

BENJAMIN R. HAMILTON & S. SWAN.

Improvement in Machines for Creasing Leather.

No. 115,312.

Patented May 30, 1871.

Fig. I.

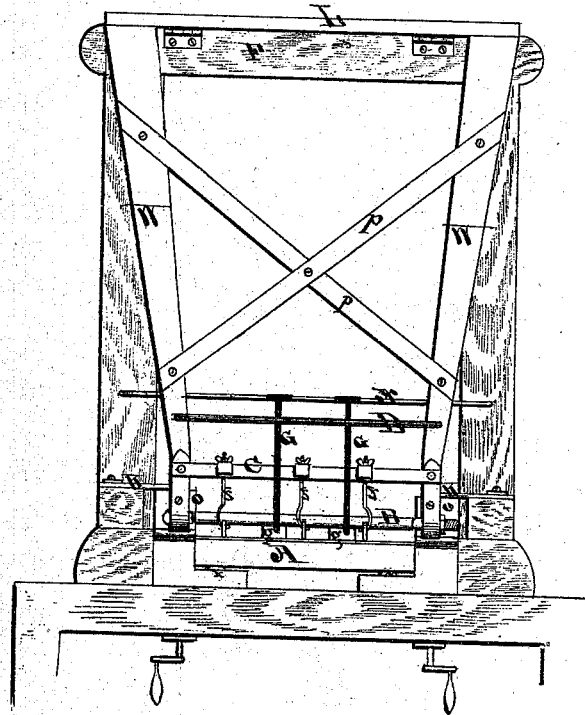
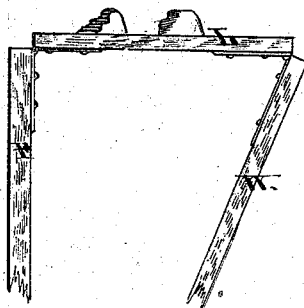


Fig. II.



Witnesses.

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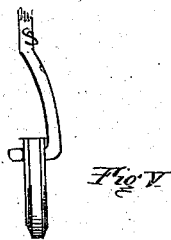
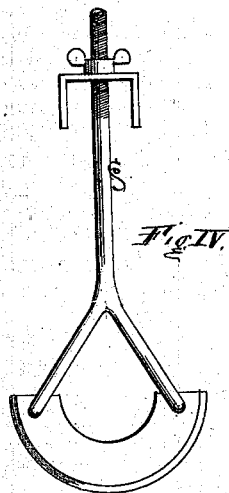
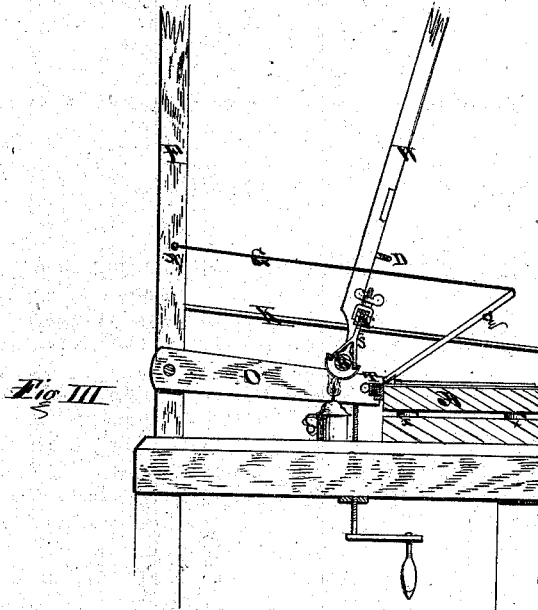
Benjamin R. Hamilton
Samuel Swan
by *Gardner & Hyde*
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UNITED STATES PATENT OFFICE.

BENJAMIN R. HAMILTON, OF SOUTH DEERFIELD, AND SAMUEL SWAN, OF CONWAY, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CREASING LEATHER.

Specification forming part of Letters Patent No. 115,312, dated May 30, 1871.

We, BENJAMIN R. HAMILTON and SAMUEL SWAN, of South Deerfield and Conway, respectively, in the county of Franklin, State of Massachusetts, have invented an Improved Machine for Creasing Leather, of which the following is a specification:

The first part of our invention relates to the combination, with a swinging frame, of a removable arbor that affords a support to creasers attached to the same, the end of the frame and arbor being so formed that any number of creasers may be used at a desired distance apart upon said arbor, which we make round and removable to permit revolving creasers to be also placed upon it; the object of this part of our invention being to enable a number of creasers to be drawn with the frame, by means of a handle forming part of it, backward and forward over the work beneath.

The second part of our invention relates to the construction, in combination with the above, of what we will call the bed of the machine, consisting of the actual bed-block with spring-supports, upon which the work is placed to be creased, the guides to keep the end of the frame in one track, the adjustable supports to hold the ends of the frame when removed from over the work and while the creasers are being heated, and the slats operated by the arbor to hold the work rigid under the creasers; the object of this part of our invention being to aid the creasers in more perfectly, and without loss of time, accomplishing their function.

Description of Drawing.

Figure I is a front view of a machine embodying our invention. Fig. II is a side view of the top of the swinging frame. Fig. III is a partial sectional view. Figs. IV and V are detail views of parts of our invention.

