

W. J. REAGAN.

Devices for Making and Applying Cores to Molds.

No. 149,789.

Patented April 14, 1874.

FIG. 1.

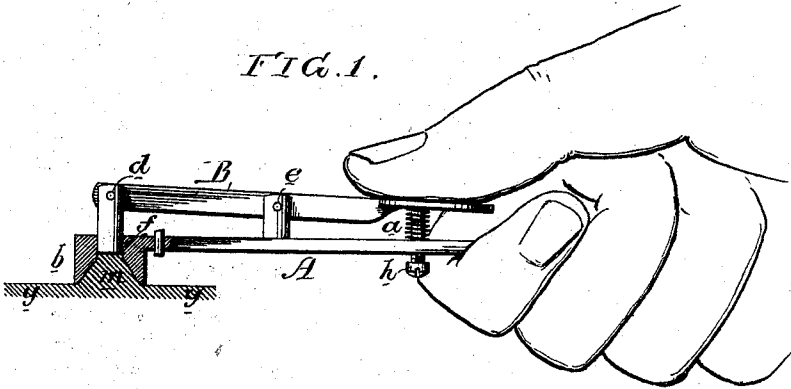


FIG. 2.

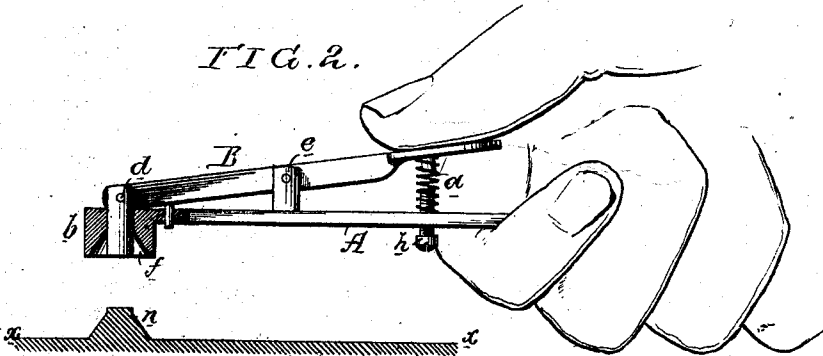


FIG. 3.

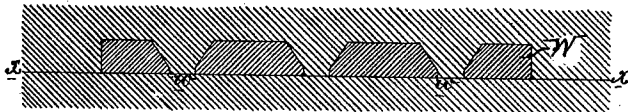


FIG. 4.



FIG. 5.



FIG. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM J. REAGAN, OF ROYER'S FORD, PENNSYLVANIA, ASSIGNOR TO
ROYER'S FORD IRON-FOUNDRY, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR MAKING AND APPLYING CORES TO MOLDS.

Specification forming part of Letters Patent No. **149,789**, dated April 14, 1874; application filed
March 20, 1874.

To all whom it may concern:

Be it known that I, WILLIAM J. REAGAN, of Royer's Ford, Montgomery county, Pennsylvania, have invented an Instrument for Making and Applying Cores to Molds, of which the following is a specification:

The object of my invention is the ready making of small cores, and their ready application to molds, with the view of avoiding the necessity of drilling the castings made in the mold; and this object I attain by the instrument which is illustrated in Figures 1 and 2 of the accompanying drawing, and which consists mainly of a stem, A, to be grasped by and between the operator's fingers and palm of the hand, and a spring-lever, B, to be operated in one direction by the thumb of the operator, and in the other direction by a spring, *a*. At the outer end of the stem A is an enlargement, *b*, which has at the top a circular hole, *f*, for receiving the plunger *d*, hung to the outer end of the lever B, having its fulcrum on a pin, *e*, passing through a stud on the stem A, through which passes a set-screw, *h*, for determining the extent to which one arm of the lever shall be depressed by the thumb, and the other arm and its plunger shall be elevated. The hole *f* in the enlargement *b* is, in the present instance, countersunk on the under side at *m*.

In order that a thorough understanding of the use of the instrument may be arrived at, it will be necessary to state in the outset that the line *x x* in Fig. 2 represents the surface of the sand in the inverted upper half of a molding-flask, in which a pattern for a casting has been used for the formation of a mold, the pattern having been removed prior to the employment of the instrument.

We will suppose the casting to be that of a simple plate, in which it is desirable to make countersunk screw-holes without resorting to drilling.

On the table *y y*, Fig. 1, is a supply of molders' sand in a proper condition for being converted into cores, and onto a layer of this sand the operator presses the outer end of the instrument, while the lever B is depressed by his thumb. By pressing the instrument onto the layer of sand, and rubbing it over the table until the enlargement *b* is in contact with the same, the cavity within the enlargement

will be tightly packed with sand in the shape of the desired core, after which the operator, while he continues the depression of the lever B with his thumb, moves the instrument to a position above the surface of the sand *x x*, Fig. 2, and gently lowers the enlargement *b* until its under surface is in contact with the sand at the point where the core has to be deposited. The operator now gently releases the lever B, at the same time elevating the instrument, which leaves its core *n* behind.

The surface of the sand where the core has to be deposited, or the core itself, should be made wet, or coated with glue or paste, so as to insure a sufficient adhesion of the said core to the sand.

Having thus deposited on the surface of the sand of the inverted mold the desired number of cores, the flask with its cores is turned over and placed on the lower flask, the recess of which, as left by the pattern, is represented by the line *w w*, Fig. 3, the cores being in contact with the bottom of this recess, so that, on pouring the metal in the mold, a plate, W, with countersunk screw-holes will be the result.

By adjusting the set-screw *h*, the depth of the core may be varied to suit the thickness of the pattern, the beveled portion of the core, however, remaining the same, and the cylindrical portion being made deeper or shallower, as circumstances require. (See Fig. 4.)

The instrument may be made for the formation of cores of different shapes—for instance, it may be arranged for making and applying plain cylindrical cores, as in Fig. 5, or cores like that seen in Fig. 6.

I claim as my invention—

1. The stem A, with its core-forming enlargement *b*, in combination with the spring-lever B and its plunger *d*.

2. The combination of the spring-lever B and its plunger with the set-screw *h* on the stem A of the instrument.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. J. REAGAN.

Witnesses:

WM. A. STEEL,
HUBERT HOWSON.