

(26) J. F. B. asks: How can I make olefiant gas? A. The gaseous products of the destructive distillation of the fatty or so-called fixed oils and resins are very rich in elayl gas (olefiant gas). As oils yield further only a small quantity of carbonic acid gas, and no sulphuretted hydrogen, oil gas does not require any purifying, and hence the apparatus may be very simple; while, owing to the high illuminating power, smaller gas holders, smaller pipes, and burners of different construction are required. One pound of oil yields 20 to 25 cubic feet of gas, equal to 90 or 96 percent.

(27) A. W. C. asks: Is there a remedy to prevent verdigris forming on copper cartridges when carried in the thimbles of a belt? A. Dip them for a moment, when clean, in an alcoholic solution of shellac. Allow them to dry completely before placing in the belt.

(28) S. W. S. asks: What is aluminate of soda? A. It is now prepared on a large scale, as it has been found a very useful form of soluble alumina, especially in dyeing and calico printing. The preparation of this compound is based on the solubility of hydrate of alumina in caustic potassa or soda lye, and the ready decomposition of the solution by carbonic and acetic acids, bicarbonate and acetate of soda, sal ammoniac, etc. The compound is generally formed by calcining either cryolite or bauxite, minerals containing a large percent of alumina, with carbonate of soda, in a reverberatory furnace. It may be obtained on a small scale, by boiling alumina with caustic soda lye for some time.

(29) J. R. asks: What are the drawbacks, if any, to the use of gasoline as an illuminating agent, as applied for that purpose in the automatic gas machine? A. They are mainly due to the dangerous character of the materials used; gasoline, naphtha, and similar volatile hydrocarbon oils. The vapors arising from these oils, being heavier than the air, have a tendency to accumulate in pools on the floors of the cellars or vaults where the oils are used, and becoming mixed with the air form a terribly explosive mixture. The ignition of which, from the careless dropping of a partially extinguished match, or flame of any kind, is often sufficient to destroy the building.

(30) R. R. Z. says: 1. You speak of a glaze or enamel called boro-silicate of soda. How is this made? A. Melt together pulverized felspar 27 parts, borax 18 parts, sand (fine, white) 4 parts, potash, niter, and potter's earth, 3 parts each. Then add 3 parts of borax reduced to a fine powder, also fine black oxide of manganese in the proportion of 45 grains oxide to 6 lbs. of the enamel. When fully fused, throw into cold water, and then remelt and again quench in water, as before. Repeat this until the enamel is fine and white. It is then ready for use. 2. Will it stand the action of hot 66° sulphuric acid? A. Yes.

(31) J. O. F. asks: What is the latest and most approved plan of tempering small springs? A. There is nothing better than dipping them in oil and blazing the oil off.

(32) M. W. H. asks: 1. Will tool steel make good steel springs? A. No; it is apt to break. 2. What kind of steel is best for springs? A. Spring steel. 2. Can springs be tempered in water or oil, so that they will be tough and limber? A. Yes: harden in water, temper with oil.

(33) W. H. C. asks: What is the best way to join a band saw? A. Braze it, taking care to hold the ends true.

(34) P. J. M. asks: What is the best means to secure a good casting, free from blowholes and defects, where you are obliged to cast into it some pieces of wrought iron, as done in a fly wheel with cast rim, wrought iron arms, and cast iron hub? A. Heat the wrought iron, and have a good dry mold, casting endwise whenever possible.

(35) J. S. M. asks: 1. Does it take more power to run beveled gears than it does to run spur gears? A. There is no practical difference. 2. Can you tell me the best way to find the proper size of a hole (in a face plate, for instance), in which a thread is to be cut? I have heard that it is best to measure the outside of the thread of the screw; and if it is 10 to the inch, the hole should be bored 1/4 tenths = 2/5, less, which will give a full thread to match. If the thread is 12, 1/4 twelfths is right, and so on for every number of threads. A. We have never heard of the rule you give. Try it, and let us know the result.

(36) E. E. K. asks: Can india rubber valves which have been used in hot and cold water pumps be remolded for the same use? A. No.

(37) J. C. S. says: I have a grindstone 3 feet in diameter and of 5 inch face, that seems a great deal too hard for sharpening tools for working in wood. How can I soften it? A. Your only method is to keep water running over it, which will partially soften it.

