

UNITED STATES PATENT OFFICE.

C. C. WALWORTH, OF BOSTON, MASSACHUSETTS.

IMPROVED SCREW-PLATE.

Specification forming part of Letters Patent No. 41,110, dated January 5, 1864.

To all whom it may concern:

Be it known that I, C. C. WALWORTH, of Boston, in the county of Suffolk, in the State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Screw-Plates; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention consists in certain improvements in the manufacture of screw-plates, whereby they are made cheaper, lighter, and stronger than heretofore, and can consequently be used to better advantage with less muscular exertion than previously, and with less liability to become broken.

Figure 1 represents in side elevation a screw-plate embodying my invention; and Fig. 2 shows the same, half in plan and half in horizontal section, taken in the line $z z$. (Seen in Fig. 1.)

The arms or handles $a a$ and the die-box b , together with socket c , which guides the implement in its use, (or receives other guide-sockets, d , for the same purpose,) are made integral in one casting of iron malleableized, or, in other words, of "malleable iron," so termed. It will be seen that where the handle a joins the box b , which receives the various dies to be used in the screw-plate, and which are not shown because they are such as are well known, it is bifurcated, each branch $e e$ spreading from the axial line of the handles, so as to include between them the main part of the handle and the die-box, a space marked f , which is necessary, practically, for constructing the handles hollow as shown, and integral with the die-box.

To make the handles hollow and integral, as specified, it is necessary that the core through each should be supported at each end, and by the bifurcation of the handle the sand of the mold in which the casting is made fills the space f and affords a support for the core through the handle, there being a core-print on the pattern from which the screw-plate is cast at the bifurcation of the handle, as well as at its salient end. If the handle were

made solid and cast integral with the die-box, it could not be malleableized except for a short distance from its surface. Consequently it would not be strong enough to resist the strain of working the plate, and it would be unnecessarily heavy.

By making the handles hollow, as described, they are lightened and can be made malleable from both inner and outer surfaces entirely through their substance. It is also a peculiarity of my invention that the thickness of the material of my screw-plate is about uniform throughout all parts, so that no cracks or strains occur from the unequal cooling of the different parts, such as would occur if the handles were cast solid and with the die-box.

I do not claim that it would form any part of my invention to make the handles hollow and then unite them to the die-box, whether the handles were made of cast, wrought, or malleable iron, as such a construction would involve the cost of joints of some kind, and the cheapness of my construction would be lost.

The part of my invention which I have already described consists in forming the die-box and handles integral with each other, and of malleable iron when the handles are made hollow, and are bifurcated just before their junction with the die-box, so that the handle-cores can be supported at each end, said formation producing a lighter, stronger, and cheaper screw-plate than any before made.

g is a cover pivoted at h to the die-box, so as to swing over the space in which the die is contained, and to retain it in position, the cover being locked or clamped by the screw i , the handle j of which is located on that side of the screw-plate from which the socket c protrudes, so that by said socket it is protected from damaging contact, the socket being the most salient part, and being stronger than the screw i , and its handle j is not injured in cases of contact which would render the clamping mechanism of the cover g inoperative. Prior to this arrangement the handle of the clamping-screw for the cover g , or the thumb-nut on said screw, projected from that surface of the screw-plate upon which the cover rests. The screw k is employed to

clamp sockets *d* into the socket *c*, so as to guide the plate properly on any sized rod or tube, in the manner common in screw-plates.

I claim—

1. A screw-plate constructed substantially as described.

2. The arrangement of the handle or thumb-nut of the screw which clamps the die-cover, as specified, for the reasons set forth.

In witness whereof I have hereunto set my hand this 5th day of November, A. D. 1863.

C. C. WALWORTH.

Witnesses:

J. B. CROSBY,
F. GOULD.