

**Patent Extension Cases.**

Applications are now pending before the Patent Office for the extension of the following patents:—

**Machine for Raising and Lowering Weights.**

—Patented by Ephraim Morris, of New York, July 5, 1845. This case is to be heard on the 20th of June next, at the Patent Office. The testimony will close on the 6th of June, and all persons opposing the extension are required to file their objections in writing twenty days before the day of hearing.

**Gas Burner.**—Patented by William Blake, Boston, Mass., Aug. 9, 1845. This case is to be heard at the Patent Office on the 11th of July next, and the objections must be filed twenty days before the day of hearing.

**Cooking Stoves.**—Charles J. Woolson, of Cleveland, Ohio. Patented Sept. 9, 1845. This case is to be heard at the Patent Office on the 22d of August next, and the objections must be set forth, in writing, at least twenty days before the day of hearing.

**Dredging Machines.**—James Hamilton, of New York. Patented Dec. 16, 1845. This case is to be heard at the Patent Office on the 28th of November next, and the objections must be made in writing at least twenty days before the day of hearing.

Persons desiring copies of the claims of the above patents for examination can obtain them at this office for one dollar each.

**Great Earthquake.**

By late news from South America, we learn that a very destructive earthquake occurred on the 22d of March, by which the whole city of Quito was nearly destroyed, and five thousand persons killed. The shock lasted for about four minutes. The earth opened in huge rents, and was heaved up in tumultuous waves, shattering the strongest buildings, and laying them prostrate with the ground. The scene is represented to have been awful; the earth rocking, temples and towers tumbling, and the people shrieking in terror and dismay. The earthquake extended over a considerable range of country, but Quito suffered most. It is built on an extensive plain, near the mountains, and seems to be situated on the top of a huge subterranean boiling cauldron, as it has been visited several times by such calamities. That city contains about 50,000 inhabitants, and before this earthquake occurred it contained several very splendid public buildings, all of which are said to be now in ruins.

**New Milk Cooler.**

If milk be not cooled before is sent by railroad, the motion of the cars is very liable either to churn it into butter, or to induce some other change which would unfit it for the special domestic use it was intended to fulfil. To prevent such an occurrence, it is usual when the milk is taken from the cow to place it in vessels that stand in water, but, as the water quickly becomes heated to the same temperature as the milk, the latter is not properly cooled.

J. Mansfield, of Jefferson, Wis., the inventor of the ingenious shower-bath, illustrated on page 168 of the present volume of the SCIENTIFIC AMERICAN, has produced from the recesses of his fertile brain an apparatus for cooling milk, which is the subject of our illustration.

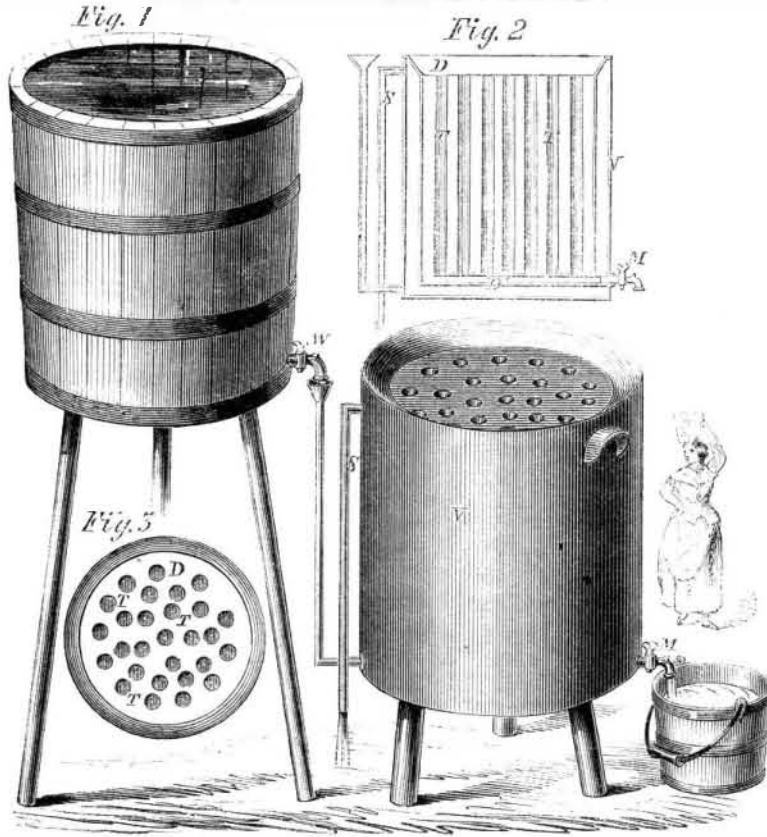
Fig. 1 is a perspective view of the whole arrangement, Fig. 2 is a section of the cooler, and Fig. 3 a plan or top view of the same.