(38) B. K. D.—If your self-operating water elevator only costs \$2.50, you can very readily test the question of demand by putting it on sale.

(39) H. S. asks: On a gravestone of fine Italian marble, the engraver inadvertently cut a superfluous comma. How can I fill it in so as to be permanent, and show as little as possible? A. We can think of nothing better for the purpose than plaster of Paris, mixed with a small quantity pulverized mica.

(40) R. says: I have tried many of your ink recipes, and send you an improvement on one which I found in the SCIENTIFIC AMERICAN, and used many years ago. Black ink: No. 1. Take powdered cloves 1/2 oz., extract logwood 2 ozs., hot water 1 gallon; dissolve. No. 2. Take bichromate of potash, powdered Prussian blue each 120 grains, potash, powdered 80 grains. Dissolve in 1 pint warm water, then mix No. 1 and No. 2 together. The Prussian blue is the improvement; it flows freely and dries quickly. Sugar will spoil it. I have not known it to gelatinize or mold.

(41) M. M. says, in reply to C. P. B., who is troubled by sparks flying from the top of his chimney: There is a much better way to stop the evil than by the use of a screen. So arrange your flue that the draft shall be projected downward into a short chamber, of about 5 or 6 times the sectional area of the chimney flue. From this chamber, let the draft enter the chimney. The current of smoke passing through this chamber will be so slow that nearly all the dirt will settle out of it. If the bottom of the chamber is kept flooded with water, no dirt whatever will pass out of the chimney. I have seen a chimney, that was a complete nuisance to the whole neighborhood, made perfectly clean by the above plan. The draft will not be affected perceptibly. The draft might pass from the side of the chamber to the chimney, but it should be near the opposite end from where it enters.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

G. P. L. R.—No. 1 is decomposed sandstone containing scales of mica. No. 2 is a white clay. No. 3 is a fossiliferous stone containing a large percentage of lime. No. 4 is celestine. No. 5 is a variety of hard fine grained sandstone. Specimens of New Jersey green sand can be obtained from Dr. G. H. Cook, State Geologist, New Brunswick, N. J.—O. C.—Send us a sample of your oil, and we will endeavor to help you.—A. B. L.—A qualitative analysis was made of your samples. No. 1 contains sulphide of lead and iron. No. 2 contains sulphide of lead, iron, and quartz and No. 3 is quartz and sulphide of iron. No. 4 is sulphide of iron with traces of arsenic. No. 5 is sulphide of iron and quartz. We do not consider them of much value. You will find the cost of working these mines too expensive, as fully 70 per cent of the minerals is quartz.—M. A. B.—They are the wings of red mites, sub-order *ascarina*.

COMMUNICATIONS RECEIVED.

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

- On a Cure for Toothache. By E. D. P.
On the Keely Motor. By J. R., by L. W. S., by J. W. C., by L. K. Y.
On Mechanical Motors. By J. E.
On the Chemical Firefly. By C. W. W.
On the Potato Beetle. By O. E. D., and by J. G.
On the Iron Horse. By F. H. R.
On the Cincinnati Exposition. By J. C. B.
On Dental Surgery. By —
Also inquiries and answers from the following:
J. E. W.—L. G. F.—R.—W. B. H.—M. O. H.—P. O'N.—H. F. N.—J. W. C.—T. H.—A. W. & Co.—J. M. T.—W. J. P.—J. E. C.—S. C. M.

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. The address of the writer should always be given.

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 inquiries analogous to the following are sent: "Who sells Baumé hydrometers? Who makes field glasses and binocular telescopes? Who sells apparatus for making olefiant gas? Who makes rag boilers for paper makers' use?" All such personal inquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH Letters Patent of the United States were Granted in the Week ending July 6, 1875. AND EACH BEARING THAT DATE. [Those marked (r) are reissued patents.]

