

a revolving ring of liquid metal, let the box rest and watch the motion as the metal subsides. If there is about enough quicksilver to make a complete ring...

(30) C. C. K. asks: Is there a south polar star similar to the north polar star? A. The north polar star in the Little Bear is not exactly over the north pole...

How do explorers tell the heights of mountains? A. Explorers as well as aeronauts measure the heights of mountains by means of the barometer...

(31) M. H. R. says: It is a common observation among country people that a new moon is a wet or a dry one, according to the upright or horizontal position of its horns...

(32) J. H. asks: Can anything be added to ink made from nutgalls and sulphate of iron that will cause it to be black when first used...

(33) S. L. L. asks: Has the name carbonic acid recently been changed to carbonic dioxide? If so, why? A. Carbonic oxide is the compound formed by the combination of carbon with one equivalent of oxygen...

(34) C. P. asks: I want to know the cheapest and simplest apparatus for compressing air in a receptacle of two quarts capacity...

(35) J. S. asks: Will paper keep a number of years, free from damage, even if placed in an excessively damp and dark hole...

(36) J. A. asks: Can I use a tin baking pan for a photographing bathing sink without injury to the chemicals? A. No.

(37) H. M. asks: Does the sun's heat shrink or expand seasoned wood? A. The expansion of the woody fibers by heat is more than counterbalanced by the shrinkage due to the consequent evaporation...

(38) E. T. D. asks: Which is the most certain and quickest mode of discharging colors from cotton prints and delaines? A. Use chloride of lime.

(39) N. A. B. asks: How can I determine the electromotive force of a galvanic battery? A. To one not familiar with the science of electrical measurements, such determinations may be somewhat problematical...

Can metallic silver be obtained by heating the nitrate in a crucible? A. Yes, by the addition of a small quantity of borax and resin.

(40) S. R. A. says, in answer to correspondents who ask how to destroy ants: Take a pasteboard box with a good lid, so that it can be made dark; cut a small hole near the bottom...

water in a dish pan. You can guess the rest. Repeat the process until the supply of ants is exhausted. The same bait will last all the summer...

(41) J. E. A. says, in answer to several correspondents: The reason why the screws now in use do not utilize the power is because the pitch of the screw doubles from the outside in nearing the shaft half way...

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

A. M. S.—No. 3 is a tannate of gelatin, and will doubtless answer all your requirements. It is probably made by steeping sheet gelatin in a solution of tannin...

J. H. asks: How is the pretty imitation of pearl in ladies' dress buttons and parasol handles produced on tin or other metallic sheeting?—E. M. asks: How is a dry or magic shampooing powder made?—C. M. K. asks: Are the trimmings called Hamburg edgings made by machinery or by hand?

COMMUNICATIONS RECEIVED.

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

- On the Keely Motor. By W. J. J.
On the Spider's Web. By T. H.
On a Glass Oil Can. By A. B.
On Western Lands and Emigration. By T. E. L.
On Keely Transactions. By G. H.
On Boiler Incrustations. By B. B. S.
On Fishing Sinkers. By P. B. T.
On Large and Small Axles. By T. W. P.
On Gold Coinage. By J. R.
On Bee Culture. By L. E. C.

Also inquiries and answers from the following: J. M. S.—J. C.—W. A. C.—F. W. D.—G. A. D.—M. E.—R. A. C.—J. S. C.—K. W. C.—J. W. M.—G. R. B.—F. N. M.—D. P. H.

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.

Inquiries 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 a self-registering device for indicating the flow of water over a weir? Who sells books on aeronautics? Who sells drive well tubes? Whose is the best ice-making process? Whose is the best burglar alarm? Who sells lamp chimney cleaners? Who makes the best rock drills? Where can steatite (soapstone) be bought? 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...

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH Letters Patent of the United States were Granted in the Week ending August 10, 1875, AND EACH BEARING THAT DATE. (Those marked (r) are reissued patents.)

