

How's Queries

R. S., of R. I.—In distilling coal tar the benzole is contained in the naphtha of density of 27 or 28 Beaume. The coal tar from the gas works in this city does not contain benzole in sufficient quantities to pay for extracting. Put a little chlorite of lime into your naphtha, and if it contains benzole its color will change to a deep purple. Even if your naphtha does not contain benzole it is probable that it will prove a superior article for paint and for making varnish.
J. S. B., of N. Y.—If you multiply the square of the velocities of two bodies into the whole of the mass or half the mass, the proportions of the two products will be the same. The meaning of vis viva, like other meanings, is settled by authority, and the highest authorities in mathematics define it as one-half the mass multiplied into the square of the velocity.
C. P. L., of Conn.—What is known as paper parchment is made by soaking unsized common paper, such as is used for drawing on, in sulphuric acid diluted with half its volume of water, at 60°, this is well washed in cold water, then immersed in a weak solution of caustic ammonia, and again washed, when dry it is ready for use. It is indestructible by most acids and does not lose strength by wetting.
J. A., of N. Y.—Numbers of inventions for balancing slide valves have been described and illustrated in the SCIENTIFIC AMERICAN. We refer you to them. A common method is to attach a cylinder to the steam chest bonnet, and connect a piston in his cylinder to the back of the valve by links. The area of the piston determines the pressure on the valve.
M. J. L., of Md.—It has been said that Arnold's ink is made by adding a small quantity of sulphate of indigo to common ink, made of sulphate of iron and nutgalls. We have tried a number of experiments to make it in this way, but not with complete success.
J. B. M., of Mass.—Re-cut files are largely used. They are of course somewhat thinner or lighter, but are just as good. In these times every file should be saved and re-cut.
N. B. P., of Ohio.—The amount of dead weight of armor on the Rawahoie iron-clad, is 1,636 tons, including turrets, side armor and deck plating. This is from the estimate of the Novelty Iron Works, who put on the plates.
C. O. P., of Vt.—To save your silver, keep your solution as strong as possible, and precipitate with hydrochloric acid.
A. S. C., of N. J.—We are much obliged for your communication, but think we have published as much on that subject as our readers care to peruse.
U. S. N.—The radius of the link in link motion for slide valves is struck from the center of the shaft. The lead is supposed to remain the same, but it is generally increased slightly in cutting off shorter.
L. M., of —See the "American Encyclopedia" for information on sugar refining, etc., also concerning beet root sugar. We know of no better work.
D. S., of Pa.—It is said that the silvered glass reflectors absorb less light than lenses of the same size.
J. J. H., of Ky.—We refer you to Volume X., of the SCIENTIFIC AMERICAN, for information on submarine gunnery and the effect of shot fired under water.

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At the Scientific American Office, on account of Patent Office business, from Wednesday, Oct. 12, 1864, to Wednesday Oct. 19, 1864.—

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The fastenings are principally long bolts, connected to top and bottom frames, B, operated by the revolving barrel, C. The handle of the door passes through this barrel, and by turning the handle in the usual way, the arms, *a*, of the barrel press against the frames, B, and force the bolts out or in according as

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Petroleum has developed a necessity which has been the mother of another invention. It is well known that crude and refined oils, from their great permeability, readily penetrate through all wooden barrels or packages hitherto used, so that their loss from leakage and evaporation has been a large per cent, amounting to millions of dollars annually. To prevent this, metallic barrels, metal-lined barrels, etc., have been substituted, but only to prove impracticable.

Louis S. Robbins, of this city, has discovered that by first coating a barrel with drying linseed oil, which answers to the cuticle of a tree, and then treating