Advertising medium, H. Baldwin..... 165,147
Air brake, automatic, S. B. Ladd..... 165,387
Auger, earth, J. P. Simmons..... 165,376
Axle protector, C. G. Cowell..... 165,213
Bale band tightener, J. L. Sheppard..... 165,374
Barrels, bung for, Norris and Hickley..... 165,360
Barrels, compressing, E. J. Graner..... 165,163
Basket and table, lunch, E. B. Carver..... 165,305
Basket, stove, R. B. Wheeler..... 165,285
Battery, galvanic, Clamond and Gaffé..... 165,210
Battery pole, galvanic, H. P. Dechert..... 165,312
Bearings, anti-friction, Lathrop and Weber..... 165,340
Bel bottom, L. Hull..... 165,166
Bedstead, W. West..... 165,234
Blind stat adjuster, J. G. White..... 165,394
Blind stop, C. E. Steller..... 165,269
Boiler, agricultural, W. A. Swarthout..... 165,382
Boiler tube cleaner, M. M. Smith..... 165,132
Boot counter stiffener, J. L. Hatch (r)..... 6,534
Boot heels, polishing, edges of, J. H. Ryder..... 165,260
Boot and shoe last, C. F. Hill..... 165,330
Boot tree, T. Branigan..... 165,151
Brush, Albaugh and Toole..... 165,195
Brush, O. Jenness..... 165,236
Brush binder, J. Blair..... 165,202
Buckle, trace, M. T. Hayes..... 165,230
Burner, argand gas, J. B. Fuller..... 165,321
Butter package, metallic, Roberts and Briggs..... 165,256
Butter-preserving arkin, J. Wilhelm..... 165,283
Cames, manufacture of, C. C. Tracy..... 165,386
Can, oil, T. Roddick..... 165,257
Canal lock gate, J. E. Renk..... 165,178

