

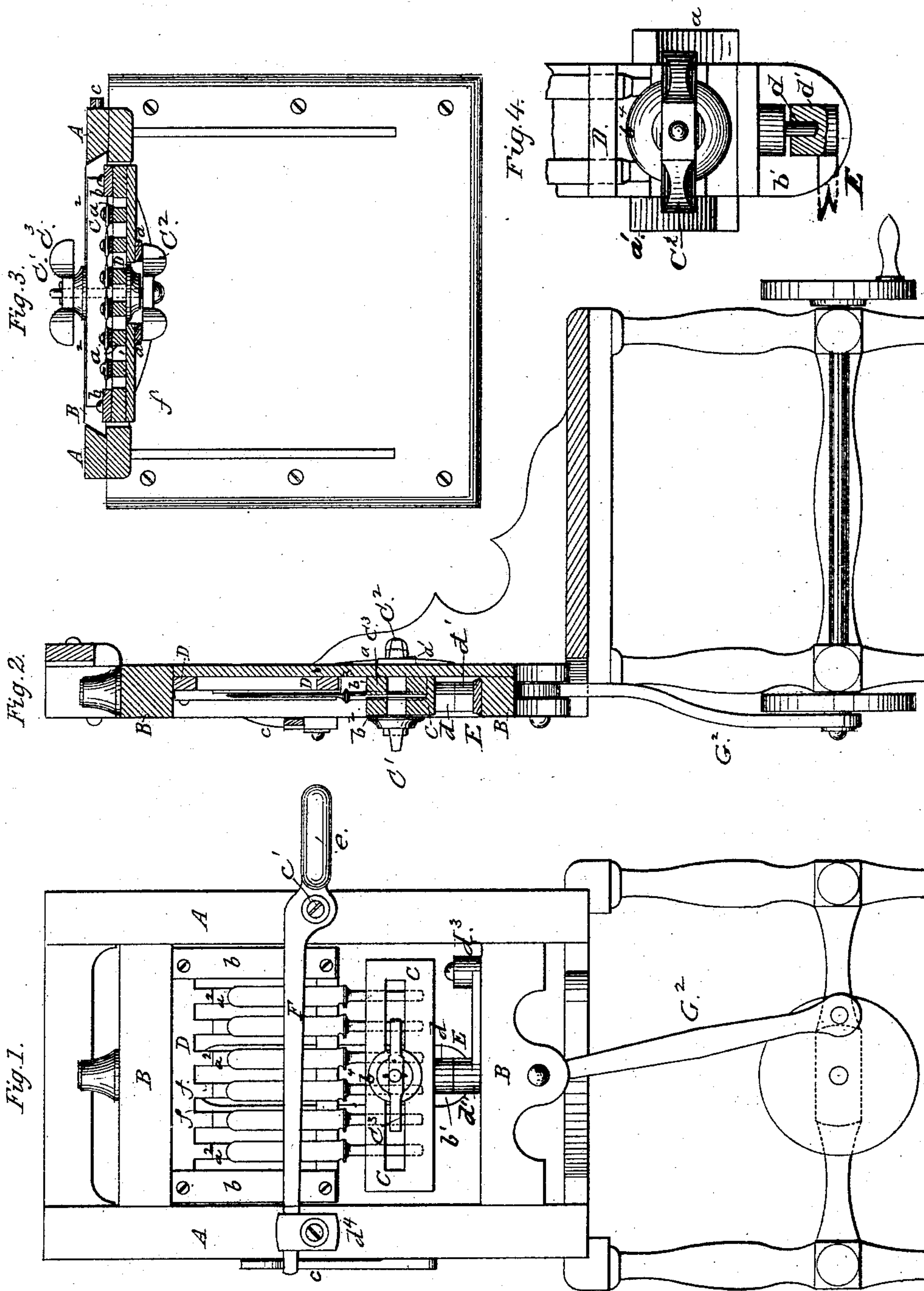
(No Model.)

E. A. SEVERANCE.

MACHINE FOR BURNISHING THE BLADES OF TABLE KNIVES.

No. 327,327.

Patented Sept. 29, 1885.



Witnesses.

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# UNITED STATES PATENT OFFICE.

EDWARD A. SEVERANCE, OF TURNER'S FALLS, MASSACHUSETTS.

## MACHINE FOR BURNISHING THE BLADES OF TABLE-KNIVES.

SPECIFICATION forming part of Letters Patent No. 327,327, dated September 29, 1885.

Application filed March 3, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD A. SEVERANCE, a citizen of the United States, residing at Turner's Falls, in the county of Franklin and Commonwealth of Massachusetts, have invented a new and useful Improvement in Machines for Burnishing the Blades of Table-Knives and other Plated or Silver Ware, of which the following is a true and full specification.

To those who are familiar with the manufacture of silver or plated ware the difficulty of properly burnishing it and the skill required to perform the work are well known, and, as it is usually done by hand, it is a matter of considerable importance to provide a machine which will do the required work with care and rapidity. A burnishing-tool run by an ordinary machine over a surface of silver is liable to "draw" the silver and fail to give the uniformity of color desirable, and on account of these difficulties silver surfaces are most frequently burnished by hand; but as hand-work is necessarily slow the work is finished at considerable expense. In hand-manipulation, too, the blade of a knife while being burnished rests upon the burnishing-table, only partly supported at the handle, and forward of the bolster the fingers are held, as the tool is heavily pressed upon and rapidly moved lengthwise. The knife is thus bent, and frequently breaks, involving a total loss both of the knife and the silver which has been deposited upon it. The loss of stock and labor by such accidents is considerable—possibly two per cent. of the manufacture by hand. In my machine I avoid such accidents, and as the knives are moved in a frame, while the burnishing-tool is held in the hand, the work may be done with the same care and watchfulness as in hand-burnishing, and fully as perfect work may be done, and with much greater rapidity.