The milk is poured in the top, D, and passes down the tubes, T, to the lower part, D', from which it runs off through the faucet, M, into a suitable pail or vessel. A current of cold water is continually circulating round the tubes in the vessel, V, the water entering at the bottom from a water receptacle, W, and gradually rising as it increases in temperature, and at last flowing off by the pipe, S. The milk is thus gradually brought to the temperature of cold spring water or, by placing ice in the water, the milk can be made colder still.

This cooler is capable of many other applications. It can be made to warm milk for making cheese, by using warm water instead of cold, and on a smaller scale would be an excellent method of cooling summer drinks, obviating the necessity of placing a piece of

ice that comes from water of questionable purity into the liquid that is to be imbibed. As, by the faucet, M, the flow of the milk through the cooler can be rendered fast or slow, and the flow of water being also capable of regulation, any temperature desired

**MANSFIELD'S MILK COOLER.**



can be obtained. The tubes, T, are so placed in the disks, D and D', that they can be easily removed for repair.

Every farmer should be possessed of one of these, and hotels would find them an ice-saving and cleanly cooling device; in fact, to us, who have to endure so hot a summer, this

invention should be received with a welcome

The patent is dated Jan. 18, 1859, and the inventor will be happy to furnish any further information concerning rights, &c., upon being addressed as above, or W. Woolcock, of the same place, may likewise be applied to.

**Zink's Cap for Trace Fastening.**

The common trace fastening, whatever may be its practical merits, has no pretensions to ornament or beauty, and it cuts the traces much quicker than a careful attention to economy would seem advisable. The device which we illustrate is capable of being made highly ornamental, as it can be plated with gold or silver and engraved as elaborately as desired, it is moreover easily attached and gives "a finish" to the vehicle and harness.

logs that pass through the recesses, c, and rest in the groove, d, thus forming a lock between the two, and keeping the trace from shaking off the whiffle-tree by the motion of the carriage.

The inventor of this elegant and excellent trace-fastening is A. Zink, of Lancaster, Ohio, and a patent was granted to him April 5, 1859. Dr. O. E. Davies, of the same place, and who has an interest in the patent, will be happy to furnish any further information.

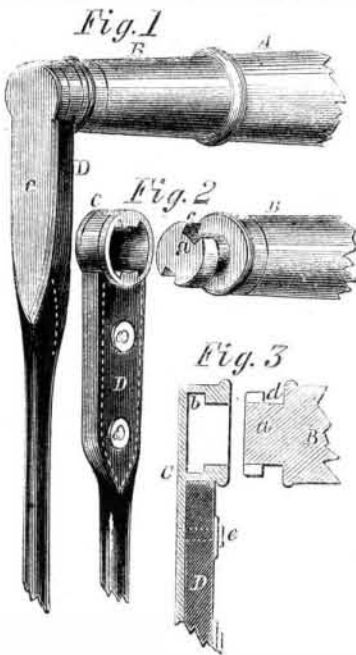
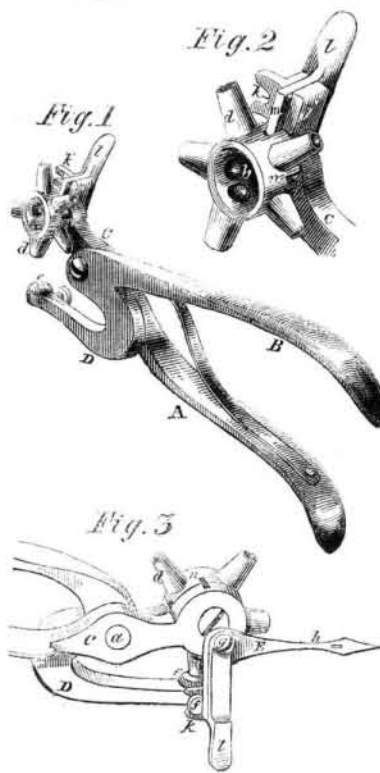


