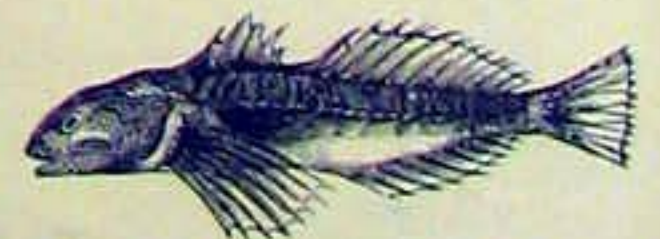
Mackerel, p. 798.



Malapterurus Electricus, p. 804.



Manatus, p. 806.



Miller's Thumb, p. 839.

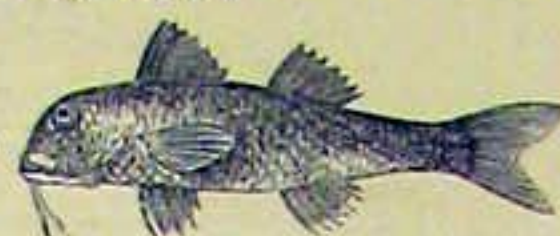
ICHTHYOLOGY — Continued.



Moon-fish, p. 857.



Minnow, p. 841.



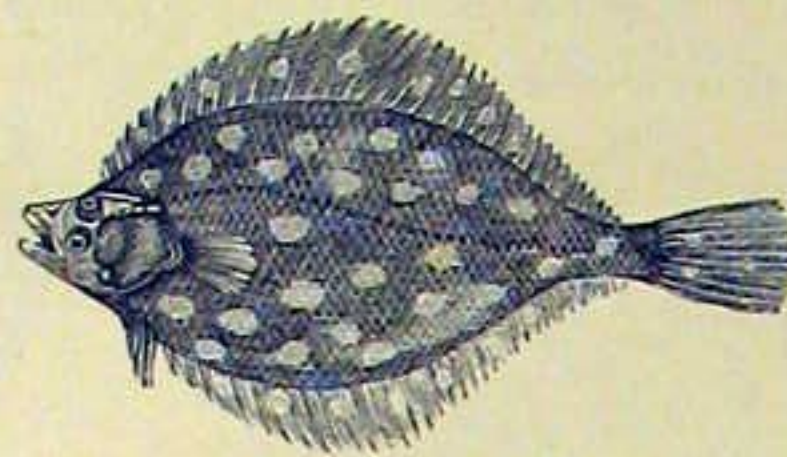
Mullet, p. 866.



Narwhal, p. 875.



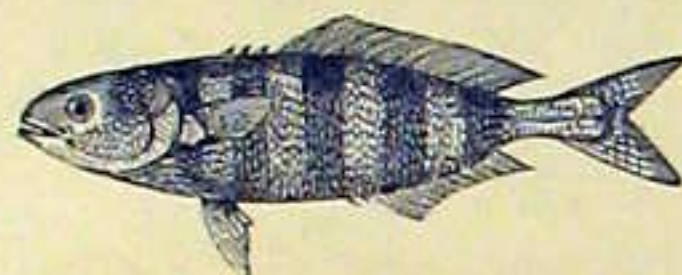
Opah, or King fish, p. 913.



Plaice, p. 994.



Common Perch, p. 963.



Pilot-fish, p. 988.



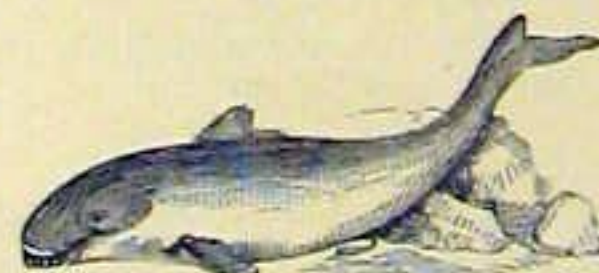
Pike, p. 986.



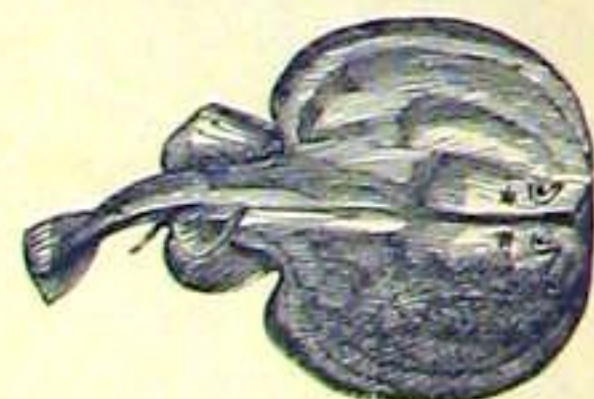
Pollock, p. 1008.



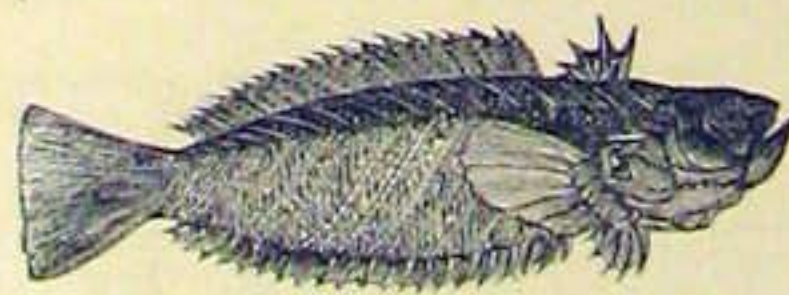
Pipe-fish, p. 990.



Porpoise, p. 1014.



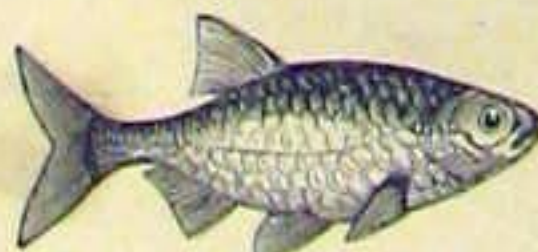
Starry Ray, p. 1090.



Lesser Weever, or Sting fish, p. 1502.



Remora, p. 1115.



Roach, p. 1143.



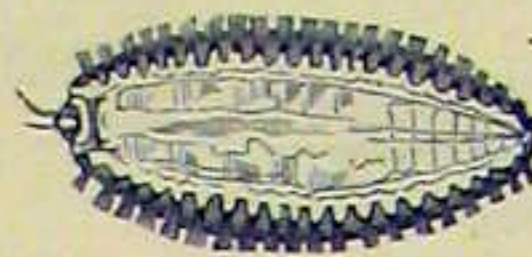
Rudd, p. 1164.



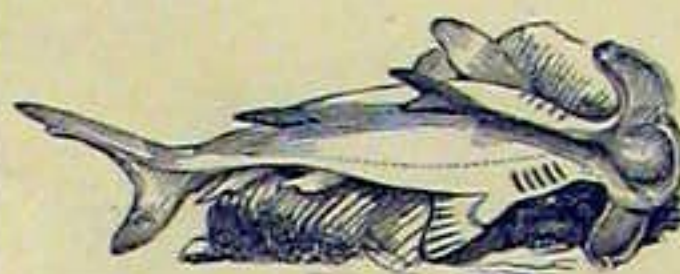
Salmon, p. 1166.



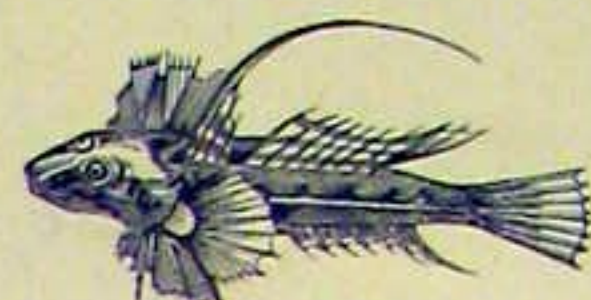
Saw-fish, p. 1174.



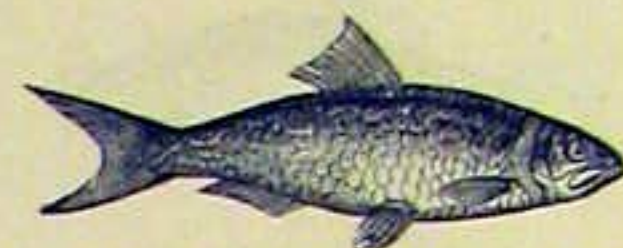
Sea-mouse, 1190.



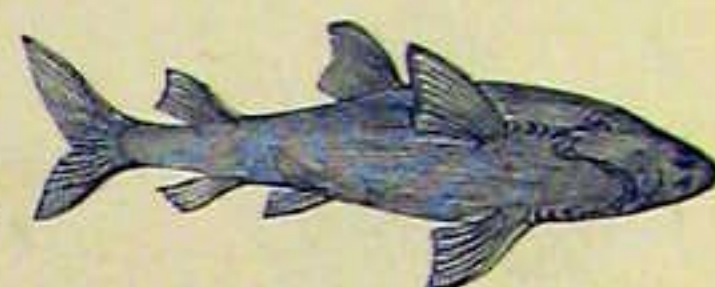
Hammer-headed Shark, p. 1214.



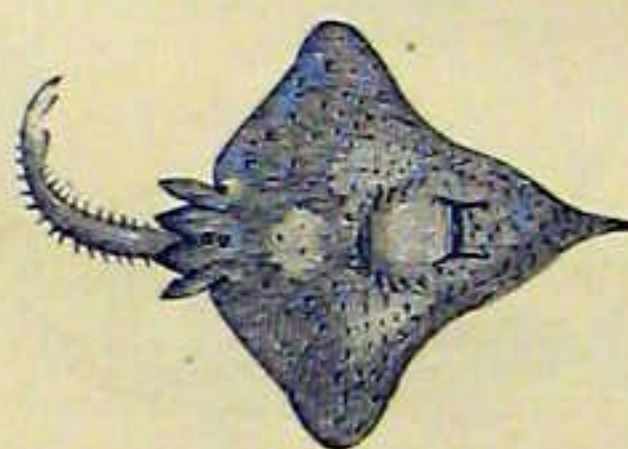
Sculpin, p. 1187.



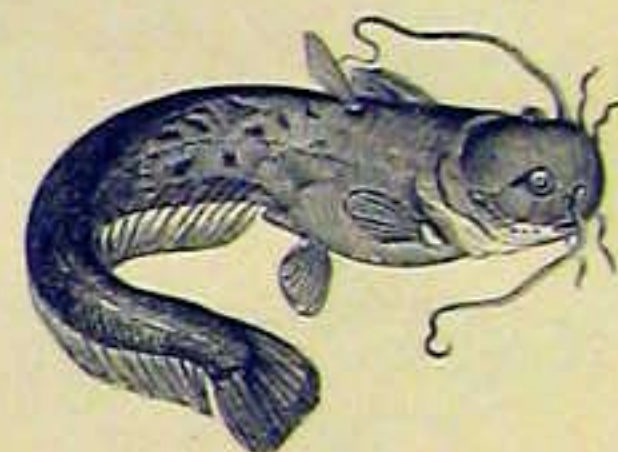
Shad, p. 1211.



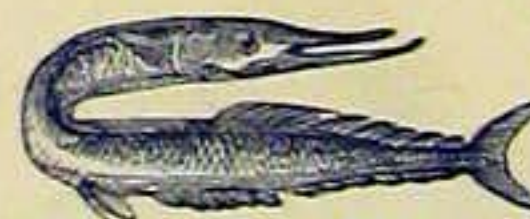
White Shark, p. 1214.



Long-nosed Skate, p. 1237.



Sly Silurus, p. 1231.



Skipper, p. 1239.



Stickleback, p. 1297.



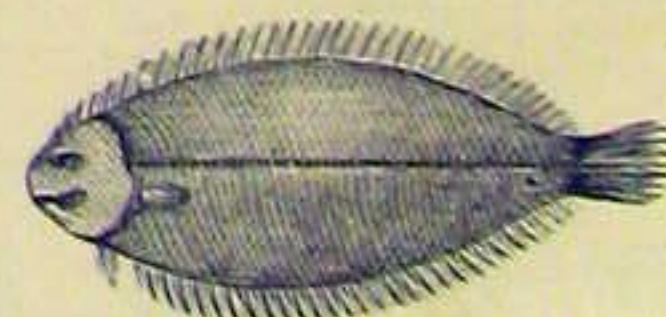
Smelt, p. 1247.



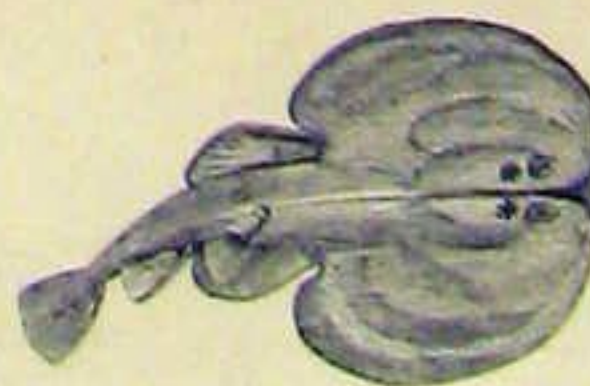
Sturgeon, p. 1312.



Short Sun-fish, p. 1326.



Sole, p. 1256.



Torpedo, or Cramp fish, p. 1395.

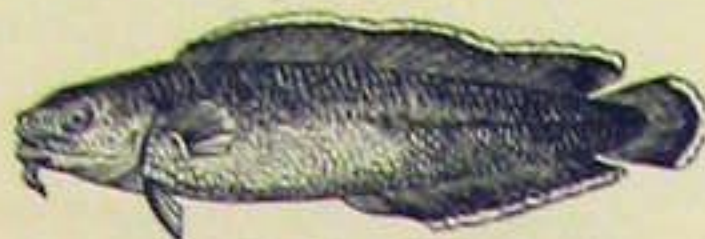


Toxotes, p. 1398.
Archer-fish.

ICHTHYOLOGY — Continued.



Sword-fish, p. 1340.



Torsk, p. 1395.



Tench, p. 1362.



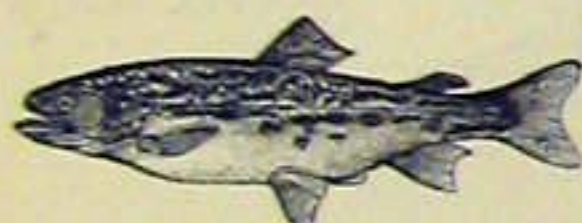
Trichlurus, p. 1411.



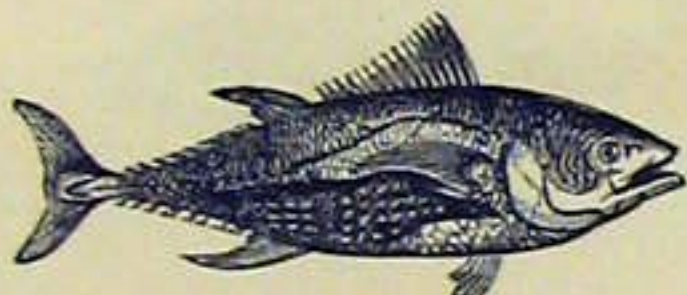
Thornback, p. 1377.



Top-knot, p. 1394.



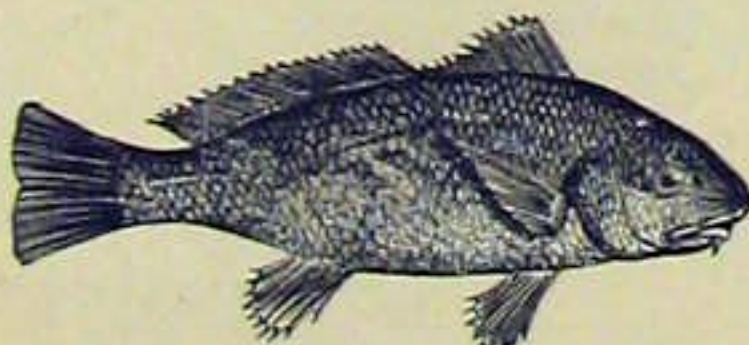
Common Trout, p. 1418.



Tunny, p. 1424.



Turbot, p. 1425.



Umbrina, p. 1433.



White-bait, p. 1511.



Wolf fish, or Sea wolf, p. 1522.



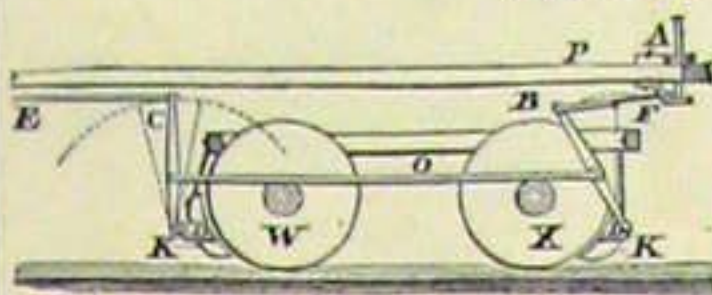
Whiting, p. 1511.



Red, or Three-spotted Wrasse, p. 1528.

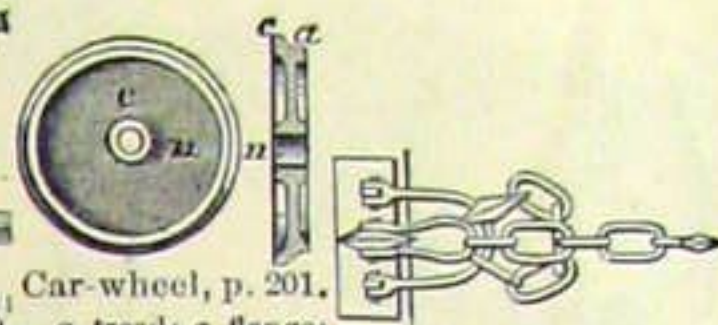


Whiff, p. 1508.

LOCOMOTIVE ENGINE, AND RAILROAD
MACHINERY.

Brake, p. 158.

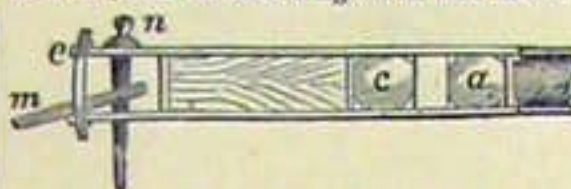
A, spindle; P, platform of the car; F, chain;
B, lever; K, D, brake-blocks; W, X, wheels; O,
rod; E, rod connecting with another truck.



Car-wheel, p. 201.

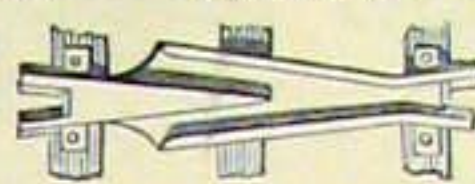
a, tread; c, flange;
e, disk; n, hub.

Drag-bar, p. 409.

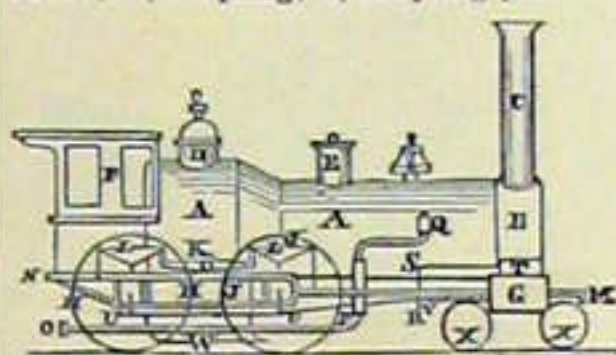


Draw-head, p. 412.

a, buffer-spring; c, draw-spring; e,
buffer; m, coupling; n, coupling-pin.



Railway Frog, p. 545.

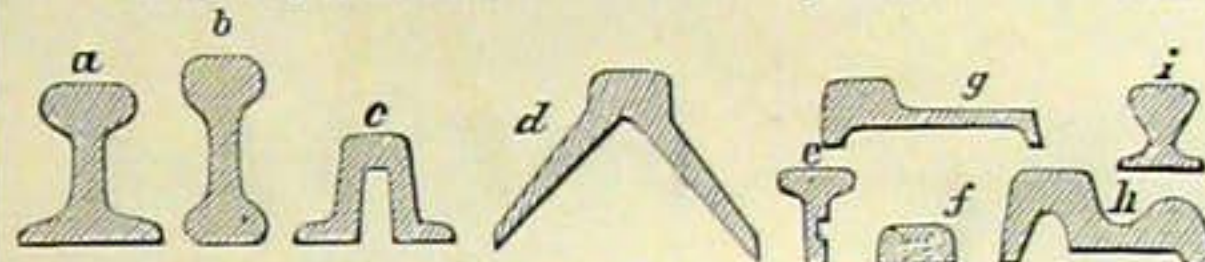


Locomotive, p. 784.

For explanation of letters see *Locomotive*,
in the body of the work.

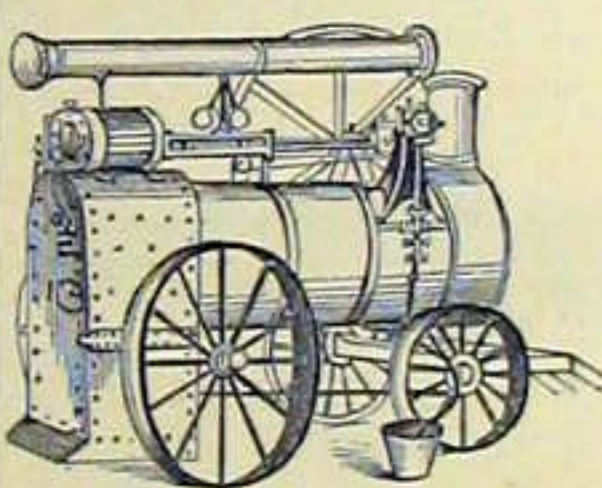
Spark arrester,
p. 1265.

Head-light, p. 613.



Cross Sections of Rails, p. 1082.

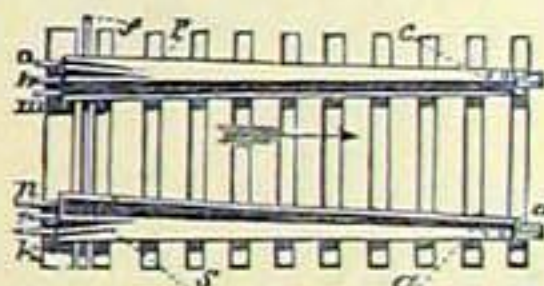
a, American
or H rail; b,
double-headed
or I rail; c,
bridge or U
rail; d, Sea-
ton's rail; e, T
rail; f, strap
rail; g, street
rail; h, loco-
motive street rail;
i, contractor's rail.



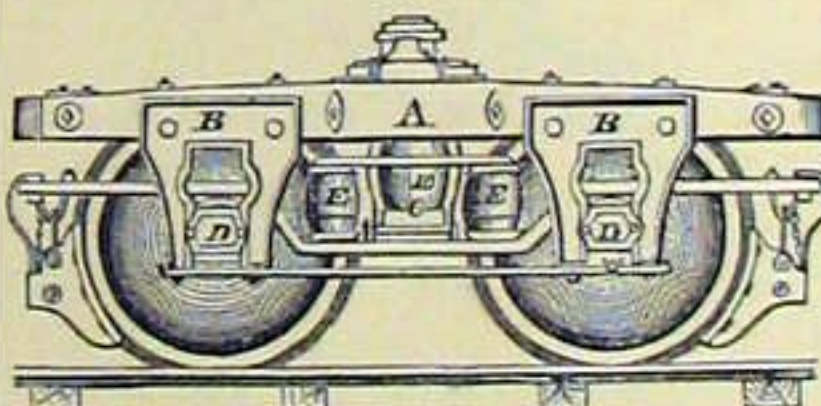
Locomotive Steam Engine, 1292.



Sandwiched Way, p. 1169.

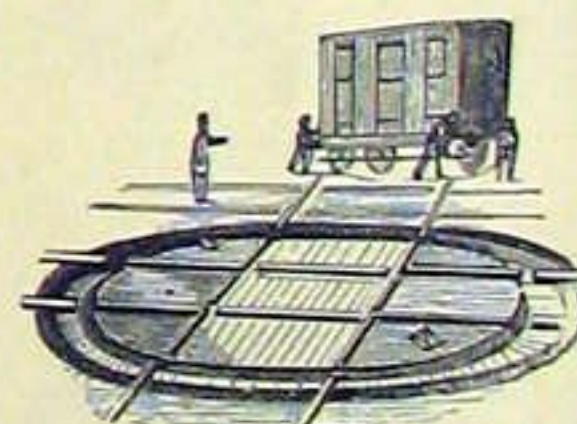


Safety-switch, p. 1340.

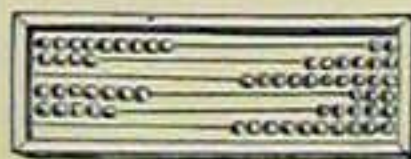


Railway Truck, p. 1419.

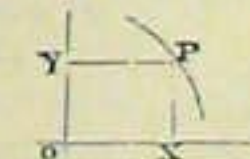
A, truck-frame; B, axle-guard; C, swing-beam; D,
axle-box; E, india-rubber springs.



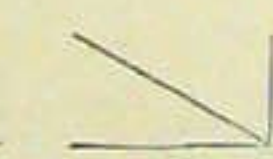
Turn-table, p. 1427.

MATHEMATICS,—INCLUDING ALGEBRA, GEOM-
ETRY, TRIGONOMETRY, CONIC SECTIONS, &c.

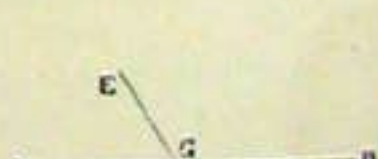
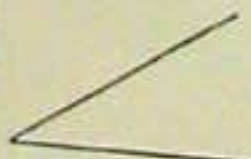
Abacus, p. 1.



Abscissa, p. 6.



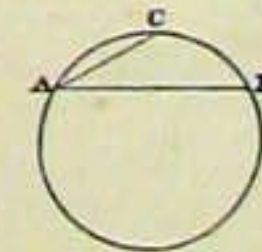
Acute Angle, p. 17.

Alternate Angles,
p. 41.

Angle, p. 52.



Arc, p. 71.



Chord, p. 227.

A C, A B, chords.



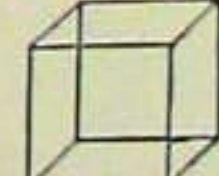
Circle, p. 231.



Conic Sections, p. 275.

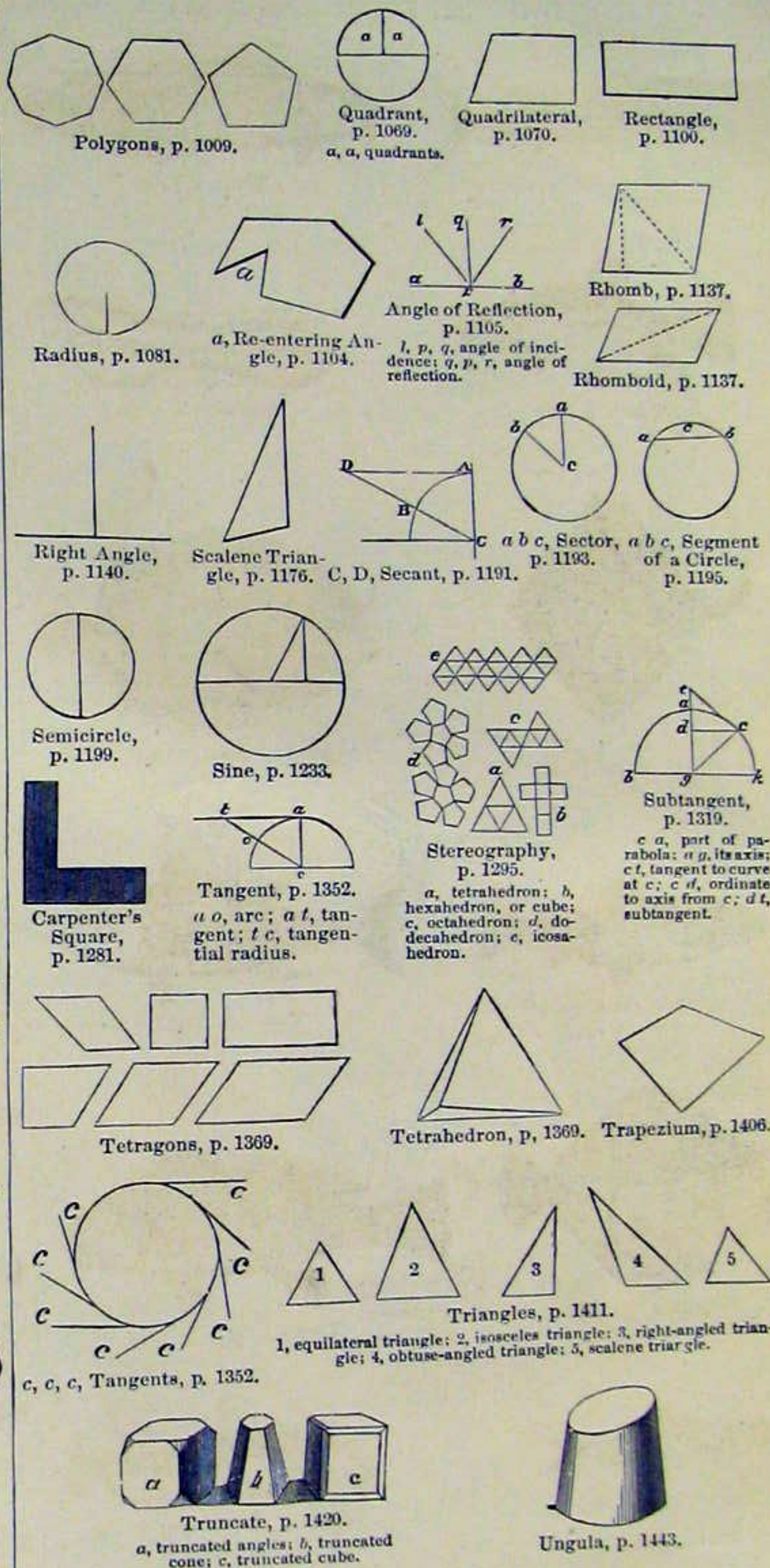


Conoid, p. 276.



Cube, p. 320.

Curve, p. 326.

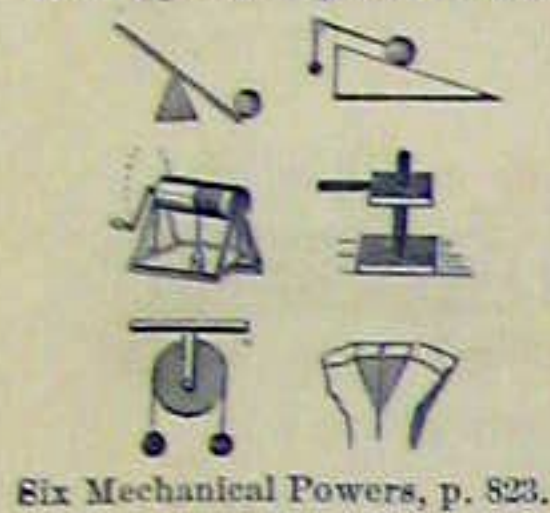
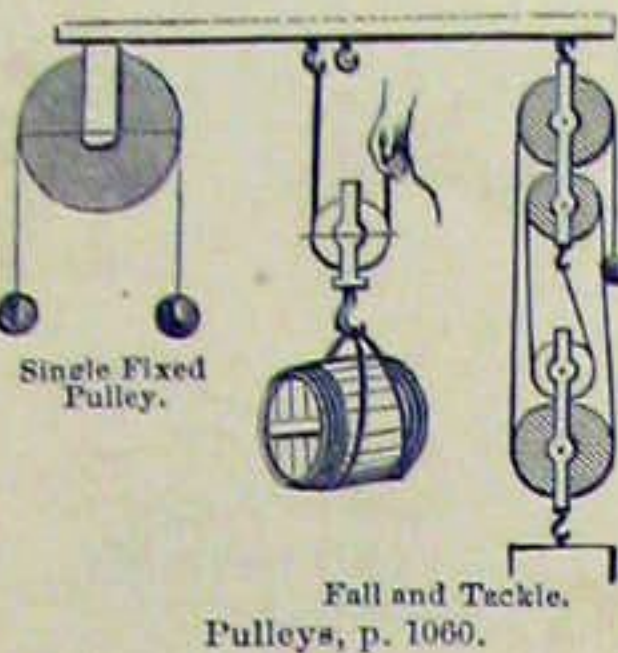
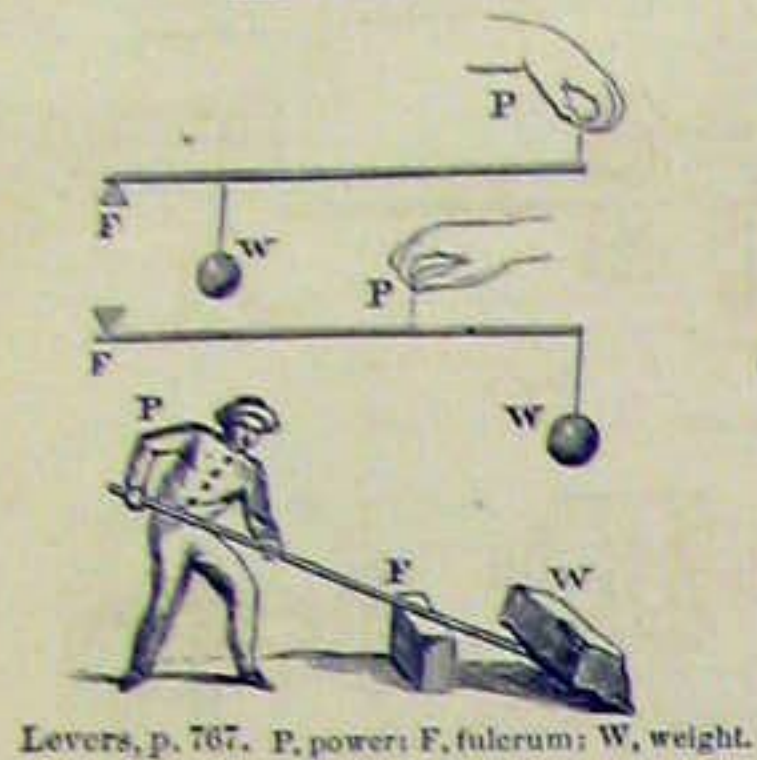
[illegible]

A D, inclined plane; D B, height; A B, base.

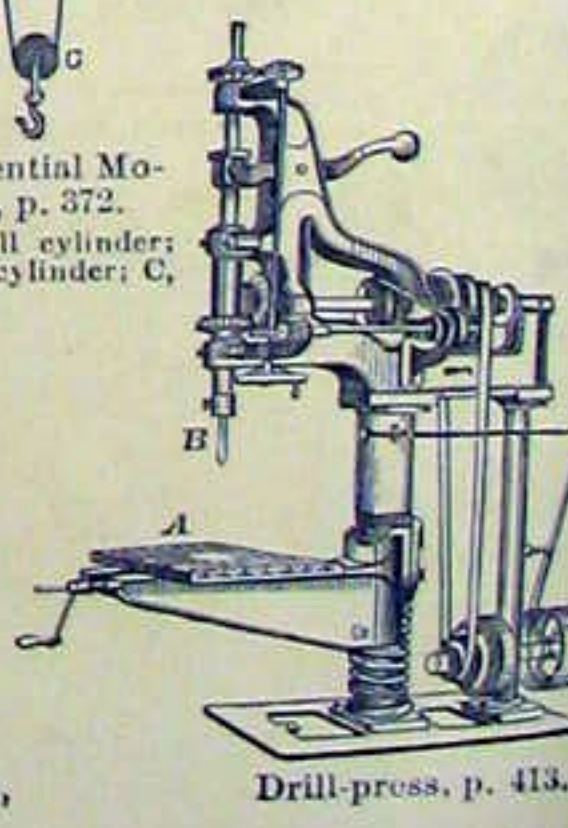
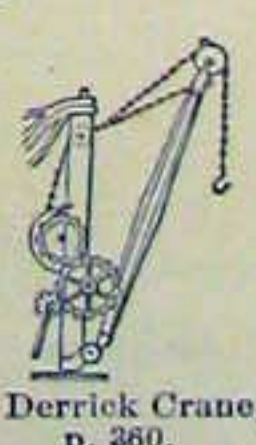
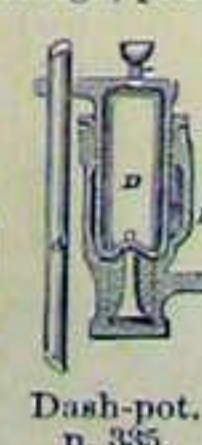
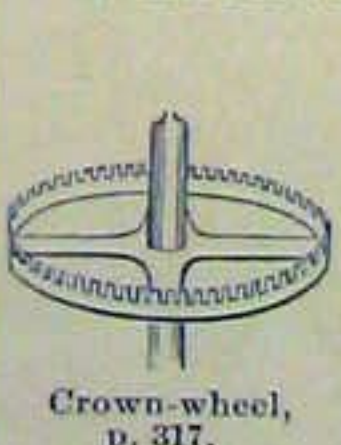
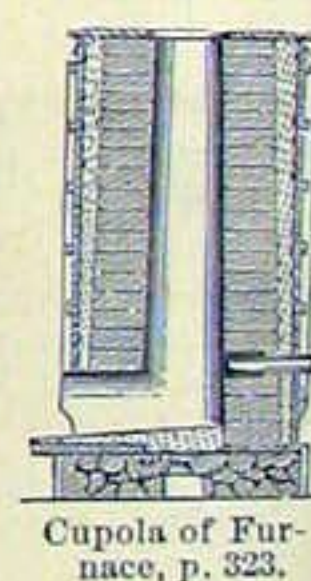
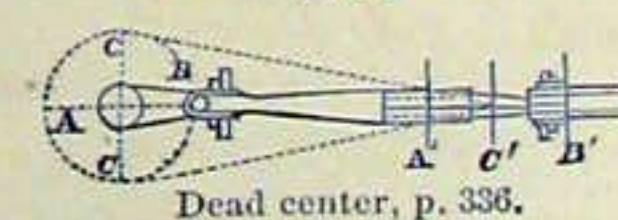
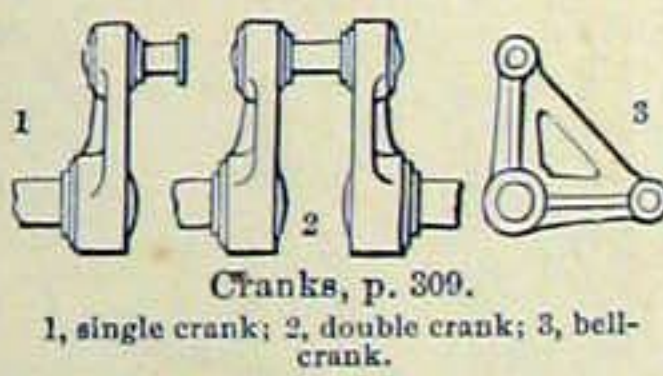
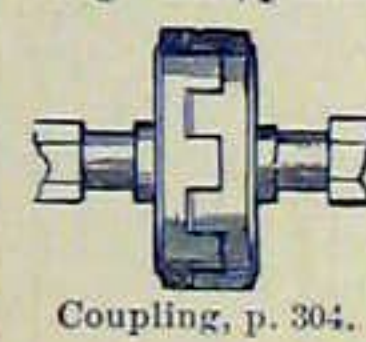
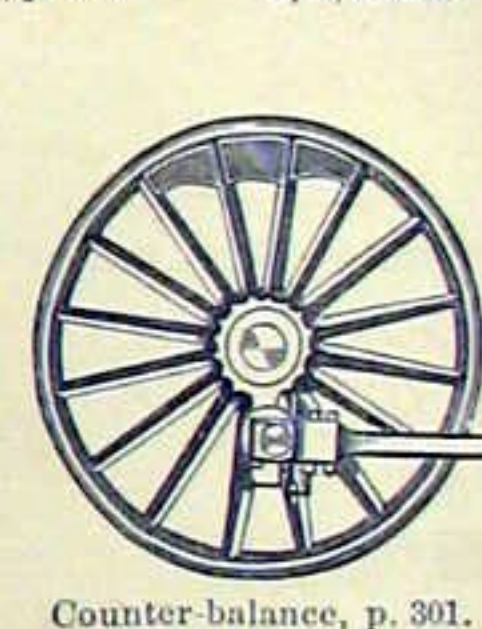
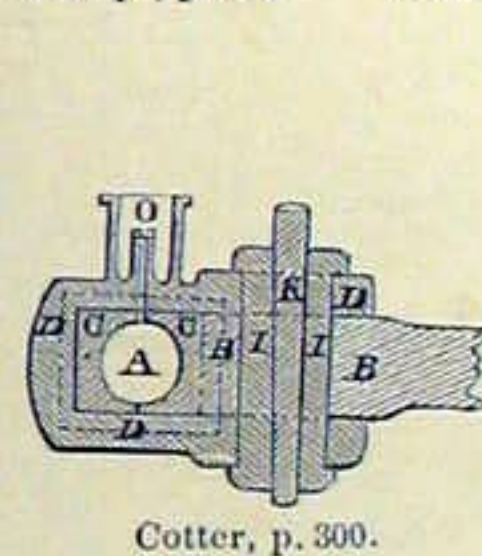
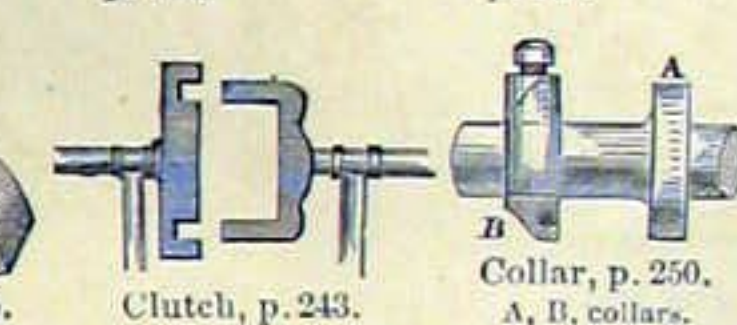
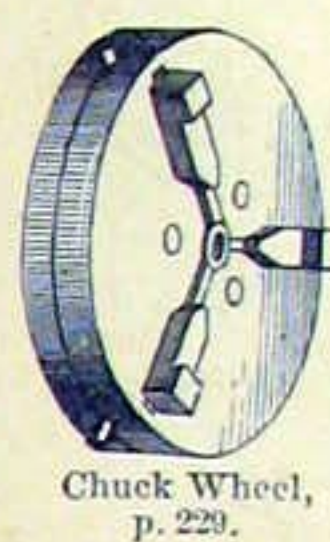
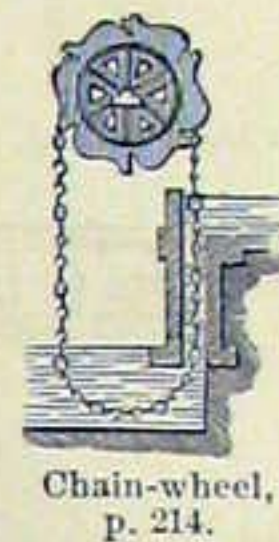
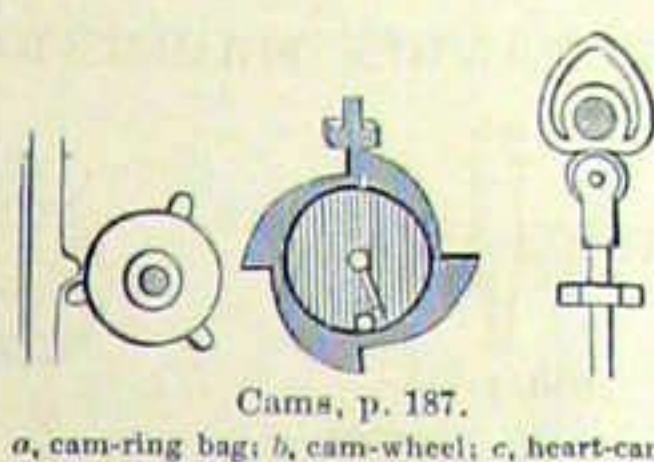
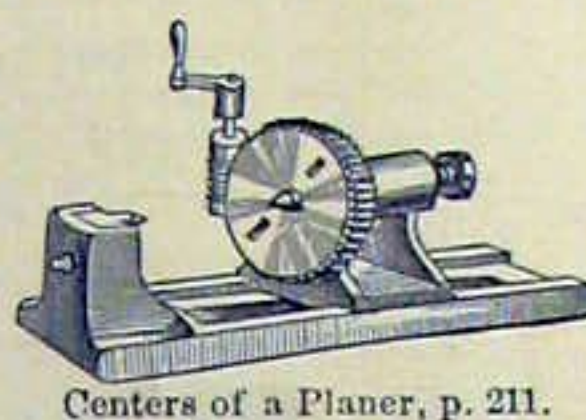
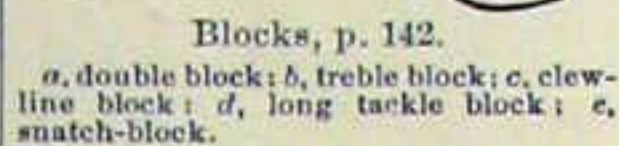
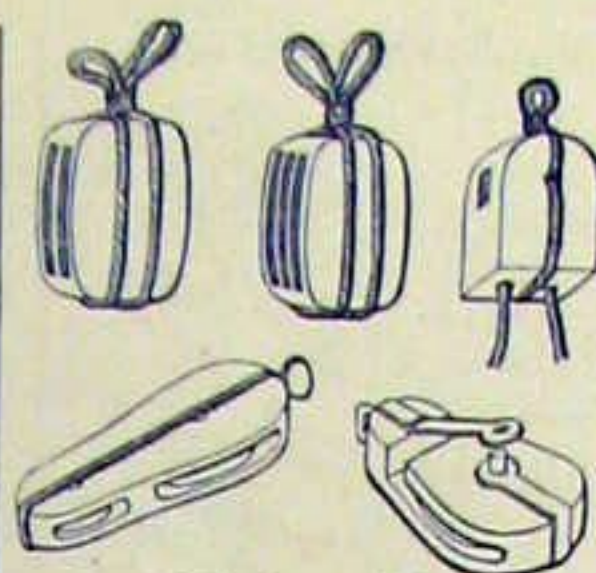
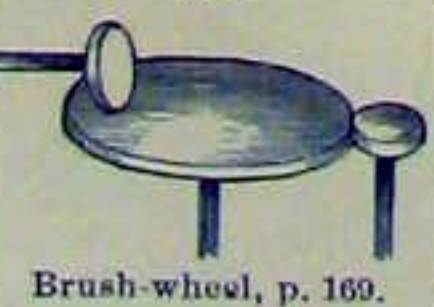
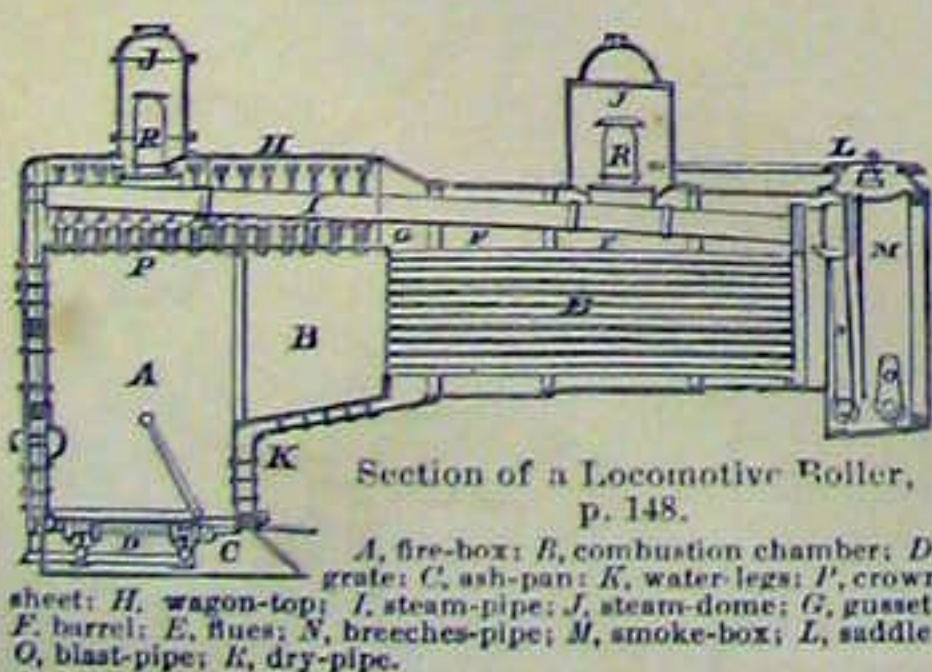
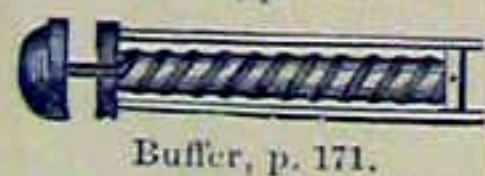
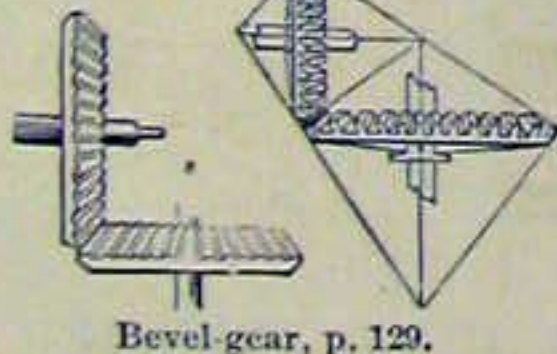
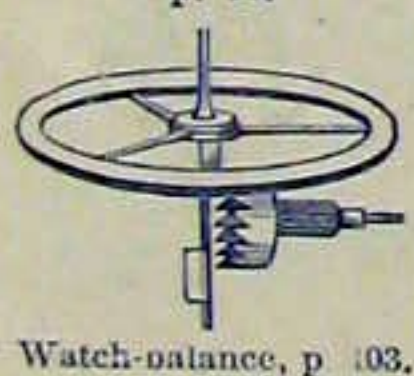
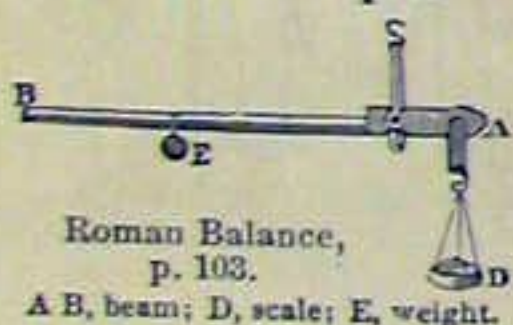
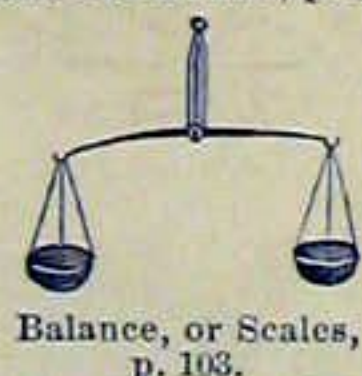
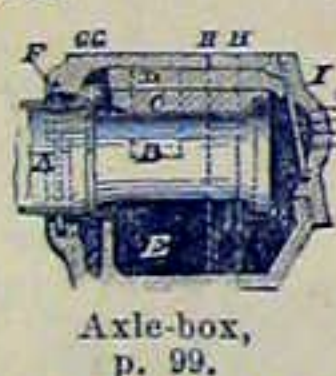
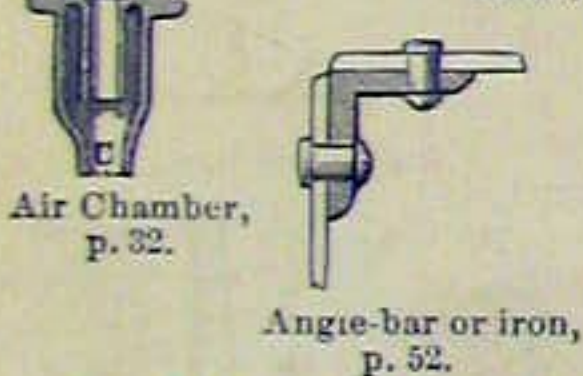
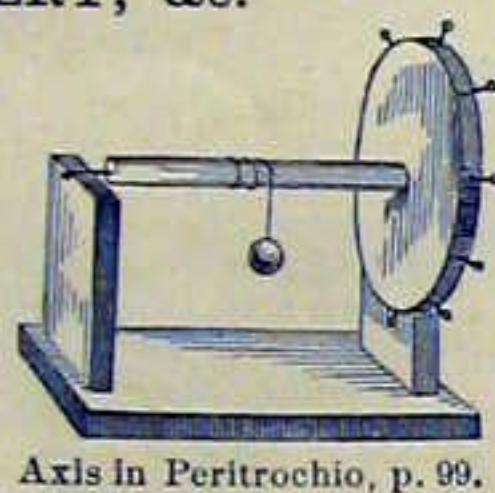
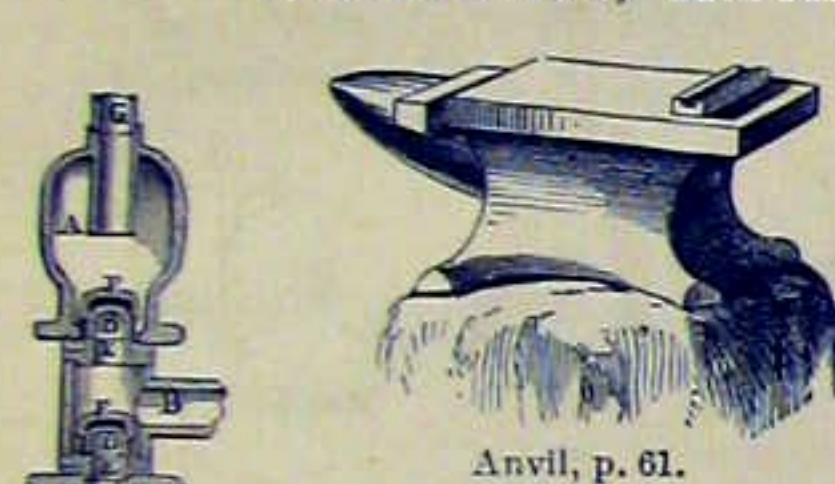
Inclined Planes, p. 674.
Advantage of.

