

(No Model.)

J. HAGERTY.

MACHINE FOR ATTACHING THE BACKS AND FRONTS
OF ARTICLES OF JEWELRY.

No. 299,069.

Patented May 20, 1884.

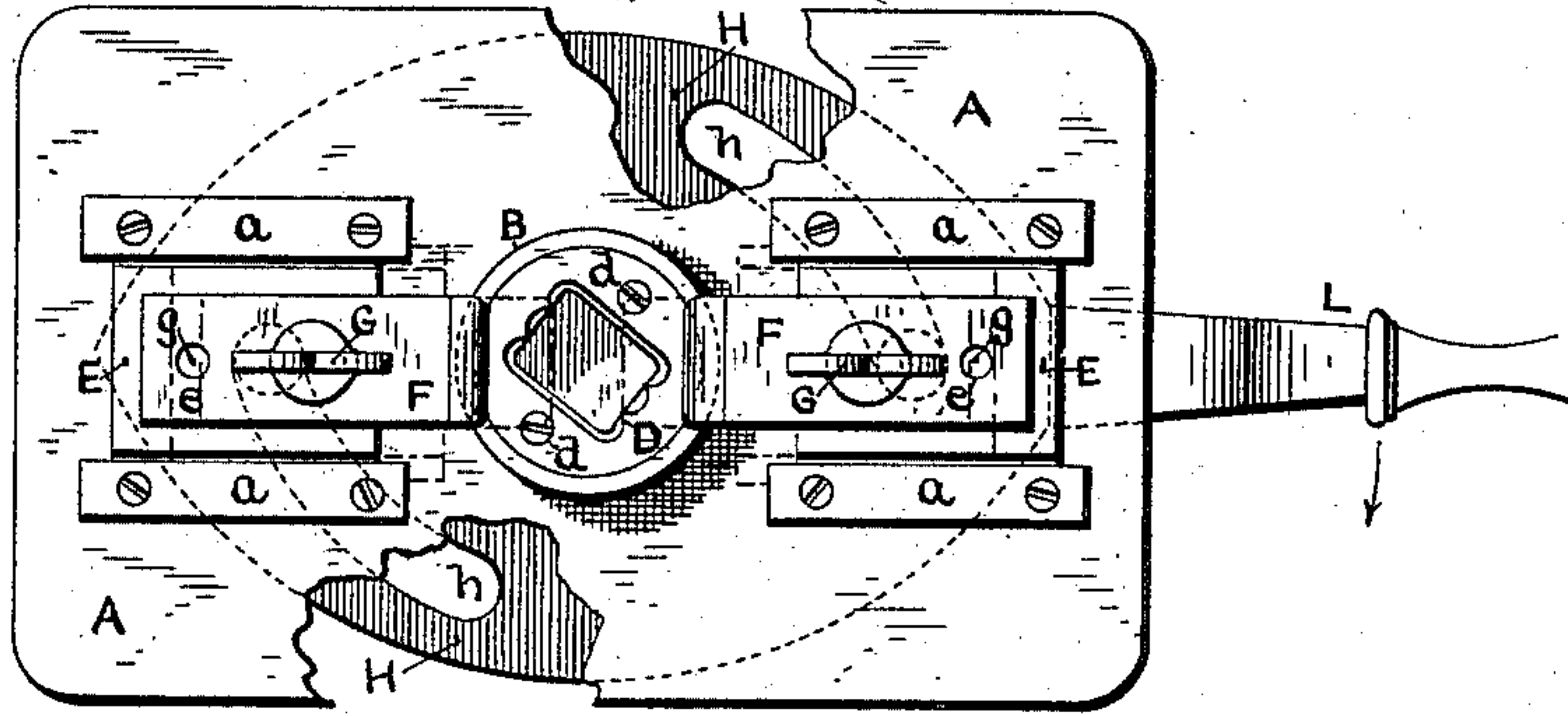


FIG. 1.

