

No. 643,472.

Patented Feb. 13, 1900.

W. A. COWLES.

TABLE FOR HOOPING COILED METAL.

(Application filed Dec. 6, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

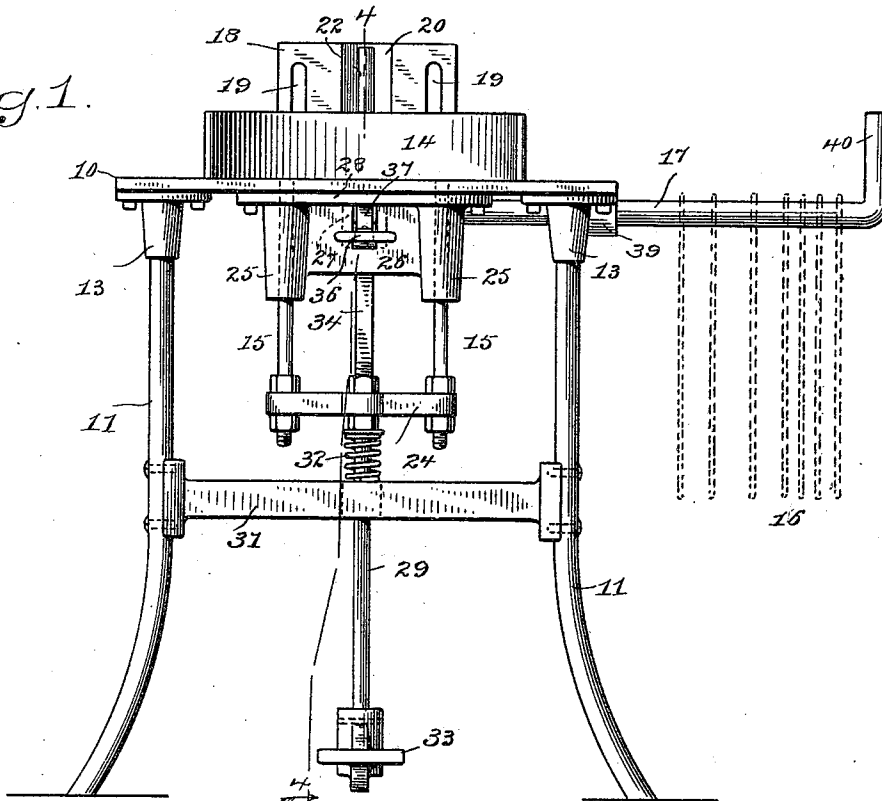
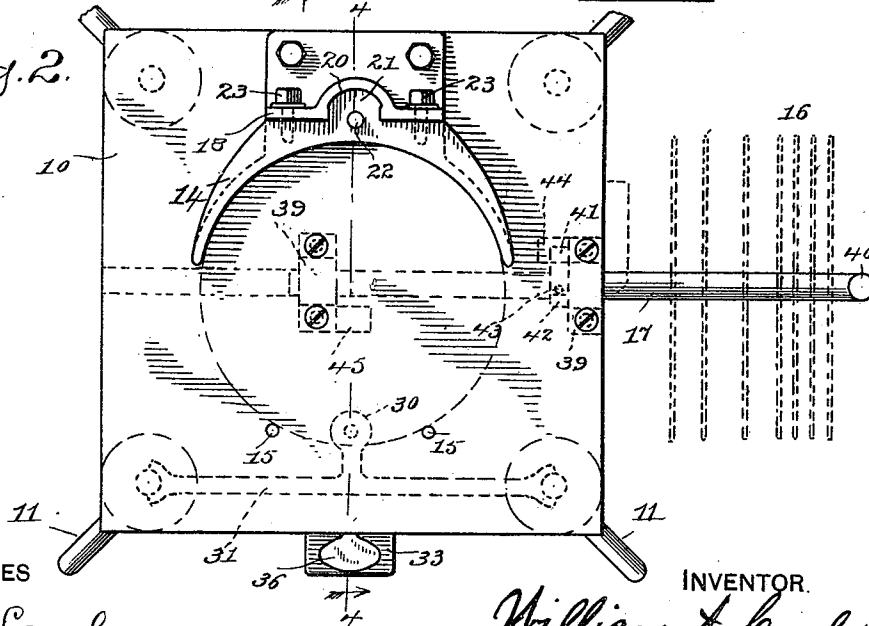


Fig. 2.