Inclined Planes, p. 674.
Absence of.

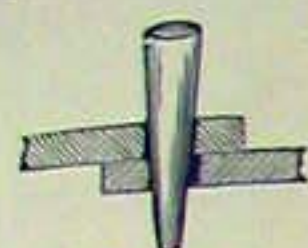
MECHANICAL POWERS—Continued.



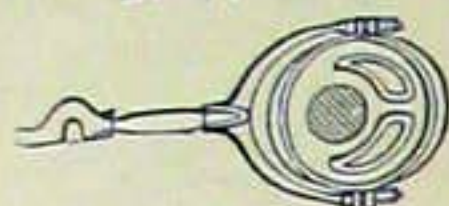
MECHANICS, MACHINERY, &c.



MECHANICS, MACHINERY, &c. — Continued.



Drift, p. 413.



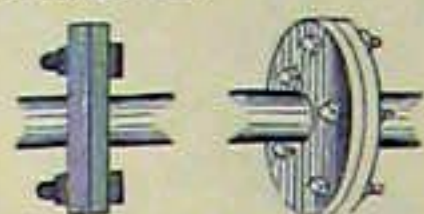
Eccentric of Steam-engine, p. 426.



Escapements, p. 463.



Expansion-joint, p. 480.



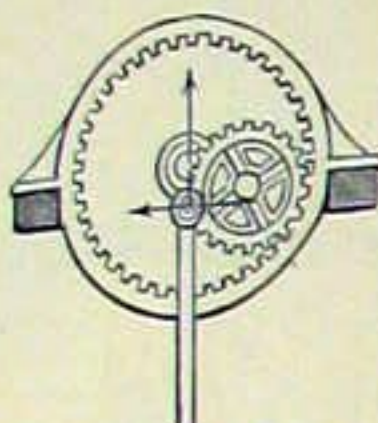
Flange, p. 518.



Fish-joint, p. 515.



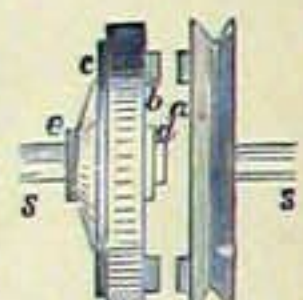
Flask, p. 519.



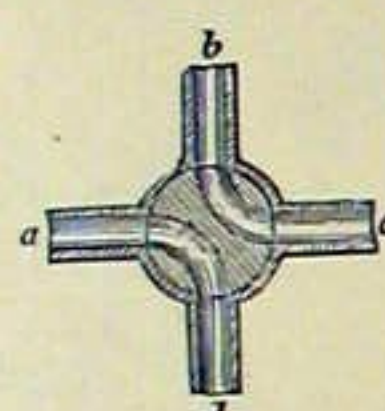
Epicycloidal Wheel, p. 456.



Fan-wheel, p. 496.

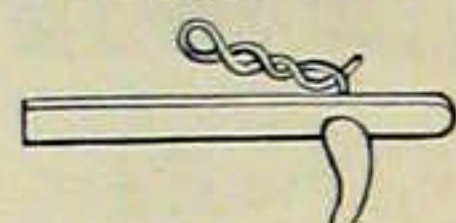


Friction Clutch, p. 544.

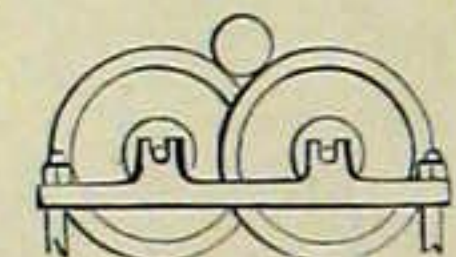


Four way Cock, p. 539.

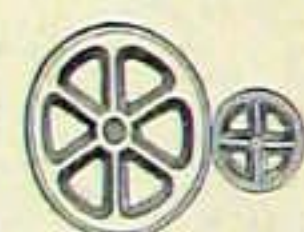
a, to steam pipe; *b*, to upper cylinder; *c*, to condenser; *d*, to lower cylinder.



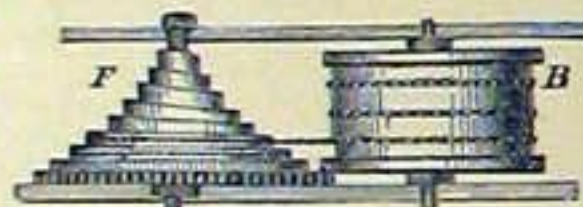
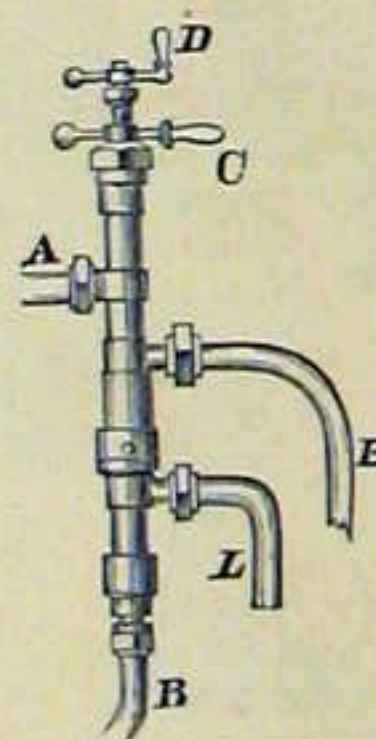
Friction Tube, p. 544.



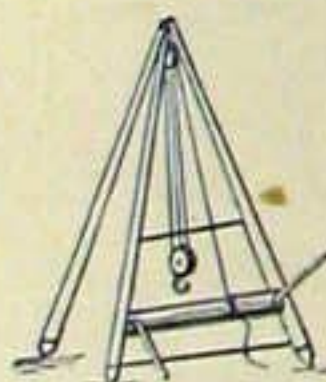
Friction Wheels, p. 544.



Frictional Gearing, p. 544.

Fusee, p. 552.
F, fusee; *B*, barrel.

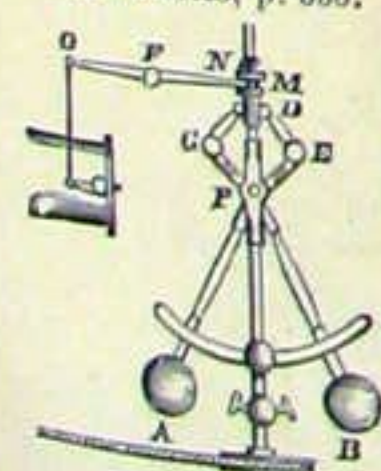
Giffard Injector, p. 569.



Gin, p. 570.

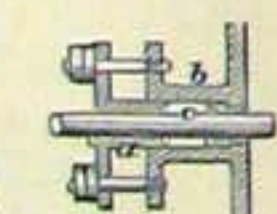
Reverberatory Air Furnace, 551.
a, ash-pit; *b*, door; *c*, hearth; *d*, chimney; *e*, retort.

Gallows-blits, p. 556.



Governor, p. 582.

AB, centrifugal balls; *DE*, connecting rods and joints; *F*, fulcrum; *FA*, *FB*, ball rods; *NO*, lever; *M*, slide.

Gland, p. 572.
a, gland; *b*, *c*, packing.

Gudgeon, p. 595.

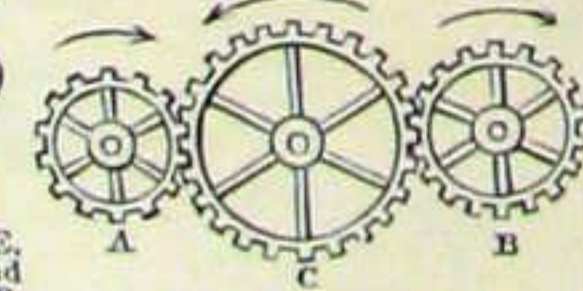
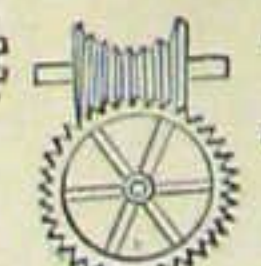
a, wooden shaft; *b*, gudgeon.



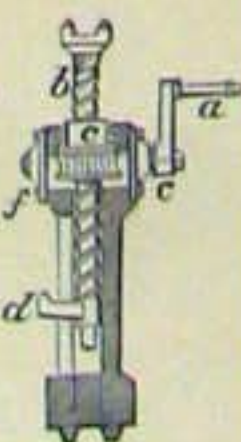
Guide-bars, p. 595.



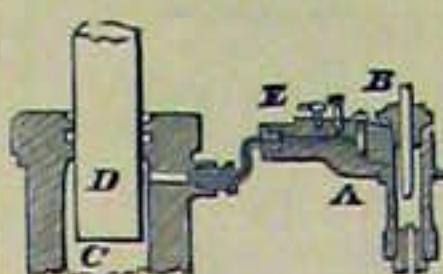
Heart-wheel, p. 615.

*C*, Idle-wheel, p. 654.

Hindley's Screw, 628.

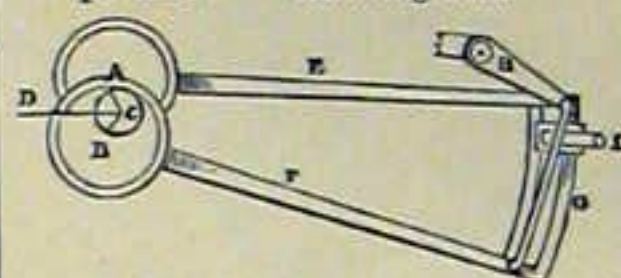


Jack-screw, p. 722.

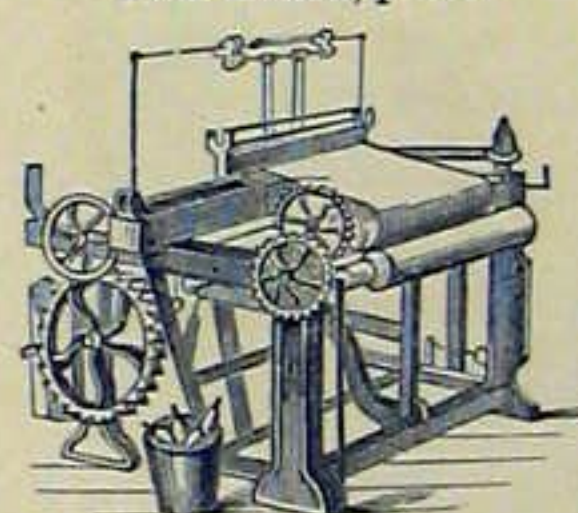
Fig. 1.
Lifting-Jack, p. 722.

Lewis, or Lewisson, p. 768.

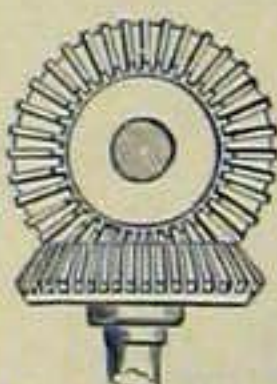
a, *a*, movable parts; *b*, wedge; *c*, *d*, bolt; *e*, half ring-bolt.



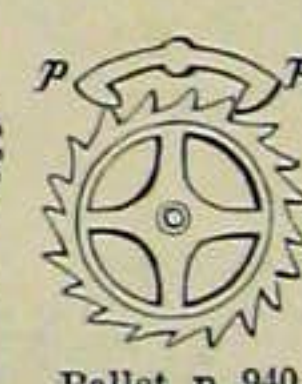
Link-motion, p. 777.



Loom, p. 787.

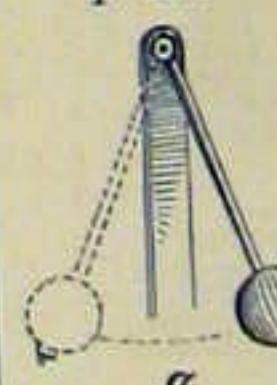


Miter-wheels, p. 847.



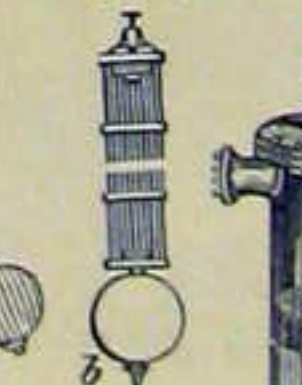
Pallet, p. 940.

p, *p*, pallet.



Pendulums, p. 965.

a, common pendulum; *b*, gridiron pendulum.



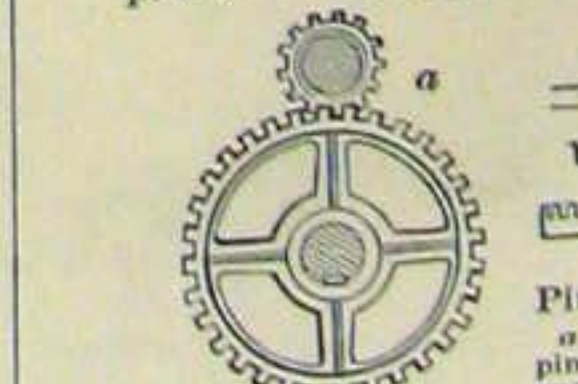
Piston, p. 991.



Pedometer, p. 962.

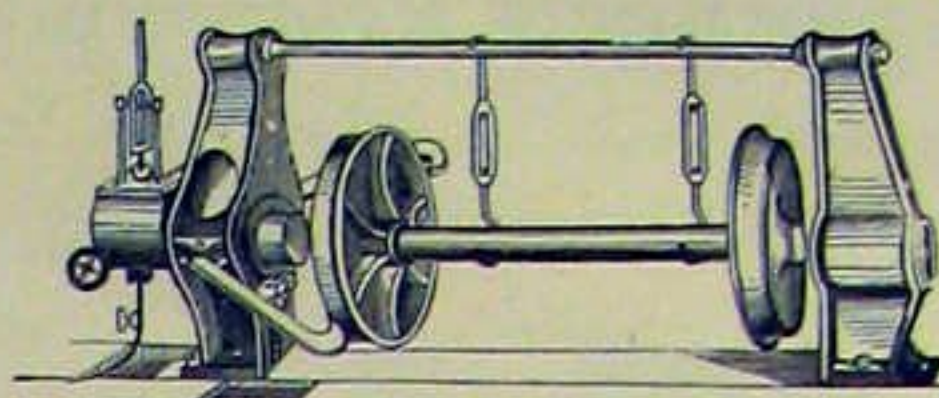


Perpetual Screw, 973.

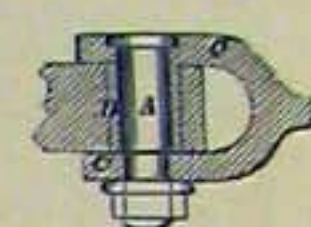


Pinions, p. 989.

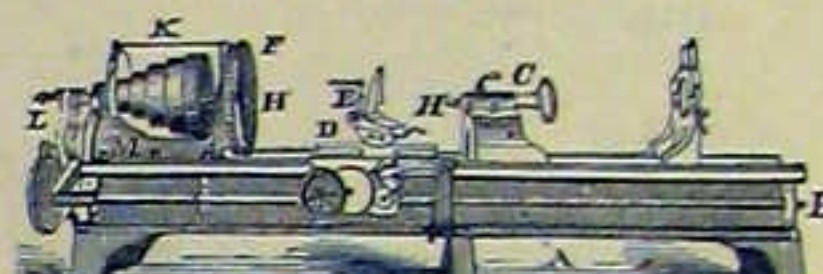
a, spur-wheel and pinions; *b*, right angular pinion.

Fig. 2.
Hydrostatic Presses, p. 648.

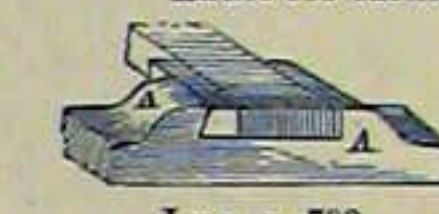
Key-seat, p. 737.

Knuckle-joint, 744.
A, pin; *B*, thimble; *C*, spade-handle.

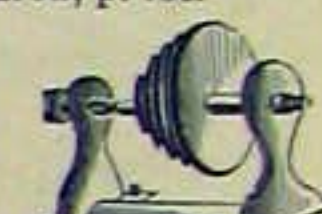
Lantern and Spur-wheels, p. 751.



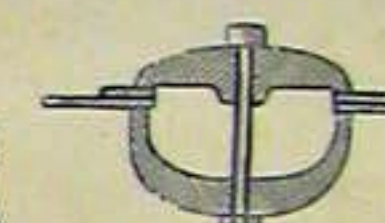
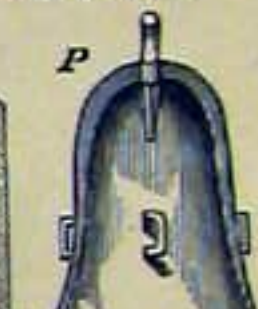
Lathe for turning Iron, p. 754.



Lug, p. 793.



Mandrel, p. 807.

Madrier, p. 799.
M, madrier; *P*, petard.

Man-hole, p. 808.



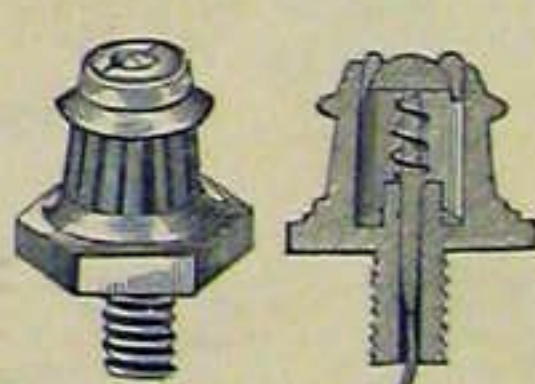
Nut, p. 897.



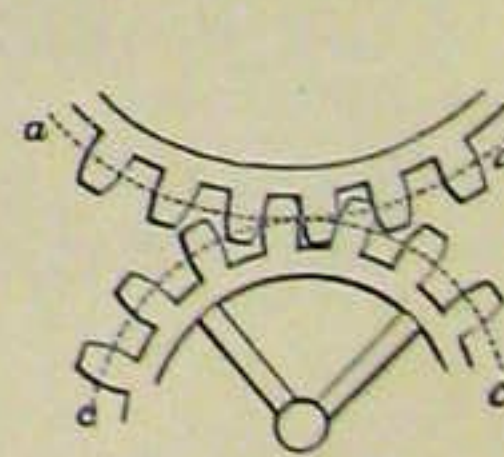
Rack and Pinion, 1080.



Pile-driver, 987.



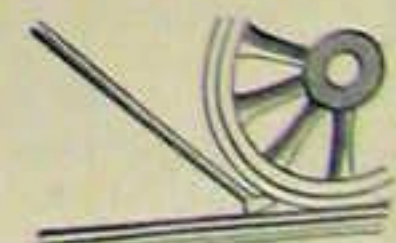
Oil-cup, p. 909.



Pitch-line, p. 991.



Post-mill, p. 1017.

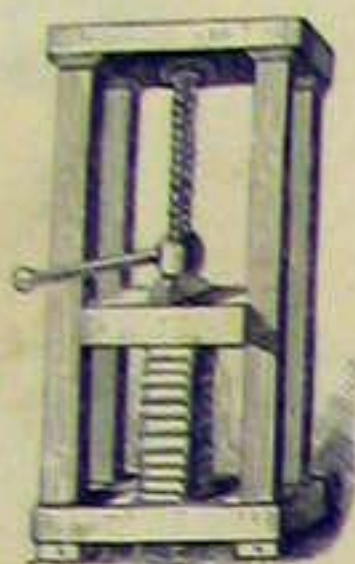


Pinch-bar, p. 988.



Pivot, p. 993.

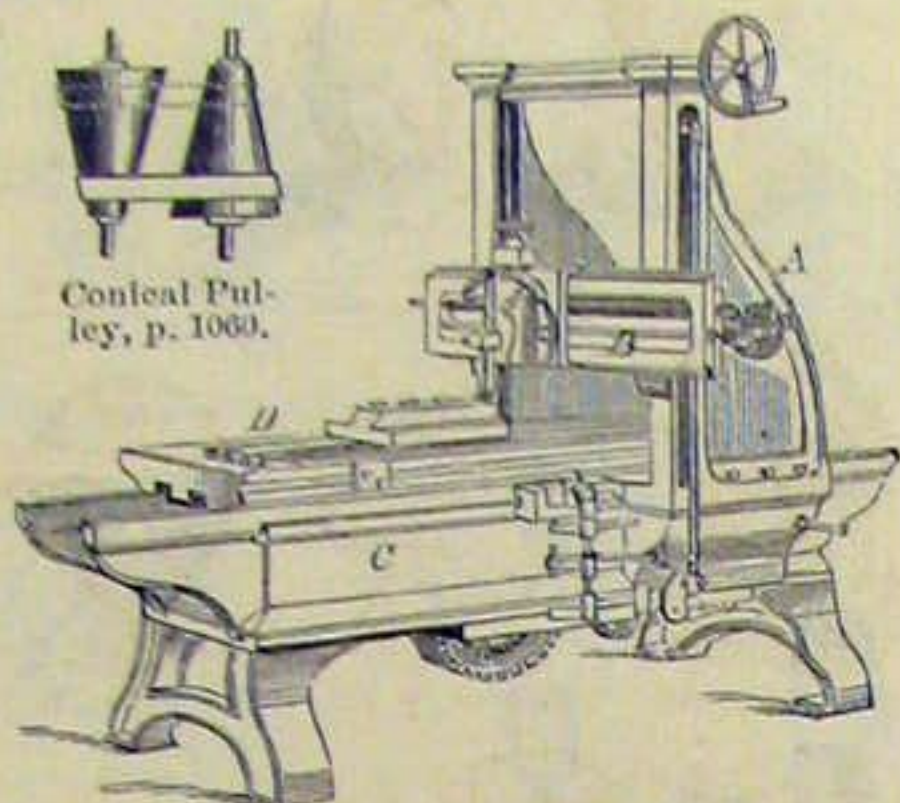
MECHANICS, MACHINERY, &c.—Continued.



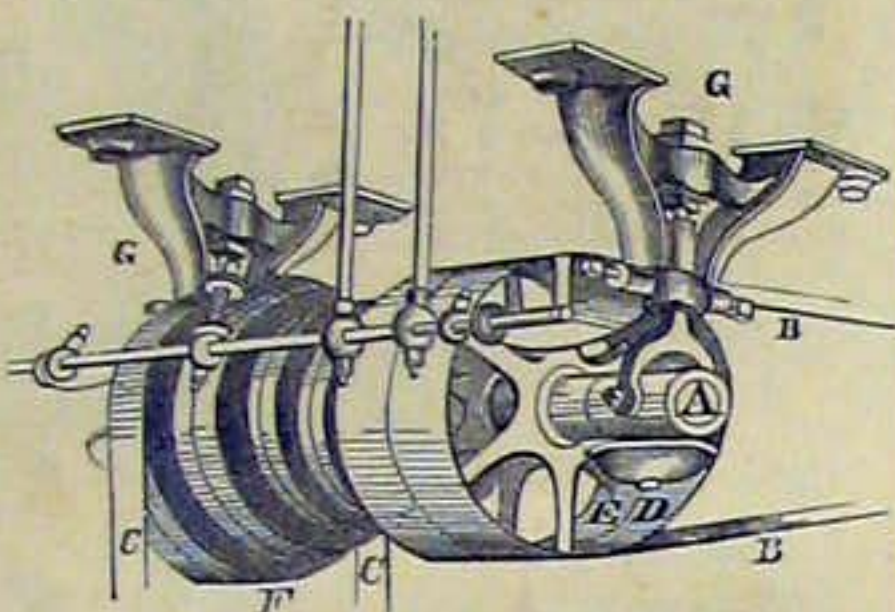
Press, p. 1032.



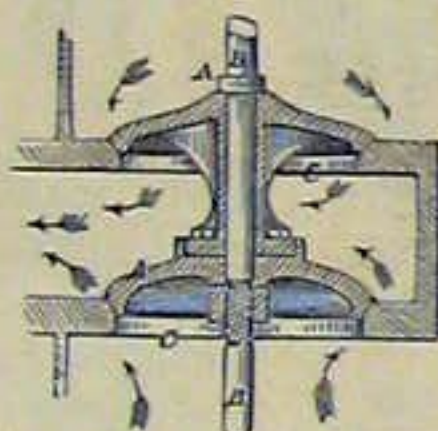
Conical Pulley, p. 1060.



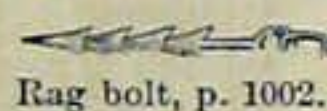
Planing machine, p. 995.

Columbian Printing press, 1038.
t, tympan; f, frisket; r, rounce; b, bar;
bd, bed; p, platen.Machine Pulley, p. 1059.
A, shaft; B B, working belt; C C, driving belt; D E,
tight and loose pulley; F, cone pulley; G G, hangers.

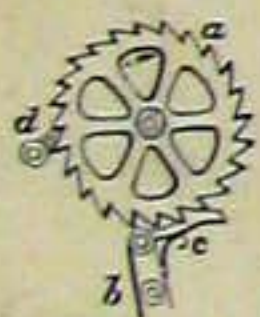
Pug-mill, p. 1059.



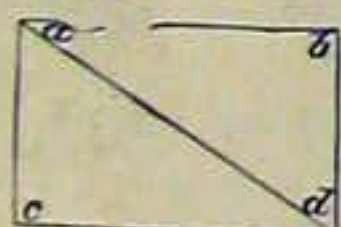
Puppet-valve, p. 1062.



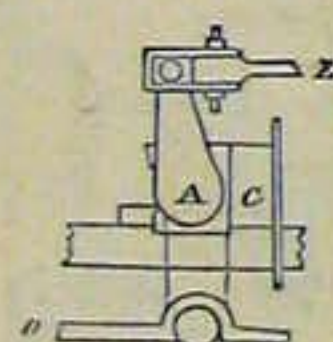
Rag bolt, p. 1002.

Rag-wheel and
Chain, p. 1082.Ratchet-wheel,
p. 1088.

a, ratchet-wheel;
b, reciprocating lever;
c, small ratchet or pawl for
communicating motion;
d, ratchet for preventing
backward motion.

Resolution of
Forces, p. 1125.

ab, force in one direction;
ac, force in another direction;
ad, resultant of the combined forces.

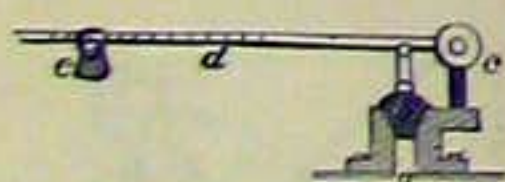
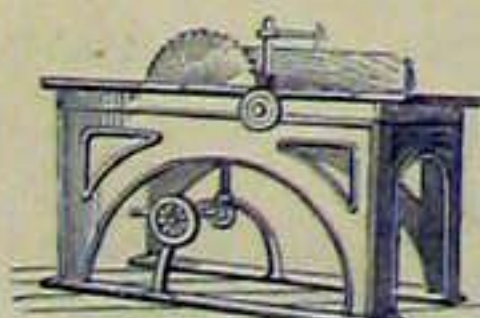


Rock-shaft, p. 1145.

A, rock-shaft; B, rocker arm;
C, rocker box; D, gait; E, valve.

Screw,
p. 1185.

S, screw; N, nut;
H, handle or lever.

Safety-valve, p. 1163.
a, boiler; b, valve; c, fulcrum;
d, steelyard lever; e, weight.

Circular Saw, p. 1174.

Screw, male and female,
and thread, 1184.

Shears, p. 1215.



Sling, p. 1243.

Snatch-block,
p. 1250.

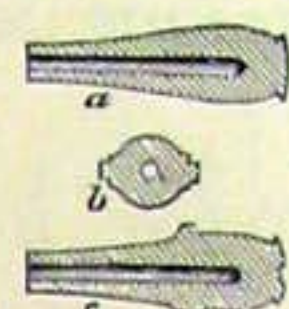
Spiral-wheel, p. 1272.



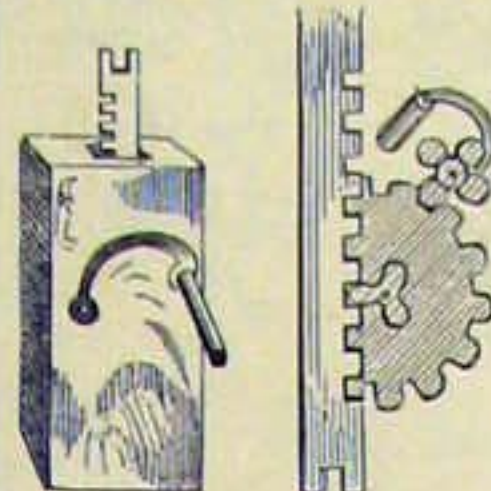
Screw-bolt, p. 1185.



Screw-plate, 1185.



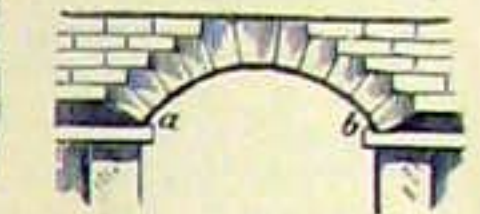
Sections, p. 1193.

Shoulder
block, 1223.

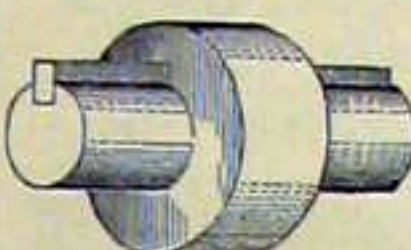
Screw-jacks, p. 1185.



Semaphore, p. 1199.



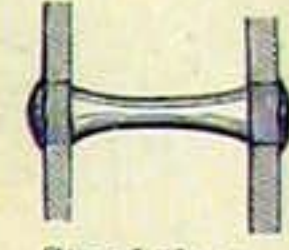
a, b, Skew-back, p. 1238.



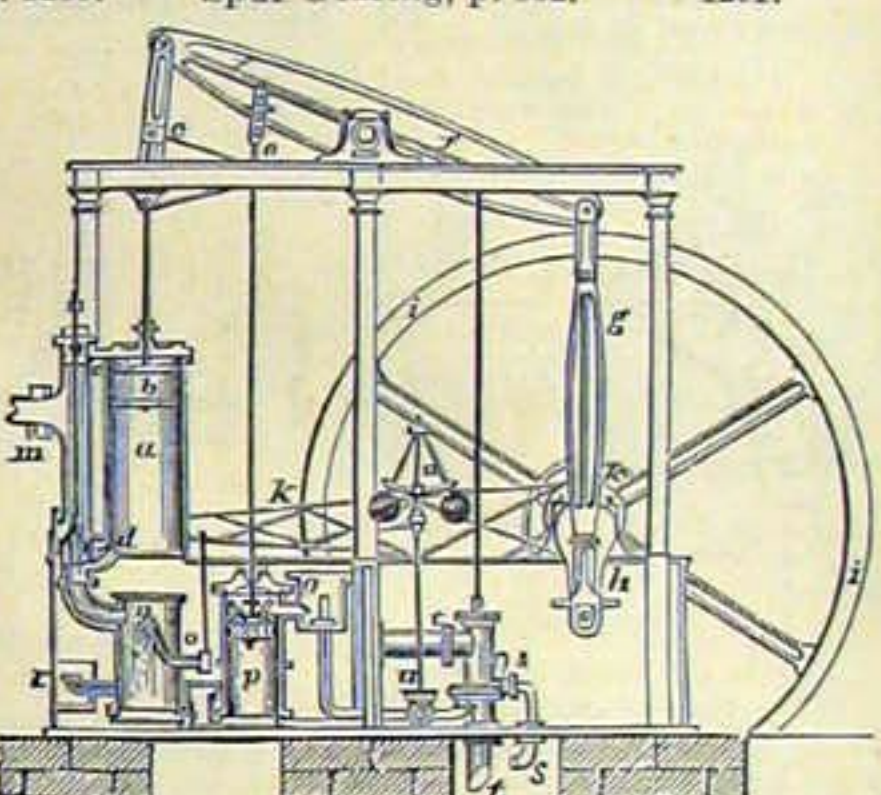
Spline, p. 1275.

Spur-wheel,
p. 1280.

Spur Gearing, p. 562.

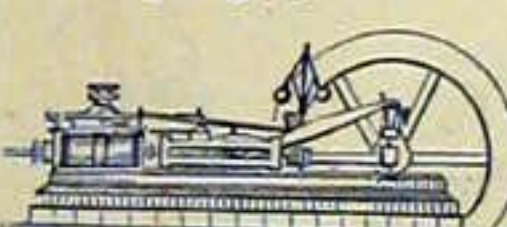
Stay bolt, p.
1291.

Springs, p. 1278.

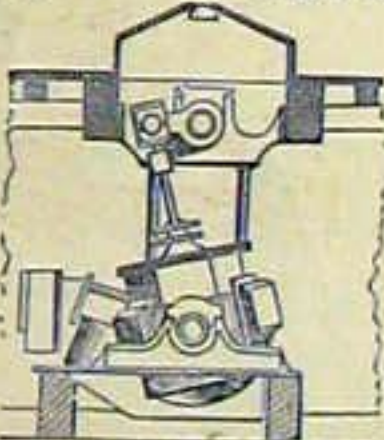
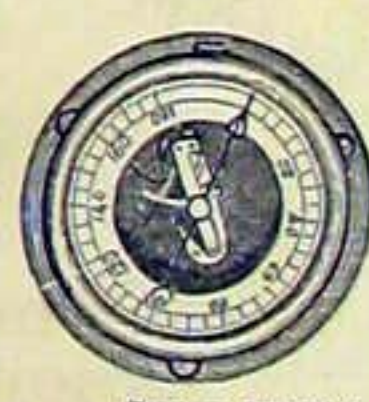


Condensing Beam-engine, p. 1292.

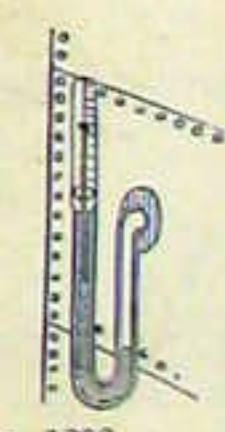
a, steam-cylinder; b, piston; c, upper steam-port or passage; d, lower steam-port; e e, parallel motion; f, f, beam; g, connecting rod; h, crank; i, fly-wheel; k k, eccentric and its rod for working the steam-valve; l, steam-valve and valve-casing; m, throttle-valve; n, condenser; o, injection-cock; p, air-pump; q, hot-well; r, shifting-valve for creating a vacuum in the condenser, previous to starting the engine; s, feed-pump for supplying the boilers; t, cold-water pump for supplying the condenser cistern; u, governor.



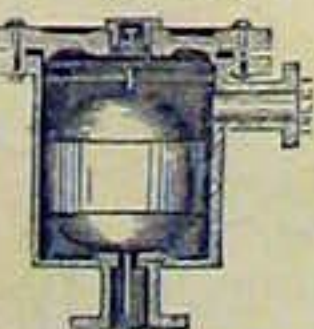
Bed Steam engine, p. 1292.

Steeple engine,
p. 1292.Oscillating Marine
Engine, p. 1292.

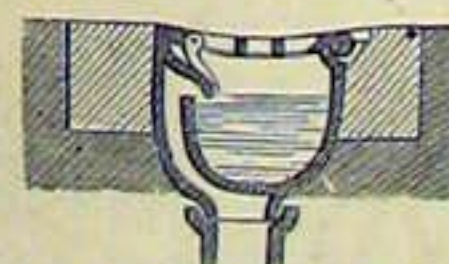
Steam-gauges, p. 1292.



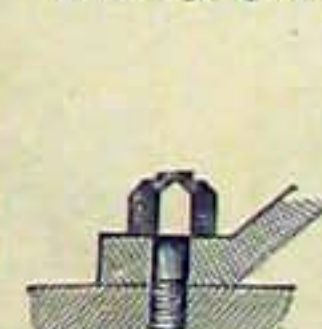
Stud-bolt, p. 1311.



Steam-trap, 1292.



Stench-trap, p. 1294.

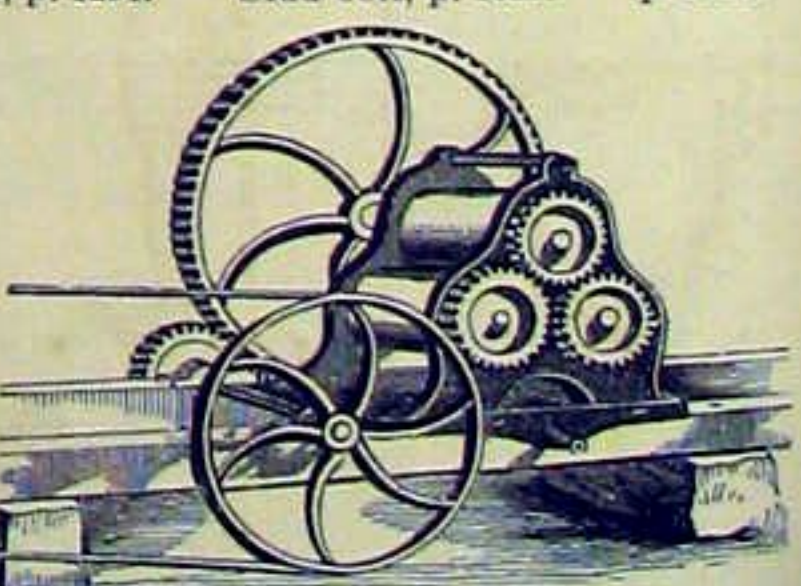
Stuffing box
p. 1311.

Still, p. 1298.

b, still; c d, head and neck;
e, end of neck where it joins
the worm; f, cock; g, worm-tub.

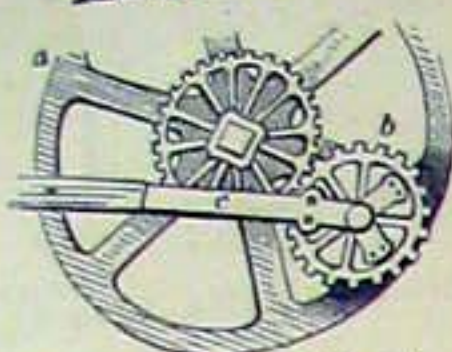
Steam-whistle,
p. 1292.

a, tube; b, hollow
piece; c c, cup; d, thin
brass cup;
e f, stop-cock.



Sugar mill, p. 1323.

MECHANICS, MACHINERY, &c. — Continued.



Sun and Planet Wheels, p. 1325.
a, sun-wheel; b, planet-wheel; c, connecting-rod.



Suspension bridge, p. 1334.



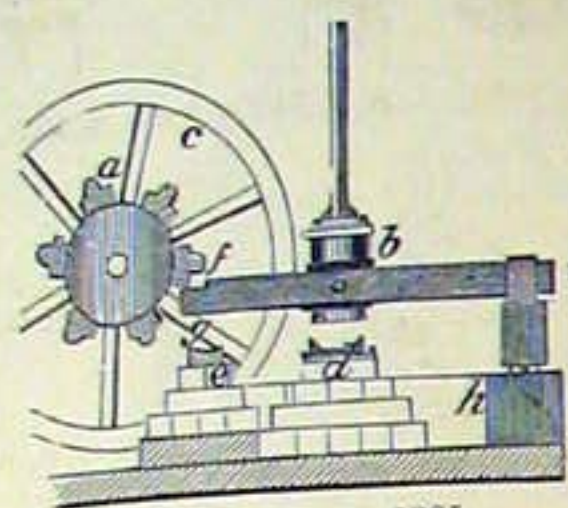
Swivel-joint, p. 1340.



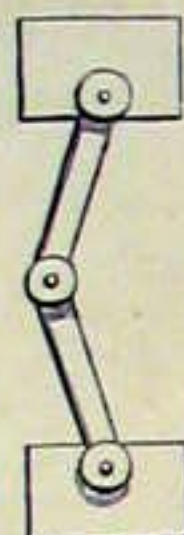
Swivel and Chain, p. 1340.



Tap-bolt, 1353.



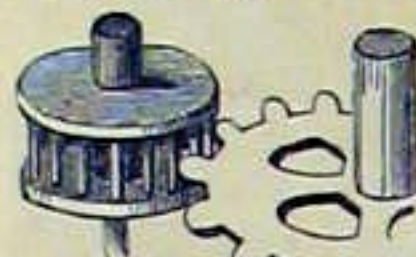
Tilt hammer, p. 1385.
a, wheel; b, upright shaft; c, fly-wheel; d, frame-work; f, lever; g, cushion; h, anvil.



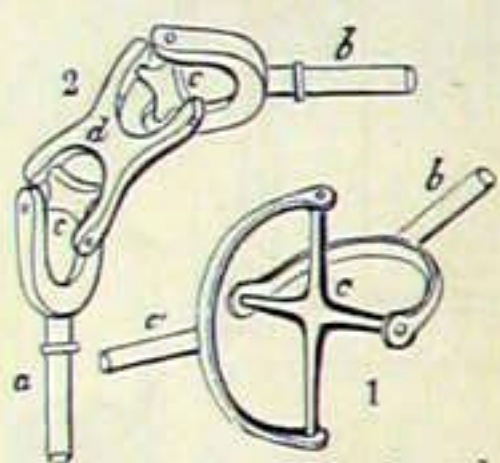
Toggle joint, p. 1390.



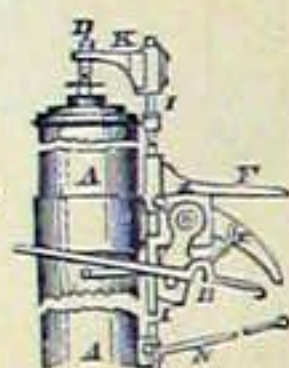
Trammel, p. 1401.



Trundle, or Wallower, 1420.