Animal clipper, T. L. Phipps. 166,631
Ash chute, J. P. Schwelkert. 166,637
Auger hollow, A. A. Wood. 166,673, 166,674
Awning, F. C. Lussenhop. 166,618
Bale tie, H. B. Jones. 166,614
Bale tie, A. A. Szabo. 166,652
Bale tie clamp, H. Z. Young. 166,491
Baling hay, cotton, etc., J. M. Seymour. 166,640
Bed bottom, T. L. Odell. 166,545
Bed bottom, C. V. B. Reader. 166,634
Bedstead, sofa, S. Squires. 166,566
Bed coupling, J. Hare. 166,457
Belt shifter, J. D. Isaacs. 166,464
Bilge water valve for ships, J. W. Hughes. 166,526
Bird cage, A. L. Edwards. 166,595, 166,596
Boot and shoe, Meyer & Freiburg. 166,621
Boot heel, A. A. Danforth. 166,507

Boot, inner sole, A. Van Wageningen. 166,664
Boot leather tip, A. Van Wageningen. 166,658
Boot strap protector, H. P. Osborne. 166,547
Boot, wooden soled, M. J. S. Falcon. 166,517
Boot, rubber, I. F. Williams. 166,669
Boot tree, Cass & Rankin. 166,499
Boots, sewing on soles of, T. J. & M. C. Denne. 166,509
Box scraper, G. Meyer. 166,540
Brake pipe coupling, G. Westinghouse, Jr. 166,489
Brick machine, A. Morand. 166,544
Bridle bit, L. F. Jud. 166,615
Brush, S. A. Miles. 166,542
Brush, M. E. Hawkins. 166,607
Burner, gas, P. F. Jontè. 166,531
Burner, lamp, A. Barker. 166,493
Burner, lamp, S. R. Wilmot. 166,670
Burner, refuse, Smith & Walker. 166,650
Button, sleeve, J. G. Missimer. 166,543
Can, milk, Hawley & Mead. 166,525
Can seam machine, L. C. Beardsley (r). 6,582
Can, sheet metal, L. C. Beardsley (r). 6,583
Can, travelling, A. G. Gervais. 166,520
Candlestick, T. Swann. 166,651
Car axle lubricator, C. D. Flynt. 166,600
Car coupling, H. C. Hunt. 166,463
Car coupling, J. M. Marlin. 166,537
Car coupling, B. Mickle. 166,622
Car coupling, J. Slinger. 166,563
Car coupling, street, H. Kruger, Jr. 166,533
Car seats, head rest for, T. Edwards. 166,455
Carbureter, E. J. Daschbach. 166,508
Carbureting apparatus, C. M. Gearing. 166,602
Card cylinders, cleaning, H. Spaulding. 166,565
Carding engine, wool, A. H. Woodbury. 166,578
Carding condensing mechanism, M. A. Furbush. 166,601
Carriage, R. L. Ogden. 166,546
Chain links, welding, B. Hershey (r). 6,589
Chair, H. Reupke. 166,555
Chair seat, nursery, S. S. Newton. 166,474
Chair, ship's, D. Parks. 166,628
Cheese press, Dolph & Smith. 166,512
Chuck and center, J. R. Mason. 166,538
Cigar box, M. Lichtenstein. 166,534
Cigar building machine, N. Du Brul. 166,591
Cigar mold press, J. Simpson. 166,643
Clamp for pressing leaves, C. W. Holbrook. 166,608
Clasp for holding currency, etc., B. W. James. 166,613
Clocks, device for winding, E. Farcot. 166,518
Clothing frame, E. Brerly. 166,450
Clothes line reel, E. D. Richardson. 166,478
Clothes pounder, A. J. Harmon. 166,458
Clothes washer, H. E. Smith. 166,646
Coal, apparatus for drying, L. Jacobi. 166,612
Cock, stop, J. Mallinson. 166,472
Coffee, polishing, J. H. Slegmann. 166,641
Confectionery, dropping machine, G. Smith, Sr. 166,644
Cork, W. King. 166,467
Cornice tool, W. P. Walter. 166,666
Cotton chopper, W. D. Evans. 166,597
Cultivator, A. Schraeder. 166,636
Curtain fixture, H. Seehausen. 166,561
Cylinder, cotton press, J. F. Taylor. 166,653
Desk, reading and writing, L. G. Fairbank. 166,516
Ditching machine, H. and K. Olsen. 166,626
Drill sharpening machine, W. H. Eddy. 166,515
