

NEW INVENTIONS.

An Improved Valve Cock.

An improvement in the above has been invented by John Griffith, of Philadelphia, Pa. The valve cock possesses advantages over the plug cock in its lightness, and the facility with which the valve is ground tight; as at present constructed, it is frequently in practice very imperfect. It is usual to make the screw, by which the valve is opened and closed on the valve stem, and unless every part is very perfectly constructed, this will cause one side of the valve to close sooner or bear in its seat harder than the other parts, which will be liable to bend the stem, and this difficulty is attended with worse consequences when the valve has a broad bearing. The object of this invention is to provide a remedy for the above difficulties, by making the valve with a cylindrical stem, passing through a hollow stem, which forms part of the body of the cock, and is furnished outside with a screw, to which is fitted a nut. This nut carries a yoke, in which the valve stem is capable of turning freely but not of moving longitudinally. By turning the nut the valve is raised and lowered from and to its seat, in a right line; the valve being always kept in such a position that it will fall truly into its seat and close perfectly when the valve stem is turned. The inventor has taken measures to secure his invention by patent.

Improvement in Hot-Air Furnaces and Ventilators.

The method of operating the wings or ventilators of hot-air registers, has heretofore been attended with some inconveniences that appear to be obviated by a very simple contrivance invented by S. T. Munson, of New York City. The nature of his invention consists in having the wings of the register attached at one end to a slide by means of bent arms, the outer ends of which fit loosely in apertures in the sides, said arms being secured to the wings at points some distance from the centres. The slide is operated by means of a lever having a slot in it, through which slot a small projection from the slide passes. By operating the lever, motion is given the slide, and the wings are operated or cleared according to the direction in which the lever is moved. An impetus is given the lever as it is moved by means of a spring placed at its lower end. The spring also prevents the casual movement of the lever. Measures are taken to secure a patent.

Ornamental Letters for Door Plates.

C. L. Osborne, of New York City, has taken measures to secure a patent for an improvement in articles of this description. The nature of the invention consists in a novel combination of stained glass, with mirrors, for the purpose of representing, with a peculiar effect, letters, figures, and ornamental devices suitable for door-plates, signs, and similar articles. The stained glass employed is of that description which is only stained on one surface, and on this stained surface is engraved such letters, figures, or other devices as are desired, to such a depth as to remove the stain entirely from the glass; behind the glass so engraved is then placed a mirror. The effect produced is, that when the plate is viewed in any position except that perpendicular to the line of vision, the reflection of the devices engraved is seen on the mirror through the colored part of the glass, which appears illuminated, and the reflection of the colored portion of the glass is seen through the colorless or engraved portion, and presents a very peculiar and beautiful appearance.

Manufacture of Steel.

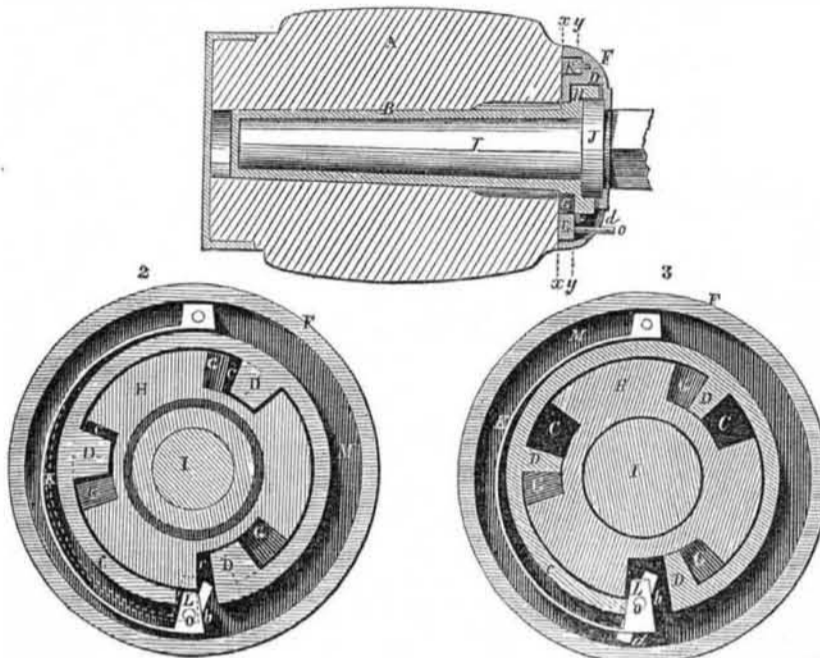
A gentleman of this city, Geo. Nimmo, has shown us some very good specimens of steel which he manufactures by a peculiar process from scraps of old wrought-iron and steel. Mr. Nimmo has prepared a flux which he uses in smelting the iron and steel which he says gives to the mixture the quality of good cast steel; this flux probably also imparts a portion of its substance to the iron. The discovery may prove to be of value to manufacturers, as the process is very simple, and the ingredients used are not expensive. The discoverer, Mr. Nimmo, has taken measures to secure a patent.