Universal Joint, Single and Double, p. 1445.
(1.) a, b, shafts; c, double joint.
(2.) a, b, shafts; c, c, joints; d, connecting link.

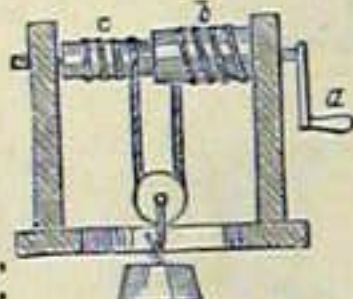


Valve-gear, p. 1461.

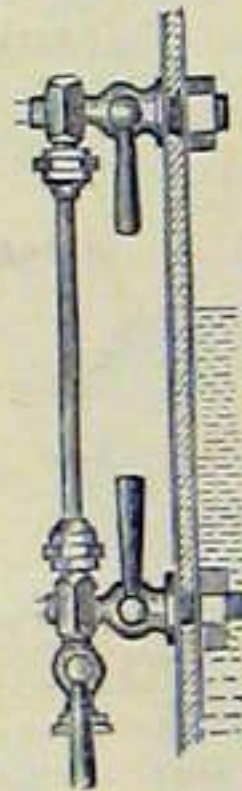
A A, cylinder; B, rod; D, piston; F, lever; K, crane; N, bar.



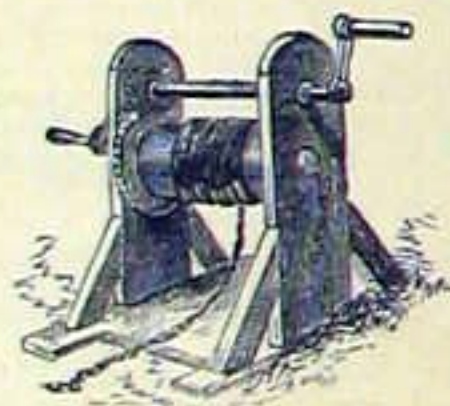
Washer, p. 1494.



Windlass, p. 1517.



Water-gauge, p. 1496.

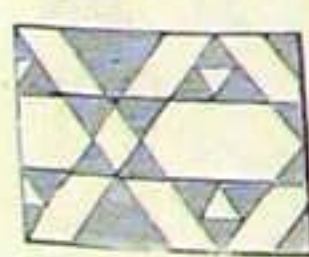


Winch, p. 1516.



Windmill, p. 1517.

MIDDLE AGES—DAYS OF CHIVALRY, &c.
ARMOR, DRESS, &c.



Abacus, p. 1.



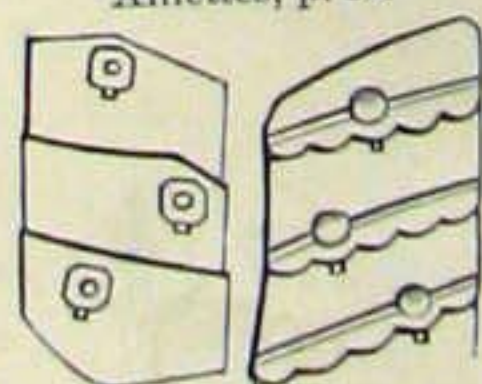
Acetabulum, p. 14.



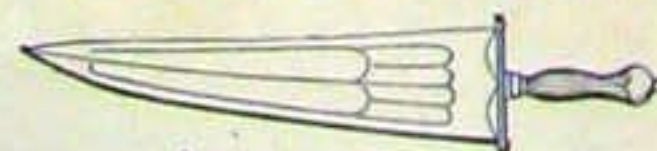
Allecret Armor, p. 37.



Aillettes, p. 32.



Almayne rivets, p. 39.



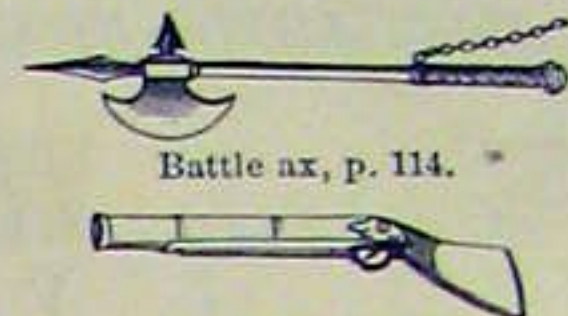
Anlace, p. 54.



Arballist, p. 70.



Amice, p. 45.



Battle ax, p. 114.

Arquebuse, p. 76.



Back piece, 101.



Beaver, p. 118.



Casque, p. 202.



Cressets, p. 312.



Barbican, p. 108.



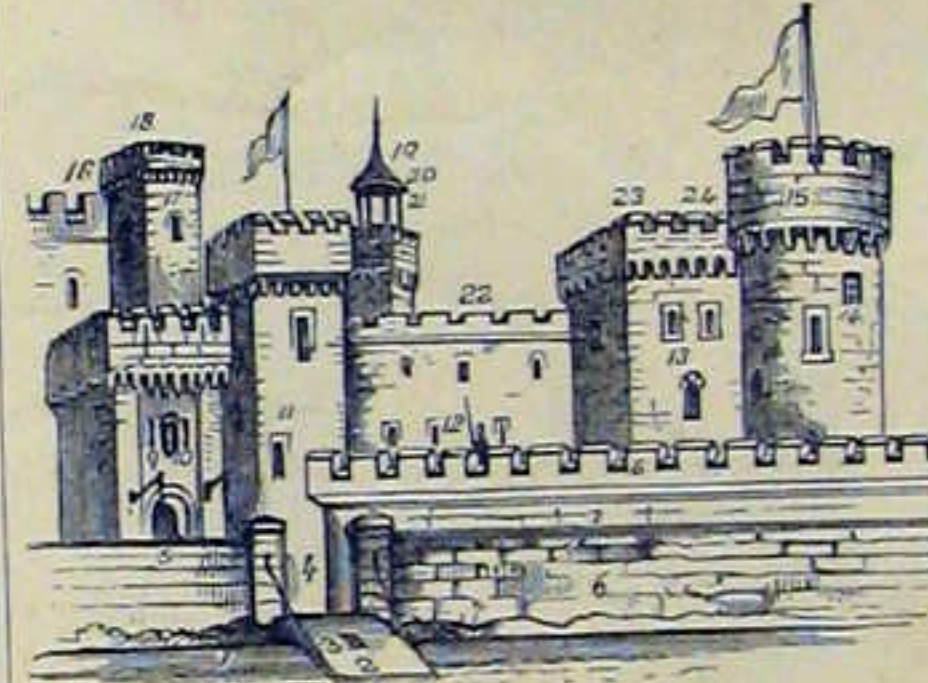
Buskin, p. 178.



Coat of Mail, 245.



Gorget, p. 581.



Castle, p. 203.



Donjon, p. 404.

1, moat; 2, drawbridge; 3, wicket; 4, sally-port; 5, portcullis; 6, outer walls; 7, parapet; 8, rampart; 9, loop-holes; 10, esentecheon; 11, bul-work; 12, sentinel; 13, magazine; 14, a cell; 15, donjon or keep; 16, barracks; 17, barbican; 18, watchman; 19, turret; 20, chapel; 21, belfry; 22, state court; 23, merlons; 24, embrasures.



Drawbridge, p. 411.



Halberd, p. 602.



Hauberk, p. 611.



Head piece, p. 613.



Helmet, Barred, p. 619.



Jambes, p. 723.



Jupon, p. 732.



Knight in full armor, p. 742.



Knight and Horse, p. 742.

MIDDLE AGES—ARMOR, DRESS, &c.—Continued.



Conferring Knighthood, p. 742.



Lochaber Ax, p. 783.



Martel-de-fer, p. 815.



Coat of Mail, p. 811.



Morion, p. 859.



Pavisor and Pavis, p. 959.



Quiver, p. 1078.

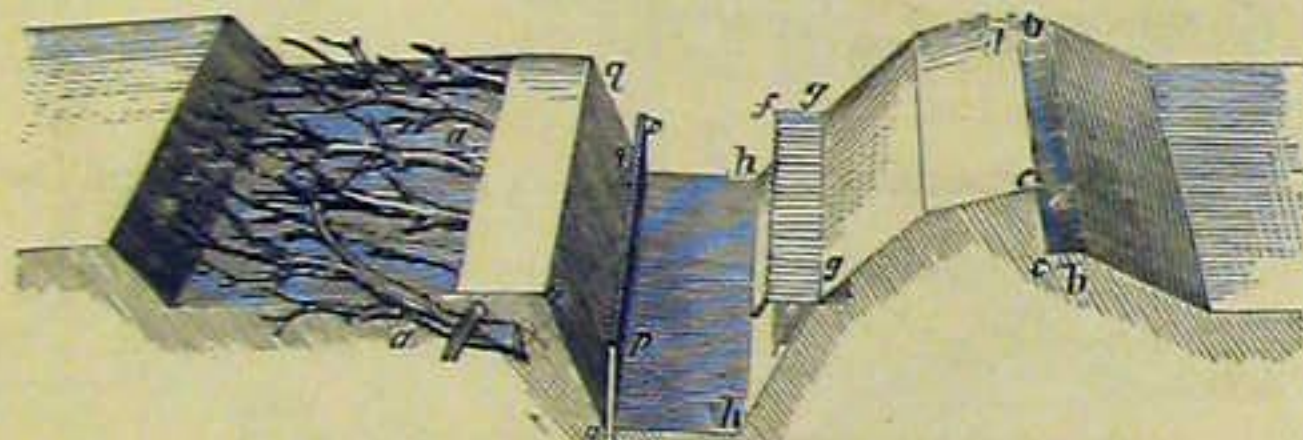


Sallet, or Salade, p. 1165.



Tabard, p. 1346.

MILITARY TERMS—ARMS, PROJECTILES, WEAPONS, &c.



Abatis, p. 2.

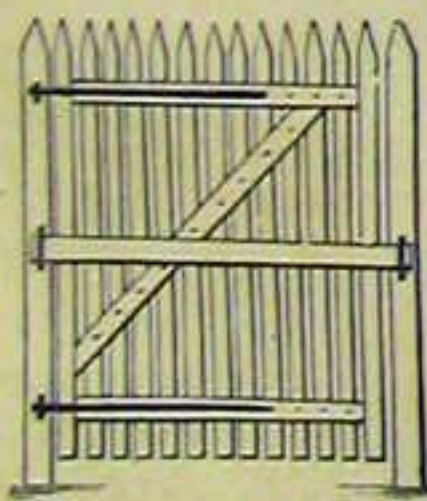
a a, abatis; b b, banquette; c c, breast-height, or interior slope; e d, interior crest; f g, fraise; p p, palisade; d g, g c, parapet; g h, scarp; q q, counterscarp.



Ambulance Cart, p. 43.

Armstrong Gun, p. 75.
B, re-inforce; C, trunnion.

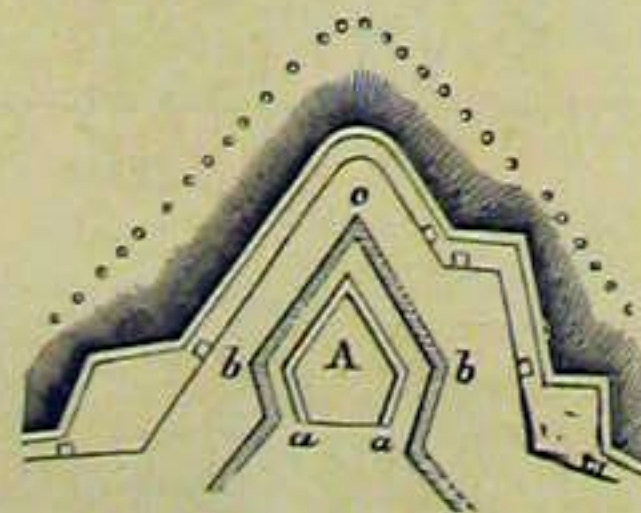
Air-gun, p. 32.



Barrier gate, p. 110.

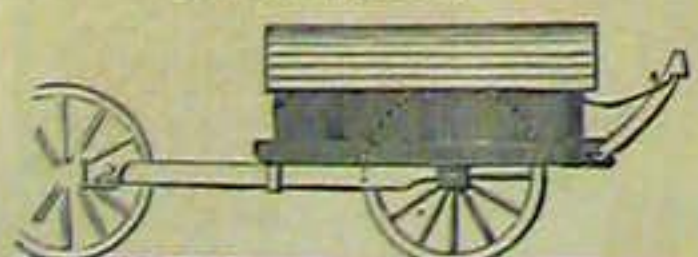


Bar-shot, p. 110.

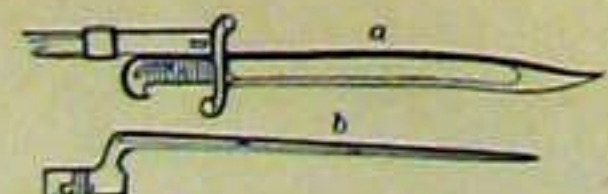


Bastion, p. 113.

A, bastion, Barcelona; a, curtain angle; b, shoulder angle; c, salient angle; a a, gorge; a b, flank; a d, curtain; b c, face.

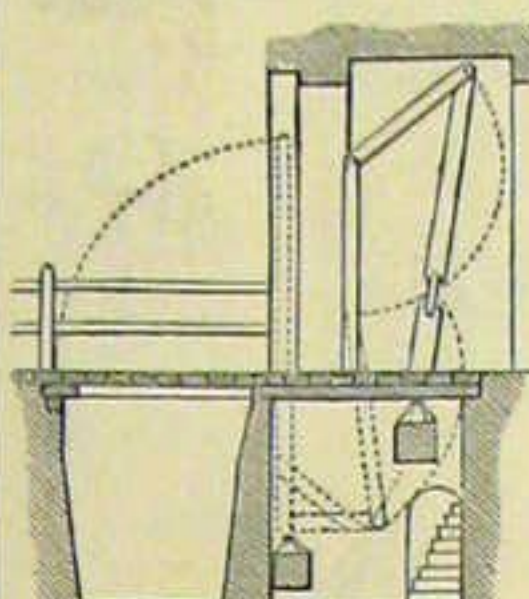


Battery Wagon, p. 114.

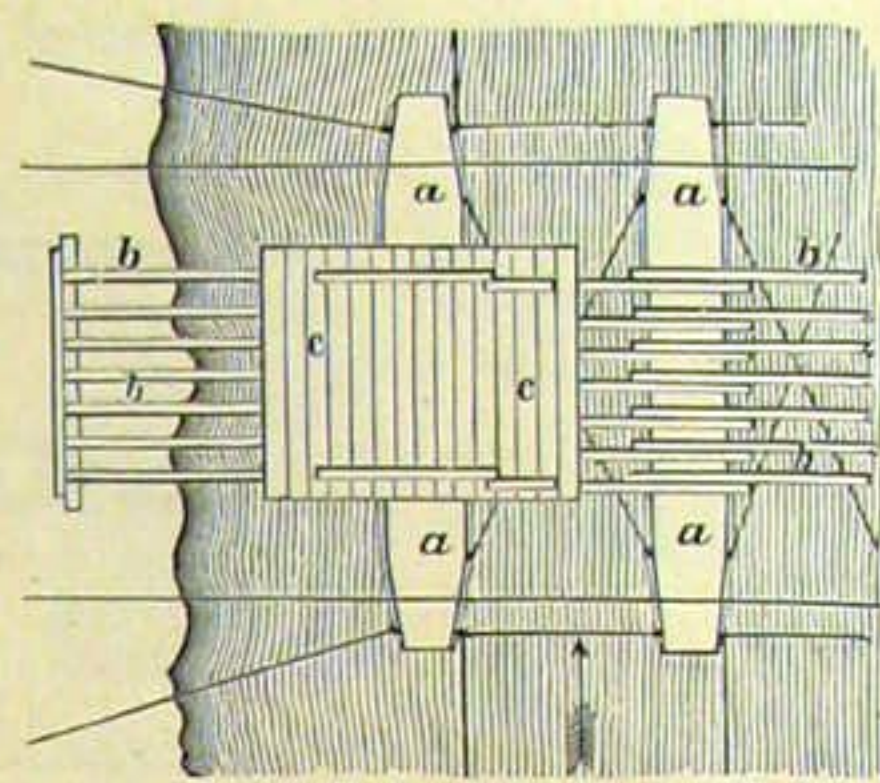


Bayonets, p. 115.

a, sword bayonet; b, common bayonet.



Bascule Bridge, p. 111.

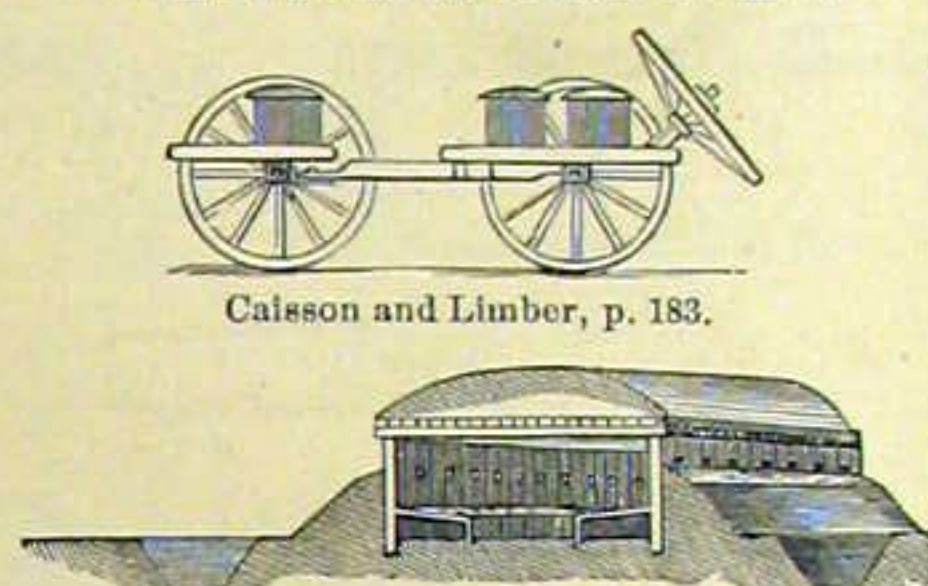


Bateau, p. 113.

a a, a a, bateaux; b b, b, b, barks; c, c, chasses.



Block-house (U. S. 1780), p. 142.



Modern Block-house, p. 142.



Blunderbuss, p. 145.



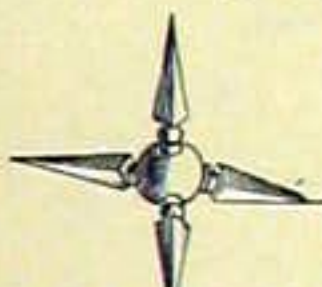
Bombs, p. 149.



Breech-sight for Cannon, p. 162.



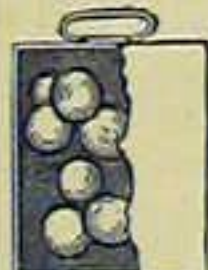
Broadsword, p. 166.



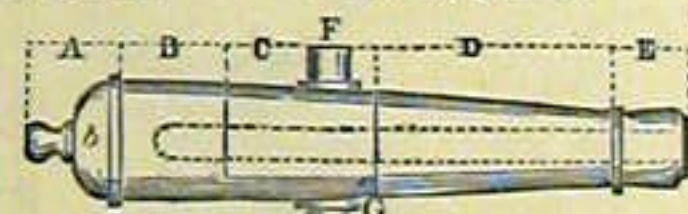
Caltrop, p. 187.



Busby, p. 177.



Canister-shot, p. 191.



Cannon, p. 191.

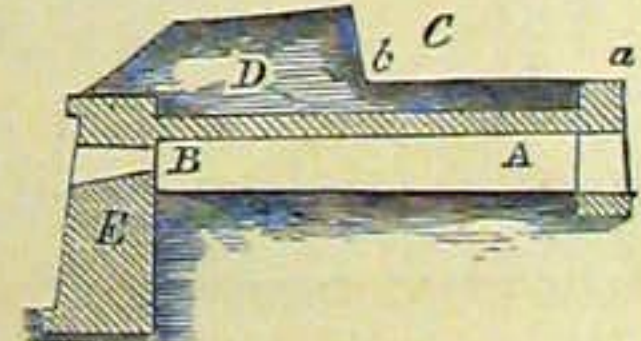
A, cascabel; B, first re-inforce; C, second re-inforce; D, chase; E, swell of the muzzle; F, trunnion; G, rim-base; a, base-ring; b, base of the breech.



Carronade, p. 200.



Cartridge-box, p. 201.



Casemate, p. 231.

A B, casemate. A gun at B would fire through the embrasure in the wall; a gun at C would fire in barbette, or over the parapet; D, parapet; E, scarp-wall, the outer face of which is the scarp; a b, terre-plein.



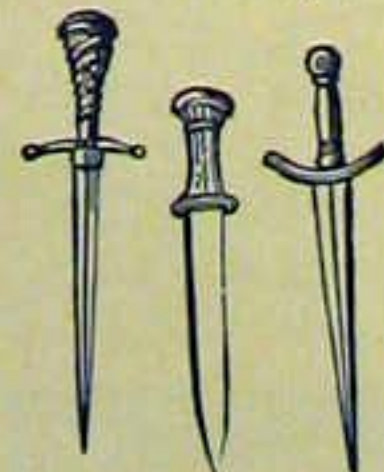
Chapeau Bras, p. 217.



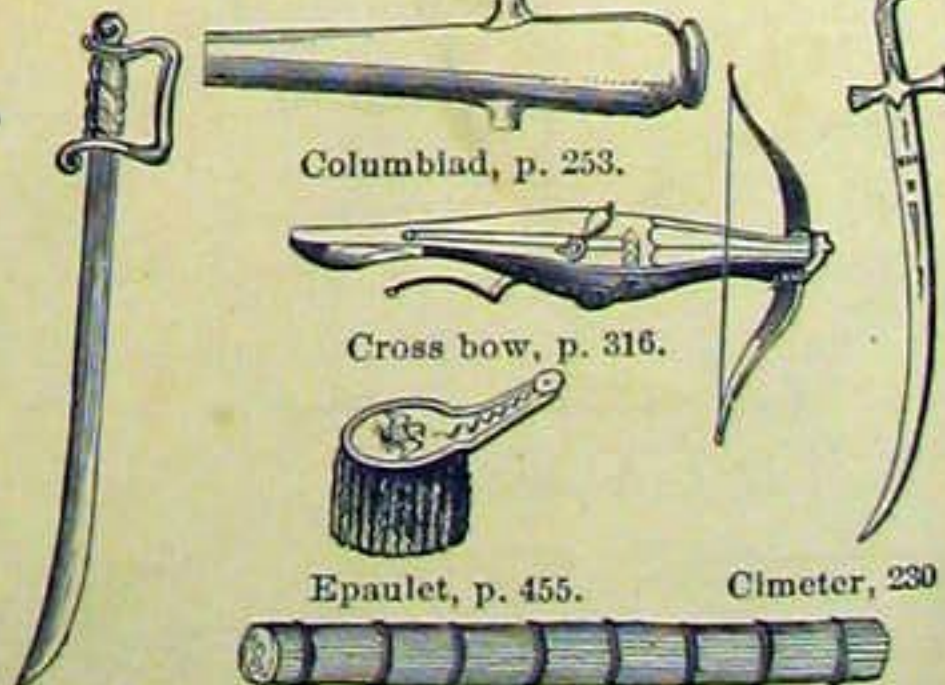
Chain shot, p. 214.



Cheval de-frise, p. 222.



Daggers, p. 331.



Cutlass, p. 327.

Columbiad, p. 253.

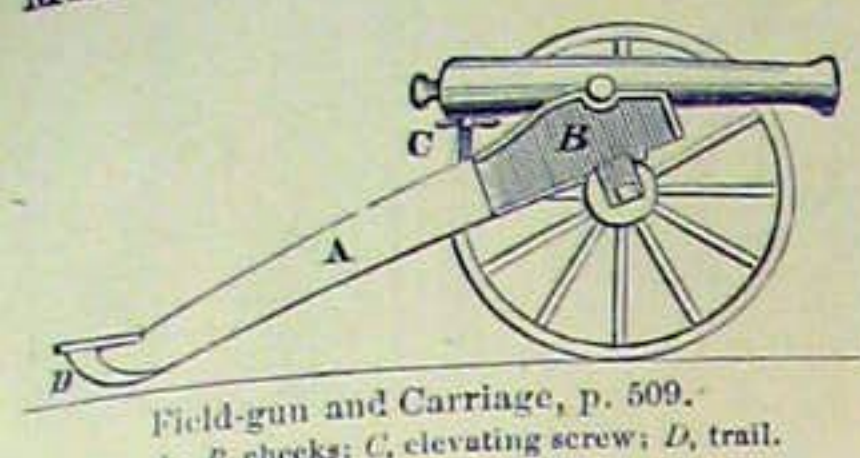
Cross bow, p. 316.

Epaulet, p. 455.

Climeter, 230

Fascine, p. 498.

MILITARY TERMS—WEAPONS, &c.—Continued.



Field-gun and Carriage, p. 509.
A, stock; B, cheeks; C, elevating screw; D, trail.



Fireball, p. 514.



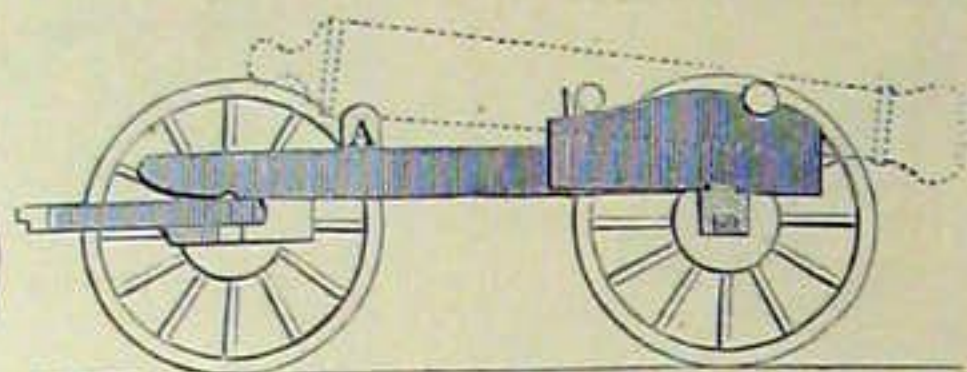
Gabion, p. 553.



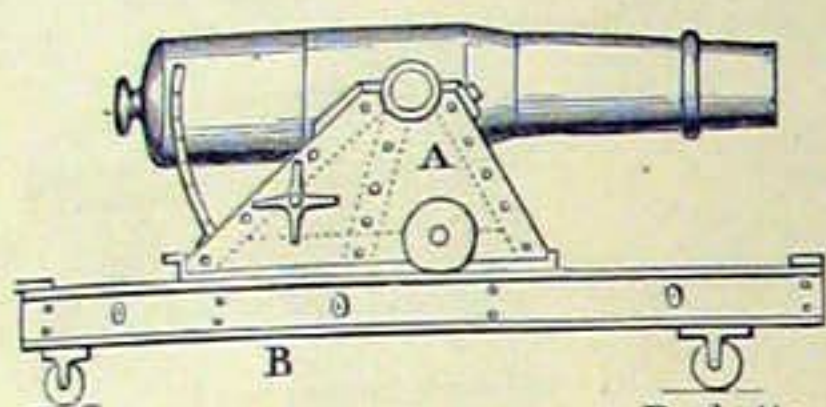
Grape-shot, 585.



Grenade and Fuse, p. 589.



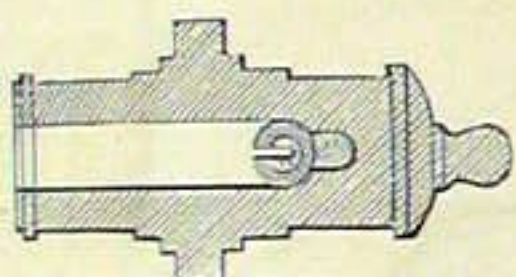
Siege-gun-carriage, p. 597.
A, bolster.



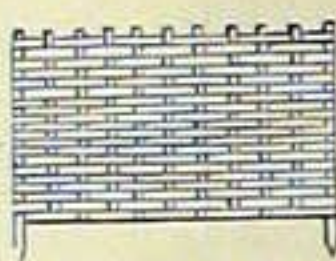
Sea-coast-carriage, for Casemate or Barbette, p. 597.
A, carriage proper; B, chassis.



Haversack, p. 611.



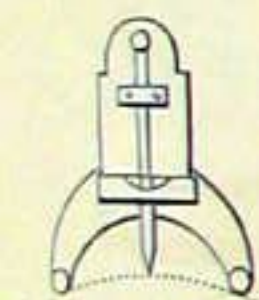
Howitzer, p. 642.



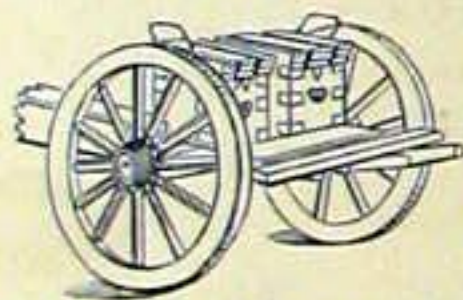
Hurdle, p. 645.



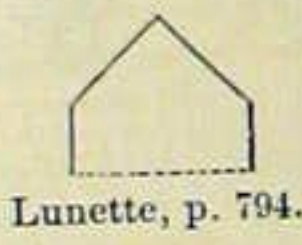
Knapsack, 741.



James's Level, 767.



Limbers of Gun-carriage, p. 775.



Lunette, p. 794.

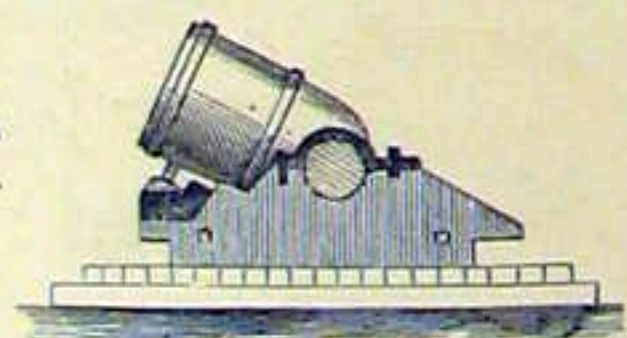


Javelin, p. 725.

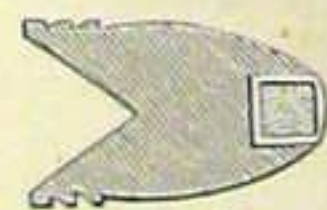
Lances, 749.



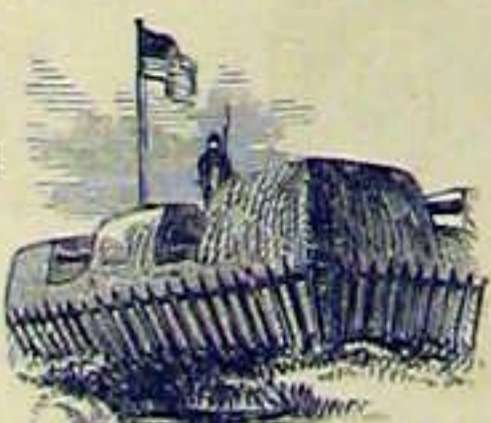
m, m, Merlons, p. 831.



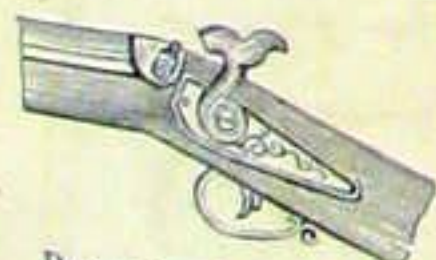
Mortar on its Bed, p. 860.



Percussion-bullet, p. 968.



Palisade, p. 940.



Percussion-lock, p. 968.



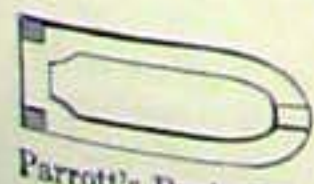
Pistol, p. 991.



Poniard, p. 1011.



Pole-axes, p. 1006.



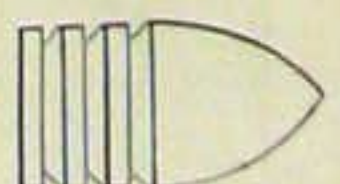
Parrott's Projectile, James's Projectile, p. 1045.



p. 1045.



Pritchett Ball, 1045. U. S. Service Ball.



Whitworth Ball, p. 1512.



Powder-flask, p. 1020.



Rampart Gun, p. 1084.



Redans, p. 1101.



Redoubt, p. 1102.



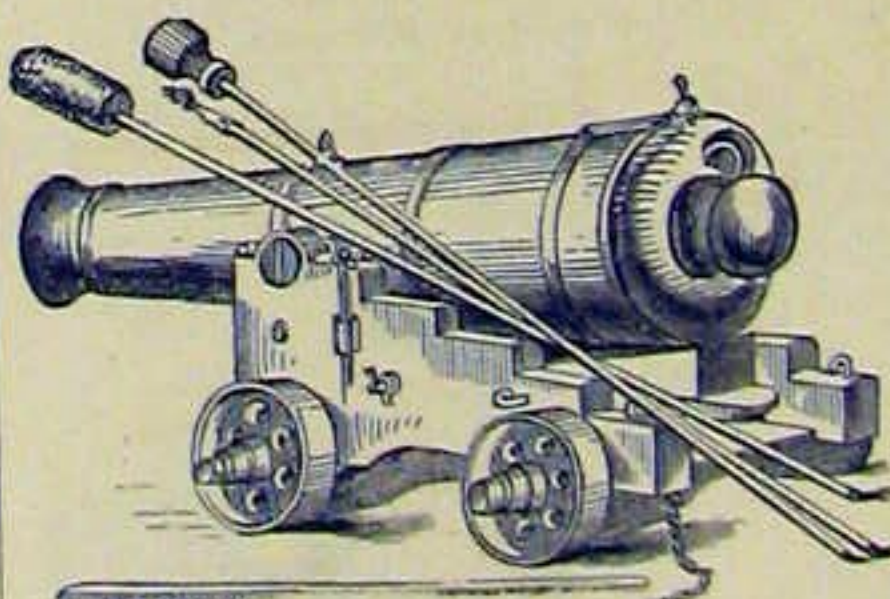
Revolver, p. 1135.



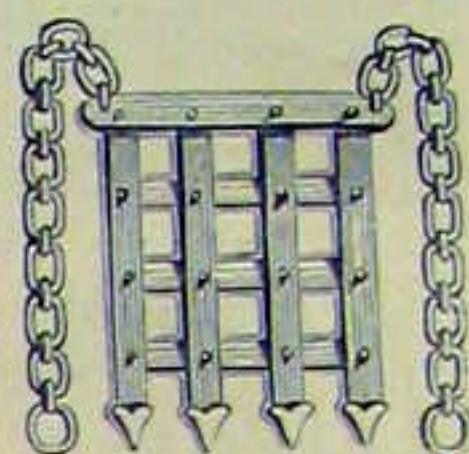
Rifle, p. 1139.



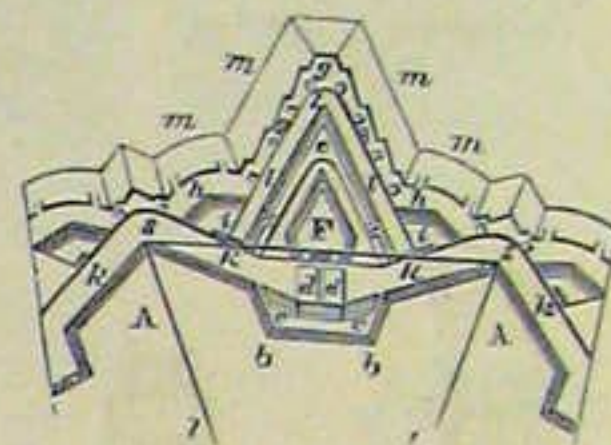
Rocket, p. 1145.



Shell-gun, p. 1217.



Portcullis, p. 1014.



Ravelin, p. 1089.

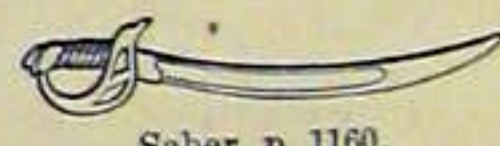
A, A, bastions; bb, curtain; cc, tenailles; d d, caponniere; e, ravelin; F, redoubt in the ravelin; g g, covert way; h h, re-entering places of arms; i, i, redoubts in do.; k k, ditch; l l, ditch of ravelin; m m, m m, glacis; s s, exterior side; s t, capital.



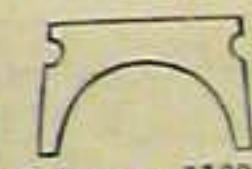
Cimeter, p. 1180.



Sabre-tasche, p. 1160. Shako, p. 1212.



Saber, p. 1160.



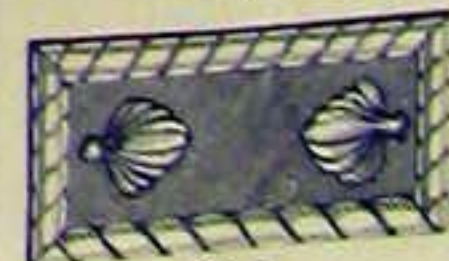
Sabot, p. 1160.



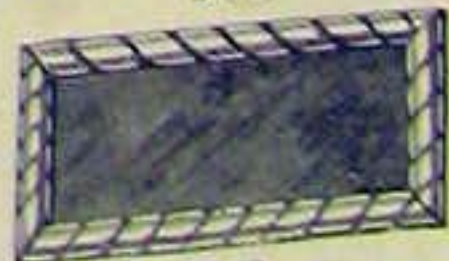
Army, No. 1.



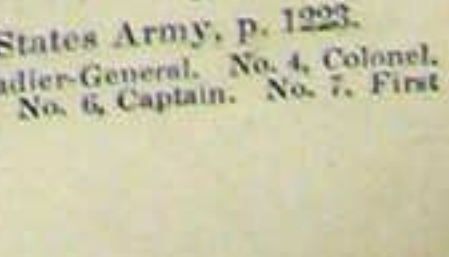
No. 2.



No. 3.



No. 4.



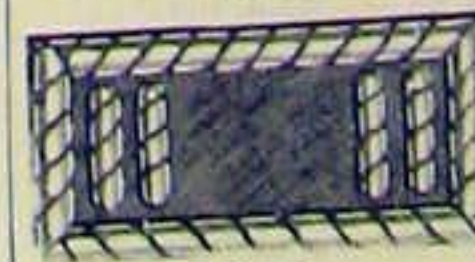
No. 5.



No. 6.



No. 7.



No. 8.



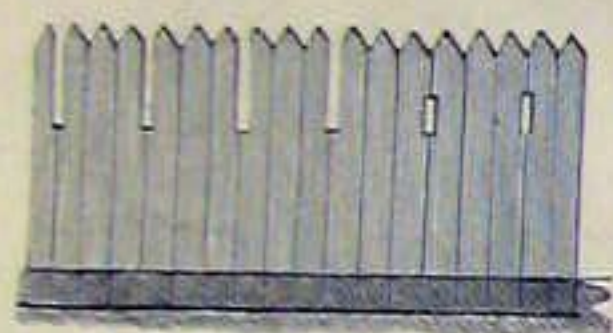
No. 9.

Shoulder Straps, as indicating rank in the United States Army, p. 1223.
No. 1, Lieutenant-General. No. 2, Major-General. No. 3, Brigadier-General. No. 4, Colonel.
No. 5, Lieutenant-Colonel (silver leaf), and Major (gold leaf). No. 6, Captain. No. 7, First Lieutenant. No. 8, Second Lieutenant.

MILITARY TERMS—WEAPONS, &c.—Continued.



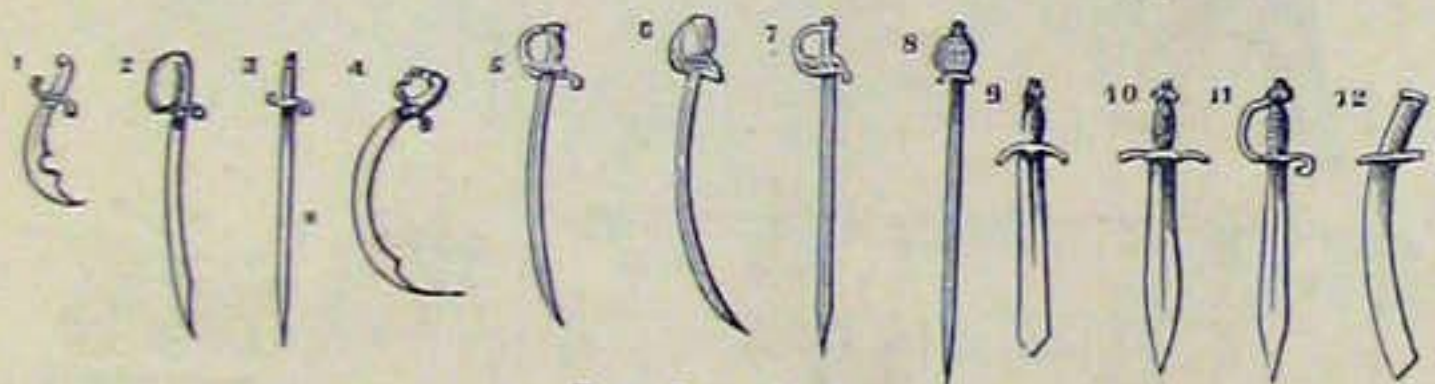
Shoulder Straps, as indicating rank in the United States Navy, p. 1223.



Stockade, p. 1300.

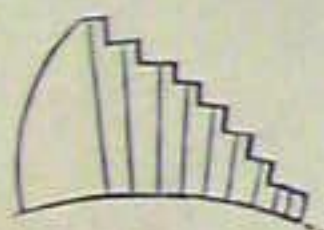


Stretcher, p. 1307.



Swords, p. 1340.

1. Saxon scax; 2. English hanger, old form; 3. rapier, about 33 inch blade; 4. Eastern cimeter; 5. cut and thrust sword, 30 to 32 inch blade; 6. sabre, or cavalry broadsword, 33 to 36 inch blade; 7. heavy cavalry broadsword, 40 inch blade; 8. claymore, or Scotch broadsword, with basket hilt, 40 inch blade; 9. falchion; 10, 11, navy cutlasses, 18 or 20 inch blade; 12. hari-kari, or Japanese disemboweler.



Tangent scale, p. 1352.



Trous-de-loup, p. 1418.

MOLLUSKS.



Aplysia, p. 62.



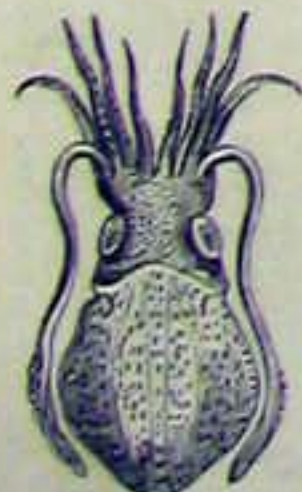
Cockle, 246.



Conch, p. 236.



Heart shell, p. 615.



Cuttle fish, p. 328.



Bivalve, p. 126.



Helices, p. 619.



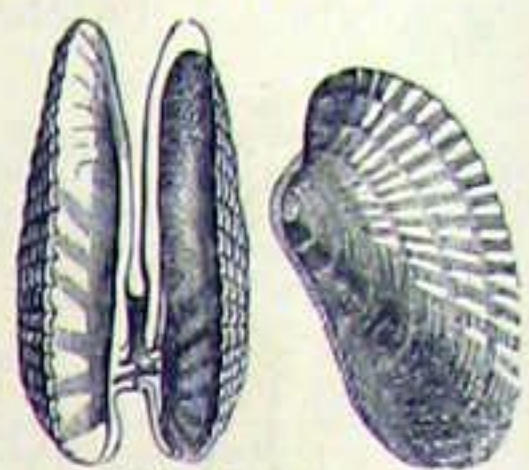
Heteropod, p. 625.



Hippocrepian, p. 628.



Jantina, p. 724.



Lithophytes, p. 780.



Melanian, p. 826.



Mollusks, p. 852.



Muscle, p. 869.



Paludina, p. 942.



Nautilus, p. 877.



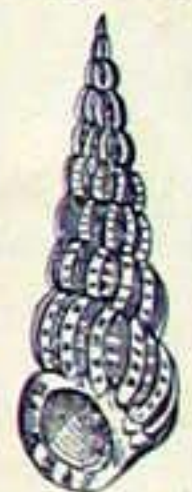
Nudibranchiates, p. 895.



Octopods, p. 906.



Pearl Oyster, p. 960.



Scleria communis, p. 1175.



Pecten, p. 961.



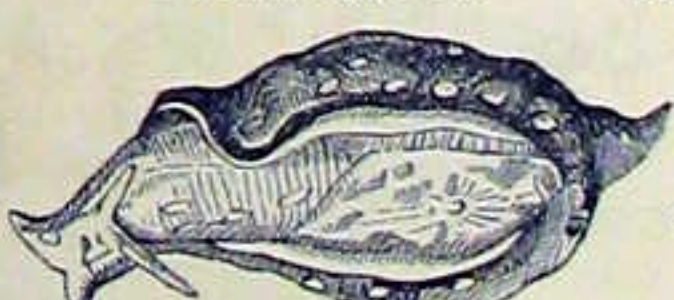
Periwinkle, p. 971.



Lunulites, p. 794.



Scallop Shell, p. 1176.



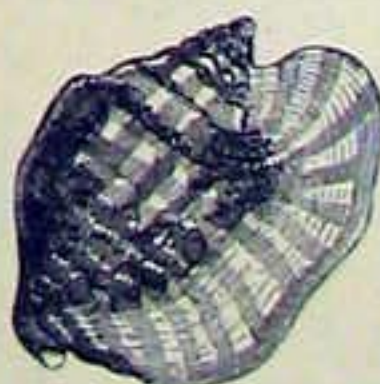
Sea hare, p. 1189.



Snail, p. 1249.



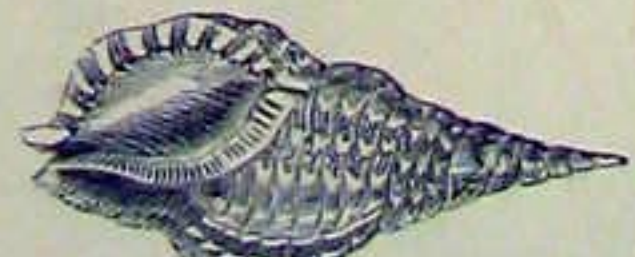
Spirula, p. 1273.



Strombus, p. 1309.



a, b, Terebratulæ, 1365.



Triton, p. 1416.



Trumpet shell, p. 1420.

MOLLUSKS — Continued.



Univalve, p. 1445.

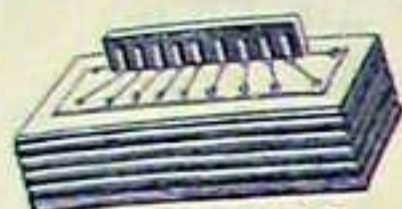


Wentle-trap, p. 1505.



Whelk, p. 1507.

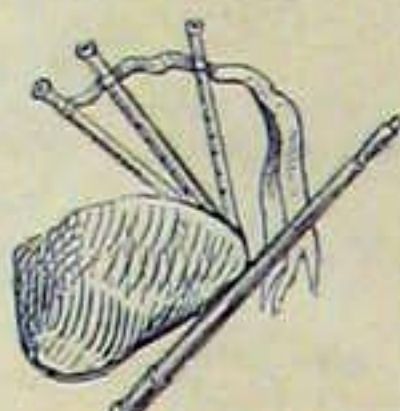
MUSICAL INSTRUMENTS.



Accordion, p. 12.



Aeolian Harp, p. 25.