Drilling machine, rock, C. C. Creeger. 166,590
Egg tester, W. W. Wilson. 166,671
Electroplating glass, china, etc., E. Hansen. 166,606
Elevator, W. H. Brown. 166,496
Elevator, water, J. Chandler. 166,500
Engine, electro-magnetic, C. A. Hussey. 166,527
Engine, oscillating, J. Wolf. 166,672
Engine piston, steam, W. T. Duvall. 166,392
Engine, portable steam, McKaig and Muncaster. 166,541
Equalizer, draft, H. Sensenbaugh. 166,639
Evaporating pan, J. M. Trumbo. 166,656
Fan sticks, cutting, J. W. White. 166,751
Fare box, S. W. Francis. 166,598
Faucet, E. W. Barnes. 166,581
Faucet, D. C. Stillson. 166,482
Faucet, self-closing, D. C. Stillson. 166,483
Faucet, vent, C. H. Rauret. 166,554
Fire extinguishers, Brown and Foskett. 166,451, 166,452
Floor, fireproof, J. D. Pierce. 166,552
Furnace grate, W. Tinkham. 166,487
Gas apparatus, C. M. Gearing. 166,603
Gas, making, Smith and Goldthorp. 166,645
Gas carbureter, A. W. Porter. 166,476
Grain meter, W. Colwell. 166,593
Grain shocks, compressing, S. C. Minear. 166,624
Gun barrels, covering for, H. A. Silver. 166,642
Harrow, I. W. Hutchin. 166,528
Harvester, Gordon, Myers, Telford, and Hubbard. 166,605
Harvester, corn, C. D. Reed. 166,633
Hay gatherer, P. Russell. 166,560
Hoisting tongs, W. C. Frederick. 166,599
Hook, hat and coat, C. H. Winton. 166,576
Hoop fastening, W. Spalding. 166,564
Horn, etc., making articles, W. F. Niles. 166,475
Horseshoe, J. H. Dorgan. 166,513
Hose nozzle, W. Thomson. 166,654
Hose spanner and key, A. J. Barnard. 166,492
Hose, waterproof, S. W. Baker. 166,580
Hydrant stuffing box, etc., J. P. Hyde. 166,611
Ice cream, etc., measuring, F. Watkins. 166,667
Ice creeper, A. J. R. Phillips. 166,630
Indicator, station, L. V. Adams. 166,445
Indicator, station, S. M. Dewey. 166,510
Induction coil, J. C. Vetter. 166,488
Iron and steel, manufacture of, A. G. Cook. 166,454
Ironing apparatus, H. E. Smith. 166,647, 166,648
Knit fabrics, drying tubular, Greene et al. (r) 6,587, 6,588
Lamp, G. A. Beldier. 166,582
Lantern, C. J. Sykes. 166,484
Lathe, shell cutter, A. Hoyle. 166,462
Lathing, metallic, I. V. Holmes (r). 6,590
Leaves, clamp for pressing, C. W. Holbrook. 166,608
Letter box and milk receptacle, E. E. Miller. 166,623
Life-preserving jacket, T. Richards. 166,477
Liquids, etc., measuring, E. E. P. Clausolles. 166,502
Lock for doors, J. G. L. Martin. 166,620
Lock for doors, etc., J. G. L. Martin. 166,619
Lock for sliding doors, F. Corbin. 166,505
Lock for sliding doors, Lyon and Parker. 166,470
Lock, time, O. E. Pillard. 166,632
Loom shuttle binder, T. Blake. 166,494
Marking wheel, W. H. Bell. 166,583
Match box, T. Robertson. 166,480
Medical composition, C. C. Troutman. 166,655
Mill, J. Kaiser. 166,466
Millstone dressing machine, O. G. Vanderhoof. 166,570
Motors, governor for electric, A. MacConnell. 166,471
Mowing knives, etc., sharpening, G. V. Phelps. 166,629
Nail plates, rolling, H. Woods. 166,577
Needle wrapper, A. K. Phillips. 166,550
Nozzle, exhaust, T. Shaw. 166,562
Nut tapping machine, S. L. Wonsley. 166,490
Oil tanks, manhole for, W. H. Anderson. 166,446
Organ attachment, reed, A. Schoenhut. 166,635
Oil wells, torpedo for, R. S. Orsburn. 166,627
Paper pulp engine, A. Gardner. 166,519

