Improved Screw Wrench.

The object of this invention is to permit the quick adjustment of the movable jaws of screw wrenches where the relative position is changed to receive nuts of various sizes, and thus to save the time occupied in moving it the entire distance by the screw.

The engravings give an excellent representation of the wrench, showing the device in two positions; Fig. 1 showing the wrench adjusted for use, and Fig. 2 showing it in position to permit the rapid movement of the movable jaw to the place desired.

The shank of the wrench has a worm rack cut on the back as shown. The movable jaw has, at the back, two projections, which carry the worm and its pivot. The pivot of the worm is itself pivoted at A, and its free end shuts into a recess formed in the projection at B. When thus shut into the recess, the worm engages with the rack, and by turning it slightly the requisite nicety of adjustment is secured. The edges of the worm are milled so as to afford a good hold for the fingers. When the worm is thrown out of its engagement with the rack, the movable jaw may slide along on the shank till it nearly approaches the required position.

A spring catch in the end of the worm pivot engages with a suitable recess in the projection, B, to lock the pivot in its place, when the worm is in the position shown in Fig. 1; and a thumb piece is used to press back the catch when the worm is to be thrown out of gear, as in Fig. 2. When, however, the jaw is to be moved only a small distance, the worm is used in the usual manner.

The thread of the screw nearest the neck in Fig. 2, is beveled so as to readily enter, the rack, which latter is cut in a rib extending the whole length of the back of the shank.

The wrench, in addition to the facility it affords for rapid adjustment, is strong and light, and, we should judge, durable.

It was patented Nov. 22, 1870. For further information address Conrad Cline, Martinsburg, West Va., or Peter Burress, Braidwood, Ill.

Fig. 1

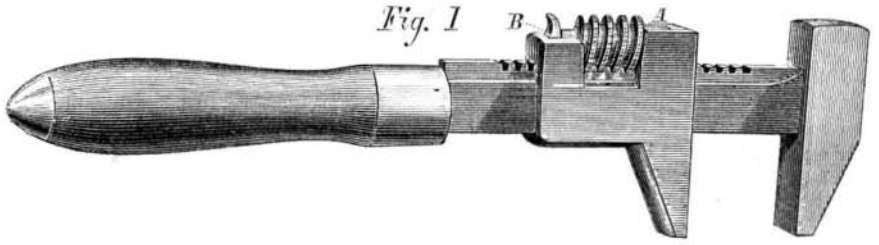
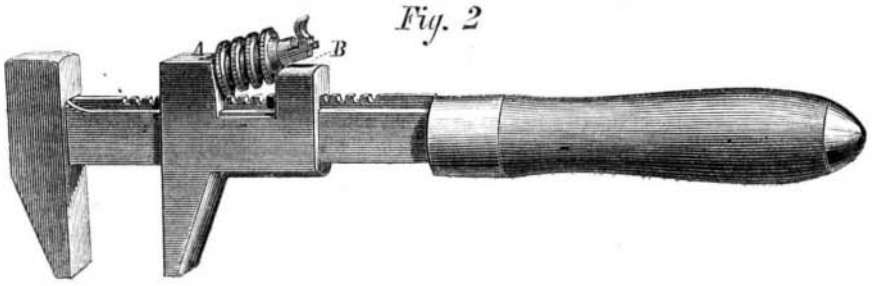


Fig. 2



BURRESS AND CLINE'S IMPROVED SCREW WRENCH.

EGG TONGS.

Mr. W. F. Hellen, of Washington, D. C., has patented, in this device, a very convenient and graceful table implement, by which hot boiled eggs may be handled without injury to the fingers.

The accompanying engraving shows the device so clearly that no explanation is needed. Lovers of hot boiled eggs will find this article a great addition to the luxury of eating them as hot as desired, as by their use, an egg may be held without discomfort; and the end of the shell being removed, the remainder of the shell forms a cup in which the egg may be seasoned and prepared for eating. Another advantage is, that the fingers need not be soiled by the contents of the shell, when eggs are eaten, as they always ought to be, soft boiled.

American Iron Ships.