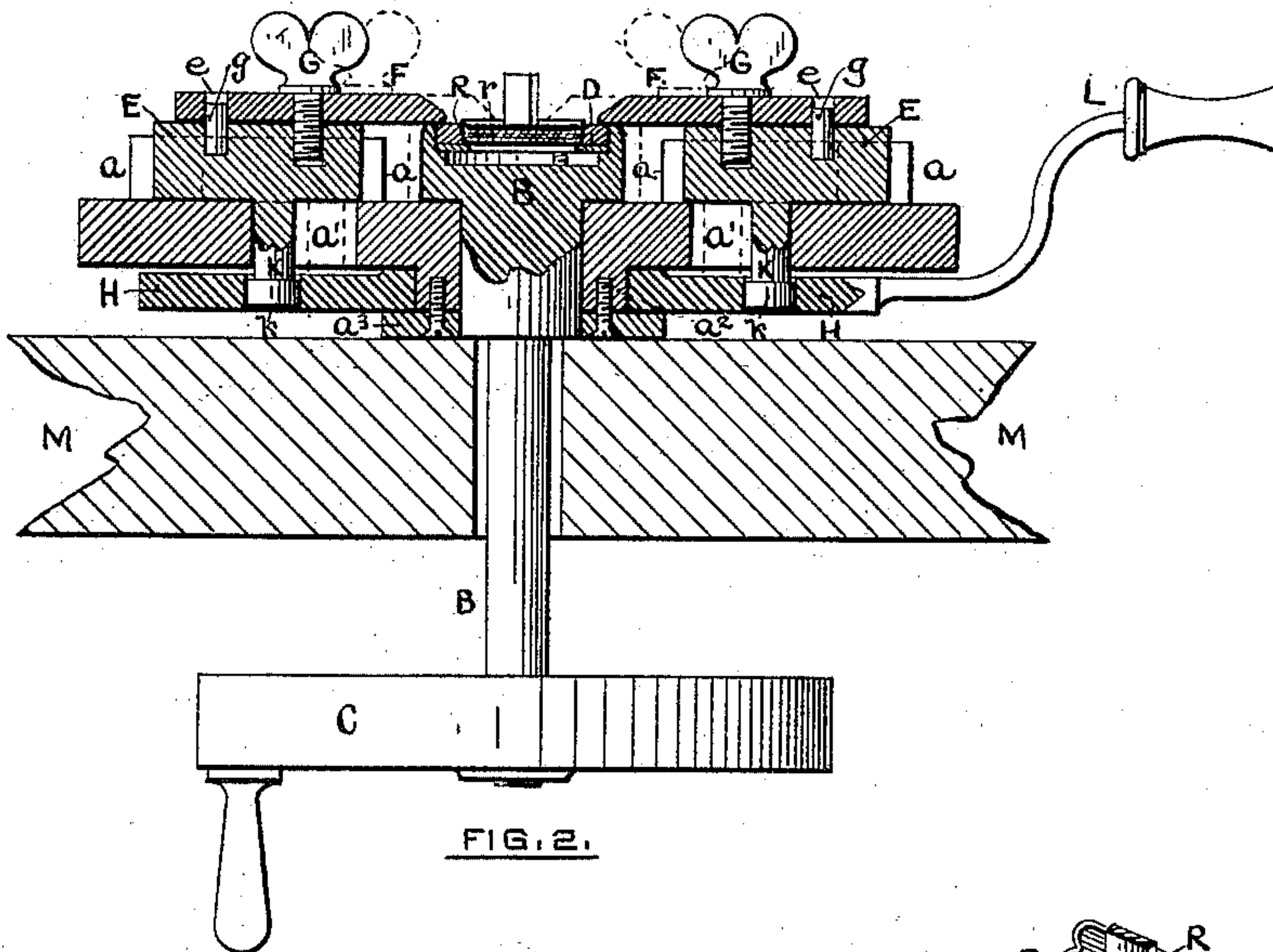


FIG. 2.