Car brake, R. C. O'Hara..... 165,250
Car brakes, operating, S. B. Ladd..... 165,336
Car starter, S. Corse..... 165,309
Car ventilator, railroad, E. Rueane..... 165,180
Car air brake, A. James..... 165,235
Carburetor blower, W. H. Reed..... 165,254
Carbureting machine, E. Schoenberg..... 165,372
Casting bronze, G. R. Meneely..... 165,353
Casting metals, Grasser and Stepp..... 165,164
Casting turbine wheels, G. H. Jones..... 165,237
Cattle rack on scales, raising, P. C. Dockstader..... 165,217
Chair, baroer's, W. Hoehn..... 165,232
Chair, folding rocking, A. W. Stewart..... 165,185
Charcoal, making animal, O. Lugo..... 165,344
Clevis, safety, C. N. Poundstone..... 165,233
Clock work, winding electric, J. W. Wignall..... 165,336
Coal vase and standard, G. J. Munschauer..... 165,248
Cock and anti-concussion valve, I. F. Van Duzer..... 165,190
Cock, globe, J. Powell (r)..... 6,527
Cooler, milk, Porter and Eaton..... 165,364
Cooler, water, G. I. Mix..... 165,357
Corn drill, plot wheel, J. Campbell..... 165,155
Curtain fixture, J. S. Brown..... 165,299
Dams, construction of, W. Schmolz..... 165,371
Dental vulcanizing apparatus, F. Heindsmann..... 165,323
Digger, potato, J. H. Louch..... 165,342
Draft evener, A. Whittemore..... 165,395
Drawing frame roll cover, Atkinson and Edwards..... 165,197
Dryer, J. F. Gent..... 165,228
Eaves trough, R. Tyhurst..... 165,388
Egg box, W. H. Holdam..... 165,233
Ellipsograph, M. Toulmin..... 165,385
Engine, condensing, J. R. Barker..... 165,148
Engine, reciprocating cylinder, Palmer & Dewey..... 165,175
Engine, steam, S. F. Davenport (r)..... 6,532
Engine valve, steam, G. E. Tower..... 165,187
Evaporating pan, P. E. Fox..... 165,223
Eyeglass, J. J. Bausch..... 165,199
Eyeglass, W. H. Peckham..... 165,251
Fences, barb for wire, Duffy and Schroeder..... 165,220
Fertilizer, O. Lugo..... 165,345
Fertilizer, C. H. North..... 165,172
Filtering apparatus, liquid, T. R. Sinclair..... 165,377
Fire arm, revolving, J. Rupertus..... 165,369
Fire place, J. Adair..... 165,194
Floodway for warehouses, J. H. Morrell..... 165,247
Flower bracket, A. J. Gardner..... 165,227
Flower pot bracket saucer, Freeman & Smith..... 165,244
Furnace for burning straw, J. R. King..... 165,169
Furnace, soldering iron, P. P. Beals..... 165,200
Furnace for making iron, G. J. & S. J. Shimer..... 165,375
Gage, caliber, G. W. Weld..... 165,198
Gage, metal or paper, E. W. Dennison..... 165,158
Gage, pressure, J. W. Stiles (r)..... 6,530
Game apparatus, J. D. Butler..... 165,154
Gas apparatus, R. P. Spice..... 165,268
Gas apparatus, coal, M. W. Kidder..... 165,168
Gas governors, diaphragm for, W. Frost..... 165,161
Gas mixing valve, L. D. Towseley..... 165,188
Gas, manufacture of, P. W. Mackenzie..... 165,147
Gas, manufacture of, H. W. C. Tweddle..... 165,159
Gas retorts, cleaning, H. S. Wolf..... 165,398
Gate, farm, W. Waggoner..... 165,191
Generator, steam, J. & G. Firmenich..... 165,222
Grate, Warmington & Forrester..... 165,279
Grave, coffin, and monument, Speers & Clark..... 165,267
Grinding wheel, J. W. & I. S. Hyatt..... 165,231
Gun, machine, D. C. Farrington..... 165,318
Hame, Nunnelee & Kirksey..... 165,249
Harness saddle, H. H. Hallett..... 165,165
Harvester, J. H. Elward..... 165,316
Harvester, J. M. Rosebrook..... 165,368
Harvester, Webster et al..... 165,280
Harvester, corn and cane, T. Merrell..... 165,171
Hat bodies, stretching, G. Yule..... 165,400
Head rest, O. C. White..... 165,286
Heaters, frame for fire place, N. A. Boynton..... 165,298
Heating apparatus, hot water, E. F. Wackwitz..... 165,277
Hides, raising and transferring, W. Coupe..... 165,212
Hinge, gate, G. Marsh..... 165,351
Hog-ringing apparatus, S. & J. W. Sparks..... 165,254
Hook, bench, C. E. Smith..... 165,262
Hook, snap, C. E. Jackson..... 165,338
Horseshoe, J. Wanstall..... 165,278
Hose, hydraulic, L. H. Downing..... 165,159
Hose, rubber, J. Greacen, Jr..... 165,324
Hub, E. F. Friend..... 165,225
Ice cream, etc., measuring, T. Buckhard..... 165,301
Insect-destroying compound, E. Wilkins..... 165,289
Insect powder box, W. J. Van Patten..... 165,276
Iron and steel, flux for welding, D. Miles..... 165,246
Journal bearing, A. B. G. A. Williams..... 165,392
Knitting bullion fringe, E. P. Curtiss..... 165,311
Lamp chimney, R. Norris..... 165,361
Lantern, magic, L. J. Marcy..... 165,242
Liquid filtering apparatus, T. R. Sinclair..... 165,377
Liquids, dispensing effervescent, L. Warker..... 165,391
Lock for safe and vault doors, J. Sargent..... 165,370
Lock, seal, L. I. Todd..... 165,384
Mail bag, Boyle & Stephens..... 165,205
Mail bag catch, Amrock & Judson..... 165,293
Mallet, A. G. Fellows..... 165,221
Match box, O. H. Hicks..... 165,329
Measuring distances, F. Weldon..... 165,282
Metal or paper gage, E. W. Dennison..... 165,158
Mill, metal rolling, J. I. Williams..... 165,290
Molds, blackwashing, J. B. Aston..... 165,196
Mortising machine, J. Berry..... 165,294
Muff, ear, E. Strauss..... 165,273
Music stand, J. Lyons..... 165,346
Nails, making chisel-pointed, G. Stacy..... 165,330
Nut lock, D. D. Jones..... 165,167
Oil casks, sinks for, F. C. Wyckoff..... 165,399
Ordnance, projectile for, H. Reilly..... 165,235
Paper bag machine, C. B. Stillwell..... 165,281
Paper bag machine, C. Van Hoosen..... 165,390
Paper damping machine, C. Kahler..... 165,238
