

(No Model.)

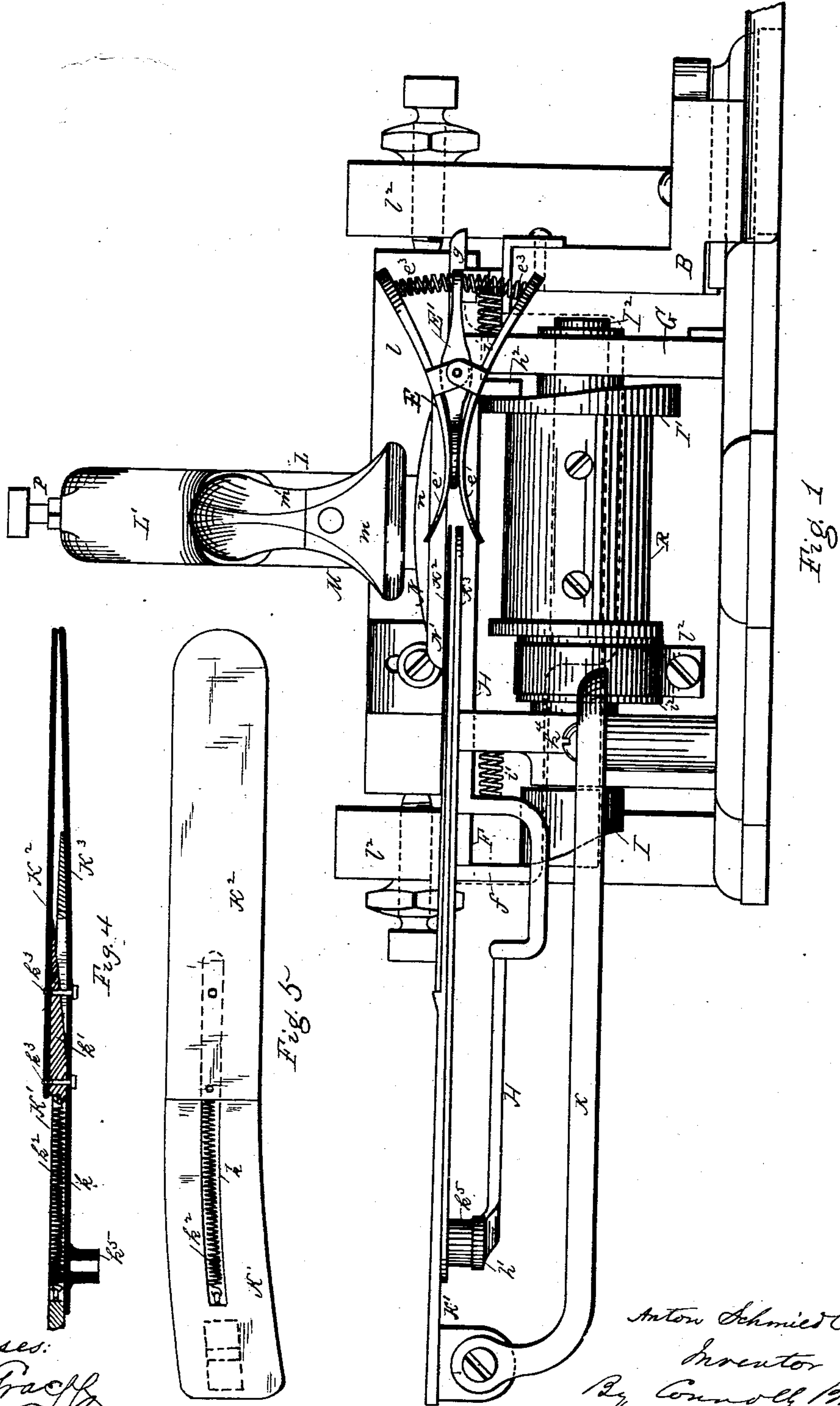
3 Sheets—Sheet 1.

A. SCHMIEDL.

MACHINE FOR BEADING AND HAMMERING LEATHER.

No. 359,893.

Patented Mar. 22, 1887.