In the accompanying drawings, which illustrate my invention and form part of this specification, Figure 1 is an elevation of the machine, showing the knives in position for work. Fig. 2 is a transverse vertical section, and Fig. 3 is a horizontal section. Fig. 4 is a detail showing the clamping and locking devices.

A is a stationary frame having the inside

of the two posts slotted, and within which slides vertically a movable frame, B, down the back of which, in the middle, is a slot,  $b'$ , the whole length. This movable frame also carries the revolving knife holder or clamp C and the rack D, composed of vertical bars covered with rubber, buff, or wash-leather  $a^2$ , to protect the blades of the knives resting against them to be burnished. These bars may be of any number; but I have found six, supporting as many knives, convenient and economical.

The knife-holding clamp C is formed of two parts,  $b^2 b^3$ , each of which is provided with a slot,  $C^3$ , and notches adapted to clasp the handles of the knives that are to be burnished. The two parts  $b^2 b^3$  fit together with a rabbet-joint, and are held to place with reference to each other by means of a clamping-bolt,  $C'$ , provided with thumb-pieces, and with reference to the reciprocating frame B by means of said bolt, the thumb-pieces mentioned, and incline planes  $a a'$ , fixed to the back of the said reciprocating frame.

The clamping device C, or the portion of it  $b^2$ , is provided with a pivot,  $d$ , set in a socket,  $d'$ , of the swinging arm E, said arm being hinged to the frame B at the point  $d^3$ . By means of this swinging arm and pivot the clamping device C may be swung forward or backward when it is desirable to place or replace the articles to be burnished.

The reciprocating frame B is provided with an opening or slot,  $b'$ , and on either side of said opening at the back of said frame is an incline plane, one of which has its thin portion downward and the other the like portion upward. The bolt  $C'$  of the locking device of the clamp has on one end a head, and the other end of same is provided with a pin, and by means of these the two thumb-pieces  $C^2 C^3$  are held against washer  $b^4$ , interposed between the said thumb-pieces and the clamping device C. The whole clamping device may be detached from the frame B when it is desirable to remove the articles that have been burnished, or it may be swung around by means of the swinging-arm E.

After the clamping device has been filled with knives to be burnished the thumb-piece  $C^2$  must be so turned upon its axis as to allow it to pass through the slot  $b'$ , after which said



thumb-piece is revolved about a quarter of a revolution in order that its inner face may ride upon the incline planes  $a a'$  to draw the clamping device C tight against the front face of the reciprocating frame B to clamp the two parts of said device together and at the same time secure the said clamping device to the reciprocating frame.

The rack D is formed of horizontal and vertical pieces, forming a frame which is fixed to the movable frame B, and said rack is provided with vertical bars  $f$ , covered on their faces with soft leathers  $a^2$  or some other cushions, which may form suitable bearings to the knife-blades while the burnishing tool is being pressed against them. Upon the two outside vertical bars of the rack D are placed pieces of heavy leather  $b$ , intended as polishing-surfaces for the burnishing-tool, which in the course of work is liable to become rough and therefore injurious to the polished surfaces of the knife-blades.

Upon one stile of the stationary frame A is pivoted a rest, F, provided with a long thin arm on one end and a short weighted one,  $e$ , on the other end. On the opposite stile of the stationary frame is a holding-socket,  $d^1$ , and on the return-face of this latter stile is secured a spring latch or catch,  $c$ , which, together with said socket  $d^1$ , holds the rest F in position while the operator is holding the burnisher to its work.

In the operation of burnishing the operator holds the tool firmly upon the upper edge of the rest F and against the surfaces of the articles as the reciprocating frame B, connected by pitman  $G^2$  to the operating machinery, moves rapidly up and down. A slight pressure upon the spring-catch  $c$  releases the long arm of the rest F, which, under the influence of the weighted portion  $e$ , swings upward and out of the way.

To operate the machine, the rest being released and hanging upright the knife holder or clamp, being filled with knives, is swung around into place. A turn of the thumb-piece draws the knife-blades securely against

the bars in the rack D. The rest is thrown down, securing itself. Power is applied, and the blades move up and down with great rapidity. The burnishing-tool, bearing on the rest, is pressed against each blade in succession for a few seconds, with an occasional touch of the tool on the buffer, and one side of each blade is done. The rest is then thrown up, the thumb-piece loosened, the clamp C swung out and turned around on its pivot, swung back into place, and presenting the other or unburnished sides of the knives for operation. The clamp with the burnished blades can be then taken out, and another, ready filled, set in its place, or the blades can be separately changed by the burnisher.

Spoons, forks, and other ware may be similarly burnished by having bed-pieces and clamps with suitable forms to hold the articles to be worked.

I do not claim to have been the first to produce an automatic burnishing-machine for silver-ware, and do not claim, broadly, protection for such.

I claim—

1. The combination, with the clamping device C, composed of parts  $b^2 b^3$ , and having the bolt  $C'$  and thumb-pieces  $C^2 C^3$ , of the reciprocating frame and inclines  $a a'$ , as and for the purpose set forth.

2. The combination, with the movable frame B, formed with bars provided with cushion-bearings, of the clamping device C and the pivoted arm E, as and for the purpose specified.

3. The combination, with the stationary frame A and rest F, provided with a bearing-arm and a weighted arm, of the reciprocating frame B and devices, substantially as described, for clamping and holding the articles to be burnished, substantially as and for the purpose set forth.

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Witnesses:

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