Paper pulp, bleaching jute for, E. Conley..... 165,172
Paper pulp screen, J. S. Warren..... 165,192
Paper vessel, J. Stevens..... 165,270
Paper, etc., device for protecting, J. L. Firm (r)..... 6,533
Planoforte action, T. P. Carr..... 165,304
Picture frame hanger, A. Brown..... 165,206
Pile driver, steam, T. T. Loomis..... 165,170
Piles of old rails, forming, J. Downing, Sr..... 165,219
Pipe cover, smoking, F. L. Suter..... 165,274
Pipe tongs, S. Stone..... 165,271
Plane, dado, Miller & Bailey..... 165,356
Plane iron, W. Young..... 165,291
Plane, tonguing and grooving, C. G. Miller..... 165,355
Planing machine, J. K. Smith..... 165,264
Planter and fertilizer distributor, D. F. Balentine..... 165,198
Planter, corn, W. B. Garoutte..... 165,322
Plow, G. Ringen..... 165,179
Plow, vineyard, M. Ross..... 165,253
Pocket book frame, B. M. J. Blank..... 165,203
Pocket book lock, F. Klinn..... 165,239
Potato bugs, destroying, Mathewson & Mills..... 165,243
Press, A. W. Harrington..... 165,327
Press, baling, H. L. Pike..... 165,252
Press, power, J. E. Coffin..... 165,306
Printer's leads, making, L. W. Tracy..... 165,257
Pump, E. McDermott..... 165,214
Pump, A. M. Putnam (r)..... 6,537
Pump chain adjuster, J. B. Brown..... 165,207
Pump bucket, chain, W. C. Barker (r)..... 6,351
Purifier, middlings, J. C. & F. C. Knoebel..... 165,240
Quartz mortar, A. W. Anderson..... 165,146
Radiator, E. Russell..... 165,181
Railway signal, circuit closer, S. Weeks..... 165,281
Railway sprinkler, G. M. Stephens..... 165,194
Railway switch, J. C. Wilhelm..... 165,287
Railway wrench, J. R. Finley..... 165,319
Regulator, feed water, J. Wertheim..... 165,283
Rein holder, Bulger & Inglis..... 165,153
Sad iron, S. Elliott..... 165,160
Sample holder, revolving, J. H. Preater..... 165,366
Sash fastener, W. Brown..... 165,300
Saw, Brown & Sedore..... 165,152
Saw, jig, S. B. Fuller..... 165,162
Saw set, A. E. Hoffman..... 165,332
Saw wheel, band, F. Gleason..... 165,323
School settee and desk, J. Peard (r)..... 6,536
Screws, threading wood, Frindle & Kennedy..... 165,367
Separator, grain, H. H. Seely..... 165,373
Sewing machine, O. T. Gronner..... 165,325
Sewing machine, McKay & Mathies (r)..... 6,535
Sewing machine needle, G. H. Biebeck..... 165,204
Sewing machines, etc., driving, W. J. Lane..... 165,338
Sewing machine motor, W. J. Lane..... 165,339
Shaft, knuckle coupling, O. D. Herrick..... 165,231
Shingles, cutting, G. H. Degraw..... 165,313
Signal apparatus, electric, C. A. Stearns..... 165,153
Skate, Dexter & Tanner..... 165,216
Skins, preparing or tanning, E. Manasse..... 165,348
Skirt elevator, G. W. Denny..... 165,215
Smoking case, H. W. Dann..... 165,215
Snow plow, Reeder & Fetterhoff..... 165,177
Soda water apparatus, W. Loughbridge..... 165,343
Soldering apparatus, G. H. Perkins..... 165,362
Speeder, T. Mayor..... 165,352
Spinning machines, fler for, C. K. Pevey..... 165,363
Spoke socket, B. Poulson..... 165,365
Stamp canceller, D. M. Cooper..... 165,308
Steel welding compound, etc., S. Slater..... 165,378
Stereoscope, H. J. Lewis..... 165,241
Still, J. B. Beam..... 165,201
Stove, W. Burrows..... 165,208
Stove, heating, A. Bettes..... 165,295
Stove, heating, S. H. Kreider..... 165,335
Stove heating, H. J. Ruttan..... 165,259
Stove, parlor cook, A. White..... 165,393
Stoves, self-closing door for, N. A. Boynton..... 165,297
Strainer for pots, P. Michels..... 165,354
Strap slide, breast, T. C. Crenshaw..... 165,214
Straw cutter, A. Vahldeh..... 165,389
Table leaf lifter and support, T. E. Smith..... 165,265
Tag stringing machine, W. L. Nye..... 165,177
Tailor's measure, W. D. C. Tilney..... 165,388
Tanning hides, A. DeMeritens..... 165,314
Tanning skins, preparing or S. Manasse..... 165,348
Teeth, celluloid bases for artificial, J. G. Cannon..... 165,303
Telegraph, automatic, P. B. Delany..... 165,156
Telegraph, duplex, G. Smith..... 165,263
Telegraph, printing, J. E. Smith..... 165,379
Telegraph relay, P. B. Delany..... 165,157
Tyre upsetting machine, M. G. Schenck..... 165,261
Tube expander, P. Fitzgibbons..... 165,320
Valve gear, G. E. Tower..... 165,186
Valves, globe, J. Powell, (r)..... 6,523, 6,529
Valves, steam, H. E. Marchand..... 165,349, 165,500
Vegetable cutter, S. Hauck, Jr..... 165,229
Vehicle seat, J. R. Hill..... 165,331
Vehicle spring, Doland and Scherb..... 165,218
Vehicle wheel, W. Corris..... 165,211
Ventilator, P. Mihan..... 165,245
Vessels, raising sunken, J. N. Furman..... 165,226
Warehouses, foodway for, J. H. Morrell..... 165,247
Wash bench, G. Bauman..... 165,149
Wash stand, N. O. Bond..... 165,296
Washing machines, J. Myers..... 165,358, 165,359
Watch chains, charm for, R. B. Esler..... 165,317
Watches, safety pinion for, L. W. Thompson..... 165,275
Water closet shut-off, J. Cavanagh..... 165,209
Water closets, cleansing, J. J. O'Donohue..... 165,174
Water mains, tapping, J. Curran..... 165,310
Water trap, W. A. Butler..... 165,192
Water wheel, turbine, S. R. Jenner..... 165,334
Whiffletree plate, R. S. Porter..... 165,176
Whisky, manufacturing, E. Wernigk..... 165,392
Windmill, W. H. Aldrich..... 165,292
Windmill, W. A. Guzman..... 165,326
Windmill, D. C. Stover..... 165,272
Wire, machine for rolling, J. & S. Law..... 165,341
Wood, machine for carving, J. F. Blackman..... 165,150
Wrench, railroad, J. R. Finley..... 165,319