Witnesses:
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H. B. Richmond

Anton Schmiedl
Inventor
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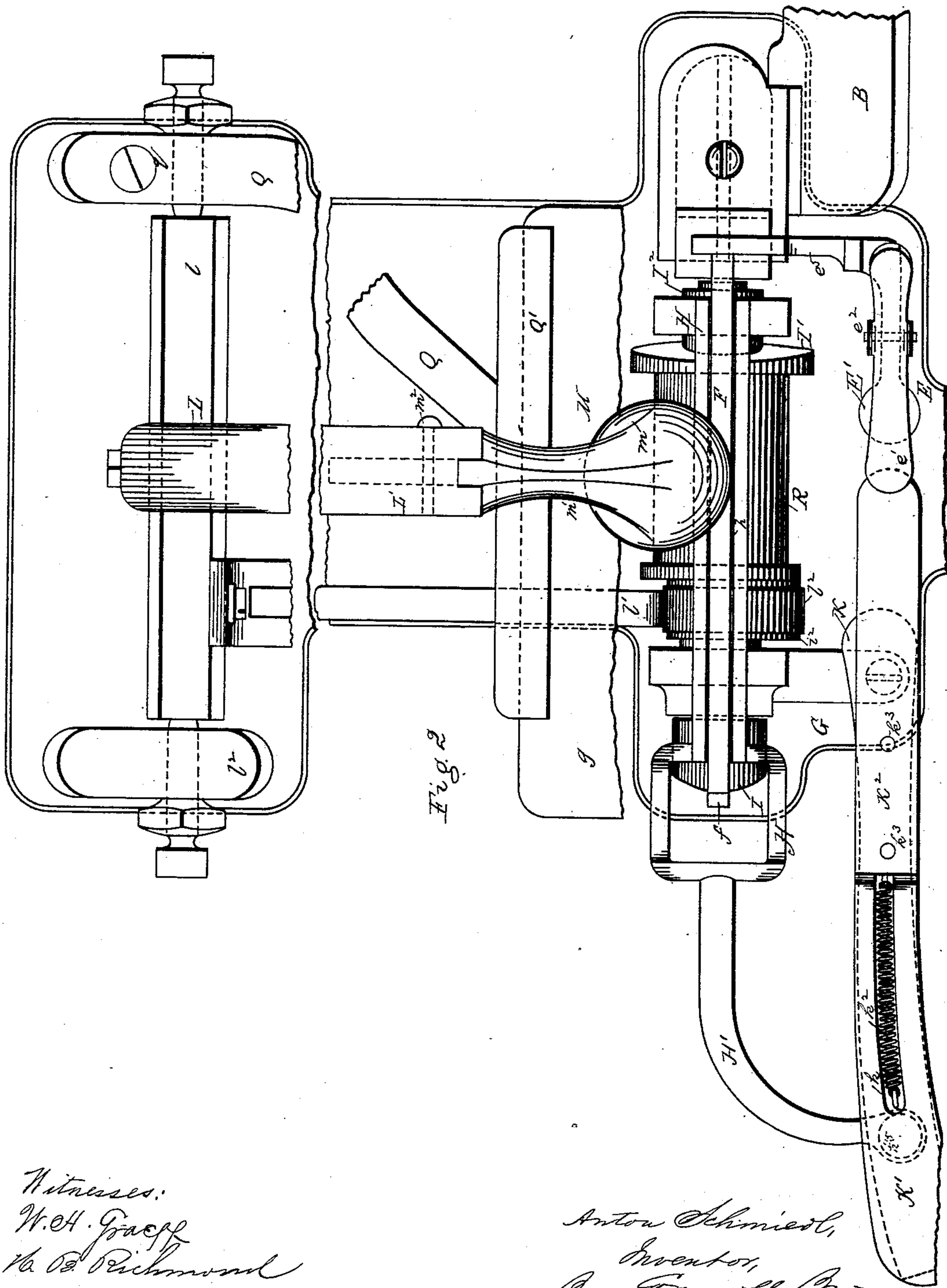
3 Sheets—Sheet 2.

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3 Sheets—Sheet 3.