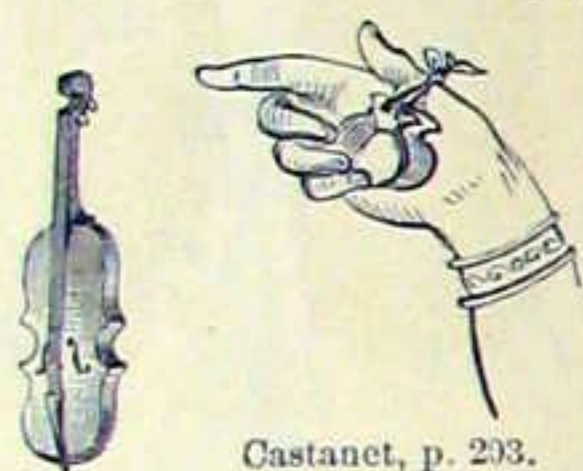
Bagpipe, p. 102.



Bassoon, p. 112.



Huntsman's Bugle, p. 172.



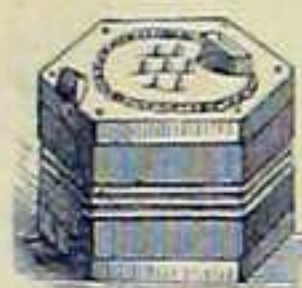
Violin, p. 1477.



Clarion, p. 236.



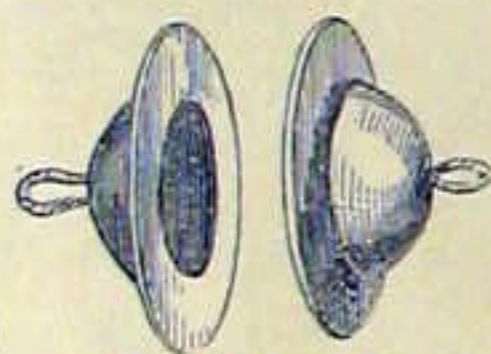
Clarionet, p. 236.



Concertina, p. 266.



Cornet a piston, p. 295.



Cymbals, p. 329.



Drum, p. 416.



Flageolet, p. 517.



Flute, p. 525.



French-horn, p. 542.



Hautboy, p. 611.



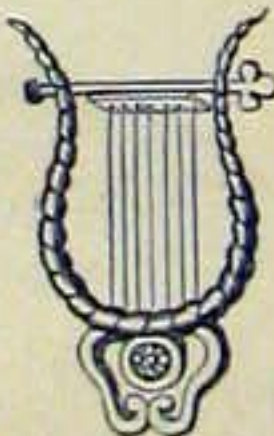
Hurdy gurdy, p. 645.



Guitar, p. 596.



Hunting-horn, 645.



Lyre, p. 796.



Harp, p. 609.



Pandean Pipes, 942.



Organ, p. 920.



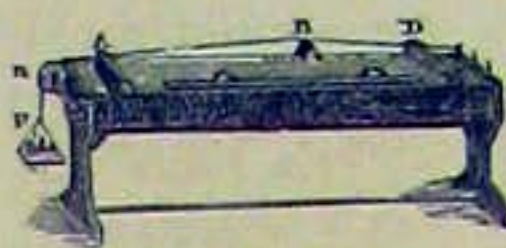
Ophicleide, p. 914.



Lute, p. 795.



Kettle-drum, p. 737.



Sonometer, p. 1259.

A D, wire; B, bridge; P, weights.



Serpent, p. 1205.



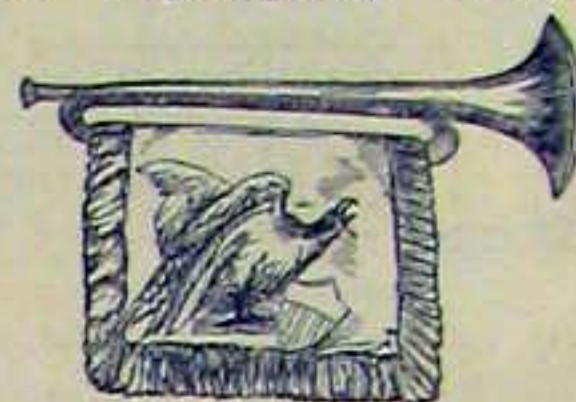
Tam-tam, 1352.



Triangle, 1411.



Tambourine, p. 1352.



Trumpet, p. 1420.



Trombone, p. 1417.



Bass viol, 112.

MYTHOLOGY, IDOLS, &c.



Ægis, p. 25.



Anubis, p. 61.



Apollo, p. 63.



Atlas, p. 88.



Bacchante, p. 100.



Bacchus and Faun, p. 100.



Brahma, p. 158.



Buddha, p. 171.



Calliope, p. 186.



Centaur, p. 210.



Ceres, p. 212.



Clio, p. 240.



Cupid, p. 323.



Dagon, p. 331.



Diana, p. 369.



Erato, p. 461.

MYTHOLOGY, IDOLS, &c. — Continued.



Dragon, p. 410.



Esculapius, p. 464.



Fates, p. 499.



Euterpe, p. 469.



Dancing Faun, p. 500.



The Furies, p. 551.



Griffin, p. 590.



Hygeia, p. 649.



Isis, p. 719.



Janus, p. 724.



Juno, p. 732.



Jupiter, p. 732.



Mars, p. 814.



Melpomene, p. 827.



Mercury, p. 830.



Mermaid, p. 831.



Minerva, p. 840.



Neptune and Trident, p. 882.



Nereid and Sea horse, p. 882.



Niobe and her Children, p. 887.



Pan, p. 942.



Pegasus, p. 963.



Pluto and Proserpine, p. 1002.



Saturn, p. 1172.



Satyr, p. 1173.



Shield, p. 1218.



Siren, p. 1235.



Siva, p. 1236.



Sphinx, p. 1270.



Terpsichore, p. 1366.



Thalla, p. 1370.



Thoth, p. 1377.



Trimurti, p. 1414.



Varuna, p. 1463.



Vishnu, p. 1479.

MYTHOLOGY, IDOLS, &c.—Continued.



Unicorn p. 1444.



Urania, p. 1454.



Vesta, p. 1471.

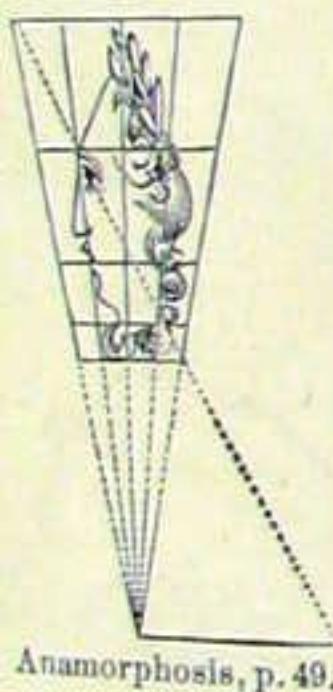


Vulcan, p. 1485.

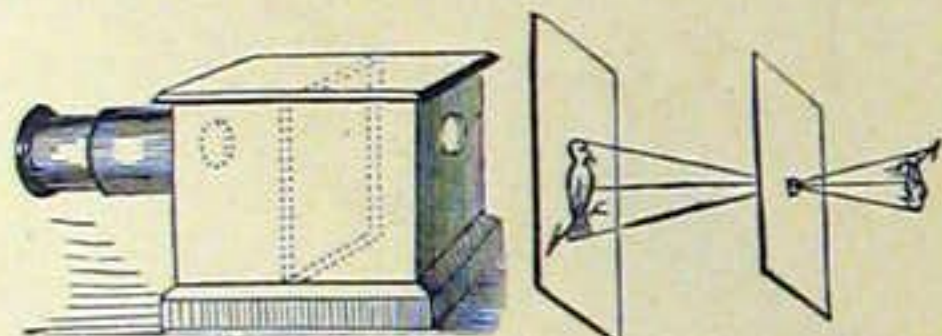


Yama, p. 1532.

NATURAL PHILOSOPHY, OPTICS, &c.



Accidental Point, p. 11.



Camera Obscura, Exterior and Interior, p. 188.



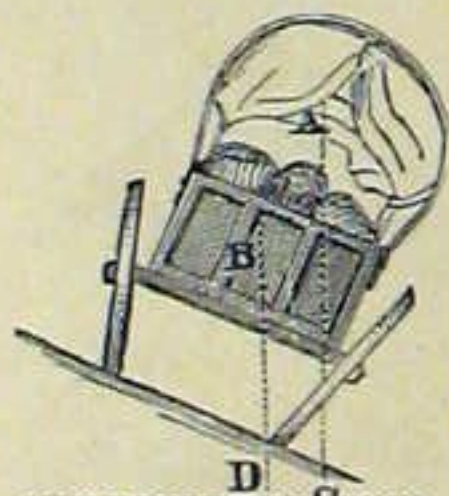
Convex, 289.



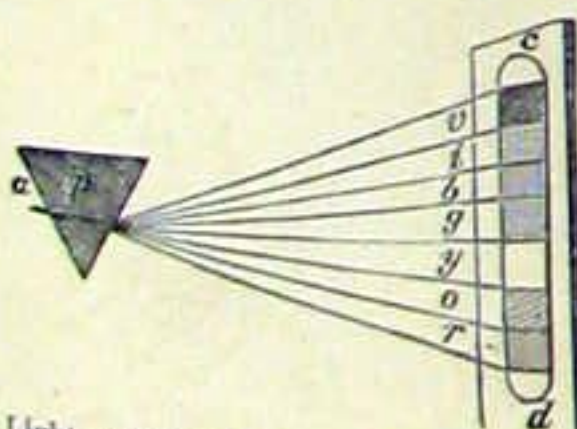
Convexo-concave, p. 289.



Convexo-convex, p. 289.



Center of Gravity, p. 211.



Light, separated by a Prism into the seven primary Colors.

a, prism; c d, spectrum; v, violet; i, indigo; b, blue; g, green; y, yellow; o, orange; r, red.

Meniscus, 829.



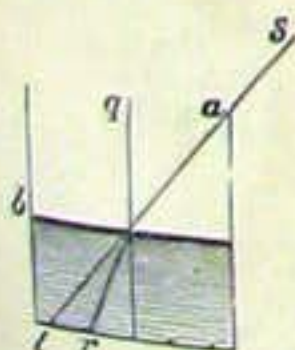
Prism, p. 1038.



Mirage, p. 842.

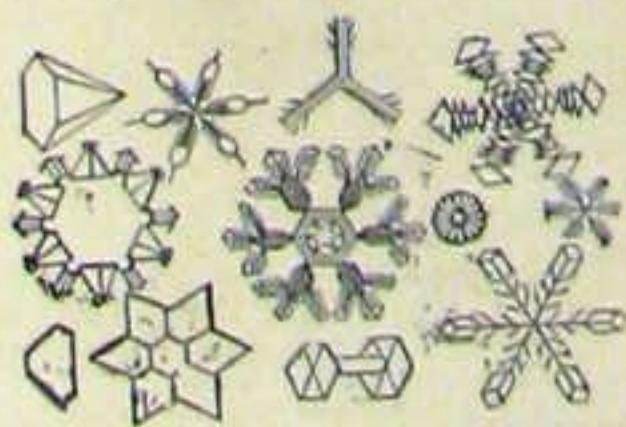


Pencil of Rays, p. 964.



Refraction, p. 1106.

a, b, vessel, lower part filled with water; s l, ray of light in straight line; r p s, ray of light refracted; i, perpendicular.



Snow Crystals, p. 1251.

ORNITHOLOGY.



Accipiter, p. 11.
Gyr Falcon.



Adjutant, p. 20.



Albatross, p. 33.



Alcedo, p. 34.
Kingfisher.



Stock Dove, p. 407.



Anseres, p. 56.
a, anser erythropus; b, anas anser.



Apteryx, p. 69.



Auk, p. 93.
Great Auk.



Avocet, p. 97.



Goose, p. 580.



Bee-eater, p. 120.



Bird, p. 134.

A, A, primaries; B, B, tertials; C, C, lesser coverts; D, D, greater coverts; E, E, bastard wing; F, F, scapulars; G, upper tail coverts; H, under tail coverts; I, tail feathers.



Bittern, p. 136.



Blackbird, p. 137.



Bobolink, or Rice-bird,
p. 147.



Blackcock, p. 137.



Canary-bird, p. 189.



Curlew, p. 325.



Daw, p. 335.



Black Diver, p. 398.



Bullfinch, p. 173.



Great Bustard, p. 178.



Cassowary, p. 202.



Red throated Diver, p. 398.



Dodo, p. 401.



Canvas back, p. 193.



Chaffinch, p. 214.



Cormorant,
p. 294.



Dotterel, p. 406.



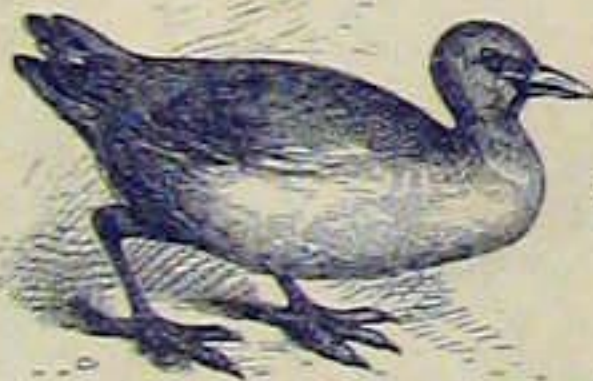
Dove, p. 407.



Duck, p. 417.



Cockatoo, p. 246.



Coot, p. 291.



Corn-crake, p. 294.



Dragoon bird, p. 410.



Dunlin, p. 420.



Little Egret, p. 431.



Crane, p. 308.



Cross-bill, p. 316.



Crow, p. 317.



Golden Eagle, p. 423.



Royal Eagle, p. 423.



Cuckoo, p. 321.



Crested Curassow, p. 324.



Elder-duck, p. 431.



Fallow-finch, p. 494.



Peregrine Falcon, p. 492.



Falconidae, p. 493.
Head and foot of *Icthyophaga plumbea*.

ORNITHOLOGY — Continued.



Fieldfare, p. 509.



Flamingo, p. 518.



Purple Gallinule, p. 556.



Fantail Fly-catcher, p. 526.



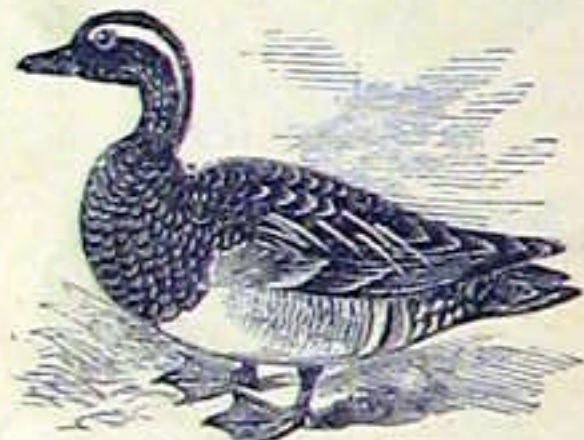
Frigate-bird, p. 544.



Gadwall, p. 553.



Gannet, p. 558.



Garganey, p. 558.



Goat-sucker, p. 577.



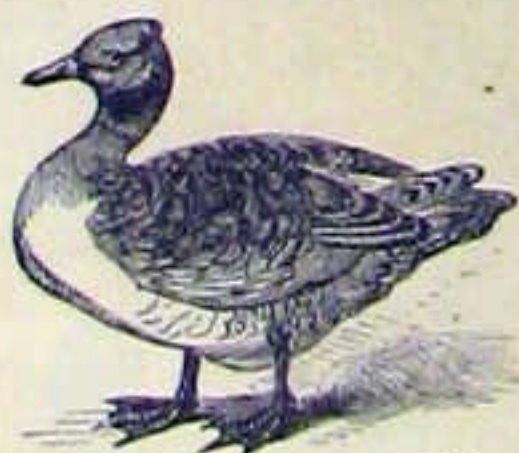
Bar-tailed Godwit, p. 578.



Golden-pheasant, p. 578.



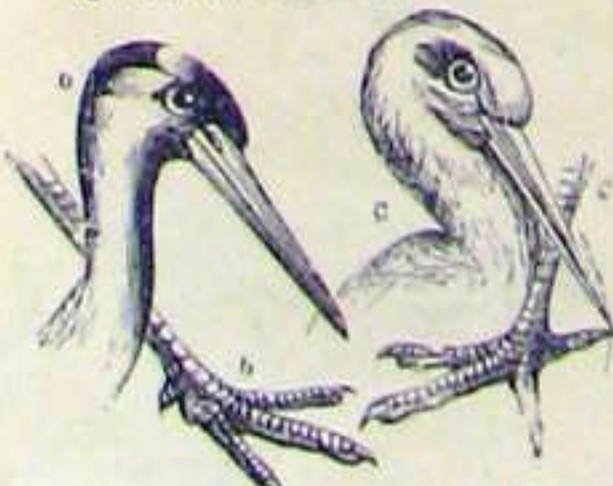
Goldfinch, p. 573.



Common Goose, p. 580.



Bean Goose, p. 580.



Grallatory Birds, p. 584.

b, b, head and foot of crane; c, c, head and foot of stork.



Goshawk, p. 581.



Horned Grebe, p. 588.



Guan, p. 504.



Greenshank, p. 589.



Guillemot, p. 595.



Guinea-fowl, p. 596.



Grossbeak, p. 592.



Red Grouse, p. 593.



Guacharo, p. 594.



Great black-backed Gull, p. 596.



Gyrfalcon, p. 590.



Hang nest, or Baltimore Oriole, p. 606.



Harpy, p. 609.



Swallow-tailed Hawk, p. 612.



Hen-harrier, p. 621.



Hobby, p. 631.

ORNITHOLOGY — Continued.



Common Heron, p. 624.



Hoopoe, p. 636.



Hornbill, p. 638.



Horn-owl, p. 638.



Humming-bird, p. 644.



Hawfinch, p. 612.



Ibis, p. 652.



Jabiru, p. 722.

Icteria, p. 653.
Chattering Fly-catcher.

Jacana, p. 722.



Blue Jay, p. 725.



Jackdaw, p. 722.



Kestrel, p. 737.



Knot, p. 743.



Lapwing, p. 752.



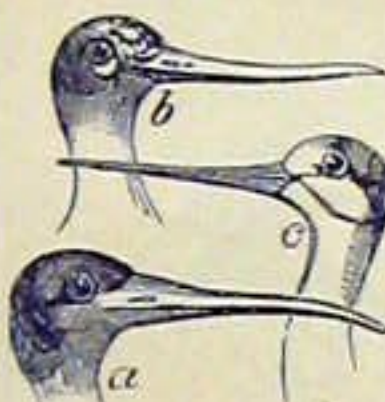
Kingfisher, p. 739.



Kite, p. 740.

Gigantic, or Great Brown
Kingfisher, 739.One of the Laniidae, head
and foot of, p. 751.

Lammergeir, p. 749.

Longirosters, p. 786.
a, glossy ibis; b, plover;
c, godwit.

American Lark, p. 753.

Lestris, p. 766.
Head of Skua Gull.

Leipoa, p. 763.



Linnet, p. 777.



Loon, p. 787.



Purple-capped Lory, p. 789.



Lyre-bird, p. 796.



Love bird, p. 790.



Magpie, p. 801.



Martin, p. 815.

Megapode, p. 825.
Jungle Fowl.

ORNITHOLOGY — Continued.



Macaw, p. 797.



Marsh-harrier, p. 815.



Meleagris, p. 826.



Meliphaga, p. 827.
Honey-eater.



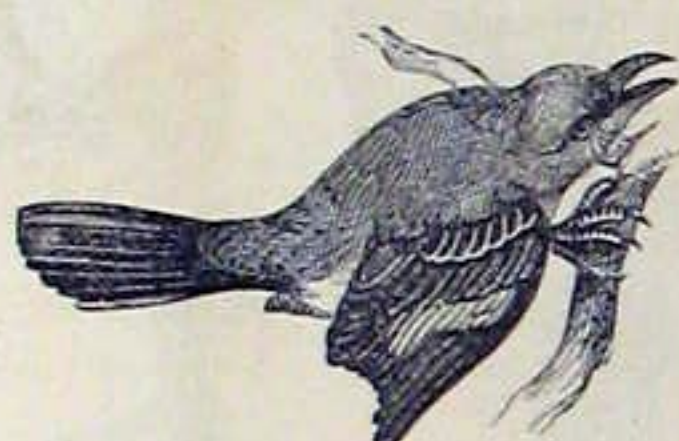
Mavis, p. 820.



Merlin, p. 831.



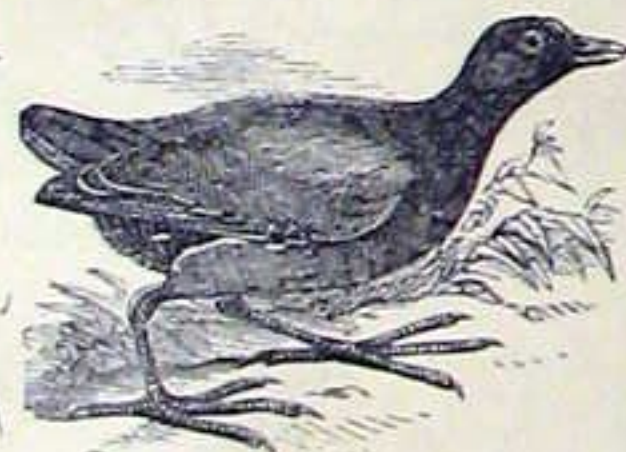
Red-breasted Merganser, p. 830.



Mocking-bird, p. 849.



Merops, p. 831.
Bee-eater.



Moor-hen, p. 857.



Moor-cock, p. 857.



Nests of Birds, p. 882.

a, nest of thistlebird; b, nest of baya of India; c, nest of red-bird.



Night Heron, p. 886.



Nightingale, p. 886.



Noddy, p. 889.



Nut-cracker, p. 898.



Ortolan, p. 923.



Baltimore Oriole, p. 922.



Ortyx, p. 923.
California Quail.



Ossifrage, p. 924.



Osprey, p. 924.



Ostrich, p. 925.



Palmiped Goosander, p. 941.



Bird of Paradise, p. 946.



Carolina Paroquet, p. 950.



Water Ousel, p. 926.



Barn Owl, p. 934.



Imperial Parrot, 951.



American Oyster-catcher, p. 935.



Common American Partridge, p. 933.

ORNITHOLOGY — Continued.



Peacock, p. 963.

Pelican, p. 963.
American White Pelican.

Penguin, p. 965.



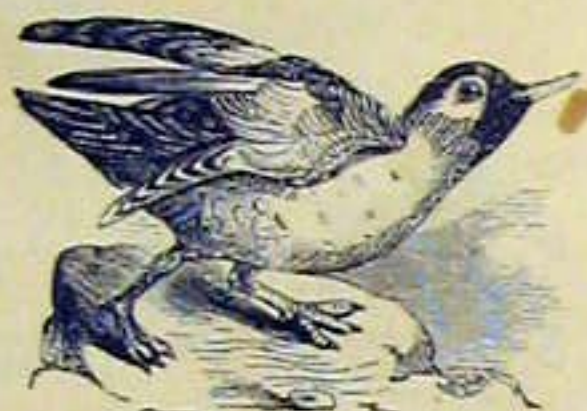
Common Pelican, p. 963.



Stormy Petrel, p. 977.



Pewit, p. 978.



Red Phalarope, p. 973.



One of the Phasianidae, 979.



Golden Pheasant, p. 979.

One of the Picidae, p. 984.
Imperial Woodpecker.Pigeon, p. 986.
Wild-rock Pigeon.

Crested Pintado, p. 989.



Tufted Pochard, p. 1003.

Psittacidae, p. 1057.
Head and foot of the Macaw.

Pintail, p. 989.

Plover, p. 1000.
American Golden Plover.

Pouter Pigeon, p. 1029.



Poe-bird, p. 1003.

Pressirosters, p. 1032. Promerops, p. 1046.
a, plover; b, lapwing; c, ring dotterel.

Ptarmigan, p. 1057.



Puffin, p. 1059.



Common Quail, p. 1070.



Queen's Pigeon, p. 1074.

Race-horse, or Steamer
Duck, p. 1080.

Water-rail, p. 1082.



Rasorial Birds, p. 1087.

a, a, head and foot of Gallus bankiva; b, b, head and foot of common pheasant; c, c, head and foot of wild turkey; d, d, head and foot of common grouse.



Razor-bill, p. 1090.



Redstart, p. 1102.



Redwing, p. 1103.

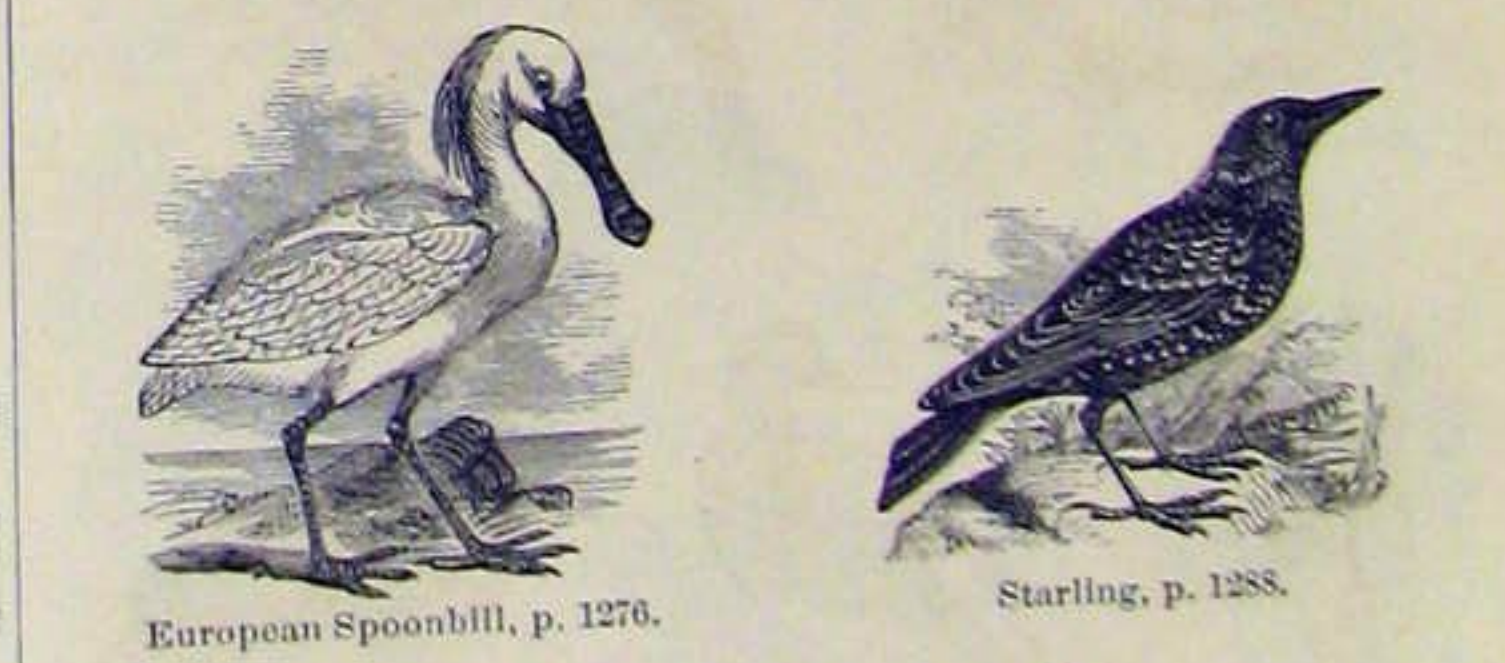
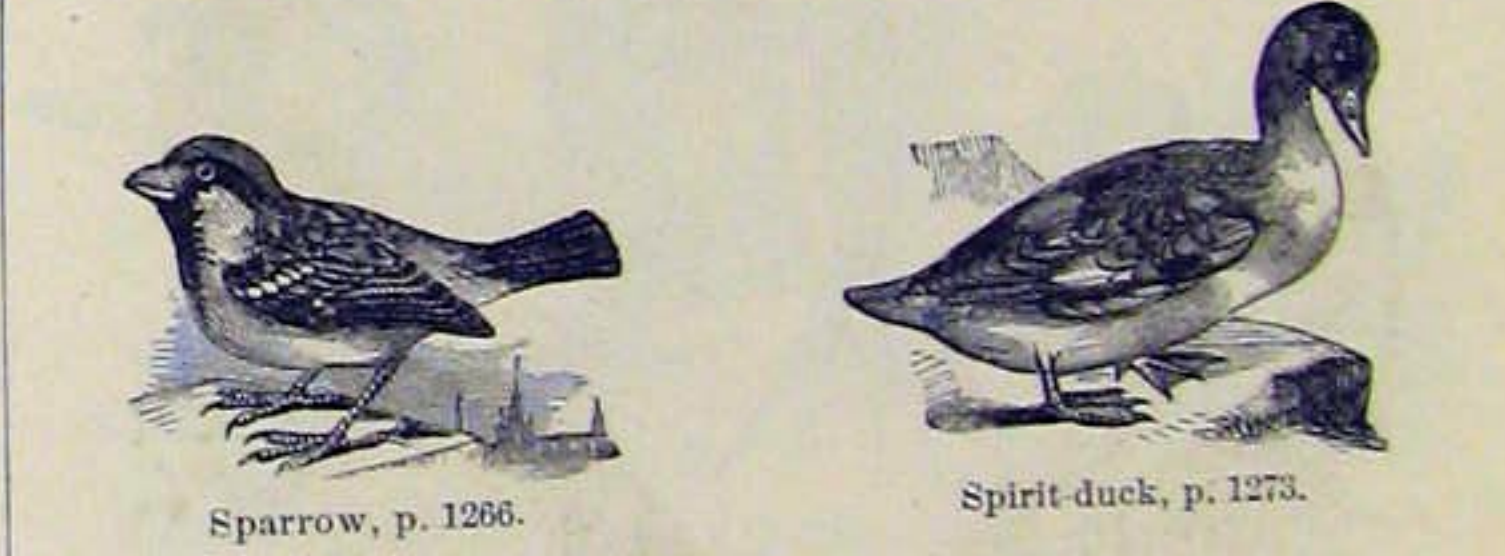
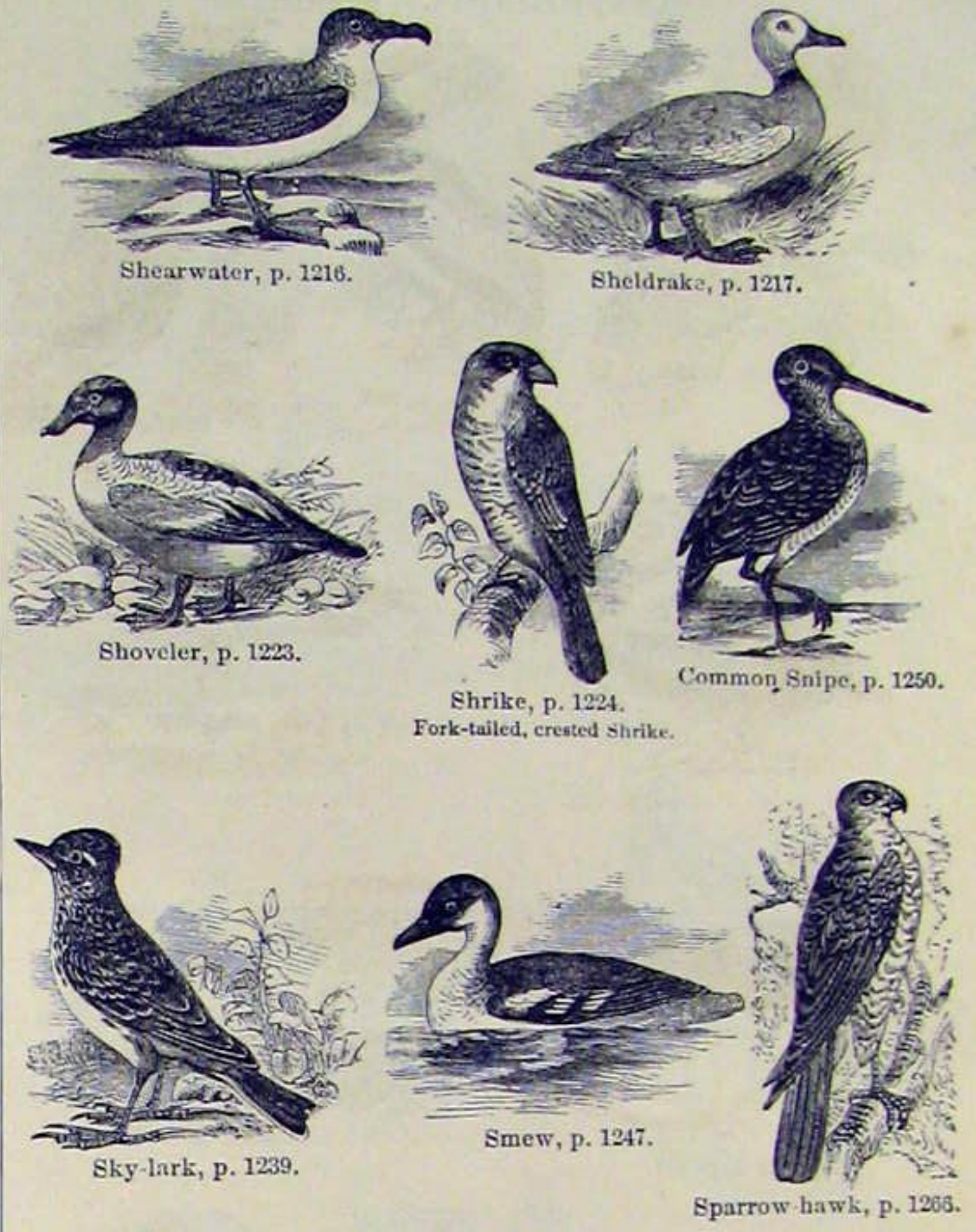
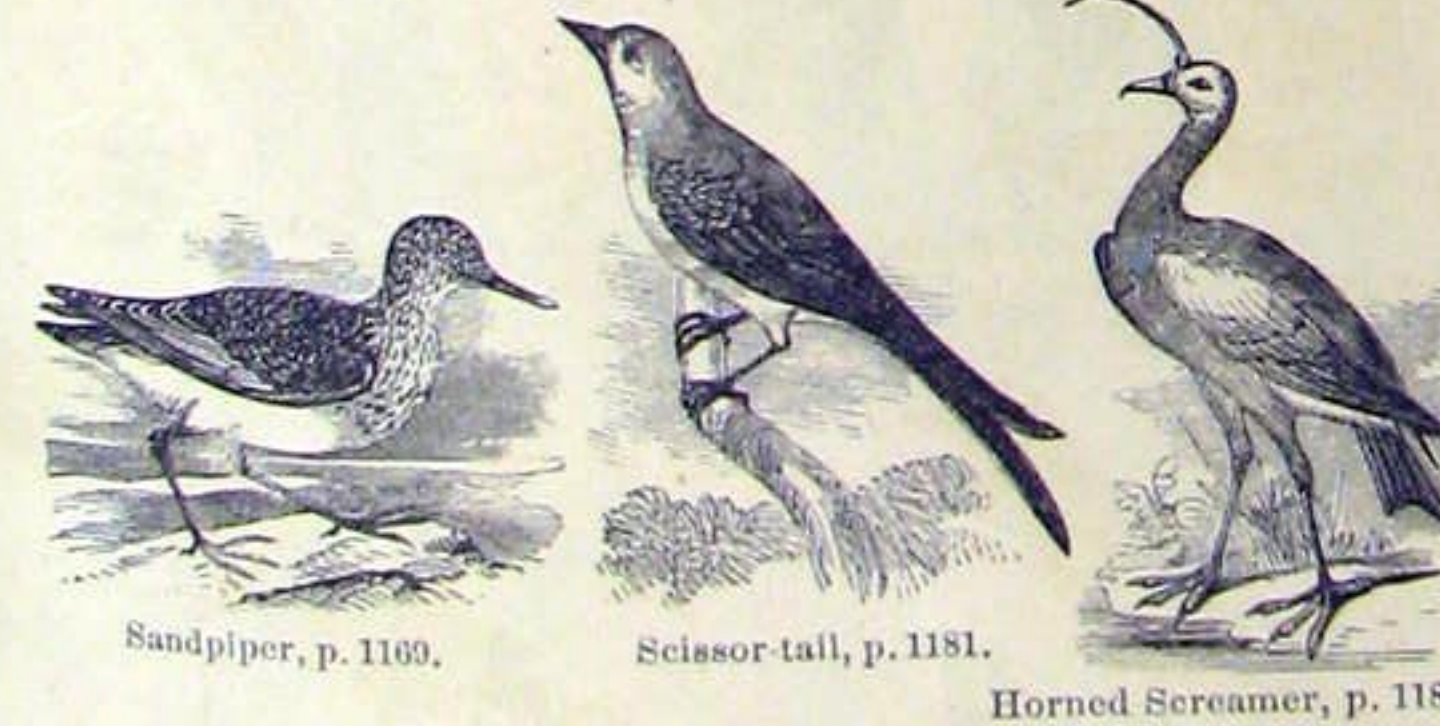
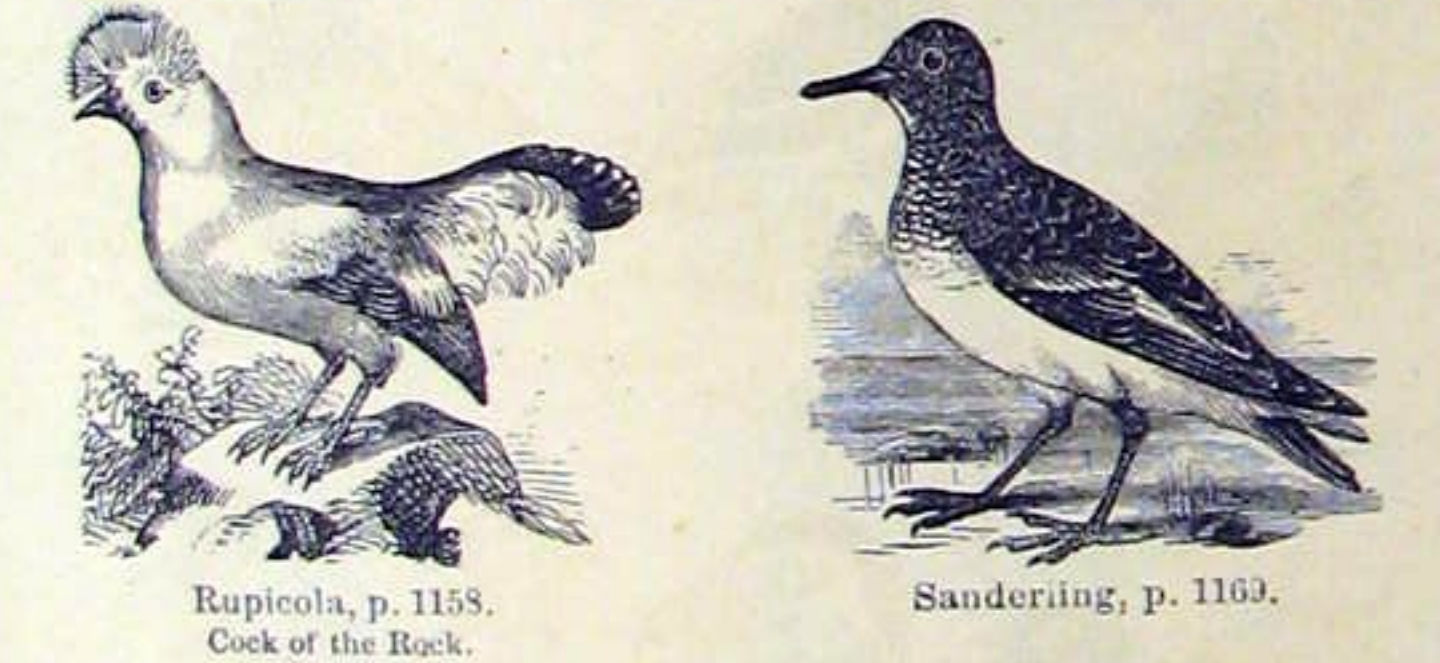
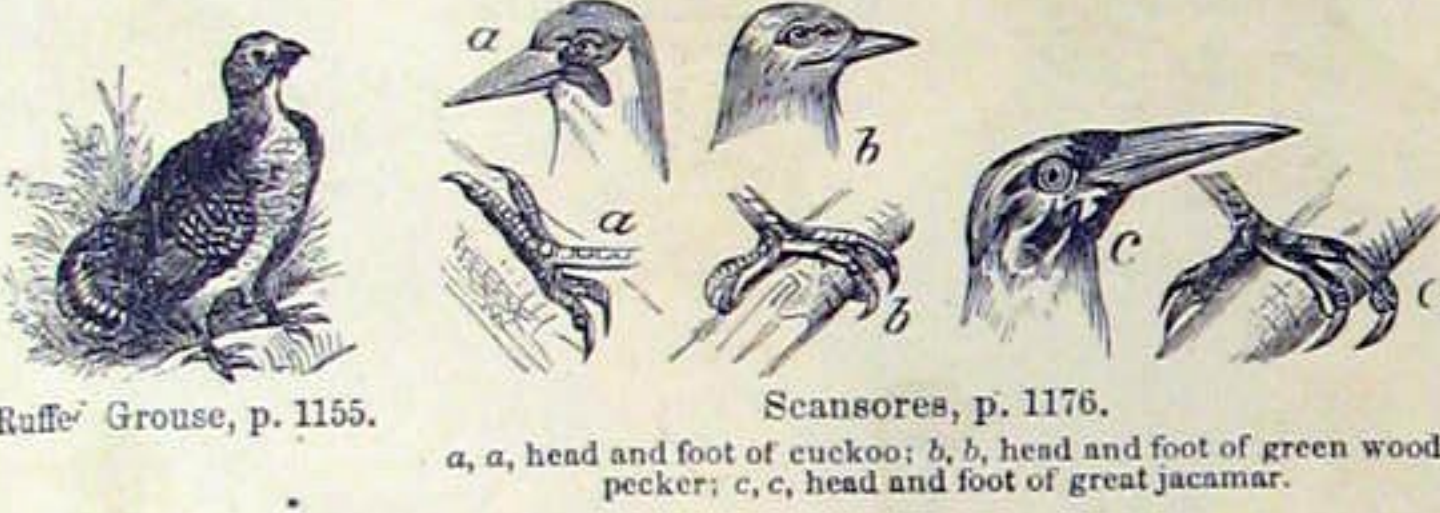
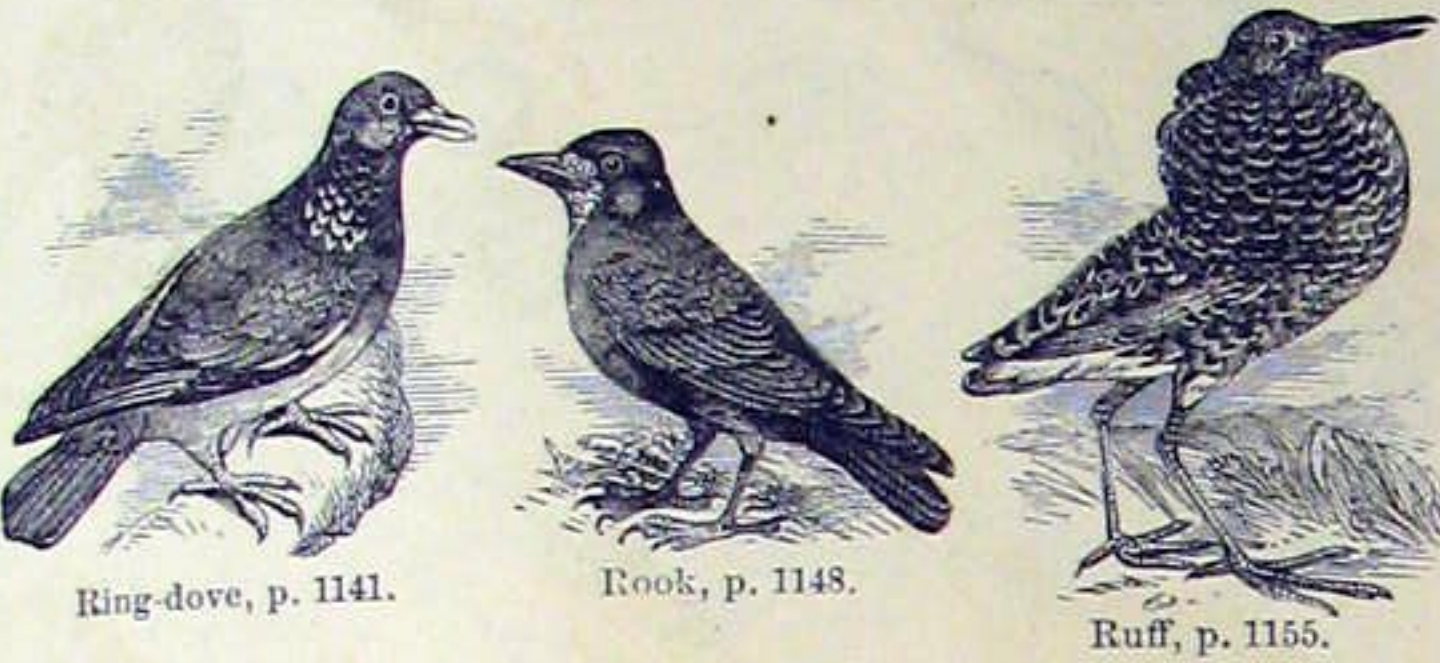


Rice-bird, p. 1138.



English Robin, p. 114.

ORNITHOLOGY — Continued.



ORNITHOLOGY—Continued.



Stone-chat, p. 1301.



Stone-curlew, p. 1301.



White Stork, p. 1303.



Summer-duck, p. 1325.



Surf-duck, p. 1332.

Swallow, p. 1336.
House Martin.

American Swan, p. 1336.



Black Swan, p. 1336.



Swift, p. 1339.

Tadorna, p. 1343.
Head and foot of Sheldrake.

Talegalla, head and foot of, p. 1350.



Teal, p. 1358.

Tantalus, p. 1353.
Wood Ibis.Tailor-birds
and Nest, 1349.Tenuirostera, p. 1364.
a, head of fork-tailed bee-eater;
b, European nut-hatch; c,
R. v. Kingfisher.

Tern, p. 1366.

Thamnophile, p. 1370.
Bush-shrike.

Thrush, p. 1381.



Tiger-bittern, p. 1384.



Great Tinamou, p. 1386.



Titmouse, p. 1389.



Toucan, p. 1396.



Touraco, p. 1397.



One of the Trochilidae, p. 1416.

Trogon, p. 1417.
Peacock, or Splendid Trogon.

Tropic Bird, p. 1418.

Gold-breasted Trumpeter, Common Cock Turkey,
p. 1420.

p. 1425.

ORNITHOLOGY — Continued.



American Wild Turkey, p. 1425.



Turkey-buzzard, p. 1425.



Weaver, p. 1501.



Wheat ear, p. 1506.



Turn-stone, p. 1427.



Turtle-dove, p. 1427.



Whimbrel, p. 1509.



Whinchat, p. 1509.



Umber, p. 1433.



Vulture, p. 1485.



Whip poor-will, p. 1509.



Whooping-crane, p. 1512.



Surf scoter, p. 1183.



Wagtail, p. 1487.



Common Widgeon, p. 1513.



Woodcock, p. 1523.



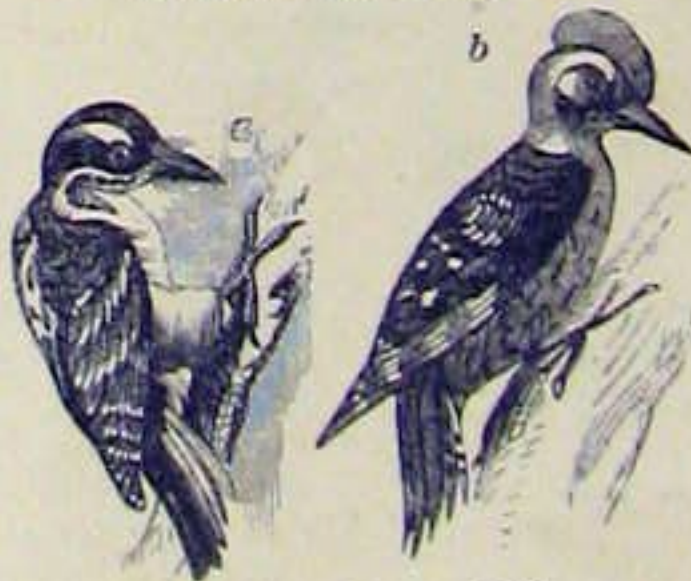
Wall-creeper, p. 1489.