General Description.

W is the frame of the machine, which frame should be substantially constructed to prevent any warping and to resist any tendency to work loose or become untrue, and which we strengthen by cross-braces *p p*. This frame is surmounted by a platform, L, and to which it is hinged at one end, the other end of the platform being hinged to the back F of the

machine, or to a wall or partition should either stand in place of same. The platform is for the purpose of holding weights, to exert a required pressure upon the creasers on the face end of the frame W. The lower end of the frame W we form of metal to receive the ends of the arbor B, which extends horizontally from one end of the side of the frame to the other, being received into one end and being secured by a screw-bolt at the other, so that it can be easily entirely removed. Upon this arbor, when secured in place, are attached the creasers as follows: Extending across the frame, a short distance above and parallel to the arbor B, is a split or slotted bar, C. Through this bar proceeds the end of each hook *f f*, &c. Said ends, being provided with threads, are, by means of thumb-screw nuts seated upon the bar C, drawn up so as to tightly clamp the creasers against the arbors. In Fig. IV is shown the piece *f* fastened to the creaser. The creaser is semicircular upon its creasing-edge and in its center to conform to the cylindrical surface of the arbor B. It will be seen that the piece *f* forks from a point below bar C, and that one prong passes over to either side of the arbor and hooks into the hole opposite it in the creaser, so that to attach a creaser it is only necessary to bring one against the arbor at the desired point and, hooking it with a piece, *f*, clamp it by means of a thumb-screw tight against the arbor. The process of removing the creaser is equally simple, and, when removed, the piece *f* may be, with its nut, pushed out of the way within the slotted bar C. In practice we generally keep a number of these forks within the bar C, so that when it is desired to attach a number of creasers they may be slid along to the point wished. The arbor B is made removable, so that revolving creasers, for the purpose of making dotted lines or of gilding ornamental borders, may be used in connection with it, the creasers revolving by the motion imparted to the frame. Above the bar C is the handle D, by which frame W is pulled forward and pushed backward. A is the bed-block upon which the work is placed to be creased. It is securely held on all sides from having any lateral motion, and rests upon springs *x x*, &c., so that it may yield to the extent of conform-

ing to the bearing-surfaces of all the creasers. To insure this we also cover the top surface that comes immediately under the work with rubber or other elastic cloth. Coming against the sides of the lower part of the frames are the metal guides K K to prevent the frame from having any lateral play. Attached to the rear of bed-block A is a track, T, upon which slide the ends of slats *g g*, &c., as shown in Fig. III. The ends of said slats are formed of metal and hinged to the slats at a point on a level with top surface of block A, and when the slat is placed in the position required the ends are clamped by thumb-screws between the track T and bed-block A and held there. The other ends of these slats are connected by coil-springs or elastic G to a rod, N, upon the back of the machine, being sleeved upon said rod so as to be moved upon it as the slats are adjusted in position on bar T. When the end of frame with arbor is pushed back off of the bed-block A the slats are released, as shown in Fig. III, and held by elastic G at an angle from the bed-block, so as not to interfere with the arrangement of the work to be creased upon the bed, and as the frame is pulled forward the arbor comes against them, forcing them down and holding the work extended and in position to be creased to advantage. In rear of the block A, and opposite the ends of sides of frame W, are the supports O O, hinged to the rear of the machine, at one end above the level of and having their others flush with top surface of block A, so that when the frame W is not resting upon the bed-plate it can be upon them, and lamps or gas-jets may heat the creasers ready for use. These supports are adjusted by screws passing through the body of the machine and provided with handles to be operated from beneath, as shown in Fig. III.

The operation of our machine is as follows: The leather covering of pocket-book or other leather to be creased having been placed upon the block A, as many creasers as it is desired to make creases are placed upon the arbor B

and secured by thumb-screws to the bar G, or, if circular, prevented from having lateral play by blanks upon the arbor, held in place by semicircular creases. The creasers, having been sufficiently heated, are then, by means of the handle D, drawn over the leather, the pressure upon the creasers to secure the depth and distinctness of the crease being regulated nicely by the amount of weight upon the platform L, the double hinges upon the platform permitting the creasers to be drawn over a horizontal plane.

The method of creasing now employed—of heating an iron capable of making only one crease and drawing it over the leather by hand—is not only very slow, but inaccurate and uncertain, the perfection of the work depending upon the accuracy of the workman's eye, the strength of his arm, and his ability to prevent the ruler acting as a bearing-surface from slipping under the pressure against its side, while with our machine the whole side of a piece of leather can be covered with various kinds of creases with mathematical regularity in the time occupied by pulling the creasers once over its surface.

What we claim is—

1. In combination with the swinging frame W having platform L, the removable arbor B with creasers, bar C, and handle D, the parts being constructed and arranged substantially in the manner and for the purpose shown.

2. In combination with the swinging frame with its creasers, the bed of the machine, consisting of the bed-block A resting upon the springs *x x*, &c., slats *g g*, &c., with their attachments, adjustable supports O O, and guides K K, the parts being combined, constructed, and arranged substantially in the manner and for the purpose shown.

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Witnesses:

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