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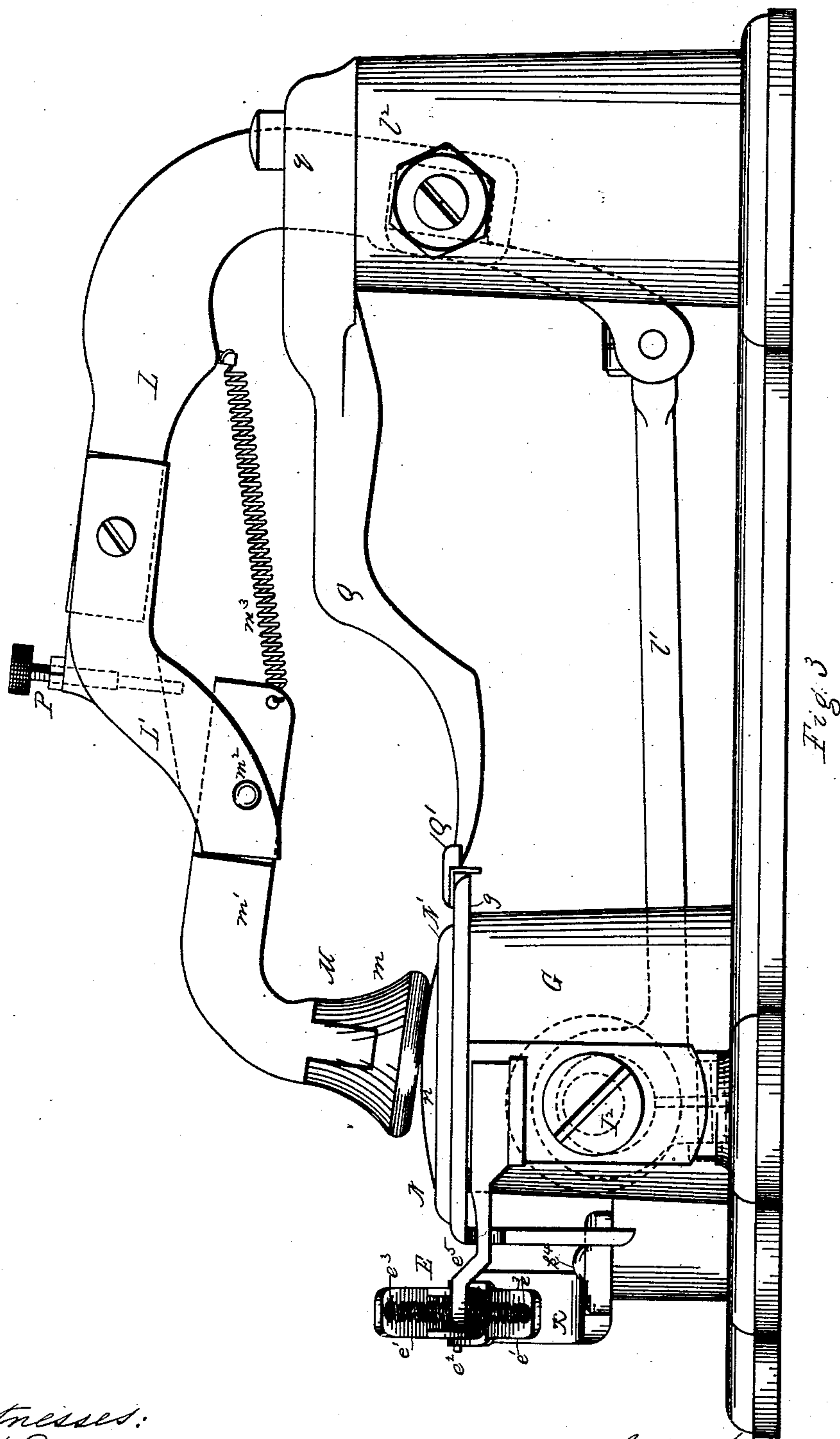


Fig. 3

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UNITED STATES PATENT OFFICE.

ANTON SCHMIEDL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO EDWARD B. JORDAN, OF BROOKLYN, NEW YORK.

MACHINE FOR BEADING AND HAMMERING LEATHER.