Warbler, p. 1497.



Water-ousel, p. 1497.



Woodpecker, p. 1523.

a, Canadian woodpecker;
b, lesser spotted woodpecker.



Wood pigeon, or Ring Dove, p. 1524.



Water-rail, p. 1497.



Wax-wing, p. 1498.



Wren, p. 1528.



Wryneck, p. 1530.



Yellow-hammer, p. 1533.

PALEONTOLOGY.



Ammonite, p. 45.



Baculite, p. 101.



Belemnite, p. 122.



Cephalaspis, p. 212.



Dinotherium Giganteum, p. 375.



Ichthyosaurus, p. 653.



Encrinurite, p. 445.



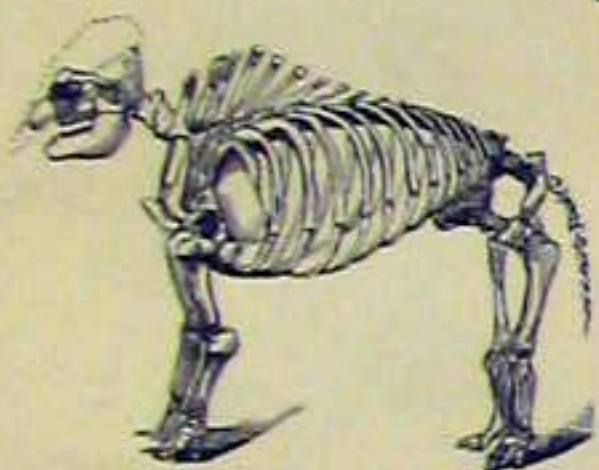
Glyptodon, p. 576.



Lepidodendron, p. 765.



Paleotherium, p. 939.



Skeleton of Mastodon Giganteus, p. 817.



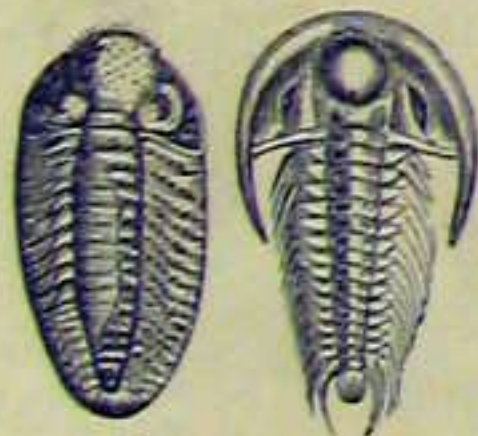
Megatherium Cuvieri, p. 826.



Notornis, p. 894.



Plesiosaurus, p. 999.



Trilobites, p. 1413.

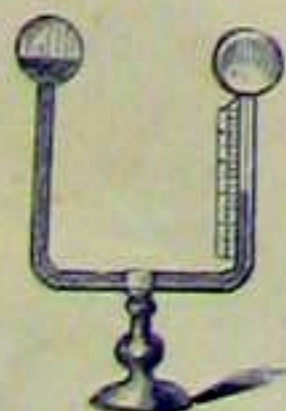


Pterodactyl, p. 1057.

PHILOSOPHICAL AND SCIENTIFIC INSTRUMENTS.



Air-pump, p. 32.



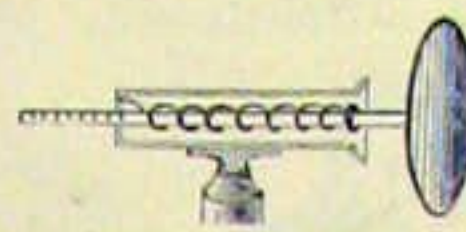
Air-thermometer, p. 33.



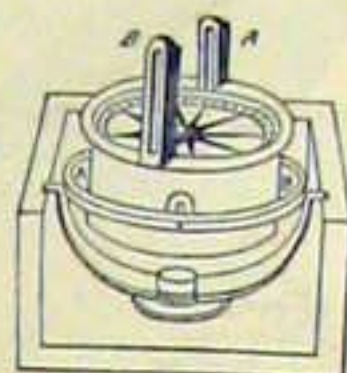
Alembic, p. 35.



Ethroscope, p. 25.



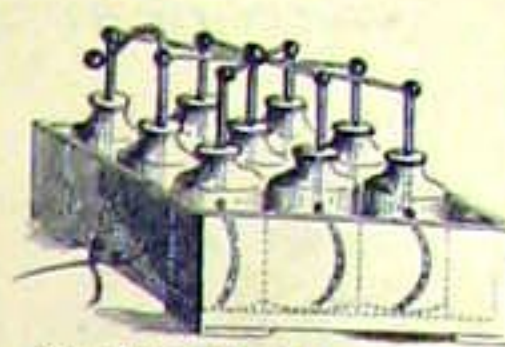
Anemometer, p. 51.



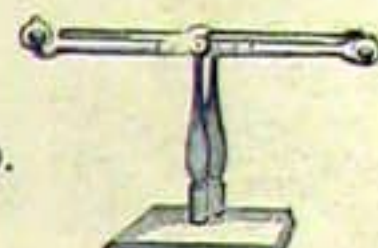
Azimuth Compass, p. 99.



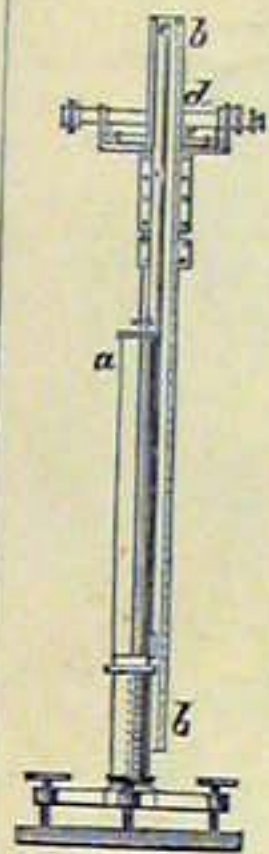
Barometer, p. 109.



Electrical Battery, p. 114.

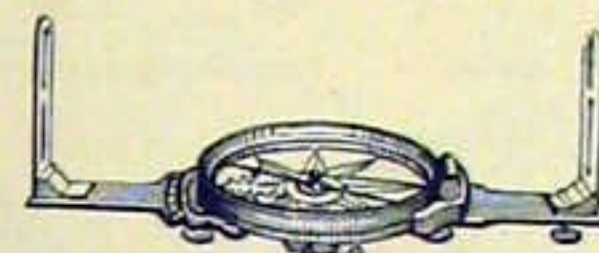


Balance Thermometer, p. 103.

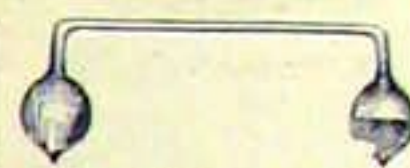


Cathetometer, p. 206.

a, case; ob, divided scale; d, horizontal telescope.



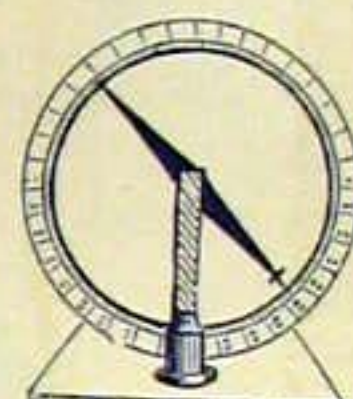
Circumferentor, p. 232.



Cryophorus, p. 320.



Blow-pipes, p. 144.



Dipping Needle, p. 377.



Sun-dial, p. 368.



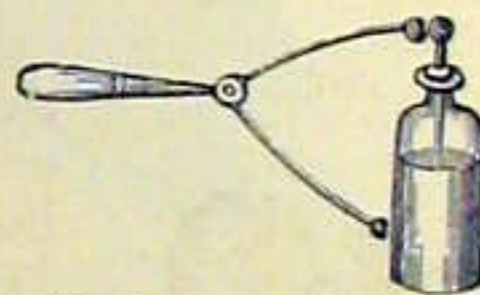
Clock or Watch Dial, p. 368.



Differential Thermometer, p. 372.



Hour-glass, p. 641.



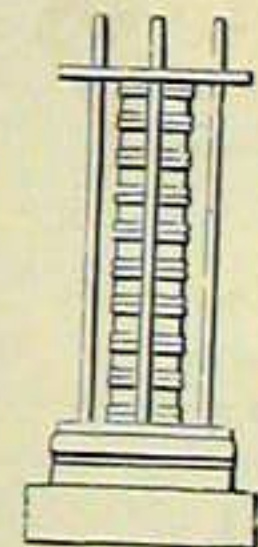
Discharger, and Leyden Jar, p. 380.



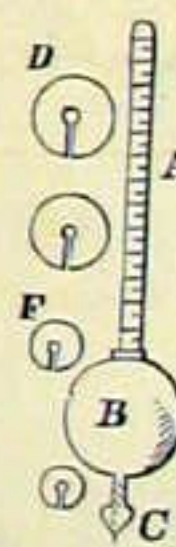
Galvanic Battery, p. 556.



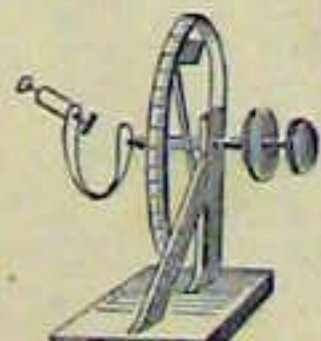
Eudiometer, p. 468.



Galvanic Pile, p. 556.

Hydrometer, p. 648.
A, scale; B, ball; C, stem; D, E, weights.

Safety Lamp, p. 749.



Reflecting Goniometer, p. 579.



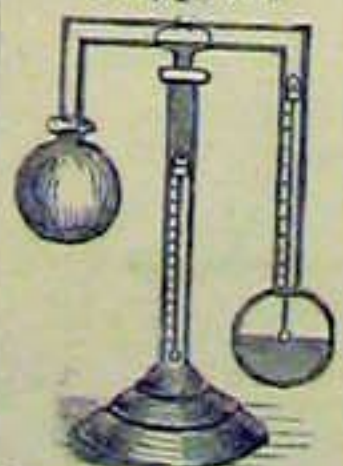
Hydrostatic Balance, p. 648.



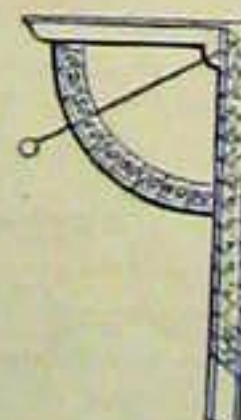
Magic Lantern, p. 799.



Opera-glass, p. 914.



Daniel's Hygrometer, p. 649.



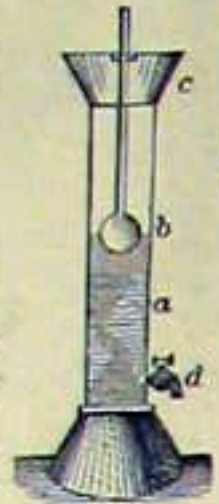
Gunner's Quadrant, p. 1069.

Hadley's Quadrant, p. 1069.
i, index-glass; h, horizon-glass; s, sight.Receivers, p. 1095.
a, cylindrical glass receiver; b, gas receiver; c, air-pump receiver.

PHILOSOPHICAL AND SCIENTIFIC INSTRUMENTS—Continued.



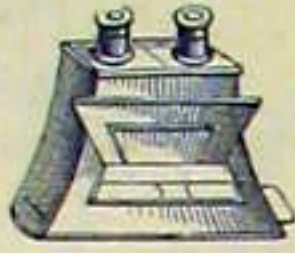
Microscope, p. 836.



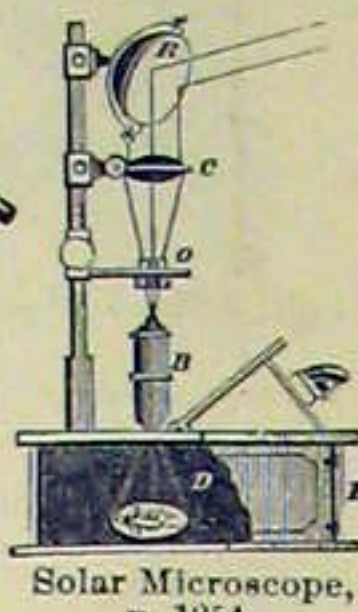
Rain-gauge, p. 1083.
a, cylinder; b, cork-ball and stem; c, funnel; d, cock.



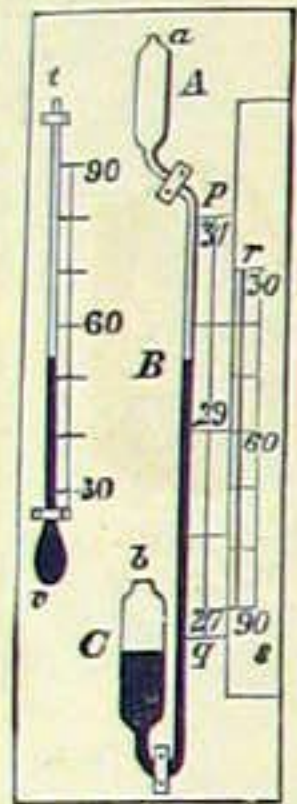
Retort, p. 1130.



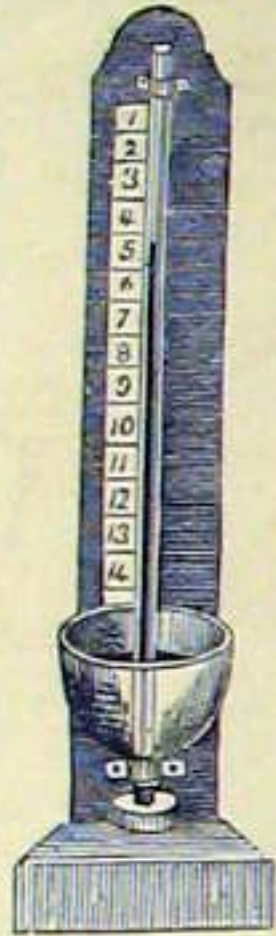
Stereoscope, 1295.



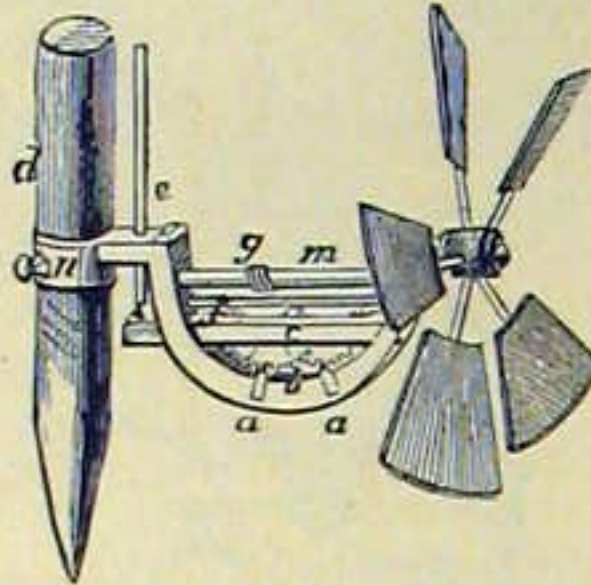
Solar Microscope, p. 1254.



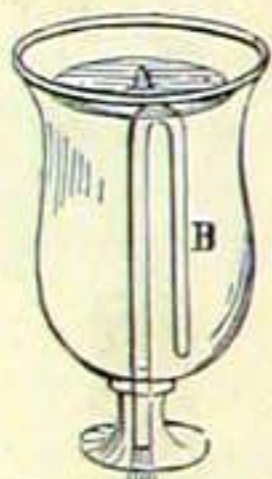
Sympiesometer, p. 1342.



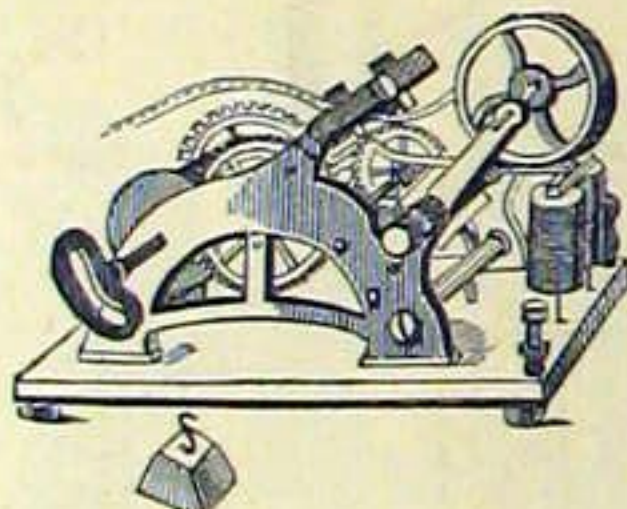
Tachometer, p. 1347.



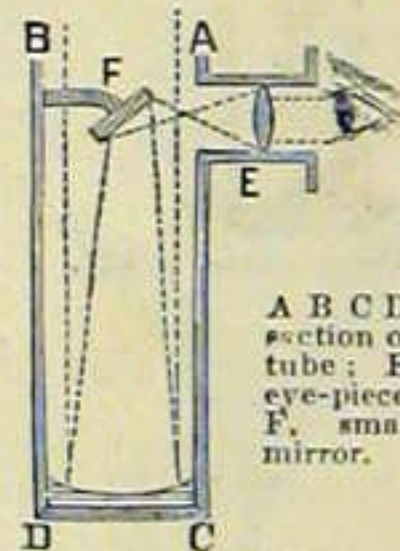
Woltman's Tachometer, p. 1347.
a, a, projections; b, b, toothed wheels; c, lever-beam; d, pole; e, rod; f, spring; g, endless screw; m, beam; n, ring.



Tantalus's Cup, p. 1353.

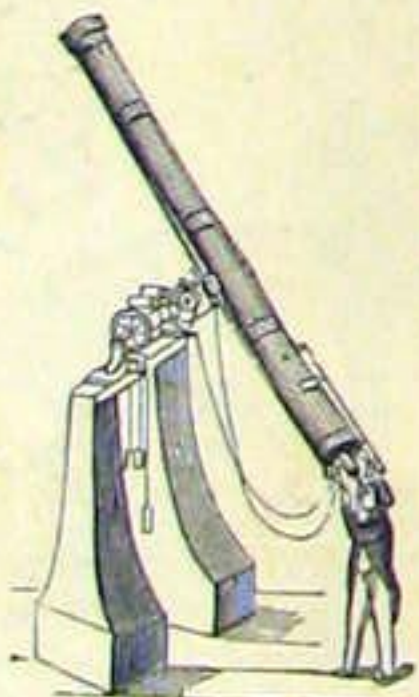


Telegraph, Morse's, p. 1359.

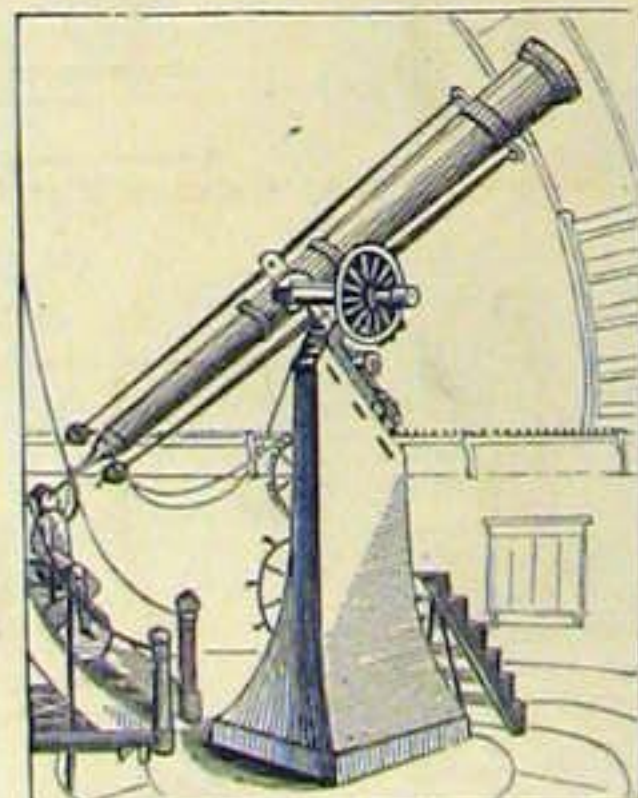


Newtonian Telescope, p. 1360.

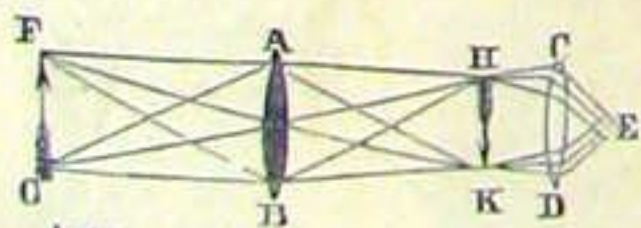
A B C D, section of tube; E, eye-piece; F, small mirror.



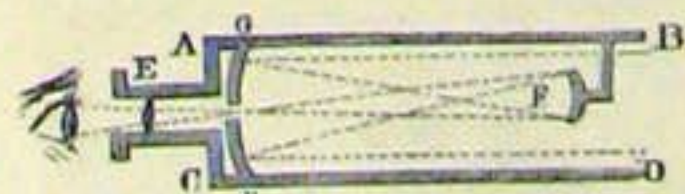
Great Refracting Telescope at Cincinnati, Ohio. Object-glass, twelve inches; focal distance, seventeen feet. P. 1360.



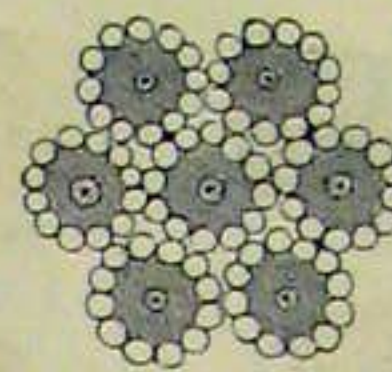
Telescope at Observatory, Harvard College, Cambridge, Massachusetts. P. 1360.



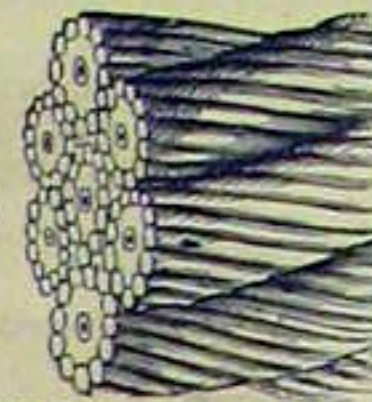
Astronomical Telescope, p. 1360.
A B, object-glass; C D, converging eye-glass; F G, distant object; H K, image of the glass; eye at E.



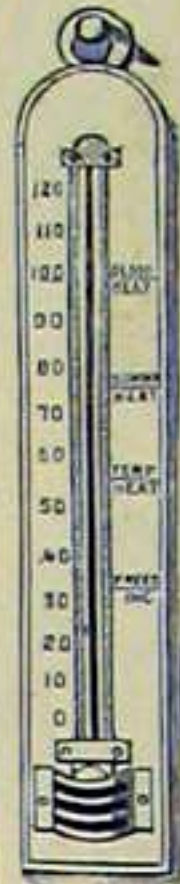
Gregorian Telescope, p. 1360.
A B C D, section of tube; E, eye-piece; F, small mirror; G H, large mirror, or object mirror.



Sections of Submarine Telegraph Cable, p. 1359.



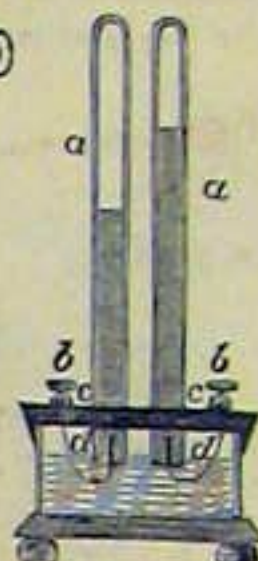
Theodolite, p. 1372.



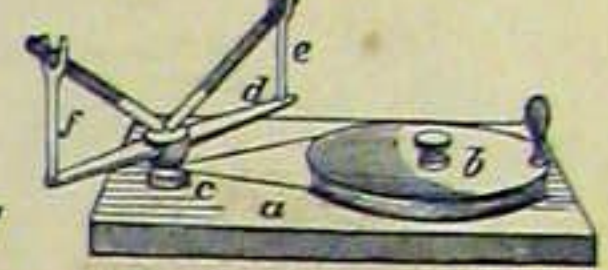
Thermometer, Fahrenheit's, p. 1374.



Surveyor's or Engineer's Transit Instrument, p. 1404.



Voltmeter, p. 1483.
a, a, graduated glass tube; b, b, binding screws; c, c, brass bar; d, d, platina wires.



Whirling table, p. 1510.
a, foot-board; b, wheel; c, pulley; d, arm; e, f, uprights.

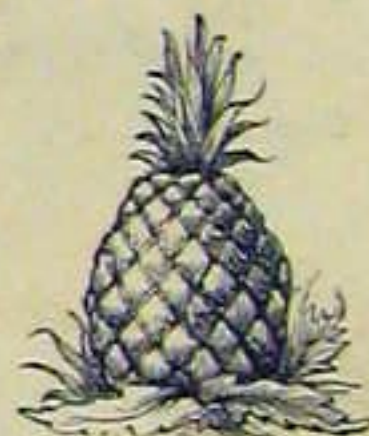
PLANTS, SHRUBS, FLOWERS, AND FRUITS.



Acacia, p. 9.



Agave, or American Aloe, p. 29.



Ananas, p. 49.
Pine-apple.



Anona, p. 55.
Sour-sop.



Barley, p. 109.



Barometz, 110.



Cactus, p. 182.
Melon-thistle.



Sugar cane, p. 180.



Cockscorn, p. 246.



Coffee, p. 247.



Cotton-plant, p. 300.

PLANTS, FLOWERS, FRUITS, &c.—Continued.

Cochineal fig,
p. 245.Custard apple,
p. 328.Datura stramonium,
p. 335.Diocleous Plants,
p. 376.

Iceland-moss, p. 652.



Indian Corn, p. 681.



Leek, p. 762.



Durian, p. 421.



Elecampane, p. 433.



Epiphyte, p. 457.



Flax, p. 520.



Lichens, p. 770.

1, Usnea barbata; 2, 3, Cladonia pyxidata;
4, Parmelia pallescens.

Orange Lily, p. 774.

Lily of the
Valley, p. 774.Flower de-luce,
p. 524.

Flowering-fern, 524.



Fly trap, p. 527.



Fungi, p. 550.

1, Agaricus comatus;
2, Boletus edulis; 3, Mor-
chella esculenta.

Lizard-tail, p. 782.



Loosestrife, p. 788.



Nymphaea lotus, p. 790.



Lungwort, p. 794.



Maize, p. 802.

Root and Branch of Man-
drake, p. 807.Mangel-
wurzel, p. 808.

Fox glove, p. 539.



Gentian, p. 565.



Honeysuckle, p. 635.

Grapes, Leaves, and Tendrils,
p. 585.

Hop, p. 637.



Horse-tail, p. 639.

Hyacinth,
p. 647.Common
Mare's-
tail, p. 812.Mesembryanthem-
um, p. 831.
Fig Marigold.

Mignonette, p. 837.



Millet, p. 839.



Mistletoe, p. 847.

Mushrooms,
p. 869.

Mustard, p. 870.



Myrrh, p. 872.



Myrtle, p. 872.

PLANTS, FLOWERS, FRUITS, &c. — Continued.



Musa sapientum, p. 863.



Narcissus, p. 874.



Nepenthes,
p. 881.
Pitcher Plant.



Rhubarb, or Pie-plant, p. 1137.



Rice, p. 1138.



Stramonium, p. 1204.
Leaf, Flower, and Fruit.



Nettle, p. 883.



Nightshade, p. 886.



Noli-me-tangere, p. 889.



Strawberry, p. 1346.
Leaf, Flower, and Fruit.



Sugar-cane, p. 1323.



Sun-dew, p. 1326.



Orchis mascula, p. 919.



Papyrus, p. 945.



Black Pepper, p. 967.



Tanguhinia venenata, p. 1352.



Taro, p. 1354.



Tea-plant, p. 1358.



Peppermint, p. 967.



Pink, p. 989.



Poppy, p. 1012.



Prickly-pear, p. 1035.



Common Teasel, p. 1358.



Tephrosia toxicaria, p. 1365.



Thistle, p. 1376.



Privet, p. 1039.



Quince, p. 1076.



Raspberry
Fruit, p. 1087.



Rhododendron,
p. 1136.



Toad-stool, p. 1389.



Tobacco-plant, p. 1390.



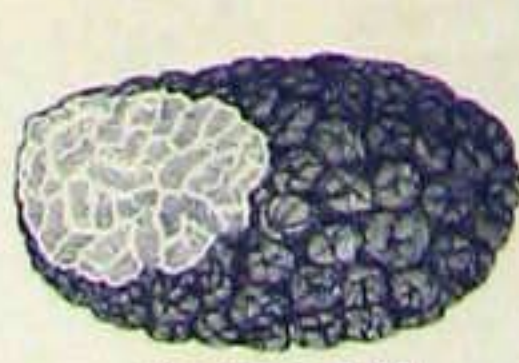
Tulip, p. 1423.



Strawberry-pear,
p. 1306.



The fruit of
Sweet-sop, p. 1338.



Truffle, p. 1419.



Venus's Fly-trap, p. 1468.



Victoria regia, p. 1474.



Common Wheat, p. 1506.

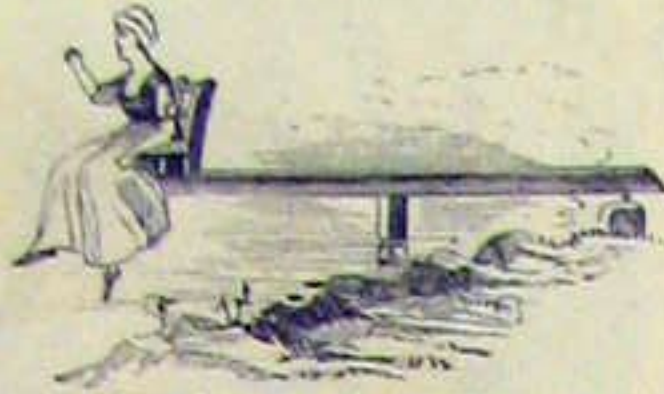
PUNISHMENT, MODES OF.



Bastinado, p. 113.



Malden, p. 801.



Ducking-stool, p. 418.



Guillotine, p. 596.



Tread-mill, p. 1408.



Pillory, p. 987.



Stocks, p. 1300.

QUADRUPEDS.



Aardvark, p. 1.



Agouti, p. 31.



Alpaca, p. 40.

Ant bear, p. 57.
Great Ant-eater.

Antelope, p. 57.



Antlers of Fossil Elk, p. 61.



Ape, p. 61.



Armadillo, p. 75.



Aurochs, p. 92.



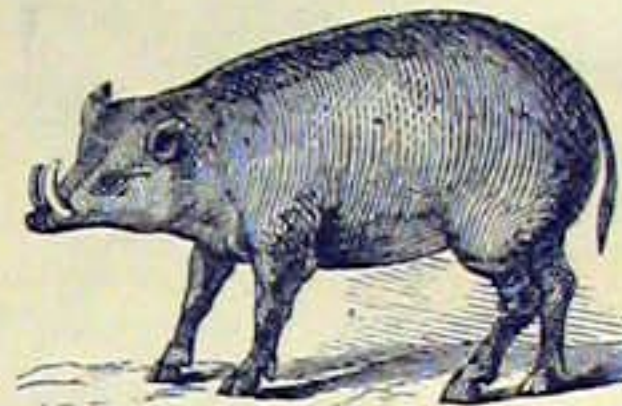
Ass, p. 82.



Aye-aye, p. 99.



Baboon, p. 100.



Babiroussa, p. 100.



Indian Badger, p. 102.



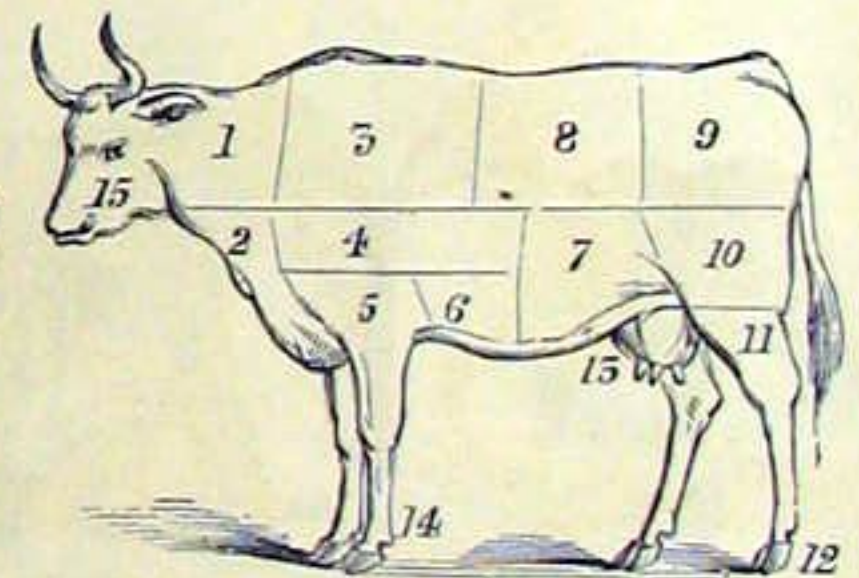
White Bear, p. 117.



Black Bear, p. 117.



Beaver, p. 118.



Beef, p. 120.

1, neck; 2, shoulder-piece; 3, chine; 4, ribs; 5, clod; 6, brisket; 7, flank; 8, loin, sirloin; 9, rump; 10, round; 11, leg; 12, foot; 13, udder; 14, shin; 15, cheek.



American Bison, p. 135.



Cuban Blood-hound, p. 143.



Buck, or Fallow Deer, p. 170.



Bull-dog, p. 173.



Buck, horns of, p. 170.

1, dag of pricket, or buck-fawn of second year; 2, horn of sorel, or of third year; 3, horn of sore, or of fourth year; 4, horn of buck, or of fifth year and after; t, t, tines; s, s, s, snags.

QUADRUPEDS—Continued.



Buffalo, p. 171.



Bactrian Camel, p. 183.



Camelopard, p. 188.



Castor Beaver, p. 203.



Chamols, p. 215.



Chimpanzee, 224.



Chinchilla, p. 224.



Civet, p. 234.



Red Deer, p. 344.



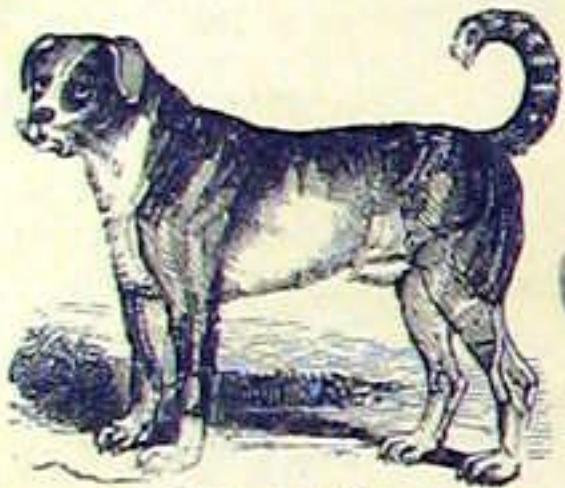
Virginia Deer, p. 344.



Didelphis, p. 371.



Chrysochloris capensis, p. 229.



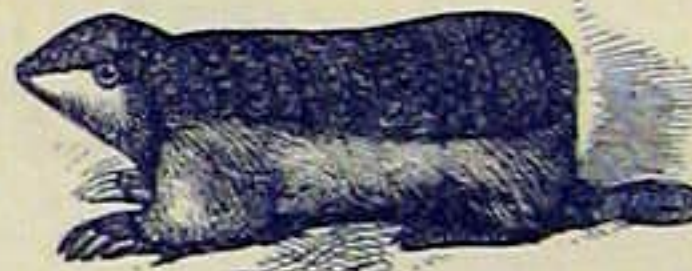
Dog, p. 401.
Mastiff.



Dormouse, p. 405.



Dromedary, p. 415.



Edentate, p. 428.
Chlamyphorus truncatus.



Echidna, p. 426.
Porcupine Ant-eater.



Eland, p. 432.



Elephant, p. 435.
Elephas Africanus.



Elephant, p. 435.
Elephas Indicus.



Elk, p. 436.



American Elk, p. 436.



Ermine, p. 462.



Fallow Deer, p. 494.



Fawn, p. 501.



Ferret, p. 506.



Flying-squirrel, p. 526.



Foumart, p. 538.



Common Fox, p. 539.



American Black Fox, p. 539.



Fox-hound, p. 539.



Genet, p. 564.

PICTORIAL ILLUSTRATIONS FOR
QUADRUPEDS — Continued.



Gazelle, p. 562.



Gemsbok, p. 563.



Gibbon, p. 568.



Giraffe, p. 570.



Gorilla, p. 581.



Cashmere Goat, p. 577.



Antelope Gnu, p. 576.



Glutton, p. 576.



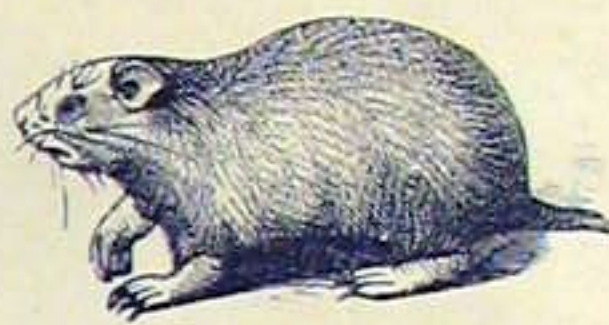
English Greyhound, p. 589.



Grison, p. 591.



Ground Squirrel, p. 592.



Hamster, p. 604.

Hart, Antlers
of, p. 609.

1, at birth; 2, at one
year; 3, at two years;
4, at three years; 5, at
four years; 6, at five
years.



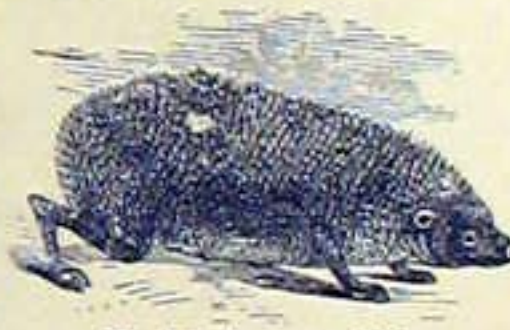
Hare, p. 607.



Harvest Mouse, p. 609.



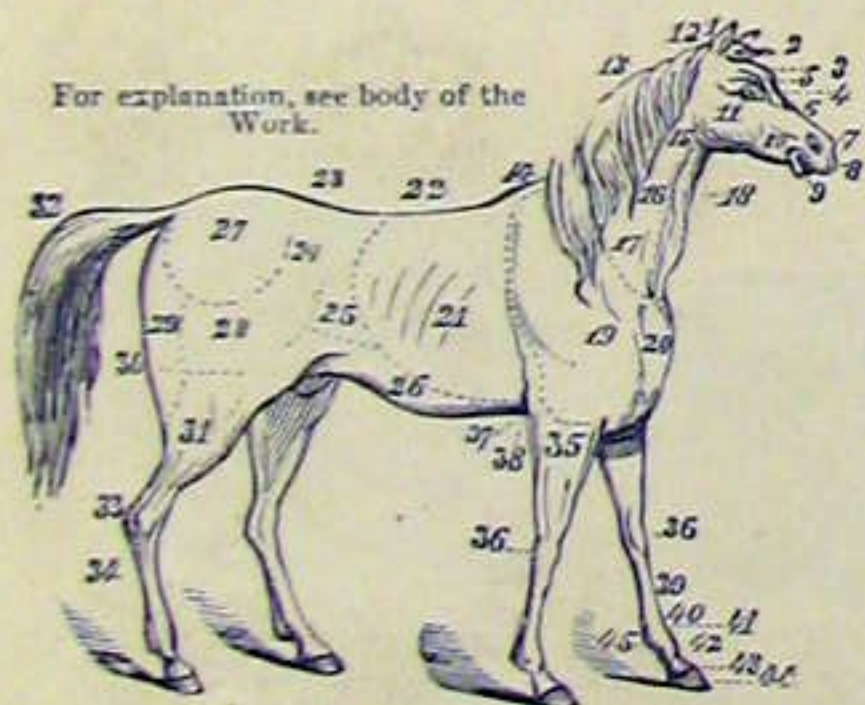
Hippopotamus, p. 629.



Hedge-hog, p. 617.



Guinea-pig, p. 596.



For explanation, see body of the
Work.

Horse, p. 639.



Hound, p. 641.



Hyrax, p. 651.



Ichneumon, p. 652.



Horse, p. 638.



Lynx, p. 649.



Indri, p. 684.



Ibex, p. 652.



Jaal goat, or Abyssinian Ibex, p. 722.



Jaguar, p. 723.



Jerboa, p. 725.



Lagostomys, p. 748.



Jackal, p. 722.



Lagomys, p. 747.



Lemming, p. 764.



Pine Marten, p. 815.



Mastiff, p. 817.

QUADRUPEDS — Continued.



Jacchus, p. 722.



Kahau, p. 734.



Kangaroo, p. 734.



Kinkajou, p. 740.



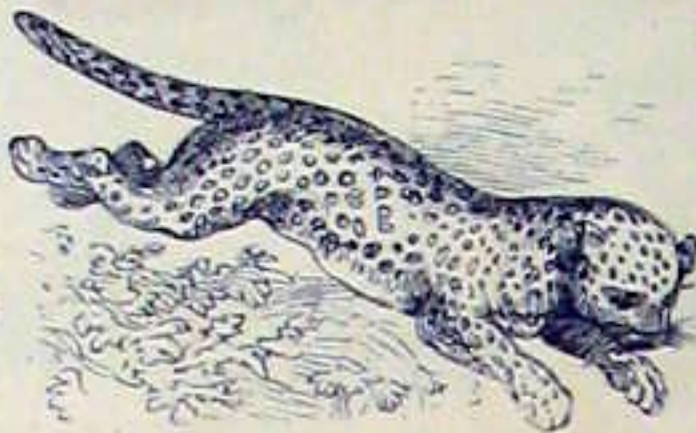
Kleeue boe, p. 741.



Koodoo, p. 744.



Red Lemur, p. 764.



Leopard, p. 765.



Lion, p. 777.



Lioness, p. 777.



Loris, p. 789.



Llama, p. 782.



Booted Lynx, p. 796.



Canada Lynx, p. 796.



Ring-tailed Maki, p. 803.



Marmot, p. 814.



Mataco, p. 818.



Merino, p. 831.



Mountain-brook Mink, p. 841.



Shrew Mole, p. 851.



Heads of Monkeys, p. 854.
1, Simiade; 2, Cebidae; 3, Lemuridae.



Meriones, p. 831.
Labrador Jumping Mouse.



Moholi, p. 850.



Mohr, p. 850.



Moufflon, p. 862.



Mule, p. 865.



Muntjac, p. 868.



Musk-deer, p. 869.



Musk-ox, p. 869.



Musk-rat, p. 870.



Myocetes, p. 871.



Nylghau, p. 898.



Oryx, p. 923.

PICTORIAL ILLUSTRATIONS FOR
QUADRUPEDS—Continued.



Orang-utang,
p. 918.



Opossum, p. 915.



Ornthorhynchus, p. 922.



Ounce, p. 926.



Canada Otter, p. 925.



Paca, p. 936.



Pallah, p. 940.



Ocelot, p. 905.



Paco, p. 937.



Phascolome, p. 979.



Pointer Dog, p. 1005.



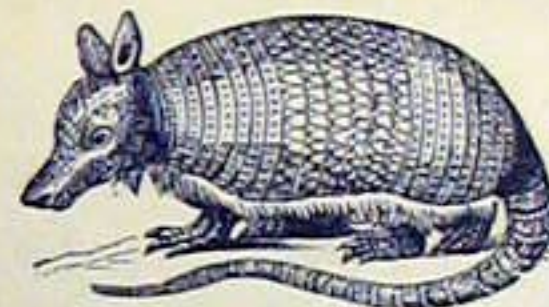
Polar Bear, p. 1005.



Panda, p. 942.



Panther, p. 944.



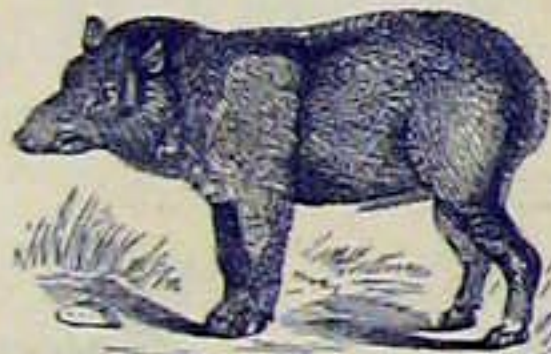
Peba, p. 960.



Polecat, p. 1006.



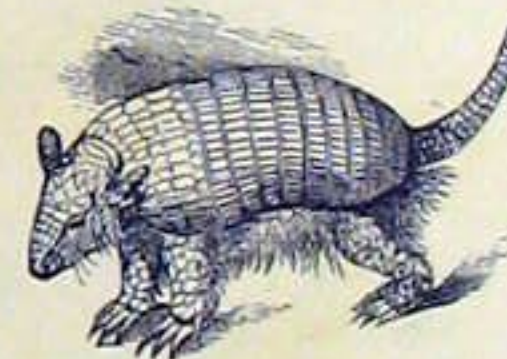
Pangolin, p. 943.



Peccary, p. 961.



Common Porcupine, p. 1013.



Poyou, p. 1021.



Puma, p. 1060.



Prairie-dog, p. 1022.



Prong-horn, p. 1047.



Proteles, p. 1052.



Quagga, p. 1073.



Raccoon, p. 1079.



Rabbit, p. 1079.



Ram, p. 1083.



Ratel, p. 1088.



Reindeer, p. 1119.



Rhinoceros, p. 1136.



Sable, p. 1160.



Sarigue, p. 1171.



Setter, p. 1209.

QUADRUPEDS — Continued.



Rietbok, p. 1139.



Roebuck, p. 1146.



Sapajou, p. 1170.



Rocky Mountain Sheep, p. 1216.



American Fox Squirrel, 1282.



Saki, p. 1164.



Common Skunk, p. 1239.



Sloth, p. 1244.



Spaniel, p. 1265.



Stoat, p. 1299.



Common Shrew, p. 1224.



Suslik, p. 1334.



Springbok, p. 1278.



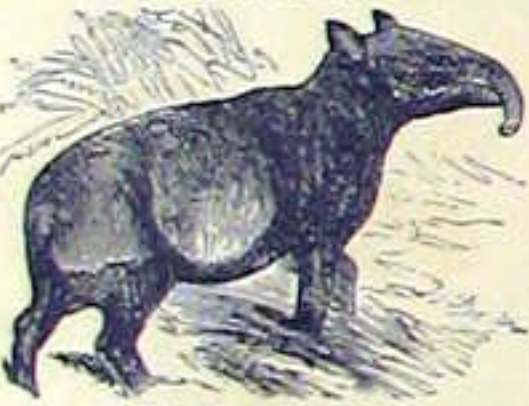
Common Stag, p. 1283.



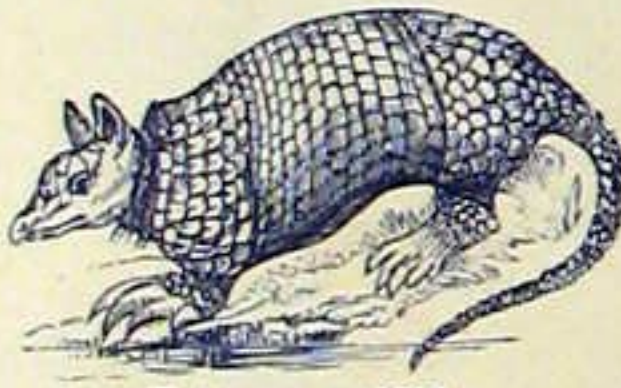
Tamandua, or Little Ant-bear, p. 1351.