Paper pulp, molding, B. F. Barker. 166,447
Pavement, concrete, Thormann & Brumshagen. 166,489
Pin, safety, A. Shedlock. 166,481
Pinchers, wire barb, Dobbs and Booth. 166,511
Pipe, etc., welding, M. Blakey. 166,443
Pipes, pressure regulator for water, F. Steele. 166,567
Piping, steam and water, J. H. Mills (r). 6,591
Planking clamp, J. Hastings. 166,524
Plow, T. M. Brous. 166,586
Plow, gang, D. A. Manuel. 166,535
Press, cigar mold, J. Simpson. 166,443
Printing press, Cook & Fosket. 166,677
Propeller, screw, L. C. & G. F. Cary. 166,497
Pump, T. Butler. 166,497
Railway signals, electric, D. Rousseau. 166,557, 166,558
Railway signal circuit closer, D. Rousseau. 166,558
Railway switch, Gill & Belsel. 166,604
Railway switch, street, A. L. Johnson. 166,590
Railway tanks, raising water into, T. Rodes. 166,556
Railways, lubricating, O'Sullivan & Murphy. 166,548
Railways, permanent way for, R. E. Nichols. 166,625
Refrigerator, R. Loud. 166,469
Sash cord fastener, J. F. Collins. 166,503
Sash fastener, J. Thorman. 166,485
Saw setting device, L. A. Greely. 166,522
Sawing machine, Frey & Elcholtz (r). 6,589
Scales, letter, A. Turnbull. 166,569
Scales, weighing, H. C. Wingate. 166,575
Seed dropper, bean and pumpkin, E. Sears. 166,636
Separator, grain, A. W. Gray. 166,586
Separator, grain, A. W. Kendrick. 166,582
Sewing machine quilter, N. Barnum. 166,448
Sewing machine trimmer, etc., W. A. Springer (r) 6,592
Shawl holder, F. Meinberg. 166,473
Sheet metal, shearing, Clark & Kittredge. 166,588
Ships, bilge water valve for, J. W. Hughes. 166,526
Shirt bosom, J. C. Coombs. 166,589
Shoe fastening nail strip, A. Van Wageningen. 166,661
Shoe tip, A. Van Wageningen. 166,660
Slate frame, J. Haggerty. 166,522
Sleigh bell, G. W. Goff. 166,521
Smoke flue and heating drum, L. T. Houghton. 166,461
Snow plow, A. J. Smith. 166,649
Soap, Hoge & Shultz. 166,609
Sole fastenings, nail for, A. Van Wageningen. 166,663
Sole fastenings, nail strip for, A. Van Wageningen. 166,659
Steam whistle, J. Rieppel. 166,479
Stench trap, J. D. Pierce. 166,551
Stone crusher, J. Comly. 166,504
Stove, cooking, Crowley & Chamberlain. 166,594
Straw cutter, W. R. Bowman. 166,585
Telegraph, electric train, Keyes & Clark. 166,616
Tools, die for forming the eyes of, J. R. Thomas. 166,568
Torpedo for oil wells, R. S. Orsburn. 166,627
Trimming edges of material, W. A. Springer (r) 6,593
Truss, J. G. Jado. 166,529
Tubing, machine for welding, G. H. White. 166,668
Tweezer, F. H. Lloyd. 166,617
Type setting machine, W. D. C. Pattysan. 166,549
Type writers, scale for, W. C. Johnson. 166,465
Vault covers, J. M. Wilbur. 166,572, 166,574, 166,573
Vehicle end gate, F. C. Brooke. 166,495
Vehicle top support, R. Hunt. 166,610
Vise, hand, L. L. Pollard. 166,553
Washing machine, W. Atwood. 166,579
Washing machine, D. & D. F. Born. 166,584
Washing machine, J. Hollingsworth. 166,460
Washing machine, McQuillan & Knepper. 166,539
Watch case, C. K. Colby (r) (design). 6,585
Water, etc., raising, Vabe & Cuan. 166,657
Water closets, etc., emptying, R. Boeklen (r) 6,584
Water wheel, J. Atkins. 166,676
Weather strip, T. Clark. 166,453
Weeding implement, C. Crofut. 166,506
Windlass, W. H. King. 166,468
Windmill, J. D. Christie. 166,501
Window blind, metallic, W. S. Mackrell. 166,535
Wire barb pinchers, Dobbs & Booth. 166,511
Wrench, M. E. Campfield. 166,587
Wrench, T. F. Dunn. 166,514
Wrench, L. O. Veber. 166,665
Wringer, C. E. Haynes. 166,459