The Wilmington (Del.) *Commercial* states that on the 11th March, the ship-yards of Wilmington sent away a splendid iron sea-going steamship, of over 1,600 tuns capacity. On the 18th inst., they sent away another iron steamer, intended for the Chesapeake Bay service, of about 500 tuns. Three more iron vessels are now being built in the Wilmington yards, one of which will be a heavy sea-going steam propeller, of 2,000 tuns or over, intended for the Boston and Baltimore trade; another is a Government steamer, built under contract with the Treasury Department; and the other a lighter, of comparatively small tunnage, intended for South America.

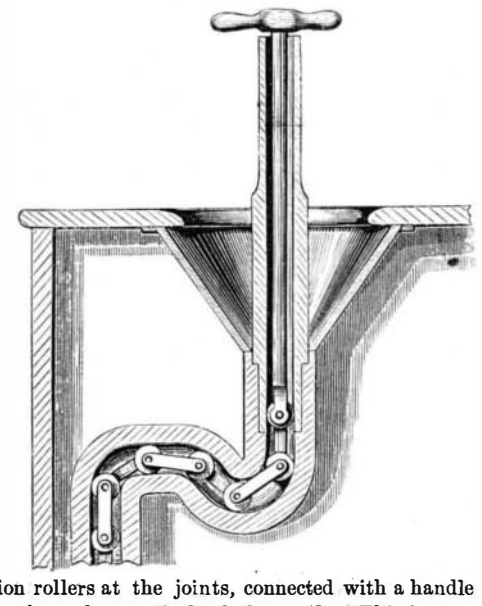
It says that the Wilmington yards can build the like of any ocean steamer now in use, except the *Great Eastern*, and can do the work well and promptly, and adds that they have built more iron vessels than all other yards in the United States put together, which we believe is the fact.

The Denver Artesian Well.

The Denver *News* gives an interesting account of the progress, difficulties encountered, and encouraging prospects of the artesian well, commenced last summer on one of the hills east of the city. The necessary tools, engine, and men were procured, a shaft sunk to the bed rock, and boring commenced. At 250 feet the water rose 80 feet. The strata passed through, being a soft soapstone, there was great difficulty from caving, but the bore was carried down to 430 feet, when casing became indispensable. Two hundred and sixty feet of casing were ordered and put in without trouble, but more was necessary. Two hundred feet more were ordered, but were two months in arriving. Then, after great trouble and some delay, enough casing was put in to make 396 feet, when a slide deflected the column one joint above the lower end. Then came more trouble in straightening it; then came the cold December snap, freezing up everything. Since the weather moderated, the pipe has been straightened and boring recommenced. At 530 feet the soapstone was passed, and a stratum of fine-grained sandstone entered. With it came a powerful stream of water, filling the well 300 feet. Then came more caving, and drilling had to stop at 535 feet. The casing was afterwards driven nine feet, and will be pushed down and drilling recommenced. The water has risen to within 120 feet of the surface, high above the streets of Denver, and is pure and soft. It is believed that 250 or 280 feet further will give a flowing well. The work so far has cost $6,000, and a few citizens have borne the burden. At a meeting of the subscribers it was resolved to ask the city and county each to contribute $2,000 to complete the work. Considering the public benefit conferred if the well be a success, as it seems likely to be, there is little doubt that the city and county both will help the enterprise through. The same machinery will be available to sink many wells in different parts of the country, providing this be carried to a success.

DEVICE FOR CLEANING TRAPS IN SOIL PIPES.

Considerable trouble is often experienced in cleaning the traps of water closets, soil pipes, etc., when they have become clogged. Our engraving shows an ingenious device for this purpose, invented by James Wright, of New York city, and patented in June, 1867. It consists of a series of links, with



friction rollers at the joints, connected with a handle which works through a vertical tubular guide. This is a useful implement. Its operation is so well shown in the engraving that further description is unnecessary.

Curiosities of Genius Relating to Inventions.

