

Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers.]

- 1.—**PRINTER'S COMPOSITION.**—I should be glad if some of your readers would give me a recipe for a real good printer's roller composition, tough, serviceable, and one that will distribute all kinds of ink.—R. W.
- 2.—**CLOTH DAMAGED BY MOLD.**—Please inform me what will restore cloth affected by mold?—J. A.
- 3.—**MILLSTONE PICKS.**—Will some practical mechanic give me a recipe for tempering mill picks, for stones that are hard? Something that will not make the picks too hard, but will toughen the steel and keep a sharp edge.—F. A. K.
- 4.—**GUN BARRELS.**—I would like to know how laminated steel barrels and Damascus steel barrels are made, and which are the most durable for fowling pieces?—J. M.
- 5.—**FISH CHANGING THEIR COLORS.**—I wish to know the cause of the change of color in fish, as follows: I have an aquarium made of galvanized cast iron, in which the water is constantly changing. I have thirteen fish, gold, silver, bullheads, oneshiner, and four roaches, or as some call them "pumpkin seeds" or "sun fish" or "kivers." Two of these roaches change from a very pale yellow to a very deep blue black three or four times a day, the change occupying from three to seven minutes. They remain of this deep blue black color for about thirty minutes, when they change back again to their natural color as quickly as they changed from it. While they are of this unusual color, the other two roach chase them about the tank, and have bitten their fins and tails till they are very ragged; but while of their natural color, they appear to live in great harmony. I have one and a half inches of sand on the bottom, and feed the fish once every two days with worms. Only these two particular fish change their color, although I got the four at the same time, from the same pond, some three or four months ago. They were caught with a hook, but have always been healthy. An explanation would oblige.—S. M., Jr.
- 6.—**VARNISH.**—I need a pale, hard, glossy, quick drying varnish, for use on white and colored labels. Can any of your readers give me a recipe for such a varnish, which will dry in a few hours, and which will not turn yellow or dark by age?—B. F. B.
- 7.—**A STEAM ENGINE PROBLEM.**—Suppose the exhaust of a steam engine, after passing through a surface condenser, be connected directly with the boiler, below the water line, as feed water, would the engine work? It is the opinion of an eminent engineer that if everything were properly adjusted that it would.—J. C.
- 8.—**LUBRICATING OIL.**—Can any of your readers tell me which kind of oil is best for lubricating? The sugar centrifugals in our refinery, running at very high speed, appear to gum all oils used on them, especially where the spindle rests on the step of the centrifugal machine. We have tried all oils that we know of, but with little relief.—S. R.
- 9.—**LESSENING THE STRENGTH OF PAPER.**—Could one of your many thousand readers give me the much desired information, whether there is any acid, fluid, or other substance that I can put on paper to make it tear easily, and only tear where I put it? I do not want it to destroy the paper, but only to make it weaker where this fluid, acid, or whatever it may be, is put on.—C. C.
- 10.—**PRIMING OF BOILER.**—Will some intelligent reader of the SCIENTIFIC AMERICAN tell us why our boiler primes or foams so much? This occurs from once in four days to two or three times a day. We blow off once or twice a day. The water is taken by a well 22 feet deep, from a vein running through sand rock. Our boiler is 14 feet long, 40 inches diameter, with thirty-two 3/4 inch tubes, and a dome 14 inches by 2 feet high, and steam pipe 2 1/2 by 12 feet long. The cylinder is 10 by 30 inches, and the engine runs 90 to 100 revolutions per minute. Very good draft, and dome in center of boiler.—J. & I. T.
- 11.—**MERCURY AS A PROPELLER.**—I noticed in a recent issue of the SCIENTIFIC AMERICAN, in an article relating to the means used for the propulsion of canal boats, that mercury had been used as an agent to produce propulsion. I wish to ask some reader of your valuable paper in what way and manner it was employed.—F. S.
- 12.—**WALNUT STAINS.**—Can any reader of the SCIENTIFIC AMERICAN inform me if there is anything that will remove the stains of black walnut from the hands without making the skin rough or hard?—W. H. B.
- 13.—**TWISTING OF ROPE FALL.**—How can I take the twists out of a fall? I have a double block and a single block with a manilla rope three fourths of an inch in diameter. Is there any way to keep it from twisting?—C. A. B.
- 14.—**WATERPROOFING FRESCO PAINTING.**—How are water colors made waterproof by fresco painters?—P. E. S.
- 15.—**SPECIFIC GRAVITY OF HYDROGEN.**—I wish to know, from some of your readers, how many cubic feet of hydrogen gas would raise 140 pounds of the earth and balance it in the air.—S. F.
- 16.—**SOLDERING COPPER.**—I use, in soft soldering copper, muriate of zinc, which oxidizes the copper so that, when it is painted with oil paint, the paint does not dry in spots where the copper has been oxidized by the acid. What will neutralize this effect, or what kind of solution (or anything else) can be applied to the copper that the paint will dry over, and at the same time be durable?—F. E. H.
- 17.—**MOISTURE IN THE AIR.**—Can some one describe any economic method or methods whereby the moisture contained in the atmosphere may be extracted? Also, the percentage of moisture absorbed by such method from air saturated at the ordinary temperature, say 62° Fah.?—J. H.
- 18.—**VICE BOX.**—How can I fasten threads in a vice box?—B. R.