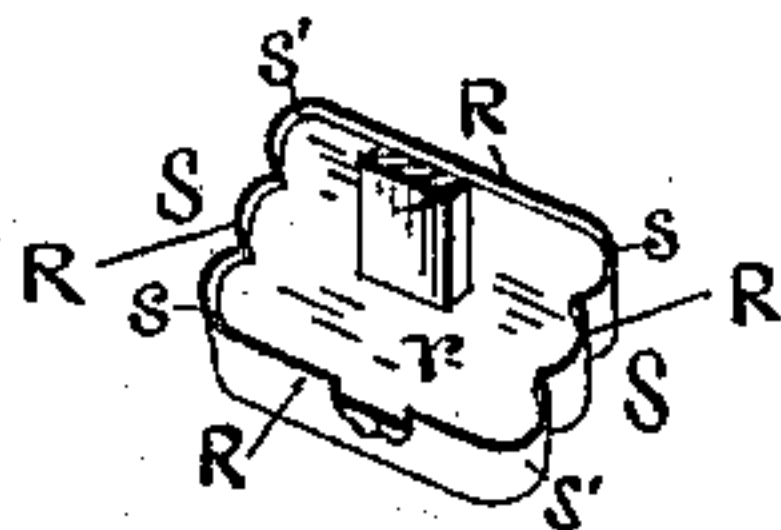


FIG. 3.

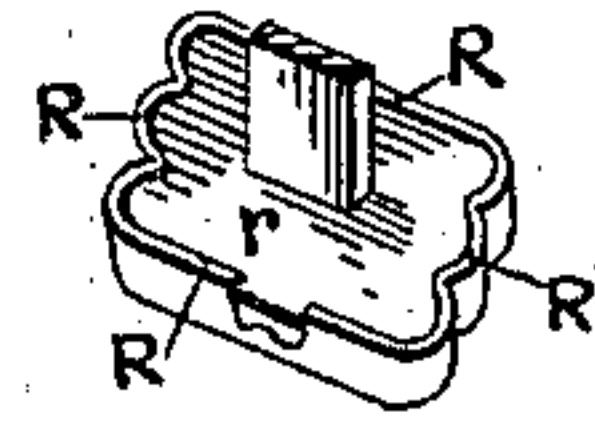


FIG. 4.

WITNESSES.

Henry J. Stapleton.
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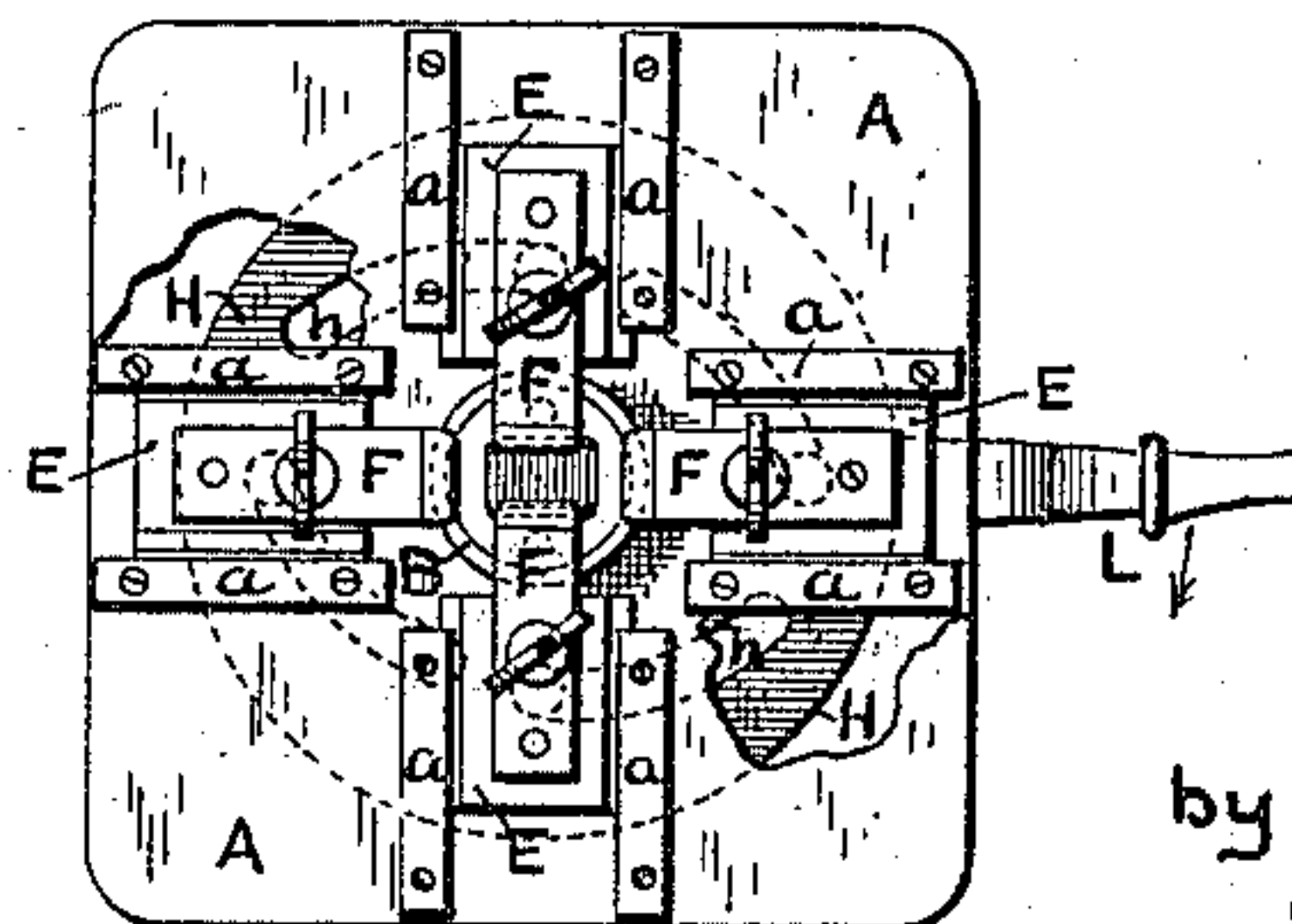


