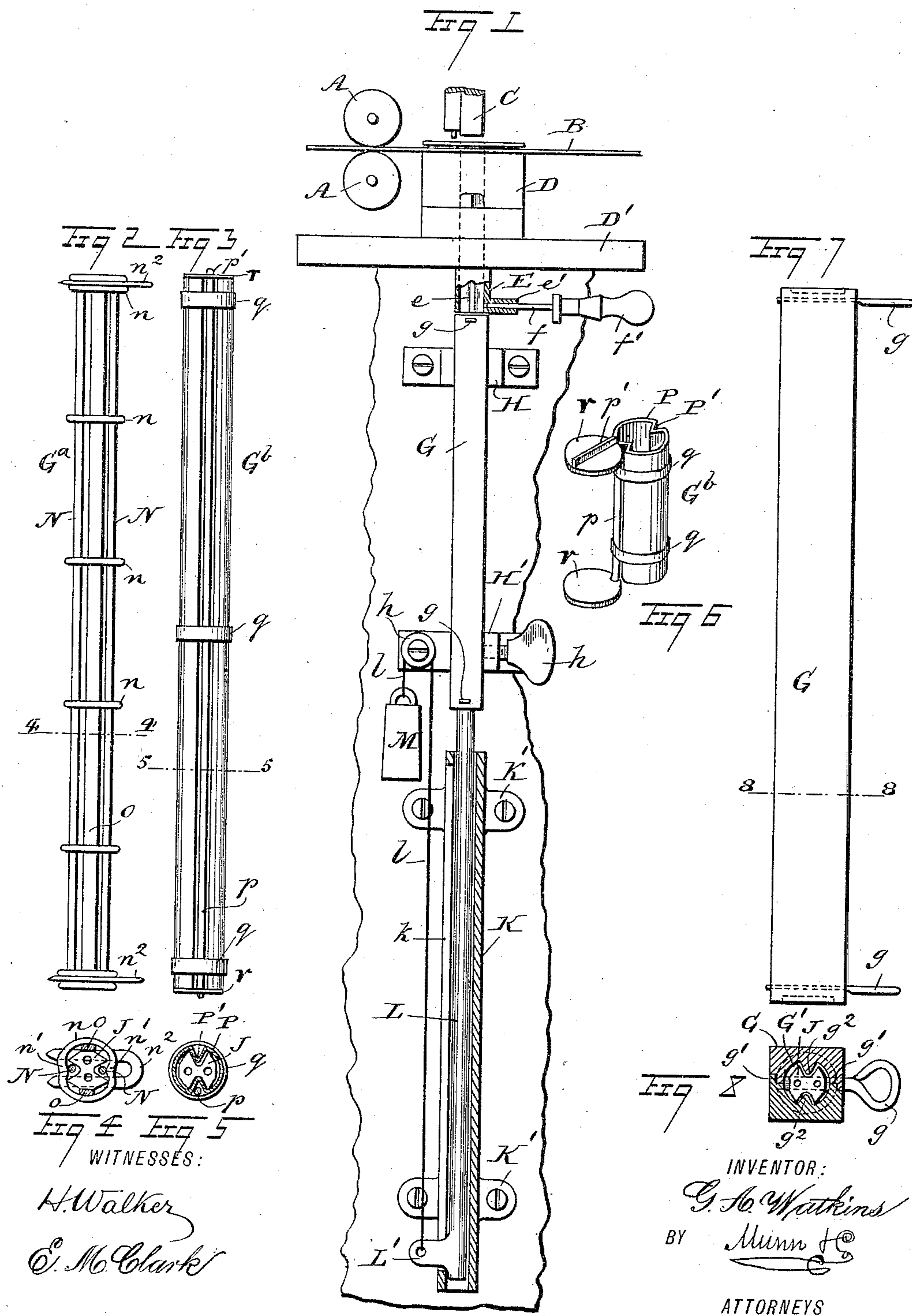


(No Model.)

G. A. WATKINS.
DEVICE FOR ASSEMBLING CLASPS.

No. 444,996.

Patented Jan. 20, 1891.



UNITED STATES PATENT OFFICE.

GARDNER A. WATKINS, OF GARDNER, MASSACHUSETTS, ASSIGNOR TO HAYWOOD BROTHERS & CO., OF SAME PLACE.

DEVICE FOR ASSEMBLING CLASPS.