DESIGNS PATENTED. 8,560.—CARPET.—J. Fisher, New York city. 8,561.—CARPET.—T. J. Stearns, Boston, Mass. 8,562.—BIRD CAGE.—F. T. Fracker, New Britain, Conn.

SCHEDULE OF PATENT FEES. On each caveat. \$1 On each trade mark. \$2 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

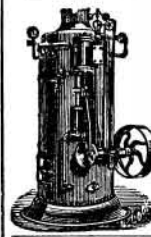
CANADIAN PATENTS. LIST OF PATENTS GRANTED IN CANADA August 7 to 19, 1875.

5,049.—C. Munn, Cairo, Ill., U. S. Veneer cutter. August 13, 1875. 5,050.—T. Kater, Hamilton City, Ont. Pianoforte. August 13, 1875. 5,051.—C. W. Lewis, Boston, Mass., U. S. Compound for destroying insects. August 13, 1875. 5,052.—H. M. Wells, Toronto, Ont. Window blind fastener. August 13, 1875. 5,053.—T. O. A. Bayley, Hamilton, Ont. False top for box stoves. August 13, 1875. 5,054.—D. S. Balfey, Dover, Me., U. S. Elevator. August 13, 1875. 5,055.—A. R. Koerber, Berlin, Ont. Reed orchestraion. August 13, 1875. 5,056.—W. Abercrombie, Hamilton, Ont. Sash clamp. August 13, 1875. 5,057.—C. F. W. E. Dittmar, Boston, Mass., U. S. Gunpowder. August 13, 1875. 5,058.—T. B. Wilson, Manchester, England, et al. Furnace.—August 13, 1875. 5,059.—W. H. Wright, Saugerties, N. Y., U. S., et al. Railway truck. August 13, 1875. 5,060.—A. Sanborn, Higganum, Conn., U. S. Swivel plow. August 13, 1875. 5,061.—G. E. Nutting et al., New York city, U. S. Steam drill. August 13, 1875. 5,062.—R. Thomas, Toronto, Ont. Cooking stoves. August 13, 1875. 5,063.—C. D. Van Allen, Guelph, Ont. Regulating air-wash churn and washer. August 13, 1855. 5,064.—J. P. Foote, Baltimore, Md., U. S., et al. Rudder brace. August 13, 1875. 5,065.—W. H. Gonne, Chatham, Ont. Sash pulley. August 13, 1875.

5,036.—B. F. Lowell, Boston, Mass., U. S. Horse hay rake. August 13, 1875.
5,067.—E. Marsland, Slag Sing, N. Y., U. S. Liquid meter. August 13, 1875.

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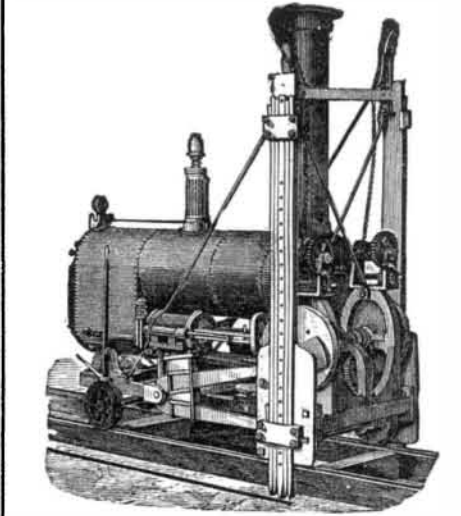
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