FIG. 5.

INVENTOR.

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UNITED STATES PATENT OFFICE.

JOHN HAGERTY, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO COOKE & EDDY, OF SAME PLACE.

MACHINE FOR ATTACHING THE BACKS AND FRONTS OF ARTICLES OF JEWELRY.

SPECIFICATION forming part of Letters Patent No. 299,069, dated May 20, 1884.

Application filed December 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN HAGERTY, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Machines for Attaching the Backs and Fronts of Articles of Jewelry, &c.; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to a machine for attaching the backs and fronts of articles of jewelry, &c., by turning or bending over the rim of the front upon the back plate, thereby securing the parts together; and it consists in certain features of construction which will be hereinafter described, and set forth in the claims.

The objects of the invention are to produce a simple and inexpensive machine adapted for the purpose described, and in which the use of a follower to retain the work in its holder may be dispensed with, and a machine which will perform its office not only upon articles having a simple and regular outline, but also upon an article having a contour with re-entering angles, which form it is difficult to operate upon.

Referring to the drawings, Figure 1 represents a plan of a machine embodying the invention. Fig. 2 shows a central vertical section of the same with a sleeve-button in the work-holder. Fig. 3 shows a sleeve-button with its shoe removed, the contour of which has re-entering angles, and the rim of which is unturned. Fig. 4 shows such button with the rim bent or turned over upon the back plate. Fig. 5 shows a plan of a machine having four tools for turning over the rim.

The machine consists of a bed, A, of any preferred form, in which a spindle, B, is mounted to revolve, the said spindle being provided with a wheel, C, for producing rotation. The upper end or face of this spindle has a cavity, which may be of a shape adapted to hold the button or other article to be operated upon; but in order that articles of different shapes may be held in the same spindle the face of the spindle is preferably provided with a plate, D, in one or more parts,

secured to the spindle by screws *d* or other suitable means, and having a cavity or opening to fit the contour of the button or other article, the said spindle thus constructed constituting the work-holder. The bed A is furnished with guides *a*, for determining the path of movement of blocks E, which are mounted or dovetailed in said guides to slide to and from each other.

F F are the bending-tools for turning over the rim of the article, which bending-tools may be integral with the blocks E, but are preferably separate and detachable therefrom, in order that other bending-tools of the same or of different forms may be substituted, as occasion may require. These bending-tools are secured to the blocks E by thumb-screws G or other suitable means, and their location on the blocks may be determined, if desired, by registering-pins *g*, which enter holes *e* in the blocks, as shown in Fig. 2.

Pivoted to the bed A is a plate, H, provided with cam-slots *h*, which engage friction-rollers *k*, mounted on studs K, projecting downwardly from the blocks E and passing through slots *a'* in the bed A. This plate H is furnished with a handle, L, or other convenient means for moving said plate, and thereby causing the bending-tools to be reciprocated to perform their office. As shown in Fig. 2, the plate H is pivoted upon a hub, *a*², on the bed A, and is secured in position by a collar, *a*³, screwed to the hub.