SPECIFICATION forming part of Letters Patent No. 359,893, dated March 22, 1887.

Application filed July 24, 1886. Serial No. 208,926. (No model.)

To all whom it may concern:

Be it known that I, ANTON SCHMIEDL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Machine for Beading and Hammering Leather; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

My invention has for its object to provide a machine for beading shoe-uppers or similar leather-work in which the stitched scallops on the edge of leather or equivalent material are beaded and hammered.

My invention consists in the peculiar construction and combinations of parts, hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of machine, partly broken away. Fig. 2 is a plan view, partly broken away. Fig. 3 is an end elevation. Fig. 4 is a vertical longitudinal section of beading-bar and finger-plates. Fig. 5 is a plan of parts shown in Fig. 4.

This machine comprises several parts, which I shall now describe.

E is a clamp or "pushing on" device, comprising a central rigid tongue, E', and two levers, e' e', pivoted on said tongue at e². Said levers e' e' are curved reversely, as shown, and bear with a yielding pressure against the tongue E', being forced apart at their opposite ends by springs e³ e³. The tongue E' is a prolongation or extension of or is attached by means of an intermediate arm, e⁵, to a bar, F, which rests on the bed-piece G below the top or cloth plate, g, of the latter. Said bar has liberty of lengthwise movement in a longitudinal slot, h, in a slide-bar, H. Said slide-bar H rests on the bed-piece G in guides or grooves in the latter.

I and I' are cams on a shaft, I², below the bars F and H. The bar F has a depending finger, f, which bears against the cam I, and the bar H has a finger, h², which bears against the cam I', so that when the shaft I² is revolved and the cams bear against said fingers the bars F and H will be moved longitudinally outward

in opposite directions, their return movements being effected by means of springs i and i'. If desired, the bars F and H may be moved in both directions positively by the cams, the latter being suitably shaped for the purpose.

K represents a rigid arm, fastened to bed-piece G by a screw, k⁴, and having hinged to its outer end a bar, K'. On the upper side of bar K' is a plate, K², and on its lower side is another plate, K³, these two plates being preferably of spring-steel and being connected by rivets or screws k³ k³, which pass through a longitudinal slot, k, in the bar K.

k' is a rib or tongue between the plates K² K³ and fastened to both, said rib fitting in the slot k in the bar K', and k² is a spiral spring, forming an elastic connection between the end of rib k' and the opposing end of slot k.

The plates K² K³ may be reciprocated longitudinally on the bar K', their movement in one direction being effected or assisted by the pull of the spring k², and their movement in the opposite direction, or in both directions, being produced by the bar H, a curved extension, H', of the latter carrying a pin or stud, h', which enters a socket, k⁵, on the under side of plate K³. The bar K', carrying plates K² K³, may be turned up or thrown back on its hinge, and disengagement will then be effected between bar H and plate K³. When said bar and plate are in engagement, the positions are as shown in Figs. 2 and 3, and when shaft I² is rotated the clamp E and plates K² K³ will reciprocate simultaneously in opposite directions.

The fabric to be beaded is drawn over the finger-plates K² K³, the bar K' being first turned up for that purpose and then turned down into horizontal position, and the shaft I² caused to rotate. The bars F and H reciprocate and the clamp E and finger-plates K² K³ move simultaneously toward and then simultaneously apart from each other, the effect or motion being very similar to that of the thumb and fingers of the human hand in drawing on or fitting the end of a glove-finger on another finger or thumb.

Normally the outer ends of the plates K² K³ are in contact with or touching each other. To cause them to open or spread as they move

toward clamp E or tongue E' and to close as they recede therefrom, the rib k' is made in the form of a wedge, which bears against the outer portion of arm K' as plates $K^2 K^3$ reciprocate thereon, and so causes said plates to be sprung apart, their coming together being due to their resiliency when relieved of the pressure of said wedge.

If desired, the device E may remain stationary while the machine is in operation, the finger-plates $K^2 K^3$ reciprocating as described, the finger f and cam I being omitted.

Preferably the inner sides or opposing faces of the levers $e' e'$ are transversely ribbed or corrugated to produce roughened surfaces or ribs, which will act more effectively than plain or smooth surfaces.

