

and the water flows into the air chamber in a steady stream. J. M. may not be able to run at 200, but I think he can go over that. I think the supply pipe is large enough.

(29) E. L. F. says, in reply to F. S. M. & Co.'s query as to sesquioxide of manganese: The sesquioxide of manganese is found in its anhydrous state as braunite, and in an hydrated state as manganite.

(30) E. L. F. says, in reply to W. H. R., who asked how to make the muriatic salts of nickel: Pure nickel has a great similarity to iron, both in its external appearance and its combinations.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Vegetable Fibers. By J. W.
On Hydrocarbons on Iron and Steel. By L. P.
On Solids Floating on Liquids. By A. R.
On Popular Dental Science. By C. S. S.
On a Flying Machine. By C. H. C.
On Boiler Explosions. By R. B.
On Oyster Culture. By O. C.
On Suet Butter. By J. L.
On a New Projectile. By W. L. A.

Also enquiries and answers from the following: J. G. G.-S. W. R.-E. W. H.-G. A. P.-X. Y. Z.-L. N. K.-W. J. R.-J. W. D.-W. D. D.-F. R. D.-M. L. W.

HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Enquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all but we generally take pleasure in answering briefly by mail, if the writer's address is given.

Hundreds of enquiries analogous to the following are sent: 'Who erects wire tramways? Who buys broken window glass? Who builds engines and boilers for small boats? Where can spectroscopic apparatus be bought? Who sells photographic chemicals that can be relied on for quick work?' All such personal enquiries are printed, as will be observed, in the column of 'Business and Personal,' which is especially set apart for that purpose, subject to the charge mentioned at the head of that column.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH Letters Patent of the United States were Granted in the Week ending November 24, 1874, AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.] Alarm, grist, Hason & Wright. 157,174
Alphabet case, Baade & Sangster. 157,118
Bale tie, S. J. Leach. 157,206

Table of inventions with descriptions and page numbers. Includes items like Bale tie, Bee hive, Beer faucet ventilator, Beer with gas, charging, Bitstock, Blind, folding, A. Le Roy, Bolter, J. R. Lamb, etc.

Table of inventions with descriptions and page numbers. Includes items like Lubricating compound, Lubricating cup, Lubricator, Mills, conductor for rolling, Nozzle, exhaust, G. Sewell, Nozzle for steam cylinders, etc.

Table of inventions with descriptions and page numbers. Includes items like Watch balance, Watch barrel, Watch guard attachment, Watch plate, E. Chapin, Water closet apparatus, etc.

APPLICATIONS FOR EXTENSION.

Applications have been duly filed and are now pending for the extension of the following letters patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:

- 31,443.-FELLY MACHINERY.-C. H. Denison. Feb. 3.
31,445.-LIME KILN.-R. Donaldson. Feb. 3.
31,502.-COAL BREAKER.-R. A. Wilder. Feb. 3.
31,533.-WEIGHING APPARATUS.-A. B. Davis. Feb. 10.
31,534.-SCALE BEAM.-A. B. Davis. Feb. 10.
31,566.-DRYING TUNNELS.-F. H. Smith. Feb. 10.
31,579.-CORN PLANTER.-F. B. Preston. Feb. 10.

EXTENSIONS GRANTED.

- 30,633.-FIRE ESCAPE.-E. B. Larcher.
30,651.-HARVESTER.-S. W. Tyler.
30,685.-SEED DRILL.-H. Moore.
30,691.-CASTING FLOWSHADES.-F. F. Smith.
30,691.-FLOW.-F. F. Smith.
30,719.-PAPER FOLDER.-C. Chambers, Jr.
30,745.-CULTIVATOR.-N. Messenger.

DISCLAIMERS FILED.

- 102,462.-COOK STOVE.-J. B. Wilkinson, Troy, N. Y.
155,534.-DRESS PROTECTOR.-H. M. Macdonald, Lowell, Ms.

DESIGNS PATENTED.

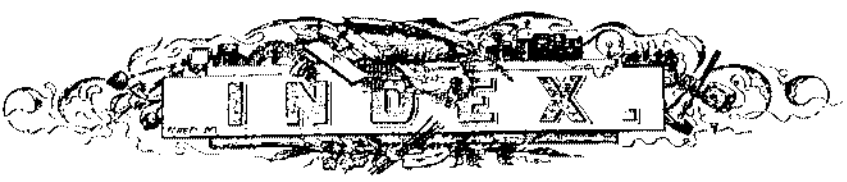
- 7,855 to 7,858.-CARPETS.-R. Allan, Yonkers, N. Y.
7,859 to 7,862.-CUTLERY.-J. D. Frary, New Britain, Conn.
7,863.-COOKING STOVE.-G. G. Richmond, Providence, R. I.
7,864.-BOTTLE.-S. C. Upham, Philadelphia, Pa.
7,865 to 7,869.-SILVER WARE.-G. Wilkinson, Providence, R. I.
7,870.-WINDOW SCREEN.-G. Shatswell, Waukegan, Ill.
7,871.-INKSTAND COVER.-H. C. Wilcox, W. Meriden, Ct.
7,872.-MONUMENT.-H. C. Borgner, Lebanon, Pa.
7,873.-ORGAN CASE.-G. E. Carhart et al., Washington, D. C.
7,874 to 7,876.-CARPETS.-F. W. Green, Orange, N. J.
7,877 to 7,884.-CARPETS.-H. Horan, East Orange, N. J.
7,885.-PARLOR HEATER.-A. T. Jones, Stamford, Conn.
7,886.-HOT CLOSET RANGE.-A. T. Jones, Stamford, Ct.
7,887.-CARPET.-L. G. Malkin, New York city.
7,888.-WRITING PAPER.-C. D. Myers et al., N. Y. city.
7,889.-CARPET.-H. Nordmann, New York city.
7,890 & 7,891.-BUTTONS.-H. E. Bostwick, New Milford, Ct.
7,892 to 7,901.-EMBROIDERY.-E. Crisand, New Haven, Ct.
7,902.-FORK HANDLE.-C. Osborne, N. Attleborough, Ms.
7,903.-STATUETTE.-T. J. Fairpoint, Providence, R. I.
7,904.-OILCLOTH.-C. T. & V. E. Meyer, Bergen, N. J.