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Fig. 1

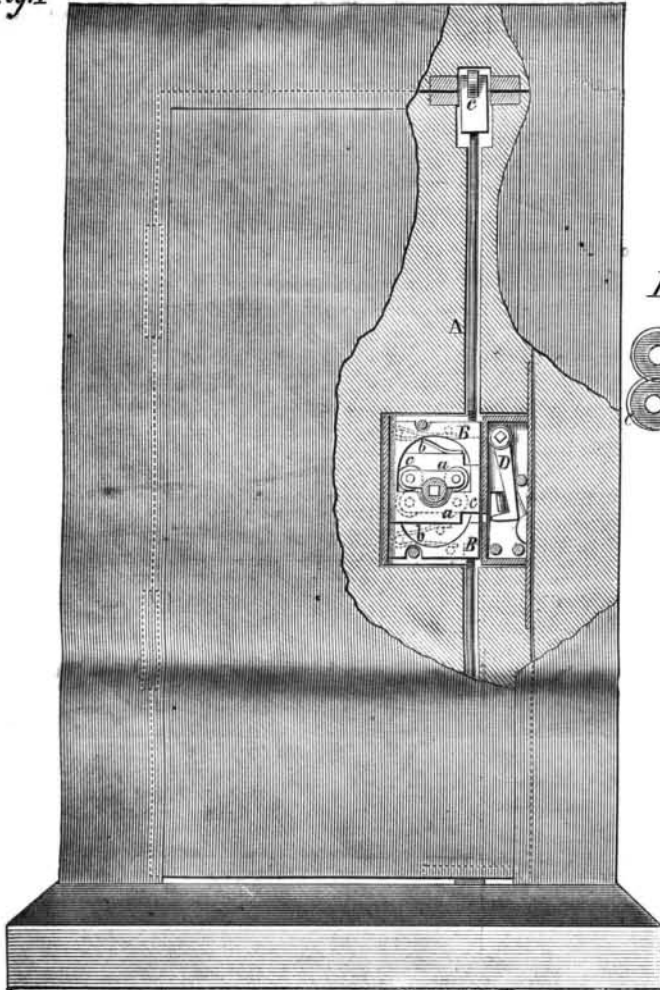


Fig. 2

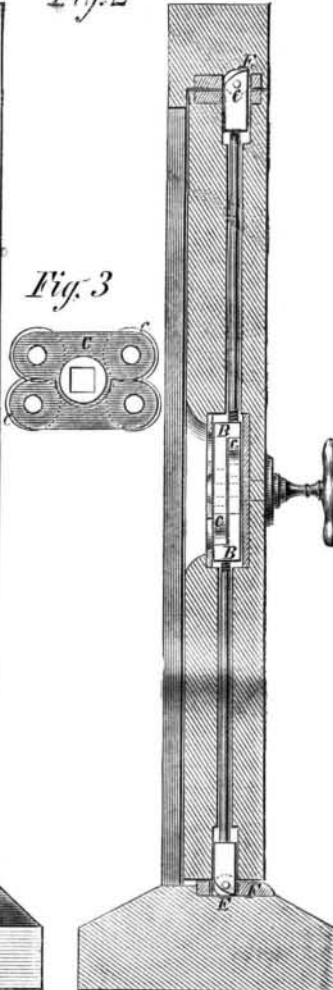
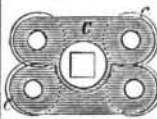


Fig. 3

**WILKINSON'S DOOR AND WINDOW FASTENER.**

the handle is turned; the springs, *b*, assist the operation by pressing the top frame up and the lower one down. There are also friction rollers, *C*, in the ends of the bolts, and the arms of the revolving barrel, so that the labor on these parts is lessened and the wear rendered imperceptible.

If it is desired to lock the window or door so that it cannot be opened except by a particular key the object can be accomplished by suspending a latch, *D*, from a pivot or center and allowing it to slide in a recess in the lower sliding frame, *B*, so that the latter cannot move unless the latch is displaced. Various ways are adopted by the inventor to secure the parts in question, and it is obvious that an endless variety of plans may be used. When the window or door is to be closed the projecting bolts slide on inclined planes, as at *E*, in the top of the door frame, and thus slip into the sockets, *F*, to receive them, so that no action of the knob is needed. This fastening is applicable to doors of every description, and to such windows as are hung on hinges, known as "French" windows, it is easily attached; it leaves the surface flush and in good condition and is a neat and easy-working device for the purpose.

Patented Sept. 30th, 1864, through the Scientific American Patent Agency, by Henry Wilkinson, of Newburgh, N. Y. For further information address him at that place.

the wood of the barrel from the inside, with a strong solution of potash—the natural circulating medium or blood of vegetation—that each barrel so treated will take up about eighteen pounds of water, which from the oil coating in the outside can never evaporate, nor can the oil pass through, thus making it essentially and positively a hermetical package. Barrels so treated, have been filled at the oil wells of Oil Creek, and after several transshipments and delays of several weeks on the way, have arrived at the Erie Railroad depot, Jersey City, in perfect condition, clean, dry and odorless as so many barrels of flour. They have not lost a drop of their oil in their passage.

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THE

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