SPECIFICATION forming part of Letters Patent No. 444,996, dated January 20, 1891.

Application filed June 30, 1890. Serial No. 357,283. (No model.)

To all whom it may concern:

Be it known that I, GARDNER A. WATKINS, of Gardner, in the county of Worcester and State of Massachusetts, have invented a new and Improved Device for Assembling Clasps, of which the following is a full, clear, and exact description.

My invention relates to improvements in a device for receiving, collecting, or assembling metal clasps and retaining them in a position such that the back of one lies next to the face of another, with a view to their further use in the process of coupling or splicing splints, cane, and other similar material.

My invention is intended chiefly for assembling that variety of clasps used in the manufacture of cane, willow, or rattan furniture; and the object of my invention is to produce a device by means of which the clasps may be held in such a manner that they may be automatically fed from the receptacle in which they are contained.

To this end my invention consists in a hollow receptacle having its inner surface shaped to correspond with the shape of the clasps and in means for filling the receptacle with the clasps. This construction will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken front elevation, partly in section, showing the magazine for holding the clasps and the means for filling the same. Fig. 2 is a side elevation of a modified form of magazine. Fig. 3 is a rear elevation of another modified form of magazine. Fig. 4 is a cross-section on the line 4 4 of Fig. 2, showing a clasp in the bottom of the magazine. Fig. 5 is a cross-section on the line 5 5 of Fig. 3, showing also a clasp within the magazine. Fig. 6 is a detailed perspective view of a magazine similar to that shown in Fig. 3, but with the covers turned from the top and bottom of the same, the magazine being somewhat shortened. Fig. 7 is a detailed side elevation of the magazine shown in connection with the filling mechanism in Fig. 1, and Fig. 8 is a transverse section of the same on the line 8 8 of Fig. 7.

In Fig. 1 the feed-rolls A are arranged one above the other and may be of any approved type, and the strip of sheet-brass B or other material from which the clasps are cut is fed through the rolls, over the die D, and beneath the punch C, said punch being shaped to cut a desired form of clasp. The die D is mounted on a suitable support D' and has a vertical opening therein, as indicated by the dotted lines, said opening corresponding in shape to the shape of the punch C and to the clasps which are cut thereby. A tube E is fixed to the support D' and depends therefrom, said tube being shaped to correspond with the shape of the clasps and being attached to the support so as to align with the opening through the die. As adapted to the form of clasp shown in connection with the invention, the tube is provided with longitudinal ribs *e*, adapted to project between the widened ends of the clasp. The tube is also provided at its lower end with the slideway *e'*, in which is mounted a gate *f*, provided with a suitable handle *f'* and adapted to close the lower entrance of the tube when the magazine G is removed from beneath it.

The magazine G is composed of two similar members having interlocking shoulders *g'*. The magazine has a central opening G' extending longitudinally through it, and projecting into the opening on opposite sides are the longitudinal ribs *g''*, which project between the widened ends of the clasps J, and thus hold the clasps in position. The magazine is provided at each end with a sliding gate *g*, adapted to close the opening therein.

When the magazine is to be filled, it is mounted in the brackets H and H', beneath the tube E, and in alignment with the tube. The magazine is held in its position by a suitable thumb-screw *h*, extending through one of the brackets and impinging on the magazine, although any suitable means may be employed to hold it in a vertical position. The bore of the magazine must align with the bore of the tube E, and any suitable means may be employed to bring the two bores into alignment. A tube K, having suitable ears K', by means of which it may be attached to a support, is mounted beneath the brackets H and H' so as to vertically align with the

magazine G and with the tube E. The tube has a slot *k* extending longitudinally throughout nearly its entire length, and in which moves the ear *L'* of the rod or follower L. A cord *l* is attached to the ear *L'* of the follower, said cord extending over the pulley *h'* on the bracket *H'* and having at its outer end a weight M. When the magazine G is in position and the gates *g* therein opened, the weight M forces the follower upward into the magazine G, and when the rollers A and punch C are set in motion the clasps J will be fed one after another into the tube G and will gradually force the follower downward until the magazine is full; but the pressure on the follower on the bottom of the clasps will enable them to be compactly packed in the magazine and will prevent them from being tilted out of position. When the magazine is full, the rollers and punch are stopped, the gate *f* in the tube E is closed to prevent the clasps in the tube from dropping out, the gates in the magazine G are closed, and the magazine is removed, another one inserted in its place, and the operation repeated.