G. W. FINK'S IMPROVED WAGON HUB.

The improvement in Wagon Hubs represented by the annexed engravings, was invented by G. W. Fink, of Circleville, Ohio, for which he has taken measures to secure a patent. The hub is composed of wood with a metallic centre, in which the axle turns; it works freely and nice, is kept lubricated without difficulty, and is at the same time kept entirely free from dust and dirt, the axle being fastened at the inside of the hub. Figure 1 is a vertical longitudinal section through the centre; fig. 2 is a transverse section through the line *xx*, and fig. 3 is a transverse section through the line *yy*, of fig. 1. The same letters refer to like parts in all the figures.

I is the axle, represented within the hub, A, which has the metallic centre, B, provided with feathers upon each side to prevent its turning in the hub; it projects beyond A on the inside, at H, over which projecting part a circular grooved movable cap, F, is fitted, meeting the inside of the hub. The axle passes through this cap until it meets the collar

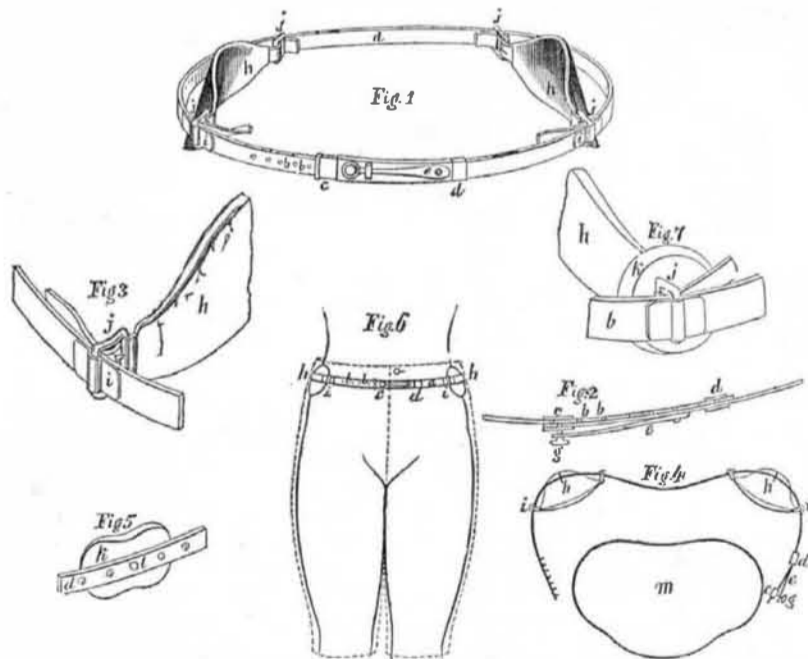
Figure 1.



which surrounds the axle, and is stationary upon it, being packed with the cap to prevent the escape of the lubricating oil. The cap, F, is then made fast to the stationary projection, H, in the following very convenient manner, in order to prevent the wheel from sliding from the hub:—M is a groove or channel cut in the cap, F, for the purpose of receiving the circular spring, K, which is made fast to the cap at one end, and has the pointed catch or key, L, upon the other end. The circular flange or projection, H, is removed at *cc*, being cut away for the reception of the lugs, D, cast within the cap, F, in the form represented in figs. 1 and 2. These lugs are chiselled

upon the inner side next the cap, so as to form a shoulder, G, under which a portion of the circular flange or projection, H, slides when it is desired to lock the axle to the hub, which is done by turning the cap, F, until the key, L, of the spring, K, passes down between one of the lugs, D, and a section of the broken collar or projection, H. When it is desired to remove the wheel from the axle it is effected by raising the spring by means of a pin, O, passing through a slot, *bd*. The outer end of the hub is closed, as shown in fig. 1 in the cap, F. This is a very neat arrangement and forms a good hub. Further information may be obtained by addressing the inventor.