It must be taken, we suppose, as a proof of the versatility of genius, that we always find that the professions and trades of these intractable inventors have not the remotest connection with their valuable mechanical, chemical, and warlike discoveries. Thus, a clergyman may send breech-loaders and tremendously destructive shells, while the nurseryman and market-gardener proffers improvements in surgical instruments, and the doctor a contrivance for forwarding the ripening of fruit on walls. One grocer demands space for the exhibition of a new axle, applicable to all carriages, a new projectile for ordnance, and a new method of propelling ships. An M. A. and F.R.G.S. has models of an invulnerable floating battery, a breech-loading gun and carriage, a means of converting guns of old pattern into breech-loaders, a refuge buoy, a beacon, a cork poncho mattress, a life, limb, and treasure preserver, an unfoulable anchor, and some new screw propellers. An accountant asks space for a model of a self-acting water-closet, with water, meter, and apparatus for regulating the flow of water, all in one; the model of an improved theodolite, and an omnitonic flute, all to be shown together! A bookseller seems overflowing with invention. He has a plan of interminable suspension, applicable to bridges, aqueducts, etc., of great span or length, and by which he means to do away with the costly supports hitherto used; a target-shooting protector for the safety of those employed to note the score; a new paddle-wheel, by which to secure a greater amount of power than is attainable by any other arrangement; a self-acting railway signal, for day and night, and bolts for gates at level crossings, whereby to prevent the gates from being opened while a train is within a quarter of a mile, or any convenient distance; a safety-spring mining cage, to secure the safe lodging, or prevent the falling, of the cage, in its ascent or descent, when conveying men or goods up or down the mine shaft, should the rope or chain break, or become disarranged; a new window sash fastening and door bolt, by which to attain perfect security, from the impossibility of unfastening them from the outside. A barrister wishes to exhibit two architectural designs; a pair of spring-heeled boots, and a drawing of a man equipped with them; diagrams of Coryton's system of fairway lighting off the coasts of Great Britain; a type-composing machine and hand-stamp; models and drawings illustrative of Coryton's atmospheric guide propeller, and Coryton's self-adjusting sails. An insurance broker has specimens of wines and other fluids, fined by a new and more effective process, and a model of the apparatus used; electric telegraph cables and conductors; model of an improved ship, and of parts thereof; specimens of improved pavement in carriage roads; specimens of improvements in iron houses, etc.; specimens of building stone, preserved by a new material; model of a machine for dressing stone; specimens of improved junctions of iron pipes, to prevent breakage; specimens of a new description of embroidery; specimens of paper hangings; specimens of an improved floor cloth. These, likewise, are all to be shown together.

[We find the above in one of our exchanges, and we can fully confirm the correctness of the theory, that inventions intended for a specific trade are most apt to originate with those who have no connection with the business—mere lookers on, who see what is needed more than they feel it.

COMBINED PRUNING HOOK AND SAW.

This combination is a useful and convenient one. The saw is used to sever such branches as are too large to be cut off by the hook, and the tool, when placed on a handle of proper length, will save a vast amount of laborious climbing, in the pruning of fruit trees. The engraving well illustrates the form and construction of the implement. It is the invention of Jeremiah Schroy, of Fortville, Ind.

Such inventions as this, which require neither large ingenuity in the devising, nor large capital in the manufacture, if they combine usefulness with cheapness, scarcely ever fail to reward their inventors. The little things that a great many want, pay better than the large ones that are only required by a few.

Malt Without Germination.

The process of malting, as is well known, consists in steeping barley in moisture till germination has commenced, and then roasting the malt to arrest the growth. When done, the product easily yields, to water, a saccharine principle, making a sirup or "wort," easily fermentable; and when fermented, giving a large proportion of alcohol. The time taken in malting, and the troublesome nature of the somewhat delicate process, has led many chemists to search for means of producing a wort artificially, but as yet the organic matter has defied synthetical imitation. But a new invention is announced, by which a wort can be produced from barley, without germination. The process is as follows: The barley (fifty parts by measure) is put into a vessel, and steeped in thirty parts of sulphuric acid diluted to one per cent; the vessel is then covered lightly, and placed in a water bath, kept at a steady temperature of 105° Fah. The vessel must be left in the water bath for seventy-two hours, and the contents frequently stirred to insure contact of the acid with all the barley. At the end of the process of steeping, the barley becomes soft and easily crushable, the silica in the bran being destroyed by the acid. It should be dried, and then has the appearance and smell of malt, and, we are assured, makes an excellent wort. The saving of time and trouble are altogether in favor of this process, which the inventor, Dr. Fleck, of Dresden University, has lately discovered, and on which he is now laboring with a view of rendering it easy and practicable on a large scale.

DRILL LUBRICATOR.—In drilling wrought iron, use one pound of soft soap, mixed with a gallon of boiling water. This is a cheap lubricator; it insures working with great ease, and clean cutting by the drill.