Silky Tamarin, p. 1351.



Tapir, p. 1354.



Tatouay, p. 1356.



Teledu, p. 1359.



Tenrec, p. 1364.



Vole, p. 1483.



Terrier Dog, p. 1367.



Bengal Tiger, p. 1384.



Wart-hog, p. 1493.



Yak, p. 1532.



Zebra, p. 1536.



Vicugna, p. 1474.



Wanderoo, p. 1400.



Wapiti, p. 1401.



Wildcat, p. 1514.



American Black Wolf, p. 1522.



Zebu, or Indian Ox, p. 1636.



Bridled Weasel, p. 1501.



Wormwood hare, p. 1520.



Wolf-dog, p. 1522.



Wolverine, p. 1522.



Wombat, p. 1522.

RACES OF MEN.



RADIATE ANIMALS, OR RADIATA.



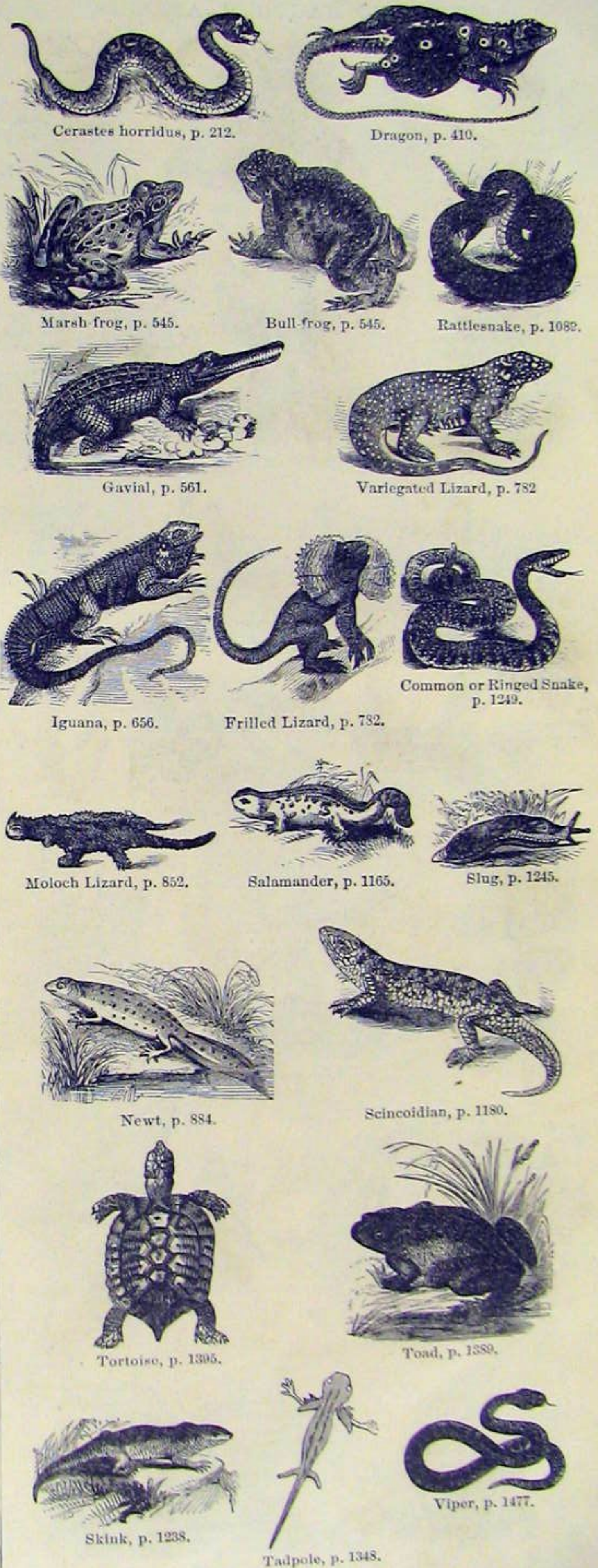
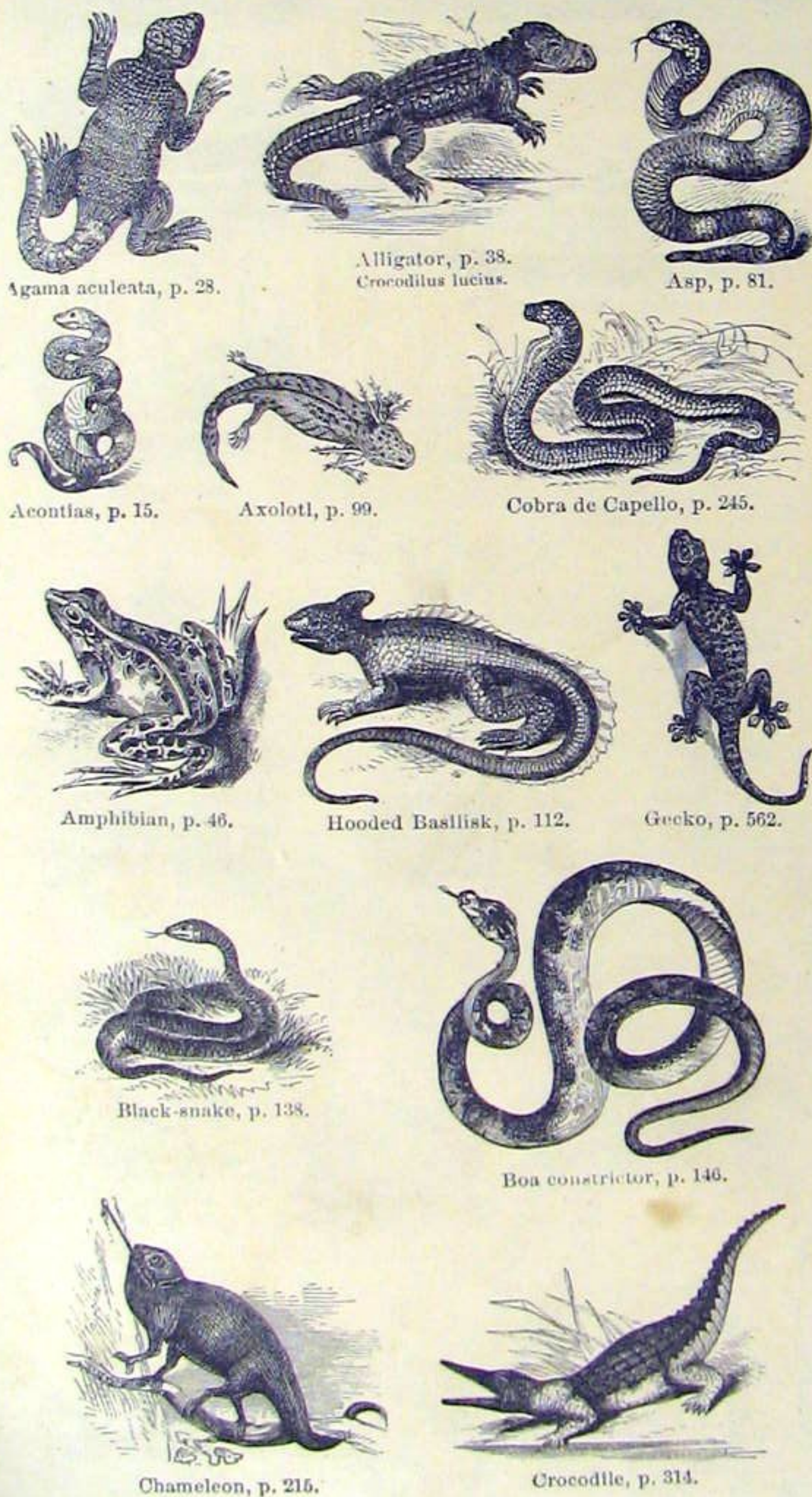
RELIGION.—UTENSILS, DRESS, &c., USED IN WORSHIP AND RELIGIOUS CEREMONIES.



RELIGION. — UTENSILS, DRESS, &c. — Continued.



REPTILES.



SHIPS AND NAUTICAL AFFAIRS.



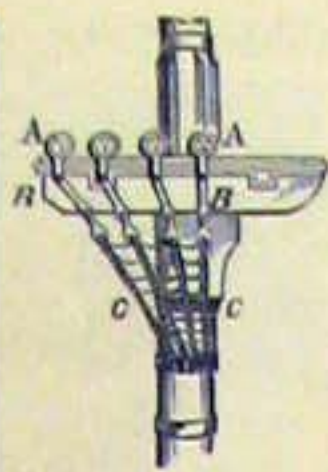
Anchor, p. 50.
a a, stock; b shank; c, c, flukes;
d, d, arms.



Bark, p. 109.



Binnacle, p. 133.



Futtock, p. 552.
A, A, dead-eyes; B,
B, futtock plates; C,
C, futtock shrouds.



Gimbals, p. 569.



Grapple, p. 586.



Hammock, p. 604.



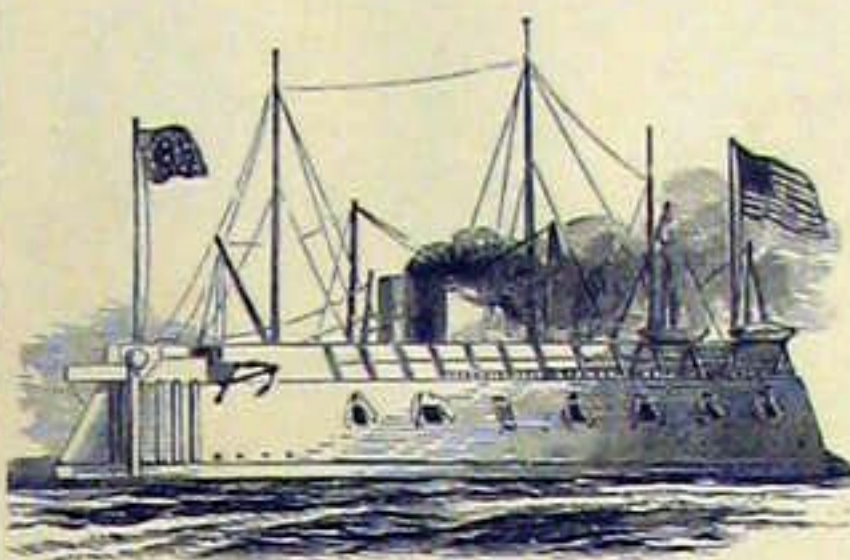
Brig, p. 165.



Capstan, p. 195.



Mariner's Compass, p. 290.



Iron-clad. New Ironsides, p. 716.



Ketch, p. 737.



Bucentaur, p. 170.



Bell-buoy, p. 174.



Nut-buoy,
p. 174.



Canoe, p. 191.



Catamaran, p. 204.



c, c, Flukes,
p. 525.



Iron-clad. Monitor, p. 716.



Jolly-boat, p. 728.



Junk, p. 731.



Coracle, p. 293.



Cutter, p. 327.



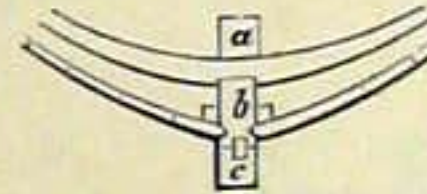
Diving bell, p. 399.



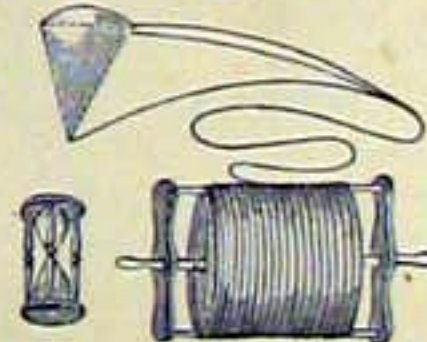
Harpoon, p. 609.



Knots, p. 743.
a, single knot; b, double
knot; c, figure-of-8 knot;
d, overhand knot; e, bow-
line knot.



Keelson, p. 735.
a, keelson; b, keel; c, false
keel.



Log, Line, and Glass, p. 784.



Light-house, p. 773.



Davits, p. 335.



Figure-head, p. 511.



Frigate, p. 544.



Life-boat, p. 772.



Lugger, p. 793.



Mainsail of a Sloop,
p. 802.



Galley, p. 555.



Gondola, p. 579.



Marline spikes,
p. 813.



Pinace, p. 989.

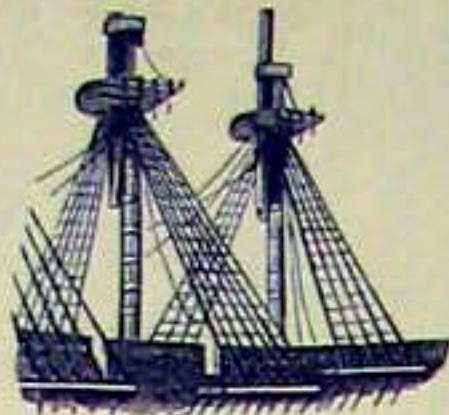


Punt, p. 1062.

SHIPS AND NAUTICAL AFFAIRS.—Continued.



Prow of Ancient Galley, p. 1055.



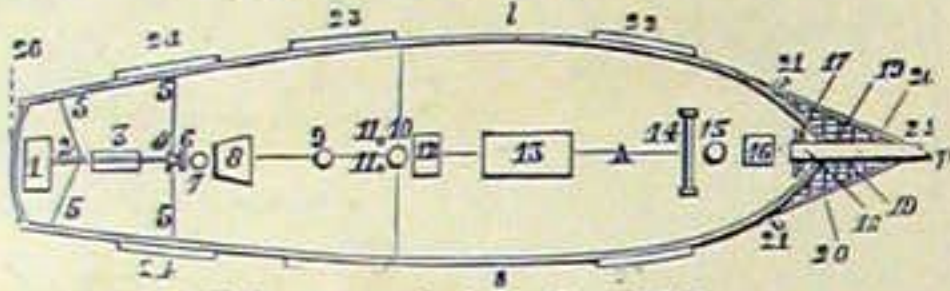
Ratlines, p. 1089.



Sheet-anchor, p. 1217.



a a, c c, Rowlocks, p. 1153.



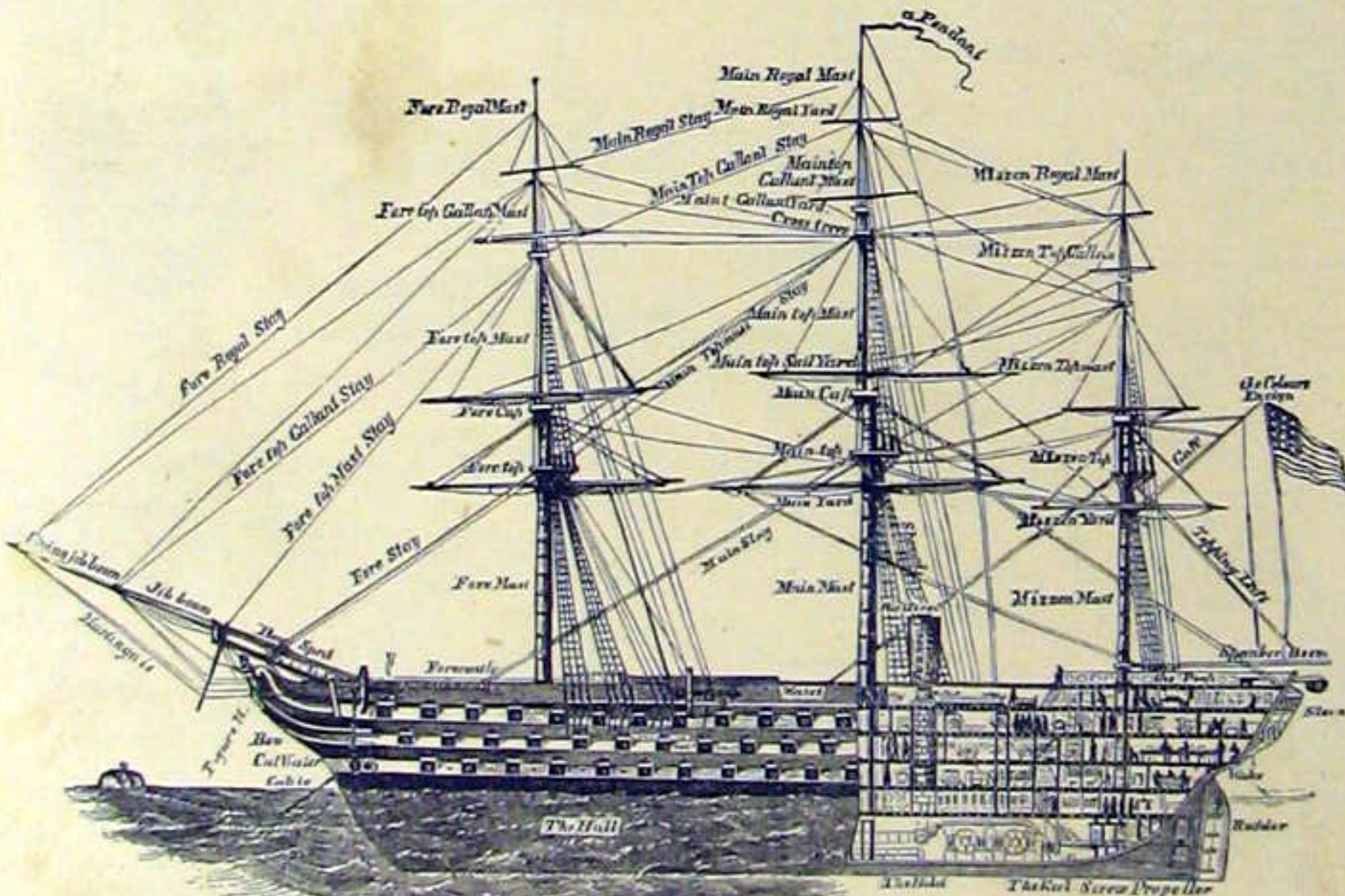
Ship, ground plan of, p. 1219.

p, prow; l, larboard or port; s, starboard; 1, round-house; 2, tiller; 3, grating; 4, wheel; 5, wheel-chains; 6, binnacle; 7, mizzen-mast; 8, skylight; 9, capstan; 10, main-mast; 11, pumps; 12, galley, caboose; 13, main hatchway; 14, windlass; 15, foremast; 16, fore-hatchway; 17, bits; 18, bowsprit; 19, headrail; 20, boomkins; 21, bows; 22, fore-chains; 23, main-chains; 24, mizzen-chains.



a a, Samson's Post, p. 1168.

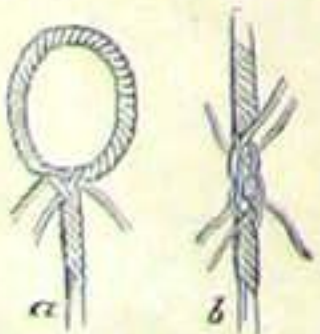
1, flying jib; 2, jib; 3, foretop-mast-stay sail; 4, fore-course; 5, foretop sail; 6, foretop-gallant sail; 7, fore-royal; 8, fore sky-sail; 9, fore-royal studding sail; 10, foretop-gallant studding-sail; 11, foretop-mast studding-sail; 12, main-course; 13, main-top-sail; 14, maintop-gallant sail; 15, main-royal; 16, main sky-sail; 17, main-royal studding-sail; 18, maintop-gallant studding-sail; 19, maintop-mast studding-sail; 20, mizzen-course; 21, mizzen-top sail; 22, mizzen-top-gallant sail; 23, mizzen-royal; 24, mizzen sky sail; 25, mizzen-sparker.



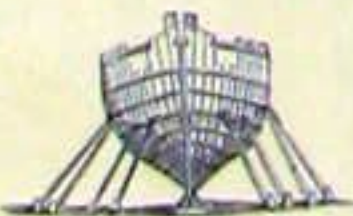
Full-rigged Ship, p. 1219.



Skiff, p. 1238.



Splice, p. 1274.
a, eye-splice; b, short splice.



Shores, p. 1222.



Sloop, p. 1244.



Stays and Stay Sails, p. 1291.

a, foretop-mast-stay sail; b, maintop-mast-stay sail; c, maintop-gallant-stay sail; d, main-royal-stay sail; e, mizzen-stay sail; f, mizzen-top-mast-stay sail; g, h, fore, main, and mizzen-top-mast and top-gallant-mast back-stays; i, fore-stay; j, main-stay; k, mizzen-stay.



Steam-ship, p. 1292.



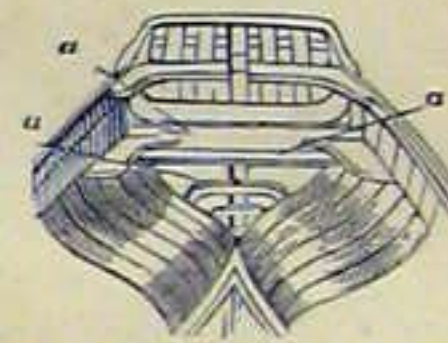
Tiller, p. 1385.



Tartan, p. 1355.



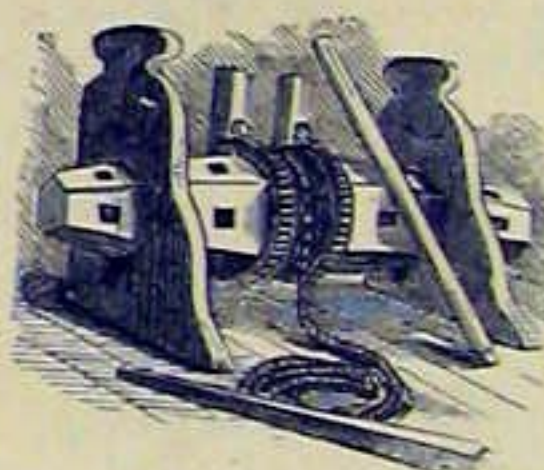
Wheel, p. 1506.



a, a, a, Transoms, p. 1405.



Yawl, p. 1532.



Ship's Windlass, p. 1517.



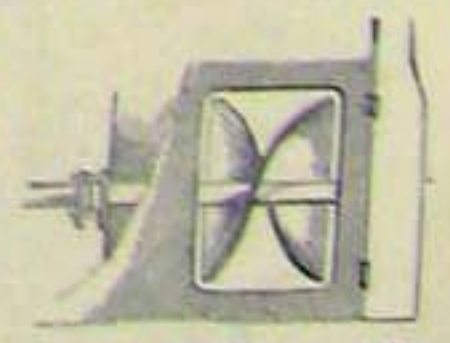
Xebec, p. 1531.



Yacht, p. 1532.



Schooner, p. 1180.



Screw-propeller, p. 1183.

SIGNS USED FOR LETTERS BY THE DEAF AND DUMB.

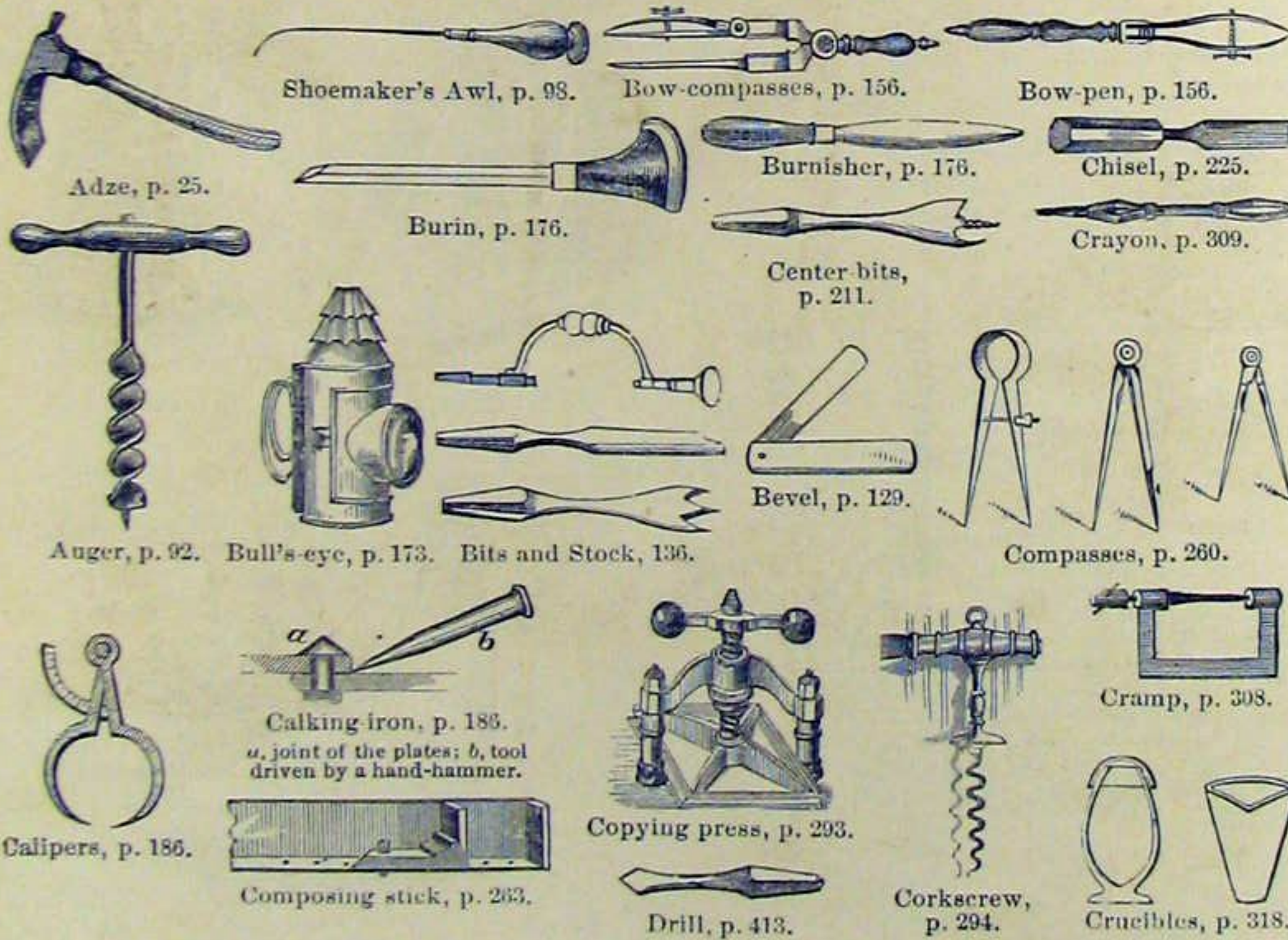


One-hand Alphabet, p. 330.



Two-hand Alphabet, p. 330.

TOOLS AND IMPLEMENTS, VESSELS, INSTRUMENTS, &c.



Calipers, p. 186.

Composing stick, p. 263.

Copying press, p. 293.

Drill, p. 413.

Corkscrew, p. 294.

Crucibles, p. 318.

Cramp, p. 308.

Bevel, p. 129.

Compasses, p. 260.

Auger, p. 92. Bull's-eye, p. 173. Bits and Stock, 136.

Burin, p. 176.

Shoemaker's Awl, p. 98.

Bow-compasses, p. 156.

Bow-pen, p. 156.

Burnisher, p. 176.

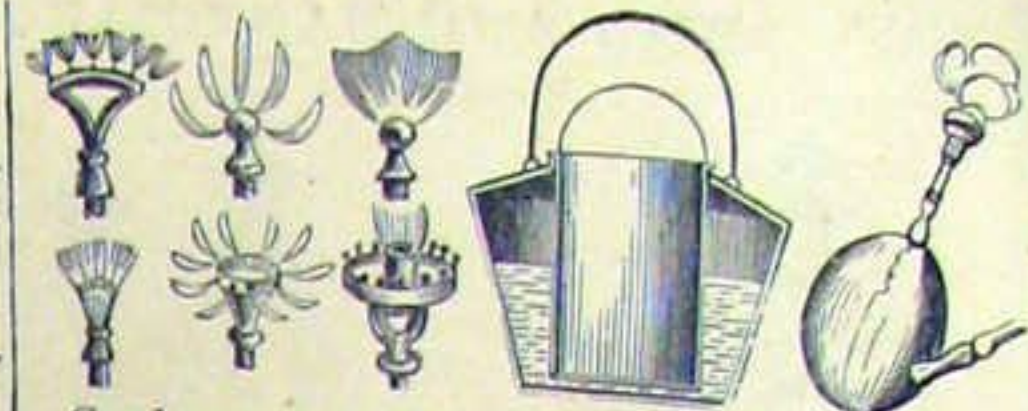
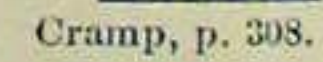
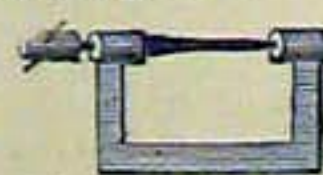
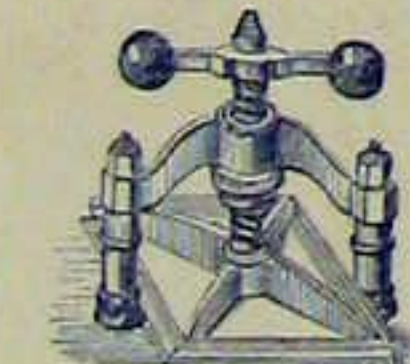
Chisel, p. 225.

Crayon, p. 309.

Center-bits, p. 211.

Calking-iron, p. 183.

a, joint of the plates; b, tool driven by a hand-hammer.



Gas-burners, p. 560.

Glue-pot, p. 575.

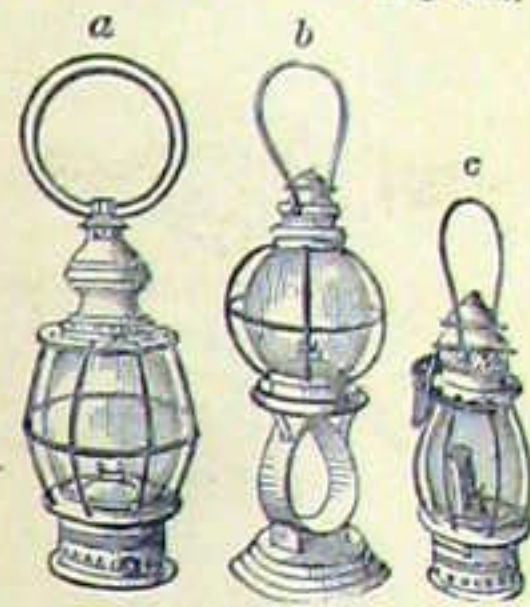
Hubbly-bubble, p. 642.



Joiner's Gauge, p. 561.



Knocker, p. 742.

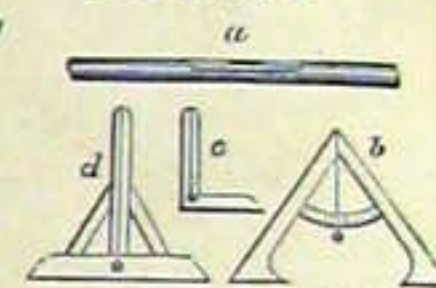


Lanterns, p. 751.

a, hand-lantern; b, arm-lantern; c, breast-lantern.

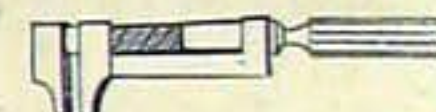


Link-boy, p. 777.

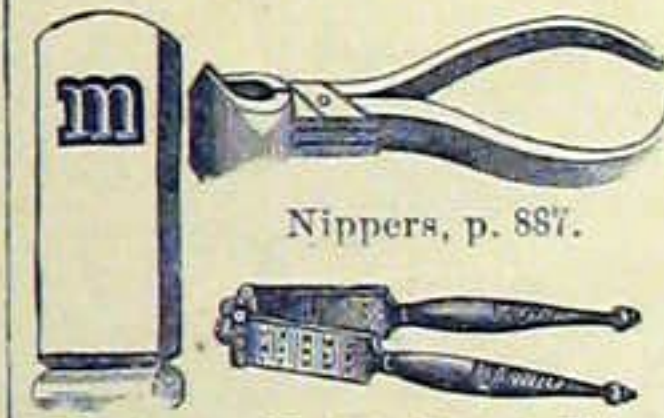


Levels, p. 767.

a, spirit, or air level; b, artillery foot level; c, carpenter's level; d, mason's level.

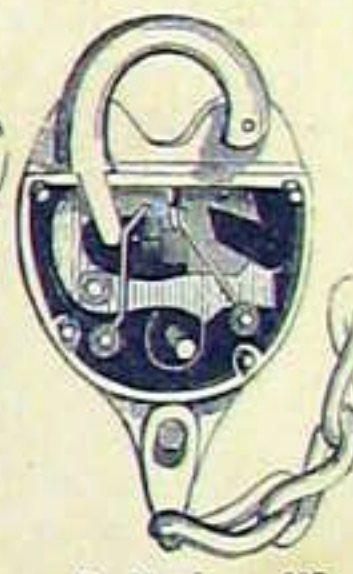


Monkey-wrench, p. 654.

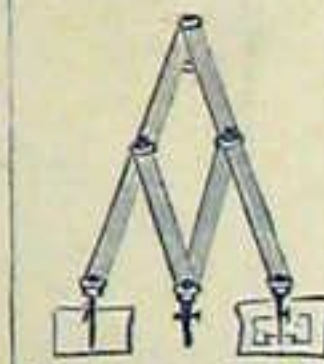


Matrix, p. 819.

Nut cracker, p. 898.



Padlock, p. 937.



Pantograph, 944.

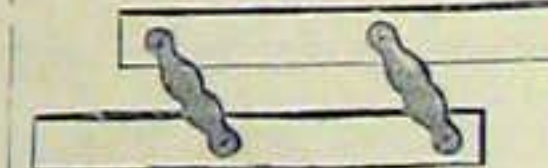


Perambulator, 968.



Pinchers, p. 988.

1, carpenter's pinchers; 2, shoemaker's pinchers.



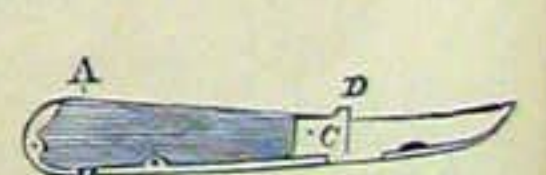
Parallel Ruler, p. 947.



Jack plane, p. 994.



Pliers, p. 1000.



Pocket-knife, p. 1003.



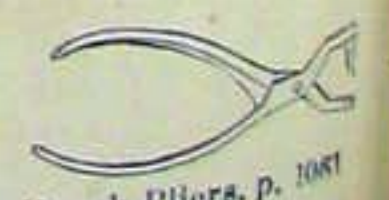
Port-crayon, p. 1014.



Protractor, p. 1033.



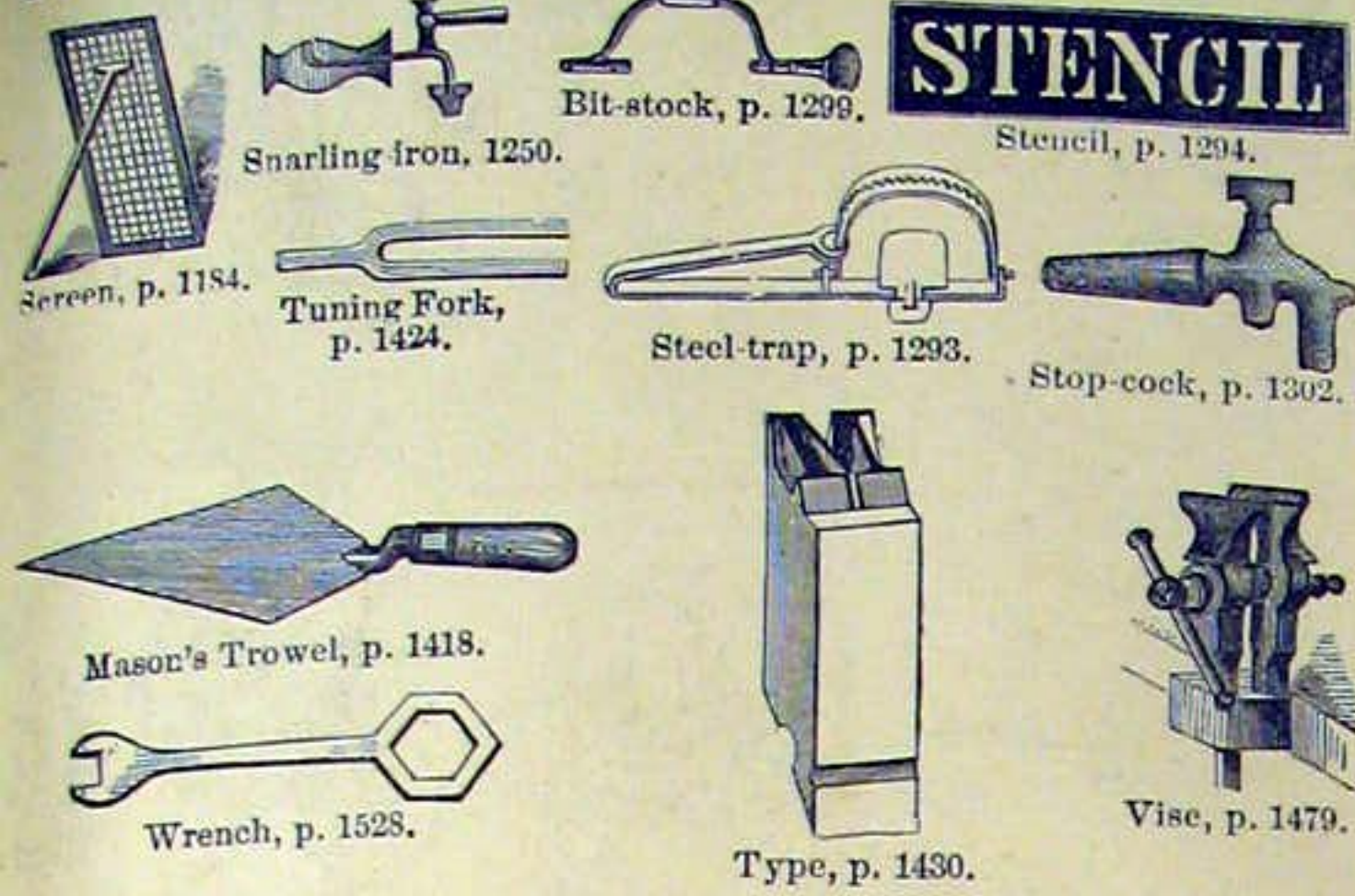
Punches, p. 1061.



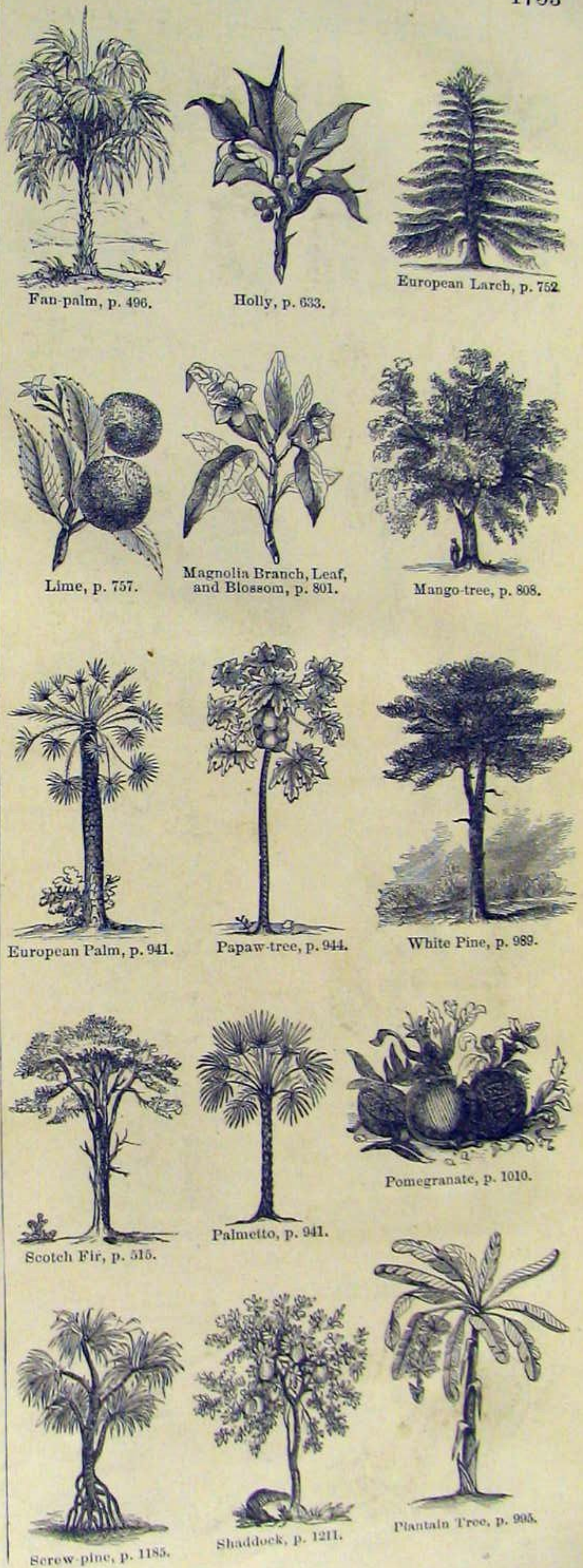
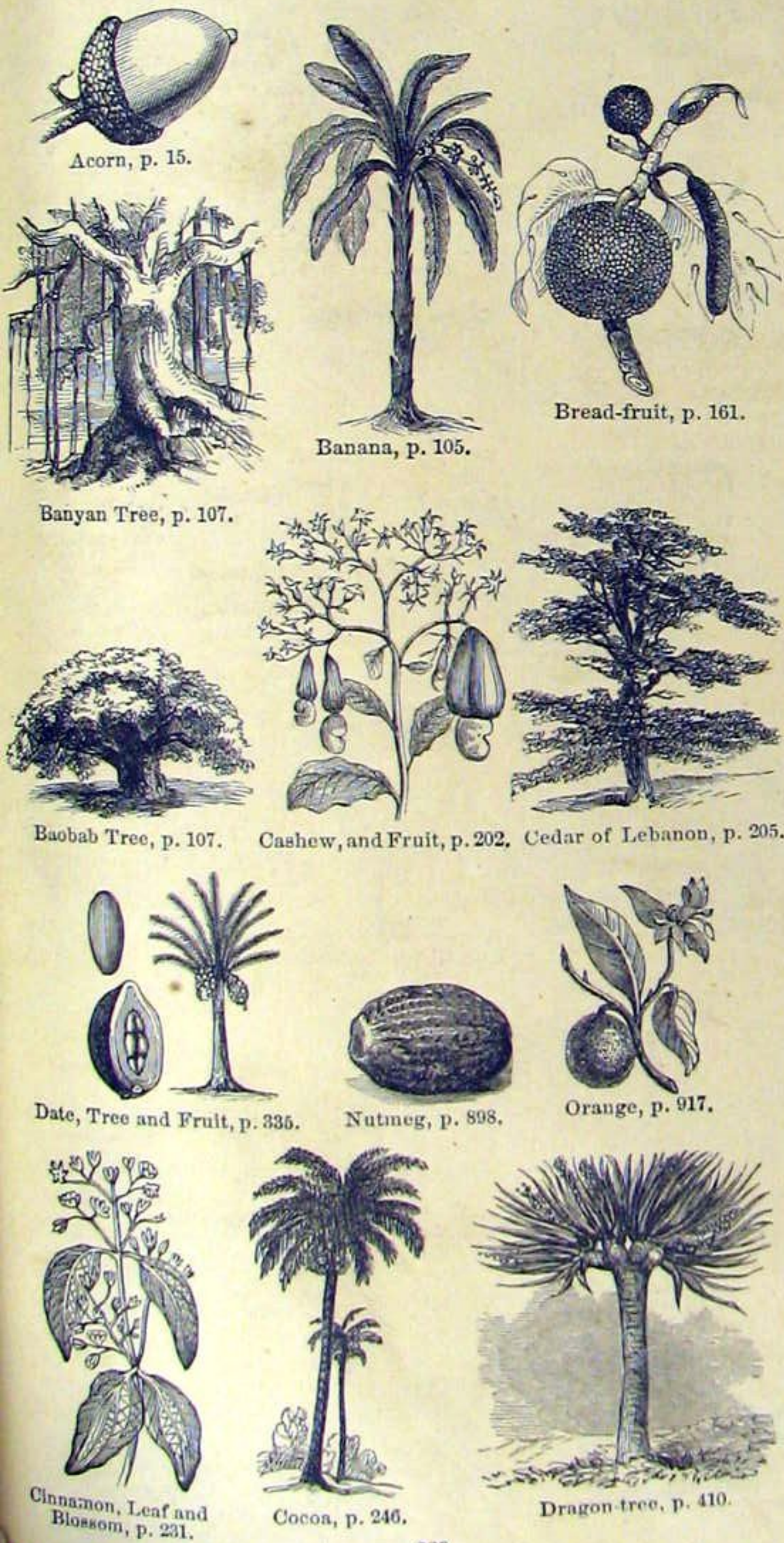
Punch Pliers, p. 1081.



TOOLS, VESSELS, INSTRUMENTS, &c. — Continued.



TREES AND THEIR FRUITS.



TREES AND THEIR FRUITS—Continued.



Shittim-wood, p. 1220.



Vegetable Ivory Nut, p. 1465.



Poplars, p. 1012.



Fruit of Soursop, p. 1263.



Norway Spruce, p. 1279.



Wax-palm, p. 1498.



Sycamore, p. 1341.



Tamarind Tree, p. 1352.



Branch of Teak, p. 1357.



Willow, p. 1515.



Yew, p. 1534.

VEHICLES FOR LAND AND AËRIAL LOCOMOTION.



Balloon, p. 104.



English Barouche, p. 110.



Berlin, p. 126.



Brett, p. 163.



Break, p. 161.



Britzka, p. 166.



Buggy, p. 172.



Top Buggy, p. 172.



Cabriolet, p. 182.



Calash, p. 184.



Railway Car, p. 196.



Chaise, p. 215.



Charlottee, p. 218.



Coach, p. 243.



Clarence, p. 236.



Coupé, p. 303.



Dog-cart, p. 401.



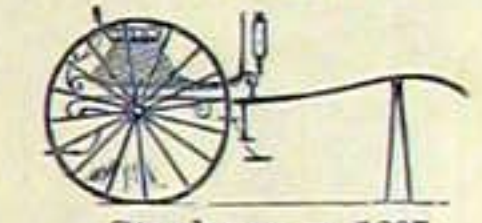
Gig, p. 569.



Gladstone, p. 571.

Jump-seat, p. 731.
One-seat form.Jump-seat, p. 731.
Two-seat form.

Landau, p. 750.



Stanhope, p. 1287.



Kibitka, p. 737.



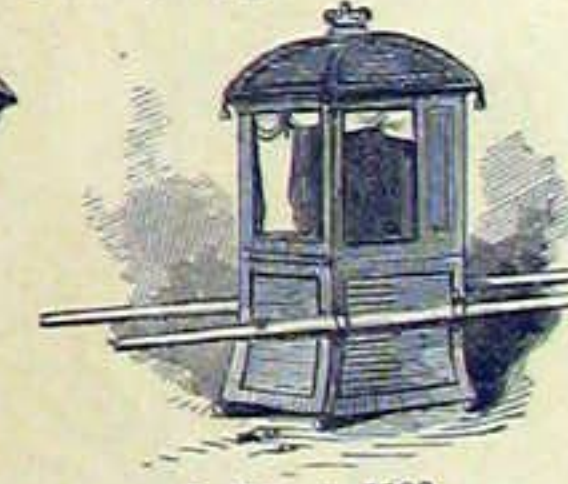
Palanquin, p. 939.



Pack-saddle, p. 937.



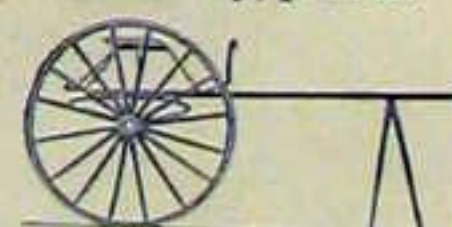
Parachute, p. 946.



Sedan, p. 1193.



Rockaway, p. 1145.



Skeleton Sulky, p. 1324.



Laplander's Sledge, p. 1241.