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

**FENCE.**—John A. Kysor, Leon, N. Y.—This invention has for its object to furnish an improved portable fence, simple, cheap, substantial, and reliable, and which may be easily and quickly taken down, moved to another place and again put up. It consists in the arrangement of legs or braces and hooks with the ends of panels, which are formed by attaching horizontal bars to crossbars. The adjacent ends of the panels overlap each other and are held in place at their top by inclined braces, and at their bottoms by hooks. The braces also serve as legs to support the panels away from the ground.

**HAY ELEVATOR.**—Charles E. Gladding, of Towanda, Pa.—This consists of a novel combination of a traveller, with a beam therefor, a pulley, and a tripping device. The arrangement is peculiar, yet, though difficult to describe in brief, not complicated. We judge it will be able to compete with other devices of similar character in market.

**REAMER.**—John K. Derby, of Jamestown, N. Y., assignor to Daniel A. Seymour and Elias B. Stillson, of same place, is the inventor of this implement. It is adjustable for different sized holes. The cutting device is novel, as, in fact, is the entire tool, no less than four different claims being allowed. We have no doubt this will be found a useful tool.

**GANG PLOW.**—This is a new combination of the elements of a gang plow which is simple, convenient, and effective. It consists of an arrangement of a frame, truck wheels, and various other parts, which, as they cannot well be described without engravings, need not be enumerated. The plow is one which will, we think, rank among the first class of its competitors. Michael Sikes, Mansfield, Ohio, is the inventor.

**SEED PLANTER.**—This is the invention of William Knowland and Kearnes Collings, of Henryville, Ind. It consists of a novel combination of mechanism for the planting of seeds in drills. The seeds are placed in a hopper, and conveyed by a number of conduits into furrows made by furrow openers. There are two plows for each conduit, respectively placed on the right and left, which throw up a ridge in which the seed is deposited. The seed conduit then opens a furrow in the crown of this ridge, and deposits the seed. A scraper follows, which closes the furrow. The whole is supported on wheels, which, through suitable mechanism, impart motion to the moving parts.

**PORTABLE POWER PRESS.**—In this invention the power is applied through a sweep to a vertical windlass, or capstan, the latter being provided with a sleeve, upon which the chains that draw the follower are wound. The sleeve is held from slipping on the shaft by a pin, which, when the bale is compressed, is withdrawn, and the sleeve then turns freely, so that the follower is readily placed in the proper position to receive a new bale. With the vertical windlass is also combined a crane for hoisting the bale out of the press. Thomas B. Wait, of Zena, Oregon, is the inventor.