WITNESSES

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2 Sheets—Sheet 2.

Fig. 3.

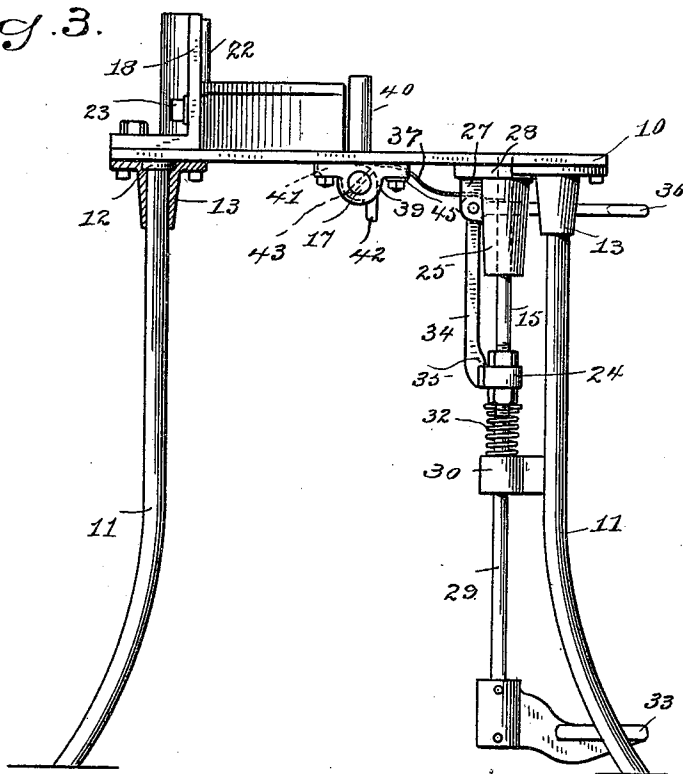
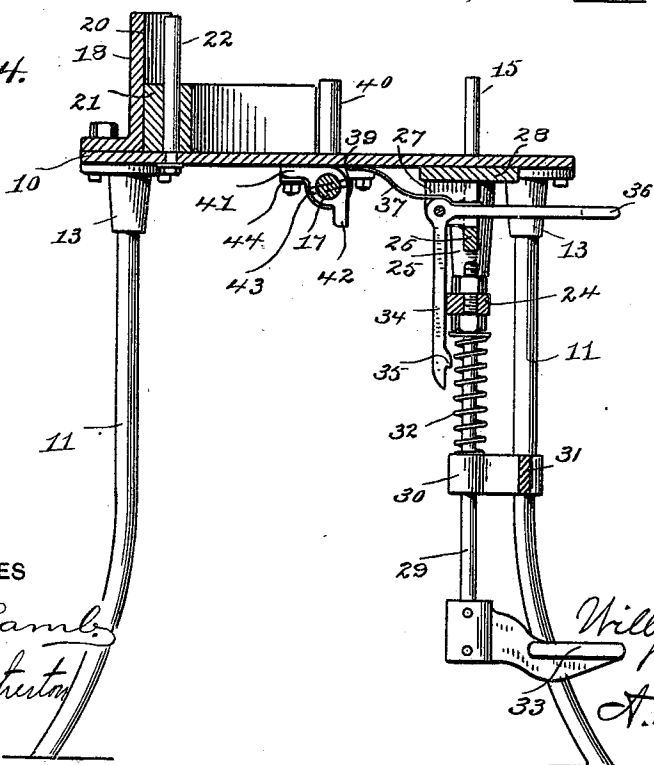


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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TABLE FOR HOOPING COILED METAL.

SPECIFICATION forming part of Letters Patent No. 643,472, dated February 13, 1900.

Application filed December 6, 1899. Serial No. 739,378. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. COWLES, a citizen of the United States, residing at Ansonia, county of New Haven, State of Connecticut, have invented a new and useful Table for Hooping Coiled Metal, of which the following is a specification.

My invention has relation to the preparation of coiled sheet metal for handling and for shipment.

In producing sheet metal in rolling-mills the metal as it comes from the rolls is coiled upon a mandrel, and it is necessary quite frequently to re-coil the strips of metal after the various operations that may have been performed upon them. After each coiling operation the strip of metal is removed from the mandrel upon which it has been coiled, and the strips are prevented from uncoiling by means of hoops or bands, which are slipped over them while they are held tightly. My present invention has nothing to do with the coiling of the metal, but relates only to the hooping of the coils after they are removed from the mandrel. This operation as it has heretofore been performed in brass-mills has either required the services of two men or else has necessitated the stoppage of the rolls while a coil was being hooped, as it is impossible for one man to hold and hoop a coil of metal and at the same time to start another coil on the mandrel.