DESIGNS PATENTED.

- 8,452.—WRITING PAPER.—H. D. Cone, Stockbridge, Mass.
8,453.—COFFIN PLATES.—W. Parkin, Taunton, Mass.
8,454.—TYPE.—J. Herriet, New York city.
8,455, 8,456.—NUTS.—J. Phipps, Philadelphia, Pa.
8,457.—CARPETS.—T. J. Stearns, Boston, Mass.
8,458.—STOVES.—J. Van Wormer et al., Albany, N. Y.
8,459.—STOVE.—N. S. Vedder, Troy, N. Y.
8,460.—STOVE.—A. Wemyss, Philadelphia, Pa.
8,461.—EMBROIDERY.—E. Crisand, New Haven, Conn.
8,462.—COOK STOVE.—J. Dwyer, Detroit, Mich.
8,463.—TYPE.—W. W. Jackson, Philadelphia, Pa.
8,464, 8,465.—GLASSWARE.—J. B. Lyon, Pittsburgh, Pa.
8,466.—TOY BLOCKS.—S. Lyman, Leominster, Mass.

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

CANADIAN PATENTS.

- LIST OF PATENTS GRANTED IN CANADA, July 7, 1875.
4,950.—C. Dean, Crowland, Ont. Radiator for boiler flues. July 7, 1875.
4,951.—J. A. Wilson, Chester, Vt., U. S. Clothes wringer and bench. July 7, 1875.
4,952.—W. W. Price, Pettitcodiac, N. B. Lantern and dinner kettle. July 7, 1875.
4,953.—T. Elliott, Smith, Ont. Hay rake and loader. July 7, 1875.
4,954.—C. G. Force, Jr., Cleveland, Ohio, W. S. Arches for sewers and for other purposes. July 7, 1875.
4,955.—Wm. Abercrombie, Hamilton, Ont. Door-relish ing attachment. July 7, 1875.