**WHIFFLETREE COUPLING.**—Hyde Crocker, Jr., Montrose, Pa.—This invention consists of a strong cast metal plate, with a large central hole, the wall of which has an annular recess at the lower side, which plate is attached to one of the pieces to be coupled, and holds in said recess the flange of another plate, fitted into the large hole and attached to the other piece, the whole forming a cheap and simple coupling, which may be quickly bolted or riveted to the parts.

**INSTRUMENT FOR RINGING HOGS, INSERTING RINGS IN LEATHER, ETC.**—John Heesen, George Heesen, and Henry Nyland, Tecumseh, Mich.—This invention consists in the means for applying sheet metal rings to hogs' noses. Instead of sheet metal, wire may be used, with the ends sharpened; but the sheet metal, or flat ring, is preferred. When the piece is placed within the jaws of the instrument, the nose of the hog is caught between the jaws, and a single gripe forces the sharp ends or points of the metal through the skin, completing the ring and securely fastening it in the nose. It may be applied to inserting rings in leather or cloth. The inventors, therefore, claim it for all the purposes for which it may be adapted.

**DUMPING CAR.**—The object of this invention is to provide a railroad car with a jointed top or platform, which can be raised in the middle and lowered at the sides, to form inclined planes, from which its load will be spontaneously discharged. The labor of unloading sand and ballast from the cars is thus avoided, and the process carried out much more rapidly than by manual labor. The invention consists in making the car platform of two longitudinal sections, which are hinged together, so that they can be raised in the middle to discharge whatever has been placed upon them; and, also, in the use of new mechanism for raising or lowering the middle part of the platform by means of the rolling gear of the car. Jacob C. Wiswell, of Lennoxville, Canada, and Frederick A. Wiswell, of Beebe Plain, Vt., are the inventors.

**PRESSER FEET FOR SEWING MACHINES.**—James Wensley, of Philadelphia, Pa.—The object of this invention is to provide the presser foot of a sewing machine with a stitch guide, whereby, especially in leather, sewing or stitching can be done exactly parallel with seams. From the under side of the presser foot projects a feather, or rib, which is sufficiently thin to enter a seam, and thereby guide the fabric to let the stitching be parallel to the seam. The feather is secured to a spring, which is fastened to the shank of the presser foot by a screw or rivet, the feather projecting through an orifice in the presser foot. The spring can be set to regulate the depth of the feather. A point, or pin, projecting from the end of the presser foot, serves as an eye guide for the operator, it being in line with the feather and above the seam.

**VAPOR BURNER.**—George H. Wilson, of Mansfield, Ohio.—This invention consists in the arrangement of heating and conducting tubes for heating the oil and air, a flame regulator, and a disintegrator for the oil, whereby the inventor claims to have produced a burner superior to those hitherto used for burning the vapors of hydrocarbons. The disintegrator consists in a quantity of sand confined between two diaphragms of perforated substance, or gauze wire, which, besides serving to prevent the too rapid flow of vapor or oil, or the escape of the oil before vaporizing, also serves to facilitate the vaporizing of the particles.

**COOKING STOVE.**—Henry T. Holmes and Wallace H. Priest, of Little Falls, N. Y.—This invention consists in a new way of arranging the fire pot and air chamber of a cook stove with relation to each other. Two fire pots are used, and it is claimed that by the arrangement of these pots in the chamber, and the method of admitting the cold air thereto, much of the heat radiated by them may be saved; and that, by the employment of two fire pots, a considerable economy of fuel will result, when only one pot is to be heated; and the heat will be concentrated on the pot, instead of the cross bar, which is very soon ruined in the stoves of ordinary construction, being exposed to the most intense part of the fire, and the heat of which, passing through the plate, is lost, as far as the application of the vessels is concerned. The heating chamber, in which the fire pots are placed, is also of peculiar construction, and forms a part of the claim.