The magazine is placed in a machine specially adapted for the purpose, the gates are opened, and the clasps are automatically fed therefrom, and from the foregoing description it will be seen that the clasps will all be ready for use and that their faces will all be in the same direction.

In Fig. 2 I have shown a modified form of magazine *G^a*, said magazine having upon opposite sides the parallel rods N, adapted to fit between the widened ends of the clasps J and having upon opposite sides and at right angles with the rods N the thin parallel strips *o*, the rods N and the strips *o* being of the same length and forming the sides of the magazine. The rods and strips are held in position by the rings *n*, which have central bends *n'* upon opposite sides and adapted to hold the rods N in position to engage the clasps. The magazine is also provided with suitable sliding gates *n²* at top and bottom.

In Figs. 3, 5, and 6 I have shown another modified form of magazine *G^b*, composed of a tube P, of sheet metal, having upon opposite sides the inwardly-extending V-shaped portions *P'*, which project between the widened ends of the clasps J and hold the clasps in position. The tube is strengthened by thin metallic rings *q*, which extend around the outer circumference of the tube. A rod *p* extends through one of the V-shaped portions of the tube P, and has a right-angled bend *p'* at each end, which extends across the openings to the tube. A cover *r*, shaped to correspond with the tube, is fixed to the bent portion *p'* of the rod *p* at each end of the tube and serves as a cover for the tube. It will be seen that the rod *p* forms an axis for the covers *r*, and that they may be turned simultaneously to open or close the tube P. The magazines *G^a* and *G^b* are filled and used in the same manner as the magazine G, and other forms of maga-

zines may be used, if desired, the essential feature of my invention, so far as the magazine is concerned, being to shape the interior of the magazine to fit the clasps and to provide it with suitable gates at top and bottom.

Having thus fully described my invention, I claim as new, and desire to secure by Letters Patent—

1. A device for assembling clasps, consisting, essentially, of a hollow die on which the clasps are cut, the opening in the die corresponding to the shape of the clasps, and a hollow magazine adapted to align with the opening in the die, the bore of the magazine corresponding to the bore of the die-opening, substantially as described.

2. In a device for assembling clasps, the combination, with a hollow die having an opening corresponding to the shape of the die, of a magazine having a central opening therein corresponding in shape to the shape of the die-opening, said magazine having suitable gates at top and bottom, substantially as described.

3. In a device for assembling clasps, the combination, with a hollow die having an opening therein corresponding in shape to the shape of the clasps, and a tube aligning with the opening of the die and having its inner bore shaped to correspond with the die-opening, said tube having at its lower end a gate adapted to close the same, of a magazine adapted to align with the tube, said magazine having its inner bore shaped to correspond with the bore of the tube and having a suitable gate at each end thereof, substantially as described.

4. In a device for assembling clasps, the combination, with a die having an opening therein corresponding in shape to the shape of the clasp, and a magazine aligning with the die-opening and having a central opening therein corresponding in shape to the shape of the clasps, of a vertically-movable follower mounted in a suitable support and adapted to extend normally through the opening in the magazine, substantially as described.

5. In a device for assembling clasps, the combination, with a hollow die having an opening therein corresponding in shape to the shape of the clasps, and a magazine having a central opening therein adapted to align with the opening in the die and shaped to correspond therewith, of a vertically-slotted tube supported beneath the magazine, a follower mounted in the tube and adapted to extend into the magazine, said follower having a lateral ear extending through the slot of the tube, and a weighted cord extending over a suitable pulley and adapted to press the follower normally through the magazine, substantially as described.

6. In a device for assembling clasps, a hollow magazine having a central longitudinal bore therein shaped to fit the clasps, substantially as described.

7. In a device for assembling clasps, a magazine having a central longitudinal bore therein shaped to correspond with the shape of the clasps, said magazine having suitable
5 gates for closing the ends thereof, substantially as described.

8. A device for assembling clasps, consisting, essentially, of a hollow magazine having its bore shaped to correspond with the shape
10 of the clasp, and means for packing the clasps back to face within the magazine, substantially as described.

9. In a device for assembling clasps, the combination, with a hollow magazine having its bore shaped to correspond to the shape of
15 the clasps, of means for packing the clasps under pressure within the magazine, substantially as described.

GARDNER A. WATKINS.

Witnesses:

WARREN B. HUTCHINSON,
EDGAR TATE.