Velocipede, p. 1466.



Victoria, p. 1474.



Wagonette, p. 1487.

ARMS OF THE STATES OF THE AMERICAN UNION.



MAINE



NEW HAMPSHIRE



VERMONT



MASSACHUSETTS



RHODE ISLAND



CONNECTICUT



NEW YORK



NEW JERSEY



PENNSYLVANIA



DELAWARE



MARYLAND



VIRGINIA



WEST VIRGINIA



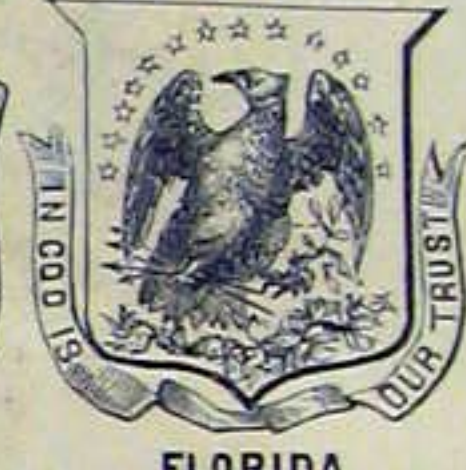
NORTH CAROLINA



SOUTH CAROLINA



GEORGIA



FLORIDA



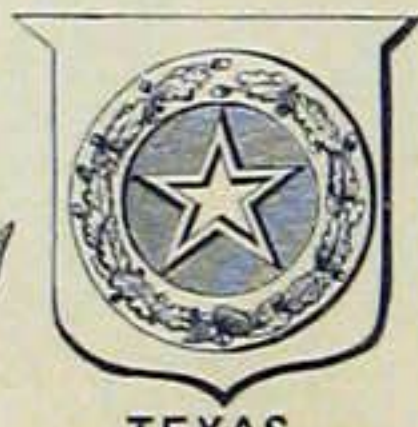
ALABAMA



MISSISSIPPI



LOUISIANA



TEXAS



ARKANSAS



TENNESSEE



KENTUCKY



OHIO



MICHIGAN



INDIANA



ILLINOIS



MISSOURI



IOWA



WISCONSIN



MINNESOTA



KANSAS



CALIFORNIA



OREGON



NEBRASKA



WASHINGTON

Al-ki, [Ind.] By and by.



NEVADA



UTAH



COLORADO

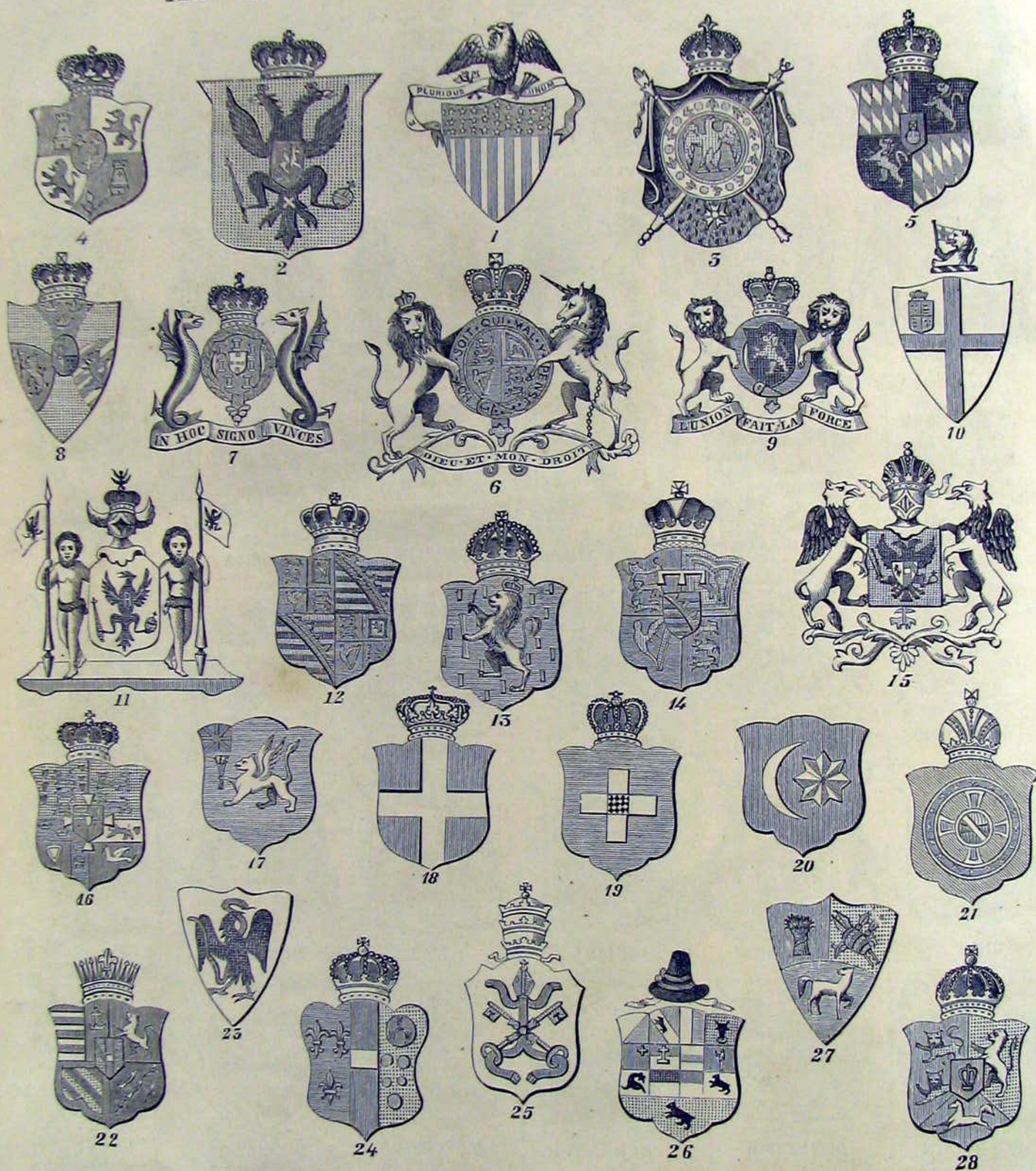


DACOTA



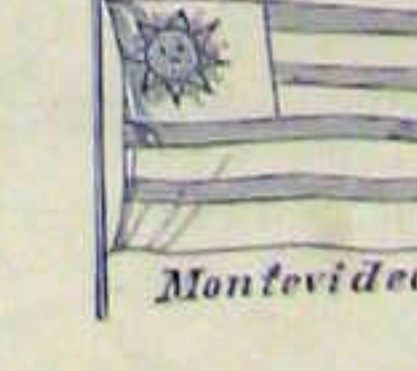
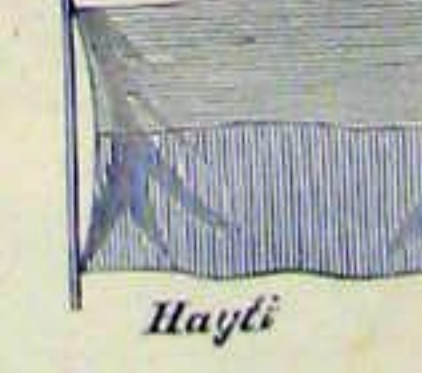
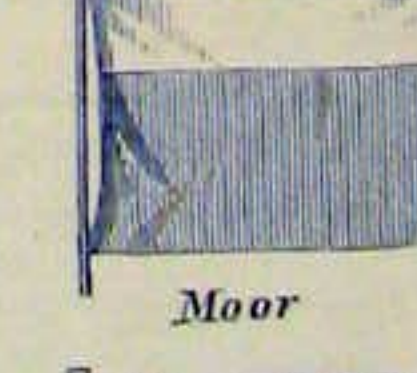
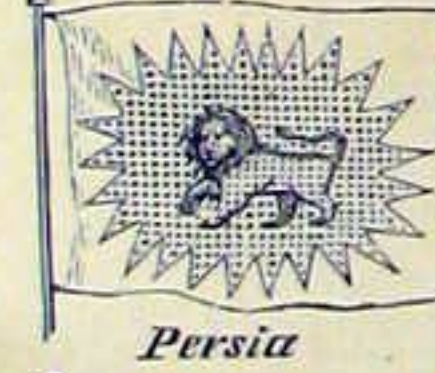
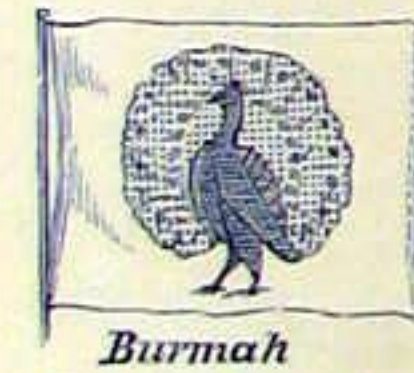
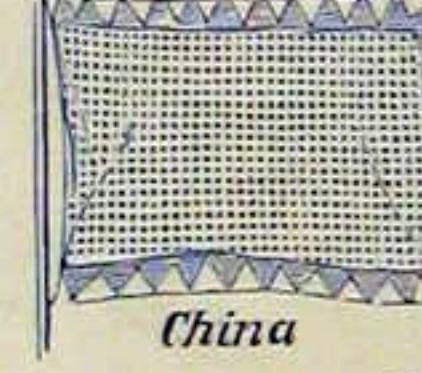
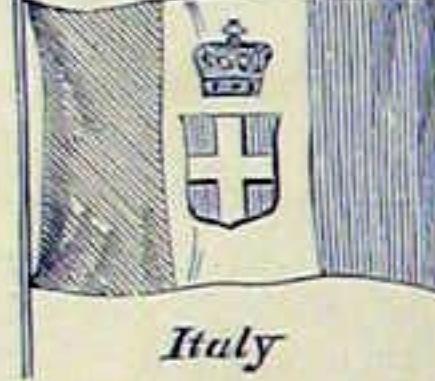
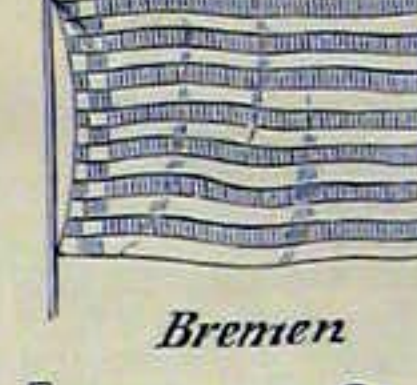
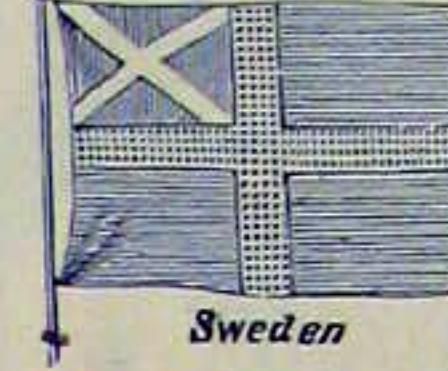
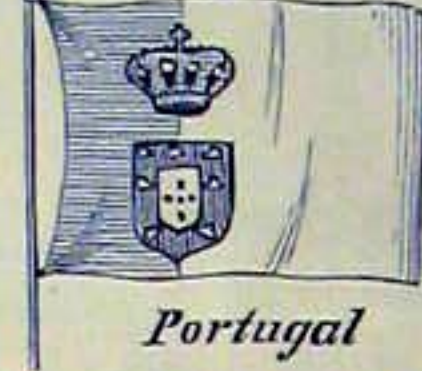
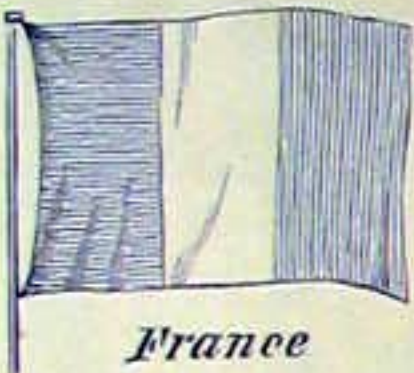
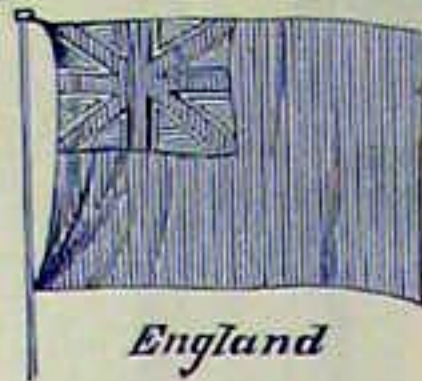
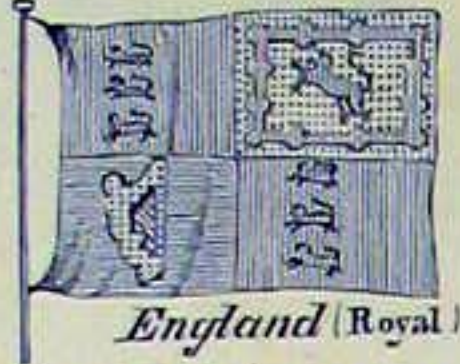
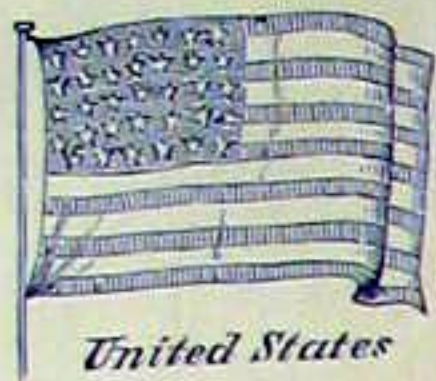
NEW MEXICO

THE ARMS OF VARIOUS NATIONS, ROYAL PERSONAGES, ETC.

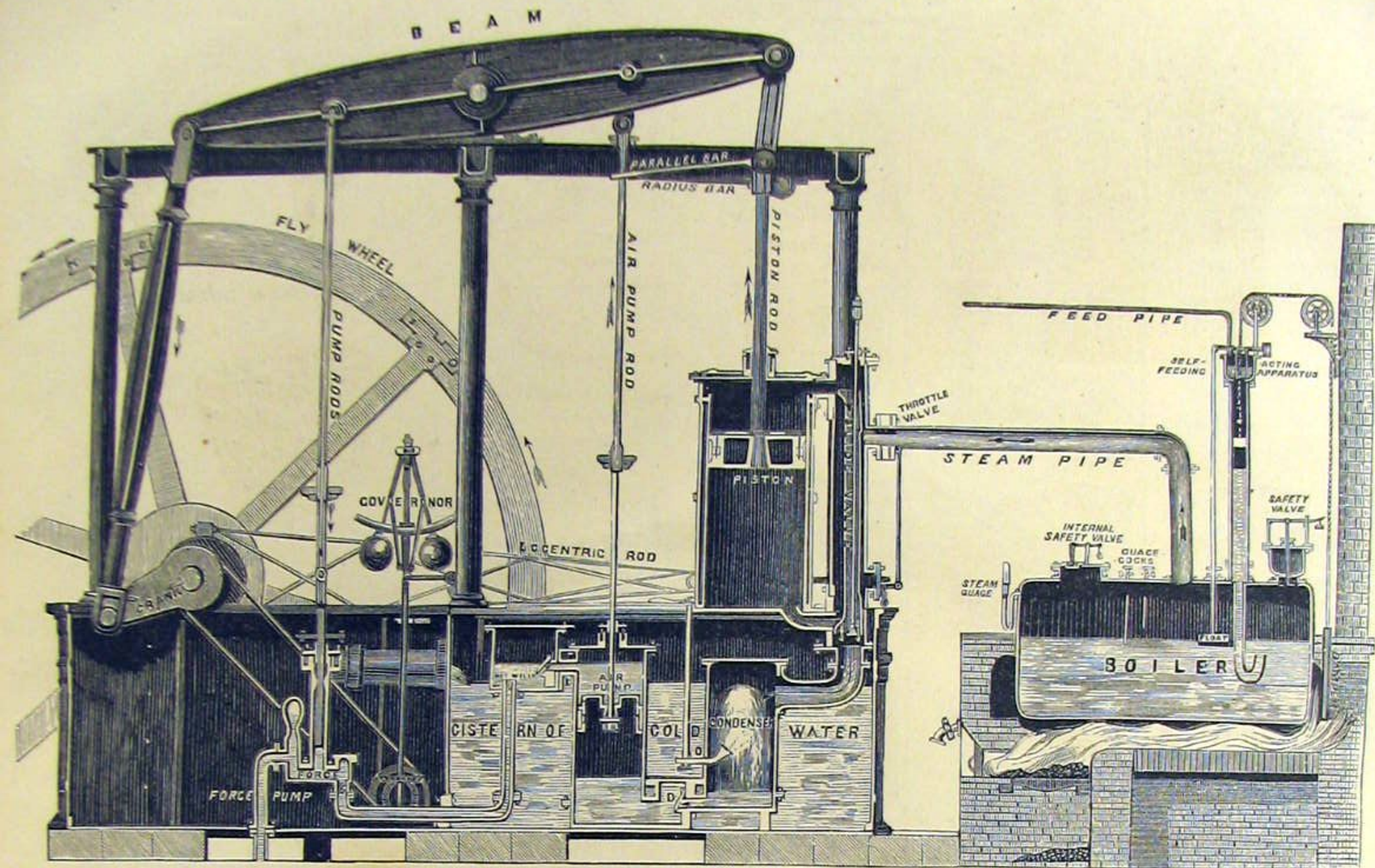


1. United States; 2. Russia; 3. France; 4. Spain; 5. Bavaria; 6. Great Britain; 7. Portugal; 8. Sweden; 9. Belgium; 10. East India Company; 11. Prussia;
 12. Prince Albert; 13. Holland; 14. Prince of Wales; 15. Austria; 16. Denmark; 17. Ionian Isles; 18. Sardinia; 19. Greece; 20. Turkey; 21. Brazil; 22. Tus-
 cany; 23. Mexico; 24. Naples; 25. Papal States; 26. Switzerland; 27. Venezuela; 28. Hanover.

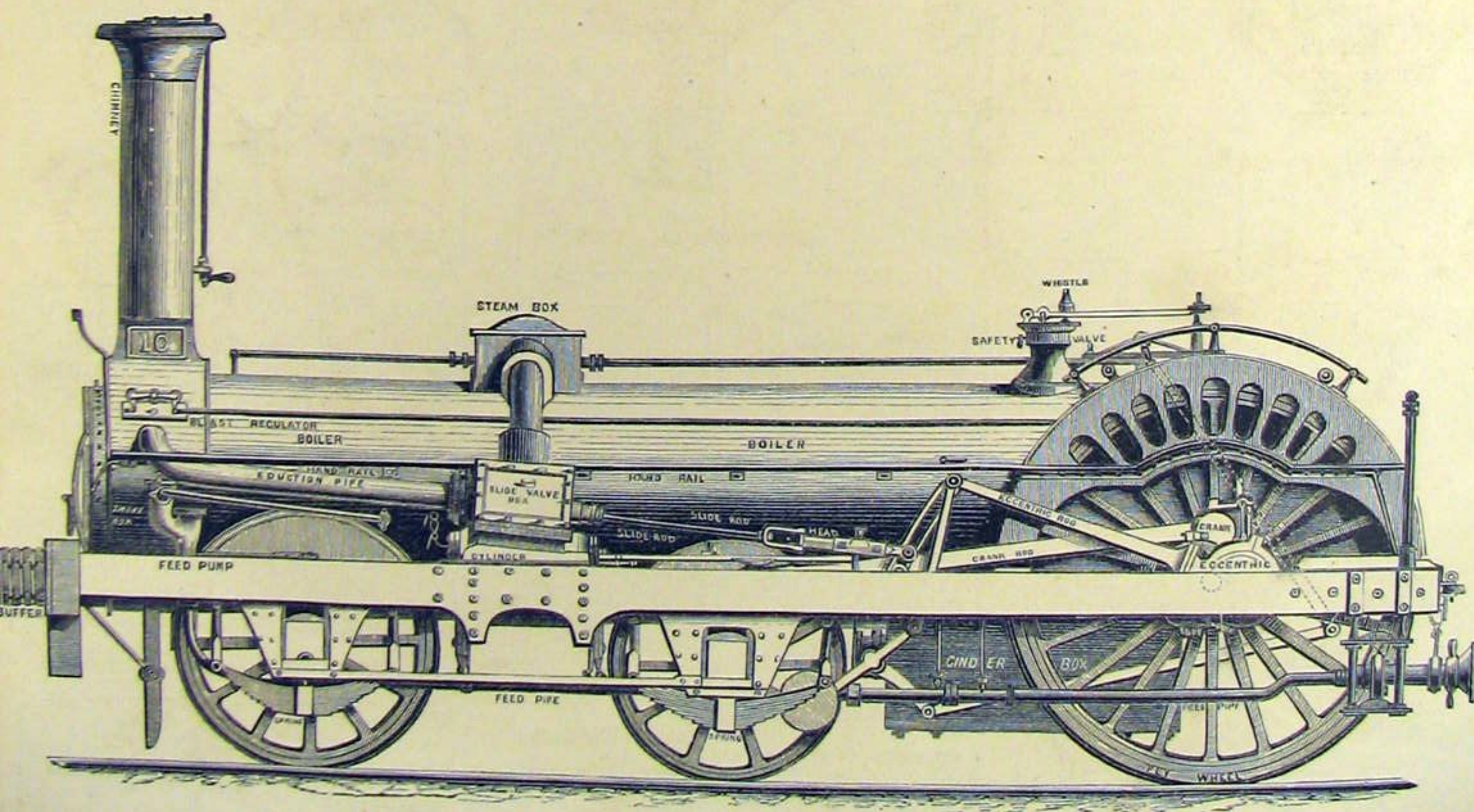
FLAGS OF VARIOUS NATIONS.



STATIONARY AND LOCOMOTIVE STEAM-ENGINES.

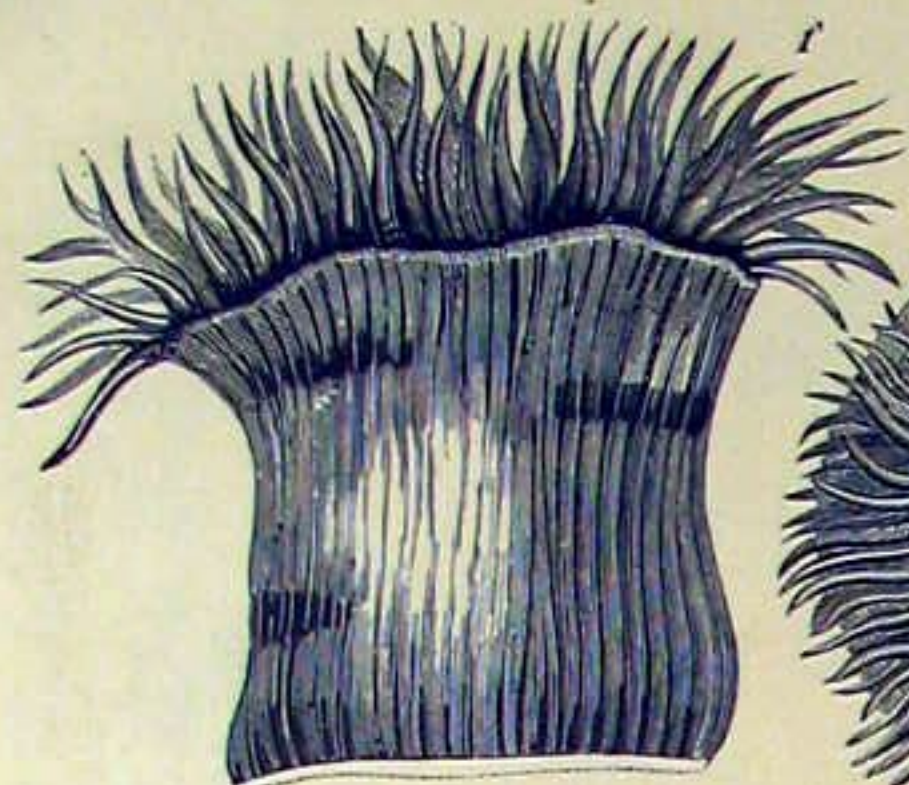


STATIONARY STEAM-ENGINE, WITH PARTS NAMED.

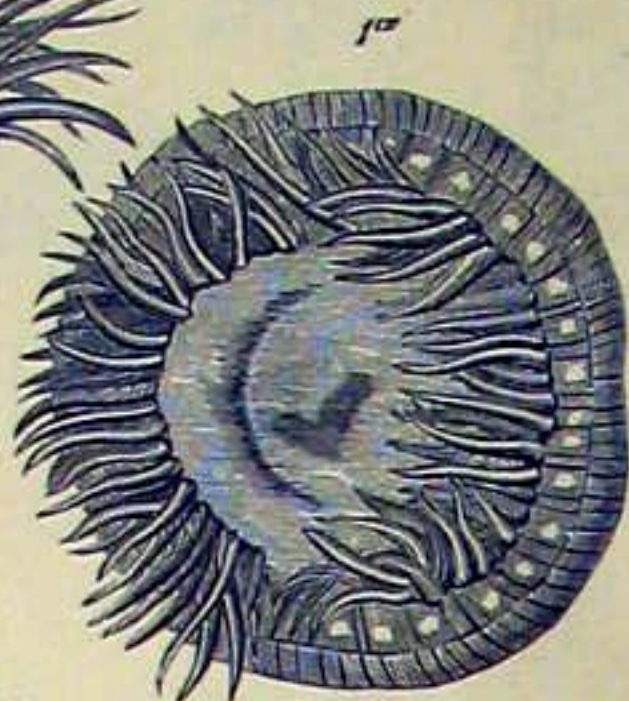


LOCOMOTIVE STEAM-ENGINE, WITH PARTS NAMED.

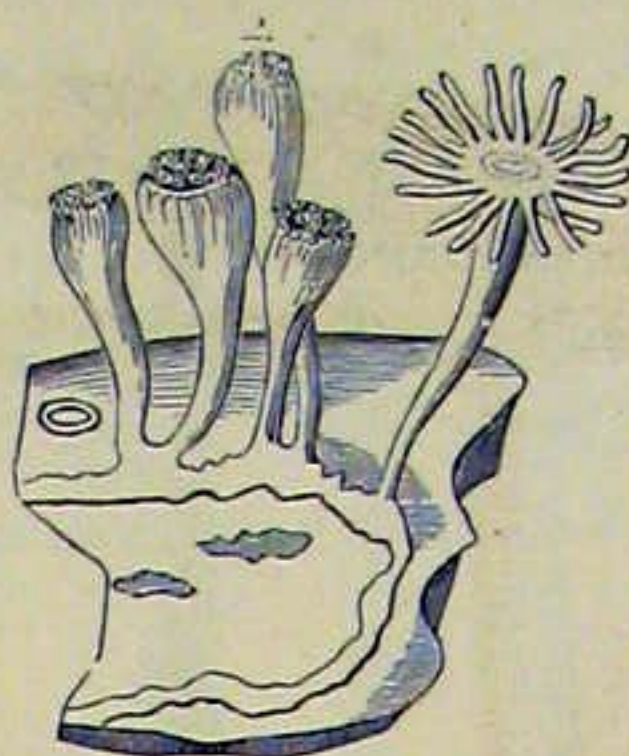
ZOÖPHYTES.



Actinia corallina



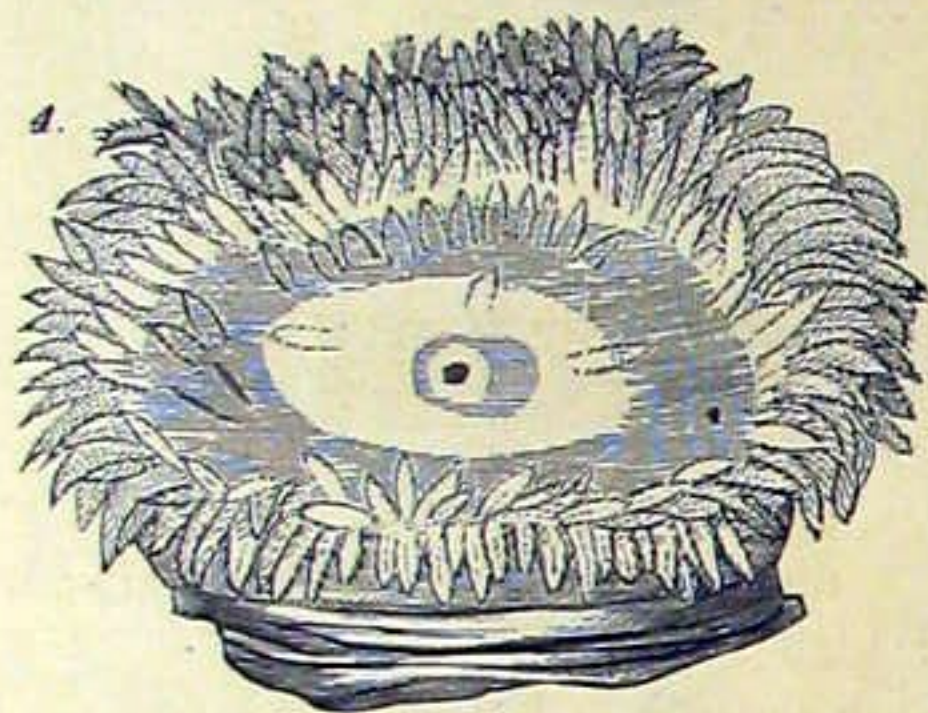
Zoonthus sociatus



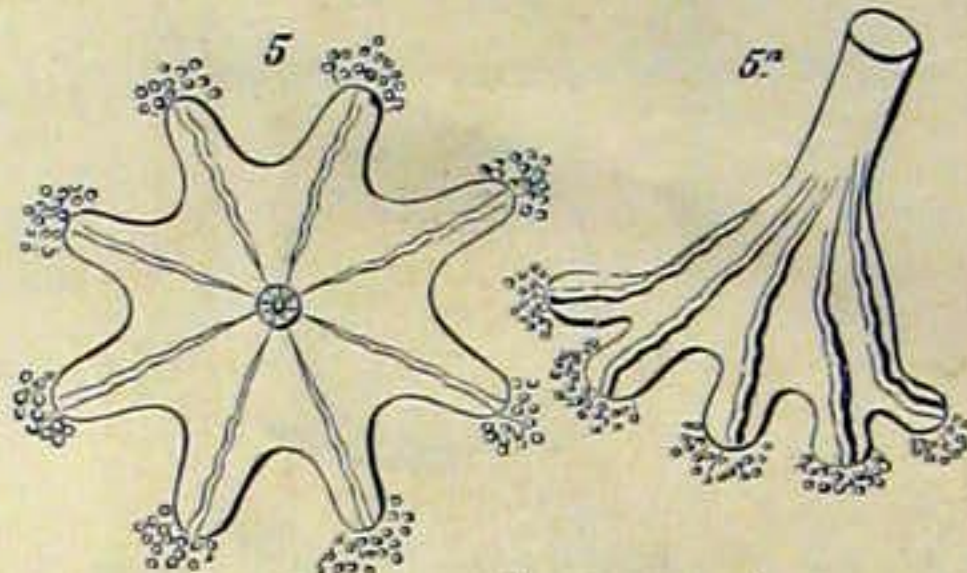
Corallium rubrum



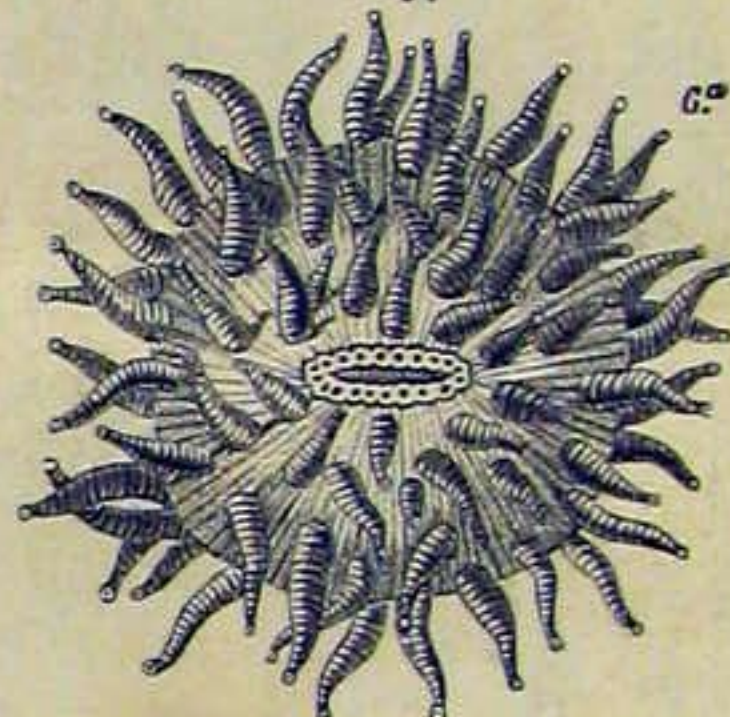
6.



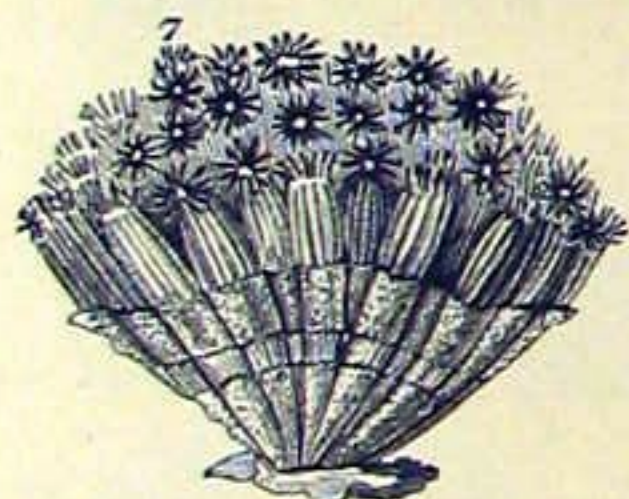
Thalassiananthos aster



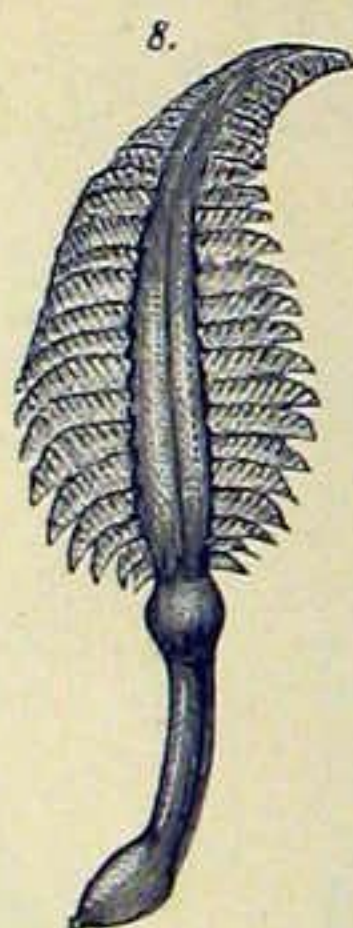
Lucernaria campanula



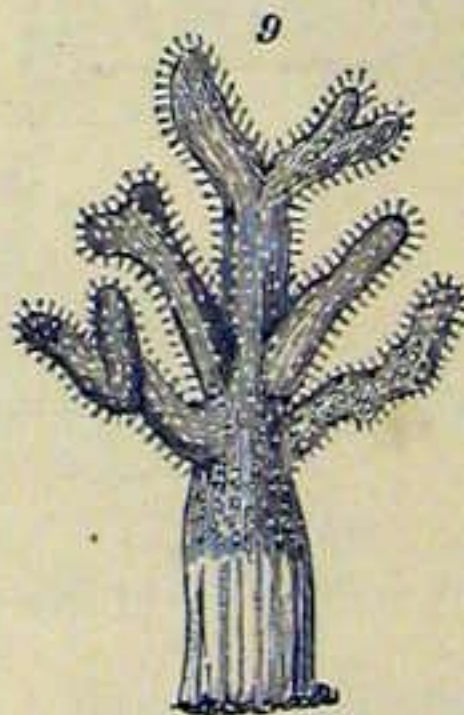
Fungia crassitentaculata



Caryophyllia fasciculata.



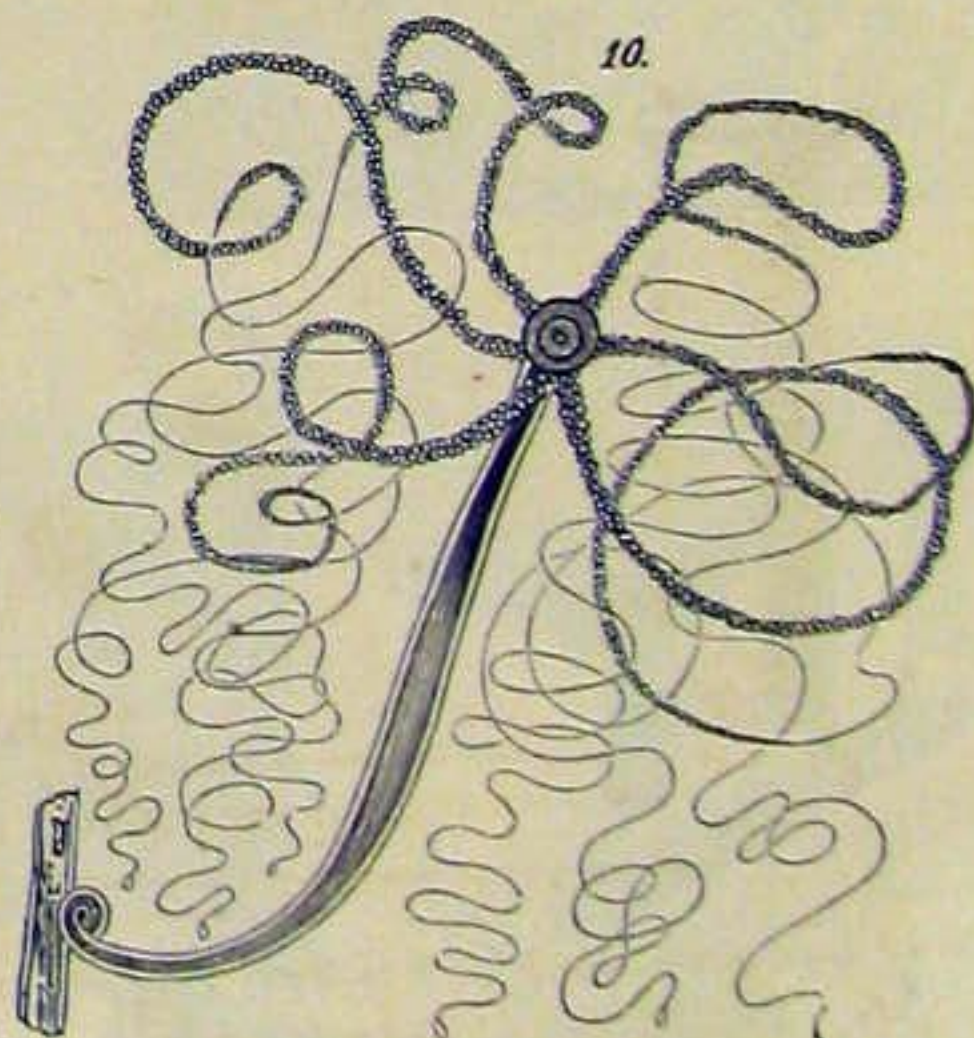
Pennatula grisea.



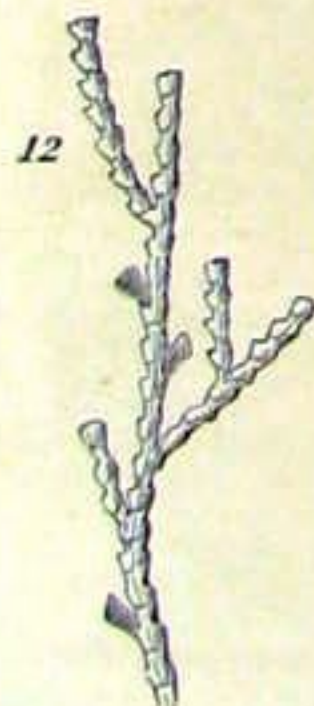
Alcyonium aurantiacum.



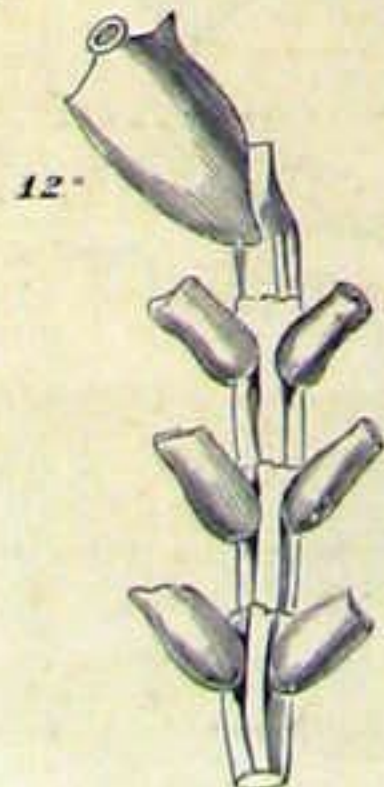
Renilla violacea



Hydra fusca



Sertularia Tamarisci



Acetabulum mediterraneum.



Hydra fusca

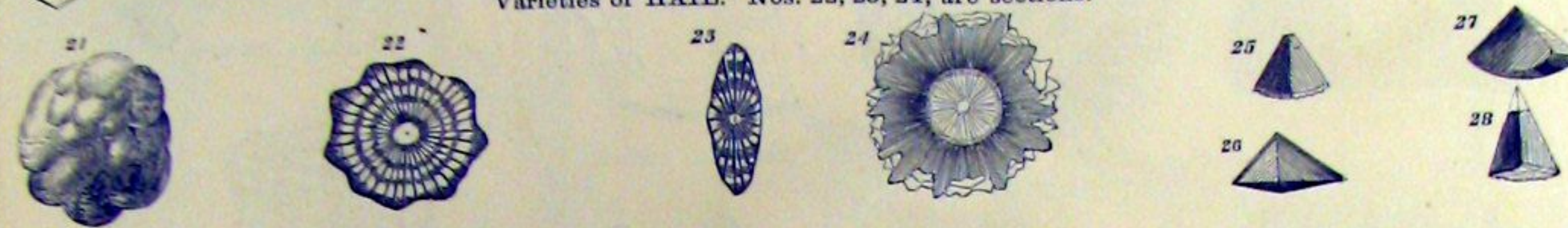
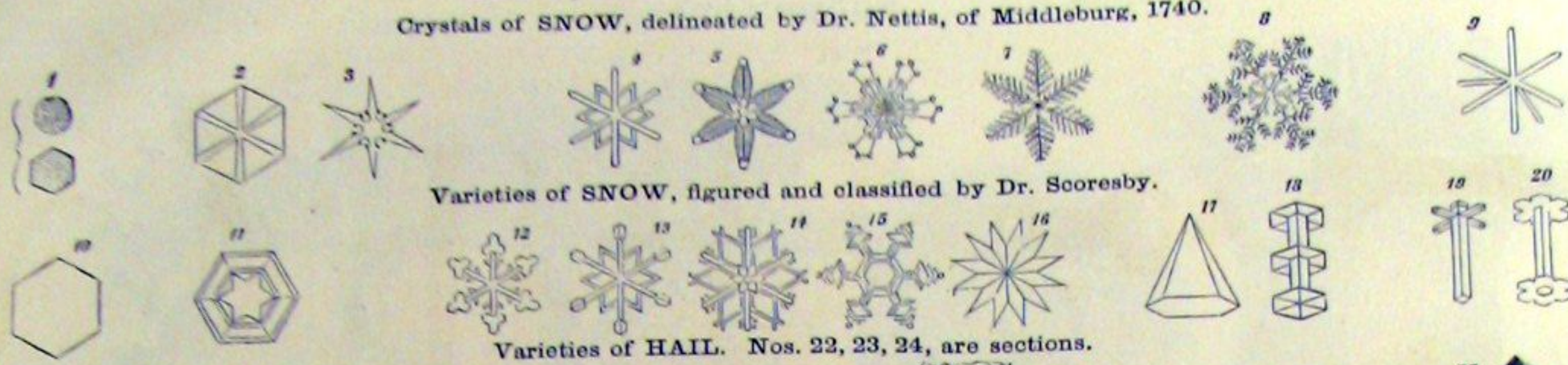


Crystallina mucedo

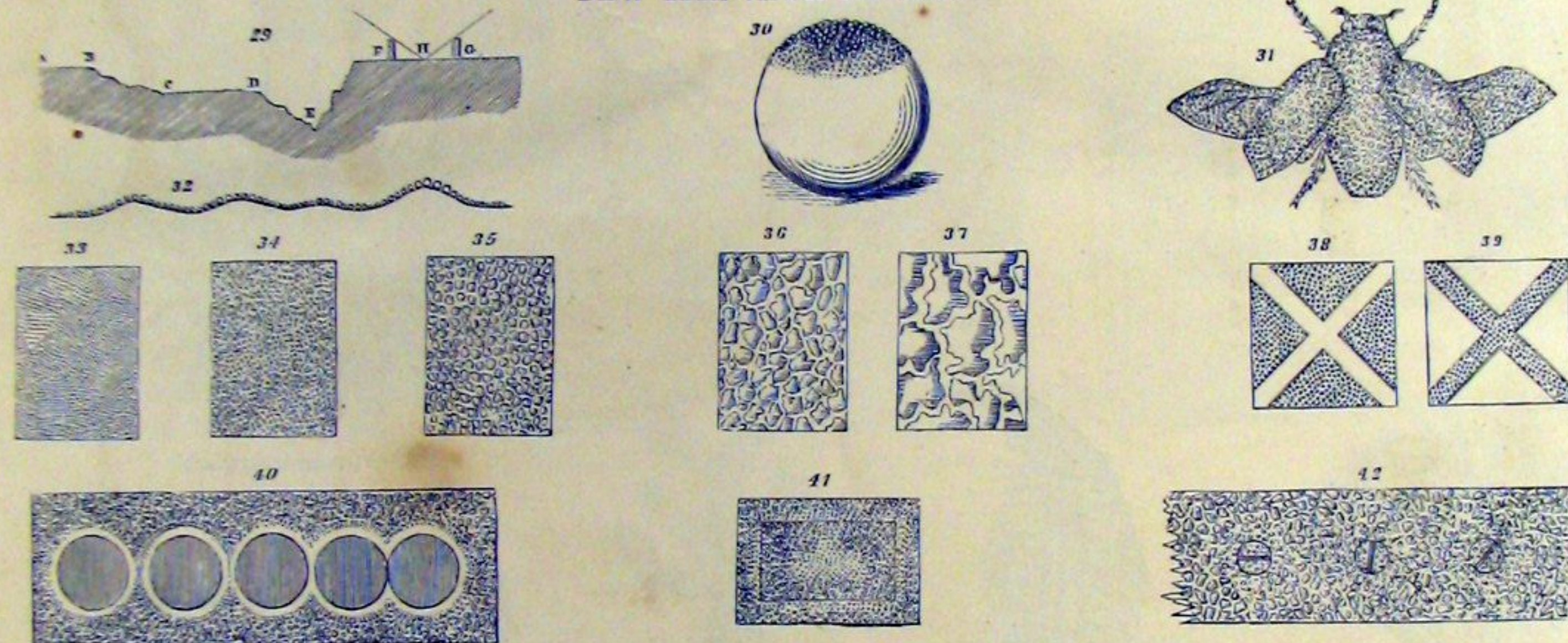
15.

SNOW, HAIL, DEW, HOAR FROST, ICE.