**FLESH FORK.**—This improvement consists in the mode of attaching the two outer tines to the shank of the fork. Three tines are used, the middle tine being an elongation of the shank of the handle. The two outer tines are made of a single piece, which passes through the shank, the ends being properly tapered and bent to correspond in form with the tine. As heretofore made, a round hole has been punched through the shank, and the piece forming the two outer tines is made to fit, being simply a piece of round iron or steel, of the required size, tapered and bent as before stated. The forks are made of iron or steel, or of both, and are tinned over to prevent oxidation. This thin coating of tin is all the fastening which the round iron has in the shank, or all that is depended upon to prevent the iron from turning in the hole. In lifting with the fork, the tendency is to loosen this connection, as the strain at times is great, and the result is that after using such forks, and while the outer tines drop down, by reason of the loosened shank connection, the fork becomes worthless. To remedy this, the inventor makes a square or other shaped hole through the shank, and makes the piece which forms the two outer tines to fit it. He also enlarges the shank around the hole to give additional strength where the strain is greatest. By this improved mode of manufacture the fork is claimed to be made strong and durable, and suited for army and navy as well as for household use.—Paul Fisher, of Brooklyn, N. Y., is the inventor.

**RAILROAD CAR VENTILATOR.**—This invention provides among other things for the adjustment of car windows, so that they may be partially swung open to allow the outflow of the heated air, and at the same time present an oblique position to the direction in which the train is advancing. Provision is made for admission of fresh air, from the advance of the train, and allowing the air exhausting from the car to pass out at the side windows, which, being arranged as described, are particularly favorable for use in this way, as the cinders cannot possibly enter the openings on account of being thrown off by the oblique windows. The oblique windows also facilitate the exhaust by creating a partial vacuum behind them and at the openings to be supplied by the air from the tube at the top of the car which admits the fresh air. The employment of three-bladed valves in openings in the upper part of the car also constitutes a part of the claim. Nathaniel Jones, of Buffalo, N. Y., is the inventor.

**SHUTTLE FOR SEWING MACHINE.**—George H. Lenher, of Elizabeth, N. J.—This invention is intended to supply an improved method of attaching bobbins to the shuttles of sewing machines, more particularly to a shuttle patented by the same inventor, Nov. 27, 1866. The attachment is now made by means of a screw-threaded stud-pin, which is fixed to the bottom of the recess that carries the bobbin. A nut is applied to the eye of the bobbin, so made that it will turn freely, but cannot escape therefrom so as to be lost and give trouble.

Official List of Patents.

ISSUED BY THE U. S. PATENT OFFICE.

FOR THE WEEK ENDING JULY 4, 1871.

Reported Officially for the Scientific American.