Fig. 1 shows it attached to the whiffle-tree, A, on the end of which is placed a cap, B, whose end is formed into a head, a, with two recesses or slots, c, and having a circular groove, d, running round its circumference. These parts are better seen in Figs. 2 and 3, the latter being a section. To the trace, D, is secured by rivets, e, a metal cap which has a groove, b, in it, to fit the head, a, and two

**Pfeghar's Punch and Awl.**



In every machine-shop where belts are employed, and that is equivalent to saying in all, there has long been a want for some sim-

ple, cheap and efficient implement with which to join or sew together the ends of the belting, or to connect the ends of leather or fabrics. Our illustrations show an ingenious implement for this purpose, invented by F. P. Pfeghar, of Whitneyville, Conn., and patented by him Jan. 25, 1859.

Fig. 1 shows the whole implement, Fig. 2 the punches, and Fig. 3 the awl extended for use.

A B represent two shanks, or handles, which cross each other, and are connected by a fulcrum pin, a. The outer ends of the handles beyond the fulcrum pin, a, are the jaws, and to the jaw, C, of the handle, A, a cylindrical head, b, is attached by a pin or bolt, c, the head being allowed to turn freely on the pin or bolt. The head, b, is hollow or cup-form, and a series of steel tubes, d, are screwed radially into the head. These tubes, d, are of different sizes or diameters, and their outer ends are brought to a cutting edge, precisely similar to the cutting edge of the tube of an ordinary leather or shoemaker's punch. The tubes, d, communicate with the interior of the head, b.

The jaw, D, of the handle, B, is curved, or bent so as to extend below the tubes, d, and a bed, e, of copper or other soft metal, is attached to the end of the jaw, D, to serve as a bearing for the tubes, d. To the outer end of the jaw, D, at one end, a pin, f, is attached.

E is a bent bar or rod, which is secured by a pin, g, at its angle, g', to the jaw, C, at the opposite to that where the head, b, is attached. This bar or rod is so bent that one part, h, is at right angles to the other part, i. The part, h, has its end terminating in a point forming an awl. The end, j, of the arm, i, of the bar or rod extends out at right angles to its main portion, i, and a fork, k, is attached to the part, j. To the part, i, there is attached a spring, l, and this spring has a plate, m, secured to it, the plate fitting in a slot in the end, j, of the part, i, and extending a short distance below it.

The end of the jaw, C, is made of cylindrical form, and has a recess, n, made in it to receive the end of the plate, m, when the part, i, of the bar or rod, E, is in a vertical position. When the part, i, is in such position, the implement is used as a punch, the plate, m, fitting in either of a series of recesses, n, in the periphery of the head, b, so as to secure the proper sized tube, d, directly over the bearing, e; the plate, m, in consequence of being acted upon by the spring, l, retaining both the bar or rod, E, and head, b, in the desired position. The leather, or other article or substance, is punched by passing it between the tube, d, and bearing, e, and the handles, A B, pressed together as usual. When the leather or other article is punched, the spring, l, is shoved outward from the head, b, and the plate, m, will be allowed to pass out of the recesses in the head and jaw, and the bar or rod, E, is turned on the pin, g, until the awl, h, projects outward from the head, b, and the fork, k, on the end, j, of the part, i, of the rod, E, catches over, or on the pin, f, and secures the awl in the position. The awl is used for assisting the passing of the lacing or thongs through the perforations made in the leather or fabric. Thus it will be seen that the implement is a combination of a punch and awl, and that either may be used as required. The implement is quite simple and efficient, and will prove a valuable acquisition for machine shops and factories where much belting is used for driving machinery, for belts are constantly stretching by use, and require to be "taken up" or shortened from time to time.

Any further information can be obtained from the inventor by addressing him as above.

Gold lacquer is made by dissolving gum shellac in alcohol, and coloring it with turmeric or gumboge. It is strained through a cloth before it is used, and generally takes several days to macerate.