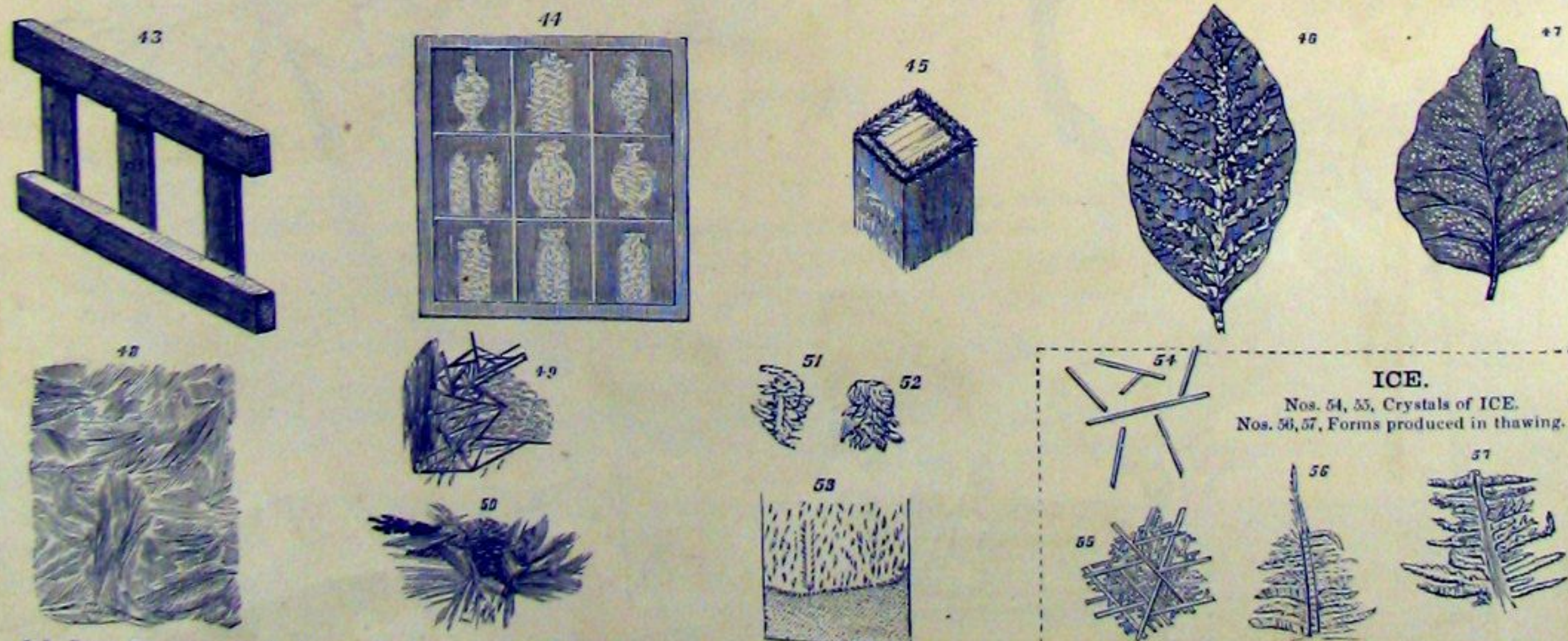
Crystals of SNOW, delineated by Dr. Nettis, of Middleburg, 1740.



DEW under various conditions.



Various formations of HOAR FROST.



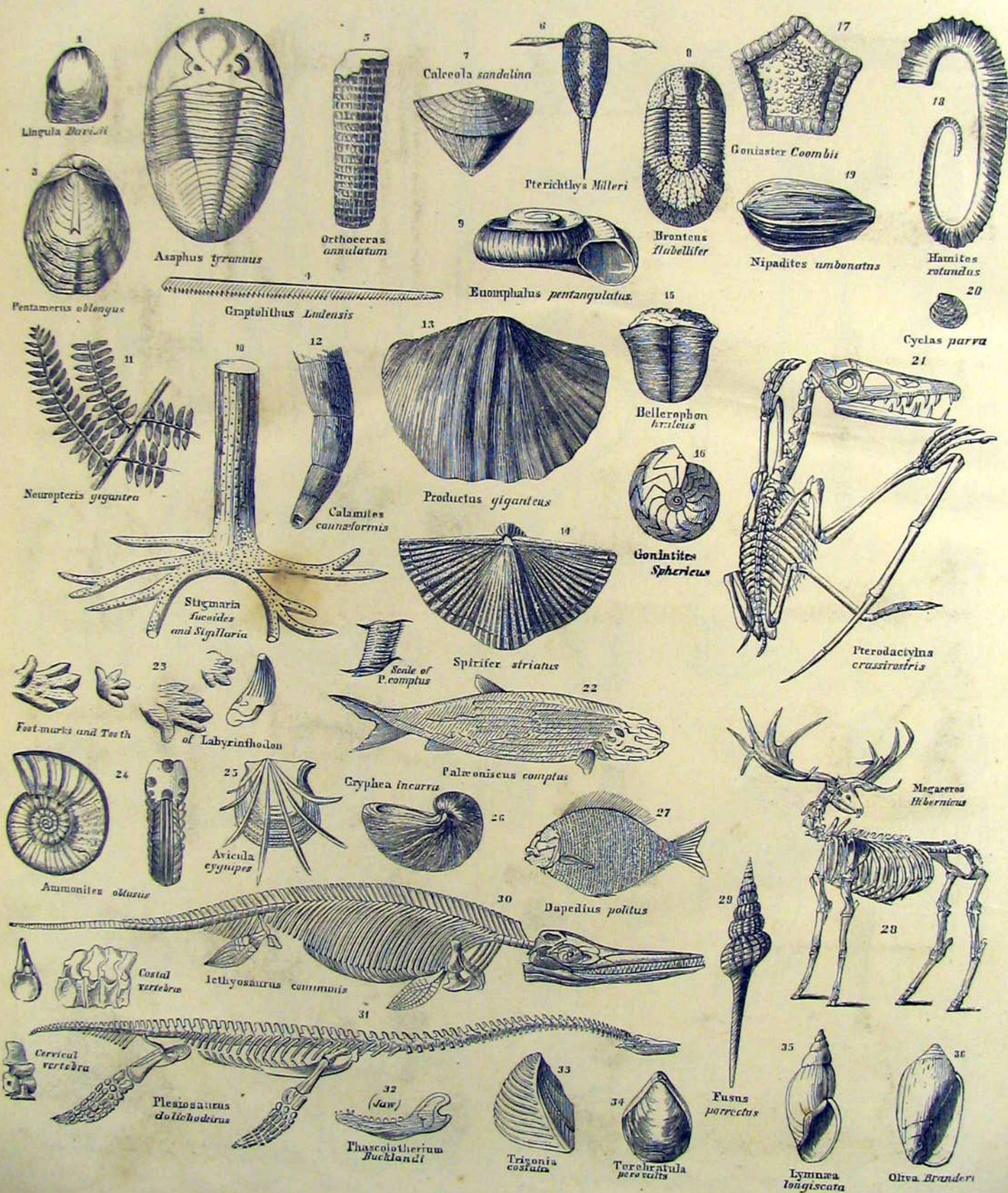
ICE.

Nos. 54, 55, Crystals of ICE.
Nos. 56, 57, Forms produced in thawing.

1-9. Snow Crystals. 10-20. Ditto. 21-28. Forms of Hailstones. 29. Deposition of Dew, as aided or retarded by greater or less elevation of ground, shelter, and other local circumstances; 30. As deposited in upper surface of glass globe; 31. On dead body of a beetle; 32. On bent sheet of paper. 33-37. Gradual deposition and increasing size of drops; 38-39. As deposited on the metallic side, or reverse, of a wooden cross attached to non-metallic side of gilt paper; 40. Around wafers placed on glass; 41. On plate of glass bearing smaller plate of metal; 42. On plate of metal screwed on wood; 43-53. Hoar Frost; 43. On a wooden railing; 44. On druggist's window; 45. On chamfered edge of wooden post; 46, 47. On autumnal leaves; 48-53. On glass. 54-57. Ice Crystals.

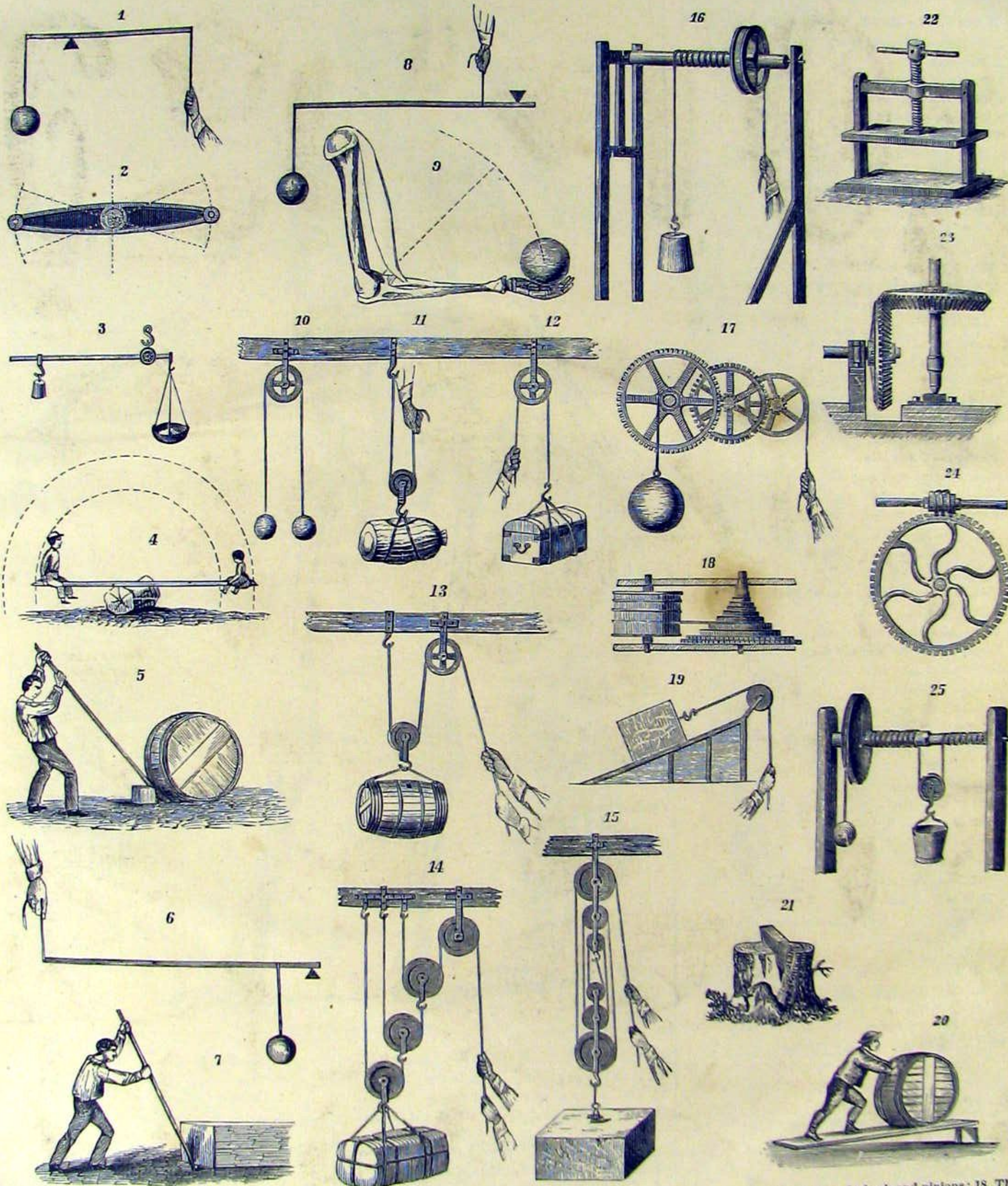
PALEONTOLOGY.

PETRIFIED OR FOSSIL REMAINS OF ANCIENT ORGANIC BEINGS.



THE MECHANICAL POWERS.

VARIOUS FORMS OF THE LEVER, PULLEY, WHEEL AND AXLE, INCLINED PLANE, WEDGE, AND SCREW.



1-9. Illustrations of lever power. 10-15. Illustrations of pulley power. 16. Wheel and axle. 17. Wheel and axle applied to a system of wheels and pinions; 18. The fusee of a watch. 19. Inclined plane; 20. The same practically applied. 21. Wedge. 22. Screw. 23. Bevel gearing. 24. Endless screw. 25. Compound Axle.

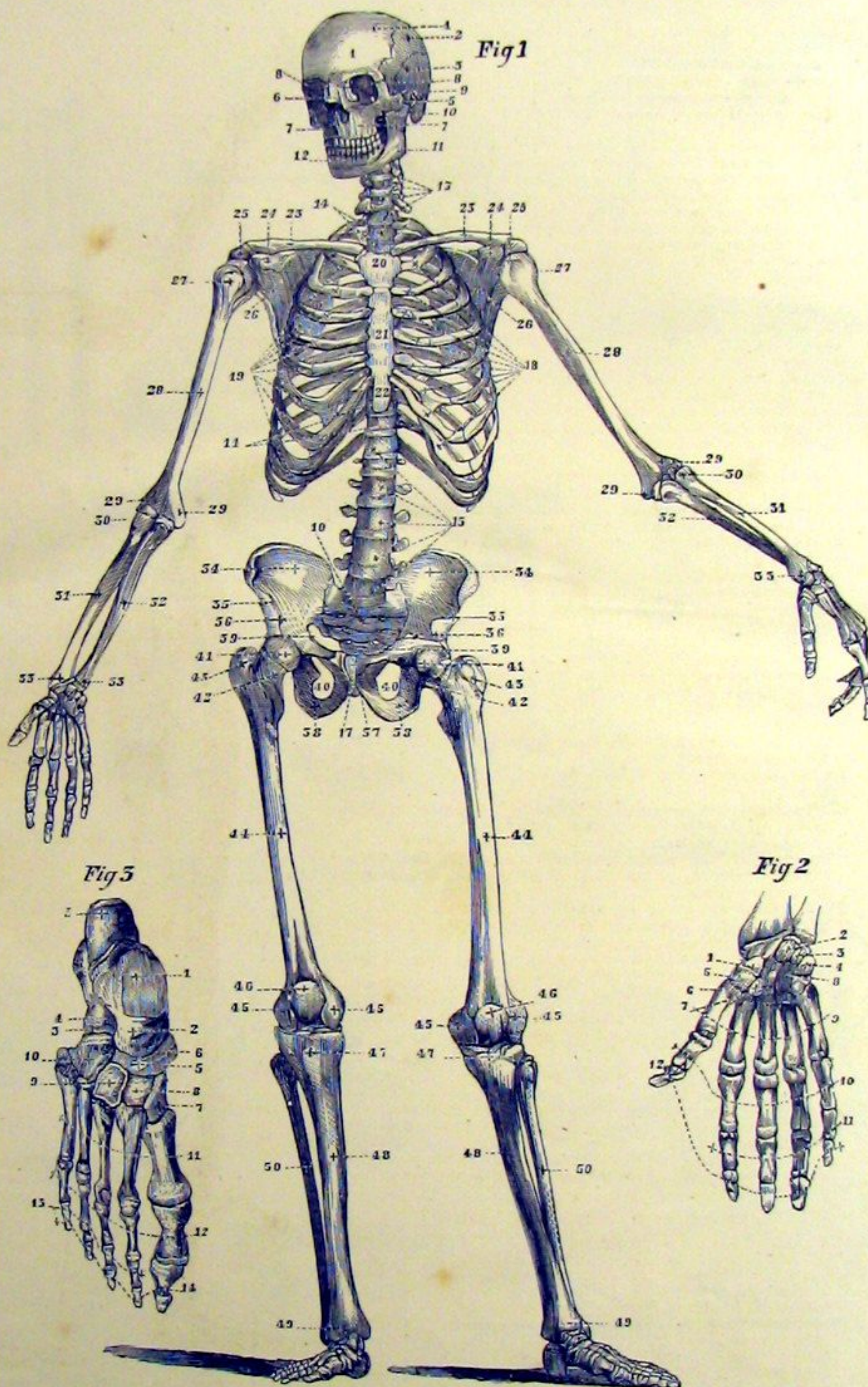
THE HUMAN SKELETON.

TO ILLUSTRATE TERMS APPLIED TO THE BONES.

EXPLANATION.

Bones of the Head, Trunk, Legs, and Arms.

1. Os frontis—Frontal bone.
2. Parietal bone.
3. Temporal bone.
4. Coronal suture.
5. Os malar—Cheek bone.
6. Ossa nasi—Nasal bones.
7. Superior maxillary—Upper jaw bone.
8. Orbits.
9. Side of os occipitis—Occipital bone.
10. Condylod process of lower jaw.
11. Angle of lower jaw.
12. Symphysis of lower jaw.
13. Four lower cervical vertebræ (7 in all).
14. Two upper and two lower dorsal vertebræ (12 in all).
15. Lumbar vertebræ (5 in number).
16. Os sacrum, } — False vertebræ.
17. Os coccygis, }
18. Cartilages of ribs.
19. Ribs.
20. First bone of sternum, }
21. Second bone of sternum, } — Breast bones.
22. Cartilago ensiformis.
23. Clavicles—Collar bones.
24. Coracoid process of scapula—Shoulder blade.
25. Acromion of scapula.
26. Venter of scapula, anterior surface.
27. Head of os humeri—Arm bone.
28. Body of os humeri.
29. Condyles of os humeri.
30. Head of radius—Outer bone of fore-arm.
31. Body of radius.
32. Ulna—Inner bone of fore-arm.
33. Carpal ends of radius and ulna.
34. Venter of ilium.
35. Anterior superior process of ilium.
36. Anterior inferior process of ilium.
37. Symphysis pubis.
38. Tuberosity of ischium.
39. Brim of pelvis.
40. Foramen ovale.
41. Head of os femoris—Femur or thigh bone.
42. Neck of os femoris.
43. Trochanter major of os femoris.
44. Body of os femoris.
45. Condyles of os femoris.
46. Patella—Knee pan.
47. Head of tibia—Thick bone on anterior and inner side of leg.
48. Body of tibia.
49. Base of tibia.
50. Fibula—Thin bone on external side of leg.



Front View of Right Hand and Wrist (Fig. 2).

1. Scaphoid bone.
2. Semilunar bone.
3. Cuneiform bone.
4. Pisiform bone.
5. Os trapezium.
6. Os trapezoides.
7. Os magnum.
8. Ulniform bone.

9. Metacarpal bones of thumb and fingers.
10. First row of phalanges of thumb and fingers.
11. Second row of phalanges of fingers.
12. Third row of phalanges of thumb and fingers.

Front View of Right Foot (Fig. 3).

1. Superior articulated surface of astragalus.
2. Anterior portion of astragalus.
3. Os calcis—Heel bone.
4. Commencement of groove of interosseous ligament.

5. Scaphoid bone.
6. Tuberosity of scaphoid bone.
7. Internal cuneiform bone.
8. Middle cuneiform bone.
9. External cuneiform bone.
10. Cuboid bone.
11. Metatarsal bones.
12. First row of phalanges of toes.
13. Second row of phalanges.
14. Third row of phalanges.

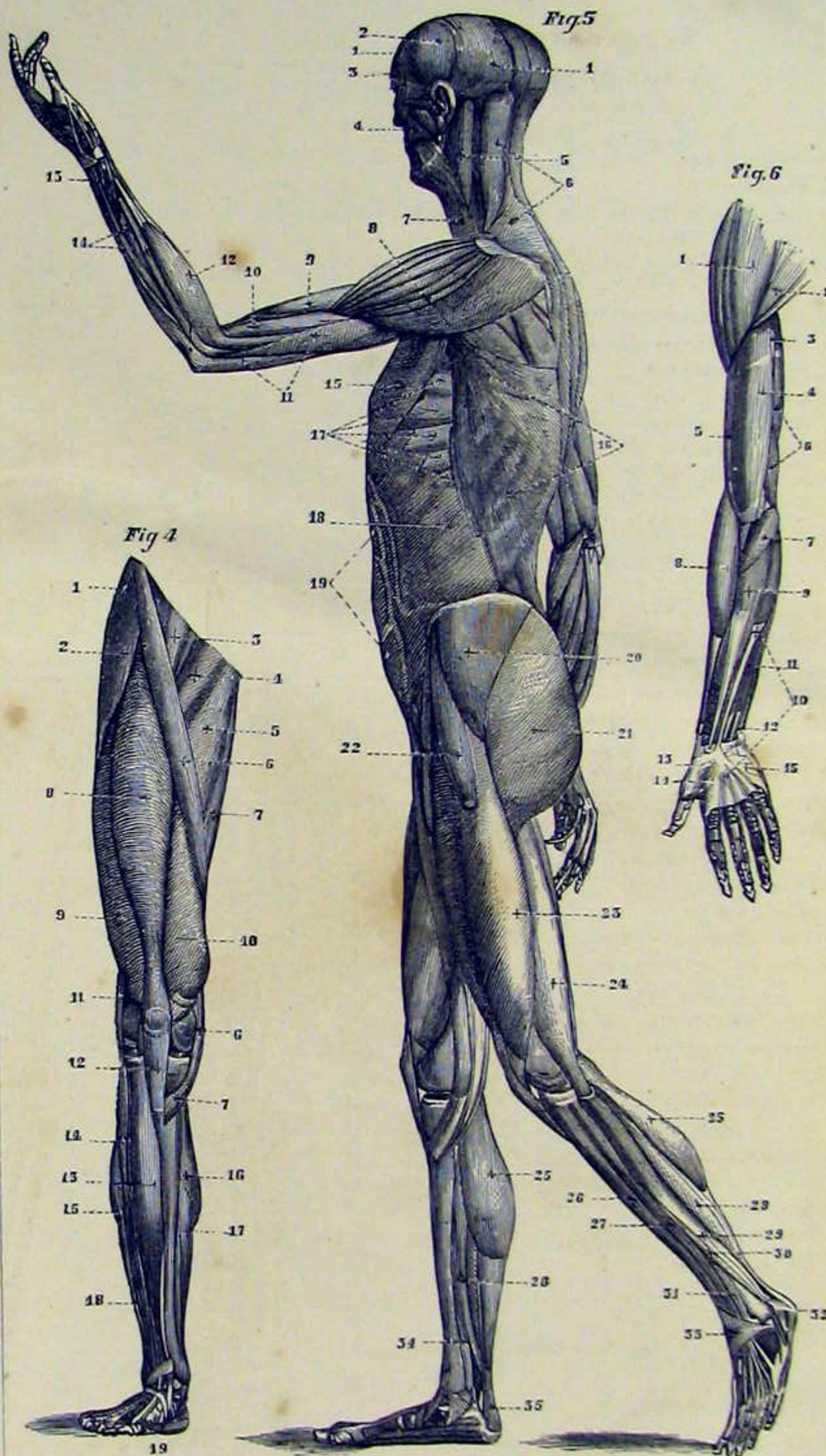
MUSCLES OF THE HUMAN BODY.

Side View of Full Figure (Fig. 5).

1. Occipito-frontalis—Used to raise the eyebrows, wrinkle the skin of the forehead, and move the scalp backward and forward.
2. Temporalis—Helps to elevate the lower jaw.
3. Orbicularis palpebrarum—Closes the eyelids.
4. Masseter—Helps to elevate the lower jaw and move it forward.
5. Serno-cleido-mastoideus—A pair of muscles which together bow the head forward; one acting by itself is able to turn the head, and therefore the chin, to the opposite side.
6. Trapezius—The trapezii muscles, acting together, draw the head directly backward; one of them, acting alone, inclines the head to the corresponding side; the superior part of the trapezius raises the point of the shoulder.
7. Platysma myoides—Assists in depressing the angle of the mouth.
8. Deltoïdes—Raises the arm, and aids in carrying it backward and forward.
9. Biceps flexor cubiti, } —Act together in bending the fore arm.
10. Brachialis anticus, }
11. Triceps extensor cubiti—Antagonist of the two former; when the fore-arm is bent, the triceps, by drawing in the extremity of the ulna, is able to extend it on the humerus, and thus bring both parts of the limb into a right line.
12. Supinator radii longus—A flexor of the fore-arm.
13. Extensor muscles of thumb.
14. Extensor muscles of wrist.
15. Pectoralis major, } Conjointly with teres major (situate at the
16. Latissimus dorsi, } inferior and posterior part of the shoulder) these muscles lower the arm when it has been elevated, press the arm closely to the side, and pectoralis major will by itself carry the arm along the side and front of the chest.
17. Serratus magnus—Assists in advancing the scapula and elevating the shoulder.
18. Obliquus externus abdominis, } —Co-operate with the other
19. Rectus abdominis in its sheath, } abdominal muscles in supporting the abdominal viscera.
20. Gluteus medius, } —The glutæi act alternately on the thigh
21. Gluteus maximus, } bone and pelvis; 21, by the direction of its fibers, is fitted to draw the thigh bone backward, whilst it turns the whole limb outward if it be kept extended.
22. Tensor vaginæ femoris—Renders the fascia tense, and turns the limb inward.
23. Vastus externus—Contributes to extend the leg upon the thigh.
24. Biceps flexor cruris—Assists in bending the leg on the thigh, and in turning the limb slightly inward and outward.
25. Gastrocnemius.—Along with the soleus this muscle forms the calf of the leg; they jointly draw on the heel bone, lifting it from the ground, and cause the foot to represent an inclined plane.
26. Tibialis anticus—Co-operates with 31 in bending the foot on the leg; acting separately, each gives a slight inclination toward the corresponding side.
27. Extensor communis digitorum—Aids in extending the toes, and in bending the foot upon the leg.
28. Soleus.—See 25.
29. Peronæus longus, } —Act together in drawing the foot back.
30. Peronæus brevis, }
31. Peronæus tertius—A flexor of the foot on the leg, co-operating with 26.
32. Abductor minimi digiti—Bends the little toe, and separates it from the others.
33. Extensor pollicis proprius—Extensor of the great toe.
34. Flexor communis digitorum—Bends the toes toward the sole of the foot.
35. Tendo Achillis—Formed by junction of tendinous expansions of 25 and 26; the strongest tendon in the body.

Front View of Right Arm (Fig. 6).

1. Deltoïdes. See 8 of previous section.
2. Pectoralis major. See 15 of previous section.
3. Coraco brachialis—Smallest muscle of upper arm; assists in moving the arm forward and upward.
4. Biceps flexor cubiti. See 9 of previous section.
5. Brachialis internus—Part of brachialis anticus; see 10 of previous section.
6. Triceps extensor cubiti. See 11 of previous section.
7. Pronator radii teres—Turns the palm of the hand downward, and aids in bending the fore-arm on the arm.
8. Supinator radii longus—Acts as antagonist to pronator of the hand (7), turning the palm upward, it is also a flexor of the fore-arm.
9. Flexor carpi radialis—Bends the wrist, and becomes a flexor of the fore-arm.
10. Palmaris longus, with fascia—Bends the hand upon the fore-arm, and aids in its pronation.
11. Flexor digitorum communis—Bends the fingers toward the palm, acts on the wrist, and assists in the bending of the arm.
12. Flexor carpi ulnaris—Bends the wrist, and becomes a flexor of the fore-arm.
13. Abductor pollicis manus—Carries the thumb outward and forward from the palm.
14. Flexor brevis pollicis—Flexor of first joint of thumb.
15. Palmaris brevis—A small cutaneous muscle connected with the muscles of the little finger.



Front View of Right Leg (Fig. 4).

1. Gluteus medius. See 20 of first section.
2. Tensor vaginæ femoris. See 22 of first section.
3. Psoas and iliacus—Bend the thigh on the pelvis, and rotate the limb outward.
4. Pectineus—Contributes to bend the thigh bone on the pelvis.
5. Adductor longus—One of the adductors of the thigh.
6. Sartorius—Bends the leg upon the thigh; it is known as "the tailor's muscle."
7. Gracilis—Acts along with adductor muscles of thigh.

8. Rectus femoris, } —Extend the leg upon
9. Vastus externus, } the thigh; the rectus
10. Vastus internus, } and sartorius (6) help
11. Biceps flexor cruris. See 24 of first section.
12. Insertion of ligament of patella into tibia.
13. Tibialis anticus. See 26 of first section.
14. Extensor communis digitorum. See 27 of first section.
15. Peronæus longus. See 29 of first section.
16. Gastrocnemius. See 25 of first section.
17. Soleus. See 28 of first section.
18. Peronæus brevis. See 30 of first section.
19. Abductor pollicis pedis—Abductor of great toe.

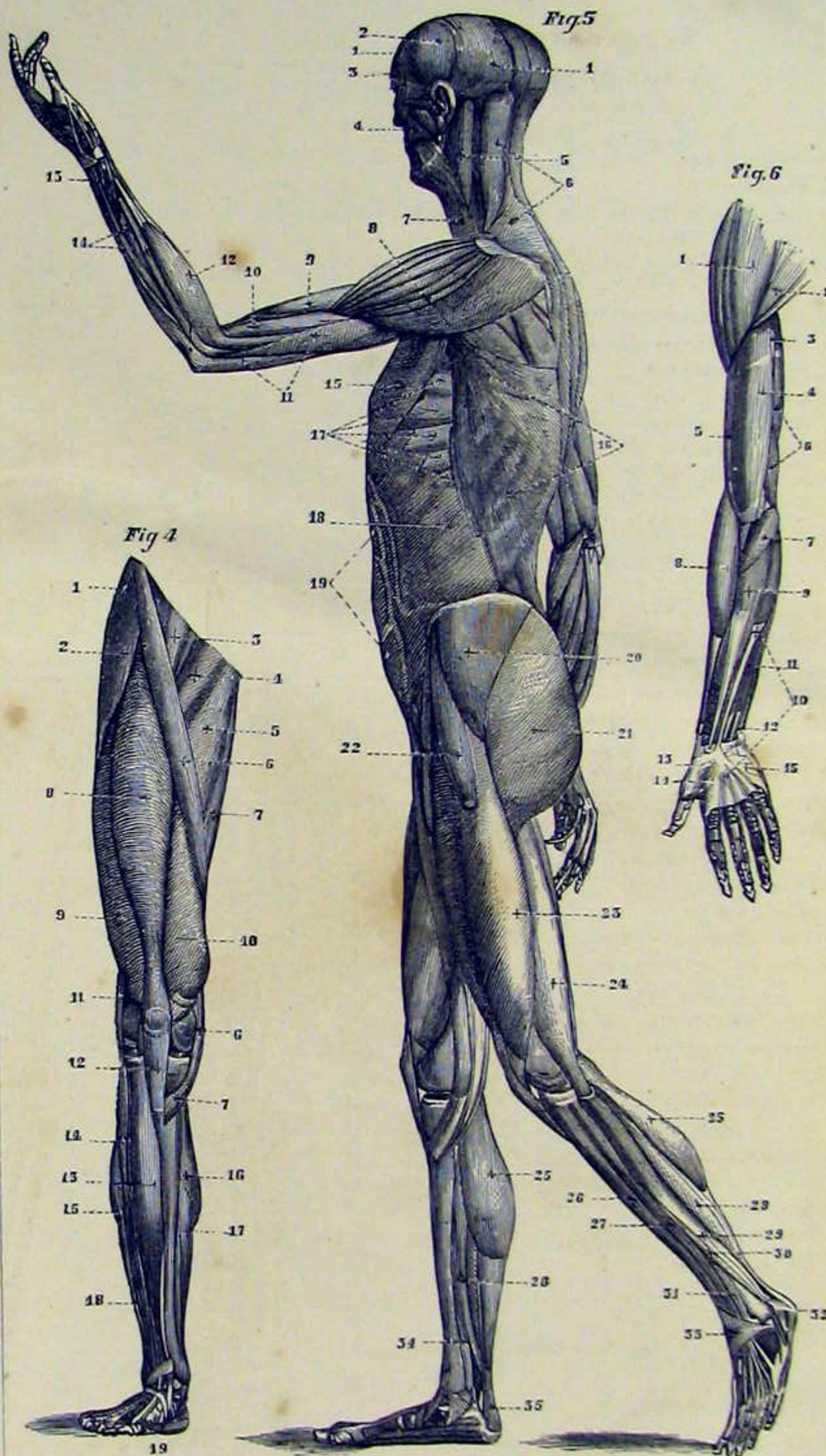
MUSCLES OF THE HUMAN BODY.

Side View of Full Figure (Fig. 5).

1. Occipito-frontalis—Used to raise the eyebrows, wrinkle the skin of the forehead, and move the scalp backward and forward.
2. Temporalis—Helps to elevate the lower jaw.
3. Orbicularis palpebrarum—Closes the eyelids.
4. Masseter—Helps to elevate the lower jaw and move it forward.
5. Sternalocleidomastoideus—A pair of muscles which together bow the head forward; one acting by itself is able to turn the head, and therefore the chin, to the opposite side.
6. Trapezius—The trapezius muscles, acting together, draw the head directly backward; one of them, acting alone, inclines the head to the corresponding side; the superior part of the trapezius raises the point of the shoulder.
7. Platysma myoides—Assists in depressing the angle of the mouth.
8. Deltoides—Raises the arm, and aids in carrying it backward and forward.
9. Biceps flexor cubiti, } —Act together in bending the fore arm.
10. Brachialis anticus, }
11. Triceps extensor cubiti—Antagonist of the two former; when the fore-arm is bent, the triceps, by drawing in the extremity of the ulna, is able to extend it on the humerus, and thus bring both parts of the limb into a right line.
12. Supinator radii longus—A flexor of the fore-arm.
13. Extensor muscles of thumb.
14. Extensor muscles of wrist.
15. Pectoralis major, } Conjointly with teres major (situate at the
16. Latissimus dorsi, } inferior and posterior part of the shoulder) these muscles lower the arm when it has been elevated, press the arm closely to the side, and pectoralis major will by itself carry the arm along the side and front of the chest.
17. Serratus magnus—Assists in advancing the scapula and elevating the shoulder.
18. Obliquus externus abdominis, } —Co-operate with the other
19. Rectus abdominis in its sheath, } abdominal muscles in supporting the abdominal viscera.
20. Gluteus medius, } —The glutæi act alternately on the thigh
21. Gluteus maximus, } bone and pelvis; 21, by the direction of its fibers, is fitted to draw the thigh bone backward, whilst it turns the whole limb outward if it be kept extended.
22. Tensor vaginæ femoris—Renders the fascia tense, and turns the limb inward.
23. Vastus externus—Contributes to extend the leg upon the thigh.
24. Biceps flexor cruris—Assists in bending the leg on the thigh, and in turning the limb slightly inward and outward.
25. Gastrocnemius—Along with the soleus this muscle forms the calf of the leg; they jointly draw on the heel bone, lifting it from the ground, and cause the foot to represent an inclined plane.
26. Tibialis anticus—Co-operates with 31 in bending the foot on the leg; acting separately, each gives a slight inclination toward the corresponding side.
27. Extensor communis digitorum—Aids in extending the toes, and in bending the foot upon the leg.
28. Soleus.—See 25.
29. Peronæus longus, } —Act together in drawing the foot back.
30. Peronæus brevis, }
31. Peronæus tertius—A flexor of the foot on the leg, co-operating with 26.
32. Abductor minimi digiti—Bends the little toe, and separates it from the others.
33. Extensor pollicis proprius—Extensor of the great toe.
34. Flexor communis digitorum—Bends the toes toward the sole of the foot.
35. Tendo Achillis—Formed by junction of tendinous expansions of 25 and 26; the strongest tendon in the body.

Front View of Right Arm (Fig. 6).

1. Deltoides. See 8 of previous section.
2. Pectoralis major. See 15 of previous section.
3. Coraco brachialis—Smallest muscle of upper arm; assists in moving the arm forward and upward.
4. Biceps flexor cubiti. See 9 of previous section.
5. Brachialis internus—Part of brachialis anticus; see 10 of previous section.
6. Triceps extensor cubiti. See 11 of previous section.
7. Pronator radii teres—Turns the palm of the hand downward, and aids in bending the fore-arm on the arm.
8. Supinator radii longus—Acts as antagonist to pronator of the hand (7), turning the palm upward, it is also a flexor of the fore-arm.
9. Flexor carpi radialis—Bends the wrist, and becomes a flexor of the fore-arm.
10. Palmaris longus, with fascia—Bends the hand upon the fore-arm, and aids in its pronation.
11. Flexor digitorum communis—Bends the fingers toward the palm, acts on the wrist, and assists in the bending of the arm.
12. Flexor carpi ulnaris—Bends the wrist, and becomes a flexor of the fore-arm.
13. Abductor pollicis manus—Carries the thumb outward and forward from the palm.
14. Flexor brevis pollicis—Flexor of first joint of thumb.
15. Palmaris brevis—A small cutaneous muscle connected with the muscles of the little finger.



Front View of Right Leg (Fig. 4).

1. Gluteus medius. See 20 of first section.
2. Tensor vaginæ femoris. See 22 of first section.
3. Psoas and iliacus—Bend the thigh on the pelvis, and rotate the limb outward.
4. Pectineus—Contributes to bend the thigh bone on the pelvis.
5. Adductor longus—One of the adductors of the thigh.
6. Sartorius—Bends the leg upon the thigh; it is known as "the tailor's muscle."
7. Gracilis—Acts along with adductor muscles of thigh.

8. Rectus femoris, } —Extend the leg upon
9. Vastus externus, } the thigh; the rectus
10. Vastus internus, } and sartorius (6) help
11. Biceps flexor cruris. See 24 of first section.
12. Insertion of ligament of patella into tibia.
13. Tibialis anticus. See 26 of first section.
14. Extensor communis digitorum. See 27 of first section.
15. Peronæus longus. See 29 of first section.
16. Gastrocnemius. See 25 of first section.
17. Soleus. See 28 of first section.
18. Peronæus brevis. See 30 of first section.
19. Abductor pollicis pedis—Abductor of great toe.

Punic	Pelagian	Oscan	Arcadian	Gallo	Phenician, ancient Hebrew or Samaritan	Hebruscan	Greek
Α	Α	Α	Α	Α	Α	Α	Α
Β	Β	Β	Β	Β	Β	Β	Β
Γ	Γ	Γ	Γ	Γ	Γ	Γ	Γ
Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
Ε	Ε	Ε	Ε	Ε	Ε	Ε	Ε
Ζ	Ζ	Ζ	Ζ	Ζ	Ζ	Ζ	Ζ
Η	Η	Η	Η	Η	Η	Η	Η
Θ	Θ	Θ	Θ	Θ	Θ	Θ	Θ
Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι
Κ	Κ	Κ	Κ	Κ	Κ	Κ	Κ
Λ	Λ	Λ	Λ	Λ	Λ	Λ	Λ
Μ	Μ	Μ	Μ	Μ	Μ	Μ	Μ
Ν	Ν	Ν	Ν	Ν	Ν	Ν	Ν
Ξ	Ξ	Ξ	Ξ	Ξ	Ξ	Ξ	Ξ
Ο	Ο	Ο	Ο	Ο	Ο	Ο	Ο
Π	Π	Π	Π	Π	Π	Π	Π
Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ	Ρ
Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ
Τ	Τ	Τ	Τ	Τ	Τ	Τ	Τ
Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ
Φ	Φ	Φ	Φ	Φ	Φ	Φ	Φ
Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Ψ	Ψ	Ψ	Ψ	Ψ	Ψ	Ψ	Ψ
Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω

ANCIENT ALPHABETS.

COMPARATIVE TABLE OF HIEROGLYPHIC AND ALPHABETIC CHARACTERS.

Chaldaic Letters.	Conjectural Chaldaic Hieroglyphic Originals.	Phœnician Letters.	Conjectural Phœnician Hieroglyphic Originals.	Egyptian Letters.	Original Egyptian Hieroglyphics.	Linear Hieroglyphics.	Hieratic Letters.	Demotic	Coptic	Samaritan.	Phœnician.	Syriac.	Arabic.	Ancient Greek.	Hebrew.	
א		א		א					א	א	א	א	ا	Α	א	A
ב		ב		ב			ב			ב	ב					Bh or B
ג		ג		ג												Gh or G
ד		ד		ד			ד			ד	ד			Δ	ד	Dh or D
ה		ה		ה			ה		ה	ה	ה			Ε	ה	H
ו		ו		ו			ו			ו	ו		و	Ϝ	ו	V or W
ז		ז		ז												Z or Ds
ח		ח		ח			ח			ח	ח			Η	ח	CH or Hh
ט		ט		ט			ט			ט	ט	ט				T
י		י		י			י			י	י			Ι	י	J or I
כ		כ		כ			כ			כ	כ		כ	Κ	כ	CH or K
ל		ל		ל			ל			ל	ל	ל	ل	Λ	ל	L
מ		מ		מ			מ			מ	מ	מ		Μ	מ	M
נ		נ		נ			נ			נ	נ	נ		Ν	נ	N
ס		ס		ס			ס			ס	ס	ס		Ξ	ס	S
ע		ע		ע			ע			ע	ע			Ο	ע	Aa or Gn
פ		פ		פ			פ			פ	פ	פ		Ϸ		Ph or P
צ		צ		צ			צ			צ	צ	צ				Ts or Ss
ק		ק		ק			ק			ק	ק	ק	ق	Ϙ	ק	K or Q
ר		ר		ר			ר			ר	ר	ר				R
ש		ש		ש			ש			ש	ש	ש	ش			Sh or S
ת		ת		ת			ת			ת	ת	ת	ث	Ϡ	ת	Th or T

REMARKABLE ALPHABETS.

THE SYRIAC

Olaph	11	11	1	22	22	22
Beth	00	00	00	11	11	11
Gomal	W	W	W	11	11	11
Doleth	11	11	11	11	11	11
He	00	00	00	11	11	11
Wau	00	00	00	11	11	11
Zain	11	11	11	11	11	11
Cheth	W	W	W	11	11	11
Teth	W	W	W	11	11	11
Jud	11	11	11	11	11	11
Coph	W	W	W	11	11	11
Lenud	W	W	W	11	11	11
Mim	W	W	W	11	11	11
Nun	W	W	W	11	11	11
Seachath	W	W	W	11	11	11
Az	W	W	W	11	11	11
Pe	W	W	W	11	11	11
Trade	W	W	W	11	11	11
Kaph	W	W	W	11	11	11
Hisch	W	W	W	11	11	11
Schin	W	W	W	11	11	11
Sau	W	W	W	11	11	11

THE ILLYRIAN or SERVIAN

[illegible]

THE ETHIOPIA

	ha	hu	hi	ha	he	he	ho
Hai	U	U	U	U	U	U	U
	la	lu	li	la	le	le	lo
Lau	Λ	Λ	Λ	Λ	Λ	Λ	Λ
	ha	hu	hi	ha	he	he	ho
Haut	h	h	h	h	h	h	h
	ma	mu	mi	ma	me	me	mo
Mui	o	o	o	o	o	o	o
	sa	su	si	sa	se	se	so
Saut	W	W	W	W	W	W	W
	ra	ru	ri	ra	re	re	ro
Res	z	z	z	z	z	z	z
	sa	su	si	sa	se	se	so
Saat	h	h	h	h	h	h	h
	ka	ku	ki	ka	ke	ke	ko
Kaf	Φ	Φ	Φ	Φ	Φ	Φ	Φ
	ba	bu	bi	ba	be	be	bo
Bet	h	h	h	h	h	h	h
	ta	tu	ti	ta	te	te	to
Tau	†	†	†	†	†	†	†
	ba	bu	bi	ba	be	be	bo
Ilhurm	z	z	z	z	z	z	z
	na	nu	ni	na	ne	ne	no
Naas	z	z	z	z	z	z	z
	a	u	i	a	e	e	o
Alph	h	h	h	h	h	h	h
	cha	chu	chi	cha	che	che	cho
Caf	h	h	h	h	h	h	h
	va	vu	vi	va	ve	ve	vo
Vaw	o	o	o	o	o	o	o
	a	u	i	a	e	e	o
Ain	o	o	o	o	o	o	o
	za	zu	zi	za	ze	ze	zo
Zai	H	H	H	H	H	H	H
	ja	ju	ji	ja	je	je	jo
Yaman	P	P	P	P	P	P	P
	da	du	di	da	de	de	do
Dent	P	P	P	P	P	P	P
	ga	gu	gi	ga	ge	ge	go
Geml	z	z	z	z	z	z	z
	ta	tu	ti	ta	te	te	to
Tait	h	h	h	h	h	h	h
	pa	pu	pi	pa	pe	pe	po
Pait	h	h	h	h	h	h	h
	za	zu	zi	za	ze	ze	zo
Zadai	h	h	h	h	h	h	h
	zza	zzu	zzi	zza	zze	zze	zzo
Zzop	o	o	o	o	o	o	o
	fa	fu	fi	fa	fe	fe	fo
Aj	z	z	z	z	z	z	z
	pa	pu	pi	pa	pe	pe	po
Ika	T	T	T	T	T	T	T

THE ARMENIAN

Alp	ux	Mien	u
Pien	e	I	j
Glüem	q	Nu	h
Tu	t	Sciu	z
Jeg	é	Vua	n
Ssa	q	Ccia	é
E	t	Be	u
Jet	e	Gge	z
Tho	q	Rru	n
Sgie	é	Se	u
Ini	t	Vieu	q
Linn	L	Diun	u
Hhe	h	Ere	t
Za	é	Zzo	g
Glüen	q	Hüu	L
Ho	s	Ppiur	h
Zza	é	Che	e
Kat	z	Ieu	L
Ge	x	Fe	h

THE IBERIAN
OR
GEORGIAN

S	An	a	San	s
ḏ	Ban	b	Ṫur	t
ḏ	Chan	ch	Ṫun	u
ḏ	Don	d	Ṫar	f ph
ḏ	En	e	Ṫha	ch
Ṫ	Vin	u	Ṫan	ḡ
Ṫ	Zen	z	Ṫar	c
Ṫ	Hai	h	Ṫein	ser
Ṫ	Than	th	Ṫiuen	ci
Ṫ	In	i	Ṫan	zç
Ṫ	Kan	k	Ṫil, et	
Ṫ	Las	l	Ṫil	z
Ṫ	Man	m	Ṫahar	ch
Ṫ	Nar	n	Ṫhan	ch
Ṫ	On	o	Ṫhar	ch
Ṫ	Par	p	Ṫian	ḡ
Ṫ	Jan	j	Ṫhan	hli
Ṫ	Rai	r	Ṫhoi	hli

THE COPTIC or EGYPTIAN

Alpha	Α	α	A
Vidu	Β	β	V
Ganma	Γ	γ	G
Dalda	Δ	δ	D
Ei	Ε	ε ϵ	E
So	Ϛ	ϛ	S
Zida	Ζ	ζ	Z
Hida	Η	η	I
Thita	Θ	θ	Th
Janda	Ι	ι	I
Kabba	Κ	κ	K
Lauda	Λ	λ	L
Mi	Υ	μ	M
Ni	Ν	ν	N
Exi	Ξ	ξ	X
O	Ο	ο	O
Bi	Π	π	P
Ro	Ρ	ρ	R
Sima	Σ	ς	S
Dau	Τ	τ	T
He	Υ	υ	E
Phi	Φ	φ	P
Chi	Χ	χ	Ch
Au	Ψ	ψ	O
Schei	Ω	ω	So
Phei	Ϛ	ϛ	F
Chei	Ϝ	ϝ	Ch
Hori	Ϟ	ϟ	II
Giangia	Χ	χ	Gi
Shima	Ϡ	ϡ	Se
Dei	Ϣ	ϣ	Di
Ebsi	Ϥ	ϥ	Ps

THE GOTHIC

Α	Λ	Σ
Β	Μ	Χ
Γ	Ν	Ψ
Δ	Ξ	Ω
Ε	Ο	Αυ
Ζ	Π	Ευ
Η	Ρ	Ει
Θ	Σ	Οι
Ι	Τ	Οε
Κ	Υ	Αδ

A
DICTIONARY
of the
ENGLISH LANGUAGE.



BY NOAH WEBSTER, L. L. D.

51099

HE THAT WISHES TO BE COUNTED AMONG THE BENEFACTORS OF POSTERITY MUST ADD BY
HIS OWN TOIL TO THE ACQUISITIONS OF HIS ANCESTORS

SPRINGFIELD, MASS.

PUBLISHED BY G. & C. MERRIAM, STATE STREET.

Donation



N. Webster

ENGRAVED FOR THE QUARTO EDITION OF WEBSTER'S ENGLISH DICTIONARY.

AN

AMERICAN DICTIONARY

OF THE

ENGLISH LANGUAGE.

BY

NOAH WEBSTER, LL. D.

THOROUGHLY REVISED, AND GREATLY ENLARGED AND IMPROVED,

BY

CHAUNCEY A. GOODRICH, D. D.,

LATE PROFESSOR OF RHETORIC AND ORATORY, AND ALSO PROFESSOR OF THE PASTORAL CHARGE, IN YALE COLLEGE,

AND

NOAH PORTER, D. D., LL. D.,

PRESIDENT OF YALE COLLEGE.

51099

SPRINGFIELD, MASS.:

PUBLISHED BY G. & C. MERRIAM, STATE STREET.

1872.