With the above conditions in view my invention has for its object to provide a table and holding device upon which each coil of metal may be placed when removed from the mandrel and by which it will be held from uncoiling while the operator starts a second coil on the mandrel, the operator having ample time to hoop each coil while the next coil is running through the rolls, thereby effecting an important saving in the cost of production.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of my novel hooping-table complete; Fig. 2, a plan view thereof; Fig. 3, an end elevation as seen from the left in Fig. 2, one of the leg-sockets being in section; and Fig. 4 is a section on the line 4 4 in Figs. 1 and 2.

10 denotes the bed or table proper, and 11 the legs, which are rigidly secured thereto. It will of course be obvious that my novel table must be fitted to sustain heavy weights and to withstand rough usage, while at the same time unnecessary weight is to be avoided. In practice I have made the table proper of brass and the legs of iron, although of course it is wholly immaterial so far as the principle of my invention is concerned of what special metals the parts are made. The legs are shown as provided at their upper ends with flanges 12, which fit closely in sockets 13, said sockets being bolted to the underside of the table.

In use the operator places each coil as he takes it from the rolls or after a scouring or polishing operation and places it upon the table, where the coil is retained by a holding-plate 14, preferably curved, as shown, in connection with holding-pins 15.

16 (see dotted lines, Figs. 1 and 2) denotes hoops ready to be placed upon the coils, which are shown as hanging from a suitable holder 17. The holding-plate, which should be narrower than the coiled strips of metal that are to be hooped, may be conveniently adjusted vertically or removed and replaced by another one. I have shown this holding-plate as adjustable on a retaining-plate 18, which is bolted to the table and is provided with vertical slots 19 and a vertical recess 20, which receives a corresponding projection 21 upon the holding-plate.

22 denotes a guide-pin rigidly secured to the table and passing through the holding-plate, and 23 denotes bolts which pass through the vertical slots and engage the holding-plate, the heads of the bolts lying on the back of the retaining-plate and acting by engagement therewith to lock the holding-plate at any required vertical position relative to the retaining-plate that may be most convenient in connection with any special width of coils of metal that may require to be handled upon the table. It will be apparent that the guide-pin and the engagement of projection 21 on the holding-plate with the vertical recess in the retaining-plate will keep the holding-plate steady at any adjustment at which it may be

placed. The holding-pins are carried by a cross-head 24 and extend upward through guides 25 and through the table, their upper ends lying flush with the surface of the table when at the lowered position, as in Fig. 3, and extending some distance above the table when at the raised position, as in Fig. 4. Guides 25 are shown as made integral with a web 26, ears 27, and a plate 28, which is bolted to the bed.

The cross-head and holding-pins are carried by a rod 29, which is adapted to slide vertically in a guide 30, carried by a cross-piece 31, which is bolted to the front legs. The upper end of rod 29 is shown as threaded and as passing through the cross-head, nuts on the threaded end on opposite sides of the cross-head locking the parts rigidly together. A spring 32, which bears upon guide 30 and upon the cross-head, acts to retain the latter and with it the holding-pins at the raised position. At the lower end of rod 29 is a foot-piece 33, by which the rod, cross-head, and holding-pins may be drawn downward against the power of the spring.

34 denotes a locking-lever which in form is a bell-crank lever and is pivoted between ears 27 under the table. One arm of this locking-lever is provided with a locking-lug 35, which is adapted to engage the cross-head to retain the latter and the holding-pins at the lowered position, as in Fig. 3, and the other arm is provided with a handpiece 36 for convenience in manipulating it in use.

37 denotes a spring one end of which is secured to one arm of the locking-lever, the free end bearing against the under side of the table and acting to retain the locking-lever in such position that lug 35 will engage the cross-head when the latter is moved down and will retain the lug in the engaged position until the cross-head is released by pressing down upon handpiece 36.