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- 116,531.—**DRYER.**—H. W. Adams, Philadelphia, Pa., and S. T. Bacon, Boston, Mass.
- 116,532.—**DRYER.**—H. W. Adams, Philadelphia, Pa., and S. T. Bacon, Boston, Mass.
- 116,533.—**BLACKING.**—R. W. Bailey, New York city.
- 116,534.—**JACK.**—H. Ballentine, Philadelphia, Pa.
- 116,535.—**FEATHER RENOVATOR.**—C. E. Barber, W. Dean Central Village, Conn.
- 116,536.—**TRIMMING.**—J. Bauer, Newark, N. J.
- 116,537.—**DERRICK.**—W. Q. Baxter, Maple Township, Pa.
- 116,538.—**GAGE.**—T. Beach, Freeport, Pa.
- 116,539.—**SAWING MACHINE.**—H. Bean, Fredonia, Ohio.
- 116,540.—**BUGGY TOP.**—B. L. Benson, Fairview, Ind.
- 116,541.—**DIE.**—G. W. Billings, Chicago, Ill.
- 116,542.—**PITMAN ROD.**—E. S. Blake, Pittsburgh, Pa.
- 116,543.—**CARVING MACHINE.**—M. T. Boulton, Battle Creek, Mich.
- 116,544.—**PADLOCK.**—D. T. Brown, Plainfield, N. J.
- 116,545.—**TOOL SUPPORTER.**—I. F. Brown, New London, Ct.
- 116,546.—**CLEANING FIBER.**—J. Brown, Bay Ridge, N. Y.
- 116,547.—**BOLT CUTTER.**—J. R. Brown, Cambridgeport, Mass.
- 116,548.—**CAPSTAN.**—J. S. Brown, Schenectady, N. Y.
- 116,549.—**GRAIN SEPARATOR.**—J. D. Brunner, Doylestown, Pa.
- 116,550.—**REGISTER.**—H. C. Buhoup, Pittsburgh, Pa.
- 116,551.—**SPELTER.**—J. E. Burrows, Newark, N. J.
- 116,552.—**PLANTER.**—S. J. Bye, Bluff Point, Ind.
- 116,553.—**NAIL HAMMER.**—H. Cheny, Little Falls, N. Y.
- 116,554.—**WHEAT CLEANER.**—E. Chippman, Baltimore, Md.
- 116,555.—**WINDMILL.**—E. Cleaver, North Wales, Pa.
- 116,556.—**COTTON PLANTER.**—J. P. Clopton, Terry, Tenn.
- 116,557.—**SPRING.**—Z. Cobb, Chicago, Ill.
- 116,558.—**IRON SMELTING.**—C. Cochrane, Upper Gornal, Eng.
- 116,559.—**FIREARM.**—F. G. Cochran, St. Louis, Mo.
- 116,560.—**SWING.**—G. W. Cole, Canton, Ill.
- 116,561.—**POOL BALL RACK.**—H. W. Colleder, New York city.
- 116,562.—**VOLTAIC PLASTER.**—W. C. Collins, Bucksport, Me.
- 116,563.—**CARBURETER.**—M. P. Coons, Brooklyn, N. Y.
- 116,564.—**SHOW CASE.**—W. Cooper, Jr., Mexico, N. Y.
- 116,565.—**TAMPING APPARATUS.**—D. Corgan, Sugar Notch, Pa.
- 116,566.—**COUPLING.**—G. E. Darling, M. Heus, Marytown, Wis.
- 116,567.—**ADDRESSING MACHINE.**—G. A. Davison, Montona, Iowa.
- 116,568.—**TOY ENGINE.**—A. L. Dewey, Westfield, Mass.
- 116,569.—**SAWMILL.**—A. M. Dexter, Mattapoisett, Mass.
- 116,570.—**BINDING ATTACHMENT.**—G. E. Dolton, Monee, Ill.
- 116,571.—**ROCKING CHAIR.**—J. W. H. Doubler, Darlington, Wis.
- 116,572.—**PUMPING ENGINE.**—P. Doyle, New Comerstown, Ohio.
- 116,573.—**VAPOR BURNER.**—M. B. Dyott, Philadelphia, Pa.
- 116,574.—**MOP HOLDER.**—D. Edward, Montreal, Canada.
- 116,575.—**ICE CREEPER.**—E. S. Ellis, Trenton, N. J.
- 116,576.—**WATER METER.**—G. D. Emerson, Calumet, Mich.
- 116,577.—**LEAF HOLDER.**—A. Extein, J. C. Mills, Springfield, Mass.