The machine is designed to be fixed to a work-bench, table, or other support, M, and its operation is substantially as follows: The handle L being substantially in the position shown in Fig. 1, so that the bending-tools F F outline the cavity in the face of the work-holder, a button—such, for instance, as shown in Fig. 3—is placed in said cavity, and the handle L is moved in the direction of the arrow, Fig. 1, so as to cause the bending-tools to approach each other, to engage those portions of the rim of the button which are presented to or are in the path of the sliding bending-tools, to pass over upon the button, as shown by dotted lines in Figs. 1 and 2, and thereby to bend or turn the rim R of the button down upon the back plate, *r*, thereof. The distance

which the bending-tools are made to move over the button during their advance will depend upon the contour of the button or other circumstances. In bending over the rim of a button having a contour with re-entering angles—such as shown in Fig. 3—two opposite corners—say *s s*—are preferably first presented to the bending-tools and turned over. The burnishers are then retracted by a movement of the handle *L* in a direction opposite to that above described, and the work-holder is turned by means of the wheel *C* to present the corners *s' s'* to the bending-tools, which corners are next turned over by another forward movement of the bending-tools. The ends *s s* of the button are next presented and the turning over of the remainder of the rim on said ends is effected; and, finally, the side rims are folded over the back-plate, thereby completing the bending of the rim, as shown in Fig. 4, although the button may be revolved under the bending-tools before they are finally withdrawn to burnish the bent-over portion of the rim and give it a higher finish, if desired.

From the foregoing it will be readily understood that by partially revolving the work-holder from time to time, and by moving the handle *L* to and fro, the whole of the rim *R* will be turned over upon the back-plate *r*, and that as the bending-tools pass over upon the button in performing their office the button will be held down in the work-holder without the necessity of employing a follower for such purpose.

I have shown the faces of the bending-tools *F F* as straight and at right angles to their path of movement; but said faces may be of any form best adapted to operate upon the work to be treated; and although in the operation of the machine I have described the bending-tools as being advanced and retracted, and the button or work as being turned after such retraction, yet, if the contour of the work be such as to admit—as, for instance, circular or oval—properly-shaped bending-tools may be advanced and the work be rotated until the rim thereof is completely turned over before the bending-tools are retracted, the bending-tools during their operation overlying the button and retaining it in the work-holder, as already described.

Although I prefer to employ two bending-tools oppositely located, as shown in Figs. 1 and 2, yet a single sliding tool, *F*, or three or

more, may be employed. In Fig. 5 there is shown on a small scale a machine having two pairs of bending-tools. In this machine the plate *H* is provided with four cam-slots, *h*, which are so arranged as to advance one pair of bending-tools while the other pair is being retracted, although by making the faces of the bending-tools of the proper width or shape all may be advanced at the same time, if desired, as will be readily understood, by properly timing the cam-slots.

Although I prefer to employ the side guides, *a a*, to direct the course of the sliding bending-tools, yet these definite guides may be dispensed with and the studs *K* and slots *a'* be arranged to perform a guiding-office, or other suitable means may be employed for the purpose. The friction-rollers *k k* may also be dispensed with and the cam-slots *h* be made to engage the studs *K K*.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore set forth, of a work-holder adapted to be rotated, one or more bending-tools arranged, as described, to be slid over upon the work, and thereby to turn down the rim thereof, suitable guides for determining the path of movement of said bending tool or tools, and suitable means, as described, for forcing said tool or tools over the work and for retracting the same.

2. The combination, substantially as hereinbefore set forth, of a work-holder adapted to be rotated, oppositely-located bending-tools arranged, as described, to be slid over upon the work, and thereby to turn down the rim thereof, and to hold down said work, suitable guides, as described, for determining the path of movement of said bending-tools, and suitable means, as described, for forcing said tools toward each other over the work and for retracting the same.

3. The combination of a bed, *A*, a work-holding spindle, *B*, mounted to revolve on said bed, bending-tools *F F*, blocks *E E*, having studs *K K*, and a pivoted plate, *H*, having cams *h*, and provided with a handle, substantially as described and shown.

JOHN HAGERTY.

Witnesses:

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HENRY J. STAPELTON.