IMPROVED ENCIRCLING SUSPENDER.



The annexed engravings represent an invention patented by H. H. Tinker, of New London, Conn., on the third day of December, 1851. The object of the improvement is for the purpose of supporting the pantaloons or other garments by an encircling suspender passing around the human body. It may be used by males or females, and will be found to be quite easy and convenient.

Figure 1 is a perspective view of the encircling suspender or spring. Fig. 2 is a section of the front of the spring, showing the manner in which it is clasped together. Fig. 3 is

a section of the spring representing the manner of attaching the pads. Fig. 4 is a top view of the suspender, showing the method of passing it round the body. Fig. 5 represents the pad attached to the spring by a single pivot, which is sometimes used instead of the pads, *hh*. Fig. 6 shows one of the suspenders fitted upon the body; and fig. 7 represents a small pad surrounding the buckle. In fig. 1 the spring is represented with the ends lapping one on the other. Two or more bands are attached to the spring, as shown at *cd*, or having a space or loop on the inside to receive

the other end of the spring, which, being passed through these spaces, the bands, *c* and *d*, form clasps or bracelets to guide and retain the connection of the two ends of the spring. A pin *g*, in spring, *e*, passing through the belt, *d*, at either end of the openings, *bb*, for the purpose of attaching the parts of the band together and adjusting them suitably for the wearer; *hh* are buck-skin pads or straps to rest upon the hips of the wearer; they are attached to the bands or belts of the plate, *i*; by buckle, *j*, or the pad may be a cushioned metallic plate, (as shown at *k*, fig. 5), attached to the belt by a centre pin, which may vibrate to accommodate the pad to the different motions of the body—a small movable pad encircles each buckle to make them easy to the wearer. *m*, fig. 4, represents a section of the human body, the ends of the belt being separated in the act of being put on or taken off. In fig. 6 the belt or suspender is represented in its proper position upon the wearer, having the pads, *hh*, resting upon the hips, and the dotted lines represent the garments provided with hooks, loops, or other suitable device to attach them to the suspender. The advantages of this invention are, that the weight of the garments are sustained on the hips instead of being suspended upon the shoulders, thus relieving the vertebral column. These belts may supersede the necessity of abdominal supporters, being adjustable, covered with kid or other suitable material, and well fitted to the human form; they may be underlaid with cotton or other soft substance, so as to make them agreeable to the touch, and be locked as loosely around the body as is thought proper, at the same time adjusting the pads, *h*, to the hips as closely as is thought best, this also gives liberty for the chest to expand more freely than when encased by the common suspender.

More information may be obtained by letter addressed to the inventor at Pendleton Hill, Ct.

New Steam Valve.

Notwithstanding the great variety of valves patented and in use in our country, there are few good ones yet brought before the public. Two important desiderata in the construction of valves, are simplicity and want of friction. Several accomplish the latter object at the expense of the former, and some the former at the expense of the latter. A valve has been lately invented by Jarrett Megaw, of Wilmington, Del., which is intended to avoid the friction occasioned by the pressure of steam upon it, and is, at the same time, a very simple structure. The arrangement of Mr. Megaw is substantially the following:—a conical cup is surrounded by a band, both being perforated for the admission of steam, the band is fitted to the cup and turns steam-tight upon it. As the steam is let into the steam chest it presses equally upon the opposite sides of the band and also of the cup, thus one side is made to counterbalance the other. Measures are taken to secure a patent.

Improved Dental Instrument.

F. Davidson, of Liberty, Va., has invented an instrument for removing the saliva from the mouth during dental operations, particularly in filling teeth. The manner in which Mr. Davidson accomplishes the object is by placing small tubes within the mouth to absorb or take up the saliva, which is thus conveyed by other tubes to a small cylinder or napkin placed upon the lap or by the side of the patient.—The saliva is absorbed or sucked up from the mouth by a small pump working within the cylinder, which may be operated by the subject or by another person standing by his side. Dentists are well aware of the difficulty often experienced in filling the lower teeth on account of the accumulation of saliva; sponges and astringent drugs are employed to remedy the inconvenience, but they are generally employed without success. The tubes are said to effect the object in a very desirable manner. The inventor has taken measures to secure his invention by patent.

The Atlantic steamship arrived at this port on last Saturday, having made the shortest passage this season, viz., nine days and twenty-two hours. This is the fastest passage the Atlantic ever made.