- 116,578.—**PREPARING FURS.**—L. Falkenau, San Francisco, Cal.
- 116,579.—**NICKEL PLATING.**—M. G. Farmer, Salem, Mass.
- 116,580.—**FUNNEL.**—R. T. Fisher, G. F. Waldron, Boston, Mass.
- 116,581.—**LOCK.**—J. Fisler, G. Crompton, Jersey City, N. J.
- 116,582.—**ENGINE.**—R. N. and R. Francis, Girard, Pa.
- 116,583.—**CANAL LOCK.**—J. W. Gentry, and G. W. Barcus, Peytona, W. Va.
- 116,584.—**FREEZER.**—C. Gooch, Cincinnati, Ohio.
- 116,585.—**CORSET.**—C. A. Griswold, Willimantic, Conn.
- 116,586.—**UMBRELLA.**—G. G. Griswold, Brooklyn, N. Y.
- 116,587.—**BRICK MACHINE.**—F. L. Hall, Oneida, N. Y.
- 116,588.—**HARVESTER.**—W. H. Harman, Westminster, Md.
- 116,589.—**SUPPORT.**—D. Hartmann, Mansfield, Ohio.
- 116,590.—**SEAT.**—F. M. Hawkins, Indianapolis, Ind.
- 116,591.—**CHUCK.**—H. H. Heskett, Le Roy, Ill.
- 116,592.—**WHEEL.**—B. B. and J. R. Hill, Worcester, Mass.
- 116,593.—**FIREARM.**—F. W. Hood, Boston, Mass.
- 116,594.—**NEEDLE.**—O. L. Hoysou, Waterbury, and H. P. Brooks, Wolcottville, Conn.
- 116,595.—**CAR COUPLING.**—H. R. Howe, Hartwick, N. Y.
- 116,596.—**GOVERNOR.**—R. K. Huntoon, Boston, Mass.
- 116,597.—**STARCH.**—C. B. Hutchins, Ann Arbor, Mich.
- 116,598.—**FURNACE.**—R. Jenkins, Newark, Ohio.
- 116,599.—**SYRINGE.**—W. J. Johnson, Newton, Mass.
- 116,600.—**CORN POPPER.**—W. J. Johnson, Newton, Mass.
- 116,601.—**HARVESTER.**—D. A. Kellogg, Valparaiso, Ind.
- 116,602.—**SASH.**—J. N. Kikendall, Jr., Virginia, Ill.
- 116,603.—**CRUTCH.**—S. Kreger, Philadelphia, Pa.
- 116,604.—**DESULPHURIZING ORE.**—G. T. Lewis, Phila., Pa.
- 116,605.—**NOZZLE.**—J. Lewis, Chicago, Ill.
- 116,606.—**CLOTHES DRYER.**—C. F. Linscott, Chicago, Ill.
- 116,607.—**HOIST.**—W. M. Lloyd, New York city.
- 116,608.—**HEATER.**—W. H. Lungren, Baltimore, Md.
- 116,609.—**SHUTTLE.**—J. Lyall, New York city.
- 116,610.—**STEAM PLOW.**—M. N. Lynn, New Albany, Ind.
- 116,611.—**WATER GAGE.**—M. N. Lynn, New Albany, Ind.
- 116,612.—**DRILL.**—R. Marks, A. C. Mehne, Connerville, Ind.
- 116,613.—**PULLEY BLOCK.**—R. Marsden, Sheffield, England.
- 116,614.—**WASHING MACHINE.**—M. S. Marshall, Somerville, Ms.
- 116,615.—**COTTON GIN.**—R. W. Massey, Macon, Ga.
- 116,616.—**GRIPER.**—V. E. Manger, New York city.
- 116,617.—**MOVEMENT.**—J. H. McCamey, Wytheville, Va.
- 116,618.—**CLUTCH.**—E. McDonald, Boston, N. H. Cole, Swampscott, Mass.
- 116,619.—**VALVE.**—Edward McSteen, Pittsburgh, Pa.
- 116,620.—**HEATER.**—N. Middleton, S. Morris, Philadelphia, Pa.
- 116,621.—**DOOR FASTENER.**—J. A. Morris, Greenbush, N. Y.
- 116,622.—**HAY ELEVATOR.**—W. T. Neil, Greensborough, Pa.
- 116,623.—**FRAMING JOINT.**—J. Newton, New York city.
- 116,624.—**CURTAIN FIXTURE.**—J. Norman, New York city.
- 116,625.—**SAW MILL.**—S. M. Palmer, Glen's Falls, N. Y.
- 116,626.—**TANNER'S STEPER.**—L. K. Parsons, C. E. Getchell S. W. Fairfield, Salem, Mass.