I have shown the table as provided with a holder 17 for hoops, so that they will be convenient for use. This holder is simply a rod adapted to oscillate and to slide in bearings 39, bolted to the under side of the table. The outer end of the holder is upturned, as at 40, to enable it to retain a quantity of hoops in place, and the holder is retained at its operative position, as in full lines in Figs. 1 and 2, or at its inoperative position (see dotted lines, Fig. 2) by means of lugs 41 and 42 upon the rod. These lugs are shown as cast in a single piece, which is secured to the rod by a pin 43. (See Fig. 4.)

44 and 45 denote spring locking-plates which are secured to bearings 39 and are adapted to be engaged, respectively, by lugs 41 and 42. When the holder is in its operative position, lug 41 will be engaged by spring locking-plate 44, and the holder will be retained in place thereby. Should it be desired for any purpose to move the holder out of the way, it may be given a quarter-turn and pushed inward under the table, as indicated by dotted lines in Fig. 2, and may be locked

in this (its inoperative) position by the engagement of lug 42 on the holder with spring locking-plate 45 under the table.

The operation, which it is thought will be clearly understood, is briefly as follows: The operator places the coil of metal that is to be hooped upon the table, pressing it against the holding-plate and releasing the cross-head by means of handpiece 36, allowing spring 32 to raise the cross-head and holding-pins, the latter passing on the outer side of the coil of metal opposite to the holding-plate and retaining it against uncoiling. The hoops are made just large enough to go easily over the coils of metal. The instant a hoop is in place the operator presses down upon the footpiece and withdraws the holding-pins, when the coil of metal will instantly expand and fill the hoop tightly. The operator may of course retain the holding-pins at less than their normal height by keeping his foot upon the foot-piece. The instant the cross-head has reached its lowered position it is locked there by the engagement of lug 35 therewith, thus leaving the entire front of the table clear for the removal of the hooped coil of metal and for the placing thereon of another coil of metal to be hooped.

Having thus described my invention, I claim—

1. In a device of the character described the combination with a table and a curved holding-plate, of vertically-movable holding-pins which when in the raised position coact with the holding-plate to prevent a coil of metal from uncoiling.

2. In a device of the character described the combination with a table and a curved holding-plate, of vertically-movable holding-pins whose upper ends lie flush with the table at the lowered position and extend above the table at the raised position, for the purpose set forth, a cross-head by which they are carried, a spring for normally holding said cross-head at the raised position, and a footpiece whereby said cross-head may be lowered against the power of the spring.

3. In a device of the character described the combination with a table and a curved holding-plate, of vertically-movable holding-pins, a cross-head by which they are carried, a spring for raising the cross-head and holding-pins, means for lowering the cross-head against the power of the spring and means for locking the cross-head at the lowered position.

4. In a device of the character described the combination with a table and a curved holding-plate, of vertically-movable holding-pins, a cross-head by which they are carried, a spring for raising the cross-head and holding-pins, means for lowering the cross-head against the power of the spring, a locking-lever one arm of which is provided with a handpiece for convenience in operation and the other with a lug adapted to engage the cross-head at the lowered position, and a

spring acting to retain said locking-lever in the engaging position.

5 5. In a device of the character described the combination with a table and curved holding-plate, of vertically-movable holding-pins, guides therefor secured to the table, a cross-head by which the holding-pins are carried, a rod 29 by which the cross-head is carried and which is provided with a footpiece, a guide 10 for said rod, and a spring bearing against said guide and the cross-head whereby the latter is normally held at the raised position.

15 6. In a device of the character described the combination with a table and a curved holding-plate, of a retaining-plate rigidly secured to the table on which the holding-plate is vertically adjustable, and vertically-movable holding-pins which coact with the holding-plate, substantially as and for the purpose 20 set forth.

7. In a device of the character described the combination with a table and a retaining-plate rigidly secured thereto and provided with vertical slots and a vertical recess, of a

curved holding-plate having a projection to 25 engage the vertical recess, bolts which pass through the slots and engage the holding-plate, a guide-pin passing through the holding-plate, and vertically-movable holding-pins, substantially as shown, for the purpose 30 specified.

8. In a device of the character described the combination with a table, a curved holding-plate and vertically-movable holding-pins, of an oscillatory and laterally-movable holder 35 for hoops, bearings therefor under the table, spring locking-plates, and lugs upon the holder, one of which engages one of the locking-plates to retain the holder in operative position, the other lug being adapted to en- 40 gage the other locking-plate to retain the holder out of operative position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. COWLES.

Witnesses:

GEO. H. HAWLEY,
I. E. STODDARD.