TRADE MARKS REGISTERED.

- 2,072.-CHEWING TOBACCO.-Allan et al., Cincinnati, O.
2,073.-STOVE POLISH.-H. A. Bartlett & Co., Phila, Pa.
2,074.-STOVE DRESSING.-B. F. Brown & Co., Boston, Ms.
2,075.-GROOMING HERRIS BRON, New York city.
2,076.-SHIRTINGS.-Neumkear Steam Co., Salem, Mass.
2,077.-COOK STOVE, ETC.-G. G. Richmond, Providence, R. I.
2,078.-HEALING SALVE.-Stapleton & Co., Springfield, Ms.
2,079.-MEDICINE.-G. Steloff, Cincinnati, O.
2,080.-PERFUMERY, ETC.-J. & E. Atkinson, London, Eng.
2,081 & 2,082.-CORSETS.-L. Coleman & Co., Boston, Mass.
2,083.-CORSET.-Ottenshelmer & Co., New York city.
2,084.-SOAP.-Reed & Co., Pittsburgh, Pa.
2,085 to 2,088.-SALT.-Union Pacific Salt Co., S. F. Cisco, Cal.
2,089.-TOBACCO.-Frishtuth & Co., Philadelphia, Pa.
2,090.-FILE REMEDY.-C. Maync, New York city.
2,091.-MEDICINE.-Dr. J. Simms & Son, Wilmington, Del.
2,092.-PICKLES, ETC.-C. G. Summers & Co., Baltimore, Md.
2,093.-SALUBRANT.-J. M. Taylor, New York city.
2,094.-SUGAR, ETC.-DeCastro & Donner Co., N. Y. city.
2,095 to 2,097.-WOOLEN GOODS.-Wash. Mills, Lawrence, Ms.
2,098.-GROCERIES.-N. W. Burchell, Washington, D. C.

SCHEDULE OF PATENT FEES.

- On each caveat.....\$10
On each Trade mark.....\$25
On filing each application for a Patent (17 years).....\$15
On issuing each original Patent.....\$20
On appeal to Examiners-in-Chief.....\$10
On appeal to Commissioner of Patents.....\$20
On application for Reissue.....\$30
On filing a Disclaimer.....\$10
On an application for Design (3 1/2 years).....\$10
On application for Design (7 years).....\$15
On application for Design (14 years).....\$30



ILLUSTRATIONS.

Table of illustrations with descriptions and page numbers. Includes items like Battery, thermo-electric, Clamond's, Bearing, alarm for hot, Bear pits at Philadelphia, the, Blind, horse, Kennedy's, Blood, the transfusion of, etc.

Table of illustrations with descriptions and page numbers. Includes items like Bridge, the Comba Scura, Bridle, horse, Sanborn's, Bullets impacted in the air, Cannon, the Krupp 10-inch, Cap of Liberty, the, Yellowstone region, Carrier pigeons, etc.

Table of illustrations with descriptions and page numbers. Includes items like Cow milker, automatic, Cranes, safety catch for, Crow bar, tapping, Wright and Tew's, Cupressus cornuta, cones of the, Cutting and punching machine, Reynolds', Deer's head, four-antlered, etc.

Table of illustrations with descriptions and page numbers. Includes items like Encephalartos altensteinii, the, Engine and boiler, Hill and Massey's, Engine, compound, Davenport's, Engine, horizontal compound, Hawthorn's, Engine, portable, Montel & Co.'s, Engine, portable, the Shapley, Engine, rotary, Myers', Exposition buildings, Chili, Face plate, sliding, Whitmore's, etc.

Table of illustrations with descriptions and page numbers. Includes items like Fountain Cave, Va., views in, Friction brake, Gill's, Furnace, Fairbairn's, Furnace for melting brass, Bush's, Furnace, safety, Shand and Mason's, Galls, oak, Gardania, the lemon-scented, Gear-cutting attachment, Hopkings', Glass, crystallization of, Governator, cut-off, Ord's, Governors, pendulum, Grain, machine for unloading, Clark's, Grenaby at Bristol, England, Grapple, Toisel's, Groping tools, Dexter's, Gun, the new French army, Gyroscope, the, Hammer, air spring, Hotchkiss', Hammer, the monster-The furnace,

Table of illustrations with descriptions and page numbers. Includes items like Hat, the new French army, Hoop, the, Horn, the, Iron, the, Knife, the, Ladder, the, Machine, the, Nail, the, Pen, the, Paper, the, Ruler, the, Saw, the, Scissors, the, Spoon, the, Tongs, the, Wrench, the, etc.