I will now describe the appliances by which the hammering is done.

L is a vibrating arm secured to a rock-shaft, I , and receiving motion through a connecting-rod, I' , having a strap, i^2 , which encircles an eccentric on shaft I^2 , so that when said shaft I^2 rotates, the arm L will vibrate in a vertical plane. Said arm carries at its outer extremity a hammer, M, of which m is the head and m' the shank. This shank is pivoted at m^2 in a forked extension, L' , of the arm L, and has an elastic connection in the form of a spring, m^3 , which latter is attached at its ends to said shank and arm, respectively.

N is a pad, composed of a cushion, n , of felt, leather, rubber, or other proper material, fitted in a frame, N' , which is secured to the cloth-plate g , the latter being fastened by screws to the bed-piece G.

When the arm L vibrates, the hammer M strikes on the cushion or on fabric placed on the latter. The blow of the hammer is not a mere downward stroke, but one having a rubbing action, as, owing to the pivotal connection at m^2 , the hammer-head slides forwardly when it meets with resistance beneath. So, too, the hammer as it ascends rubs the fabric beneath, as the pull of the spring m^3 causes said hammer to swing backwardly on its pivot. The action or motion of the hammer is therefore peculiar, being a descending striking and forward rubbing motion and a backward rubbing motion in ascending. To adjustably limit the motion of the hammer, an adjustable stop in the form of a screw, P, fitted in the extension L' , is employed, the rear end of the shank m' abutting against or meeting the lower end of said screw at every stroke of the hammer.

To brace the cloth-plate there is provided an arm, Q, secured at q on one of the standards, I^2 , in which the rock-shaft L has its bearings. Said arm extends forwardly, as shown, and carries a bracket-plate, Q' , which is L-shaped in cross-section and bears on the top of and against the edge of the cloth-plate g . Said bracket-plate has a lining of leather or equivalent material, to form a cushion for the cloth-plate and deaden the sound made by the hammer.

R is a pulley on shaft I^2 , receiving a belt by

means of which said shaft is rotated, thereby communicating the required power and motions to the beader and hammer.

The operation is substantially as follows: The scallops, having been first nicked, are turned either by hand or by the aid of a turning-iron and slipped on the finger-plates $K^2 K^3$, the latter being then brought into a horizontal position by turning down the bar K' , which was previously raised or thrown back. The shaft is then rotated and the beading formed by the conjoint action of said plates or fingers $K^2 K^3$ and the clamp E or tongue E' and levers $e' e'$. The scallops, after being moved by hand from the beader, pass successively over the pad N and are acted on by the hammer, the latter acting simultaneously with the beader, so that while one scallop is being beaded another previously beaded is being hammered. It is not, of course, until after the first scallop has been beaded that the hammer acts on the work, and while the last scallop is being hammered there is no work on the beader.

The advantages of the construction herein described are as follows: The beading operation is very effective and rapid, the operation being in imitation of hand-work, but more swift, uniform, and effectual. The hammering is done by machinery and simultaneously with the beading, thus dispensing with the separate operation of manual hammering heretofore practiced. The spring k^2 not only serves to assist the spring i' , but also holds the plates $K^2 K^3$ snugly on the bar K' , preventing loose action or lost motion.

What I claim as my invention is—

1. The beading clamp or device comprising the tongue E' and levers $e' e'$, with springs $e^3 e^3$, substantially as shown and described.

2. The combination, with clamp E, of shaft I^2 , having cam I, and the bar F, having finger f , and spring i , whereby said clamp is reciprocated, substantially as shown and described.

3. The combination, with a support, K, of hinged bar K' and finger-plates $K^2 K^3$, and means to reciprocate said plates longitudinally on said bar, substantially as shown and described.

4. The combination, with support K, of hinged bar K' , having a central longitudinal slot, k , of plates $K^2 K^3$, rib k' , and spring k^2 , substantially as shown and described.

5. The combination, with support K, bar K' , and plates $K^2 K^3$, of slide-bar H, whereby said plates are reciprocated, substantially as shown and described.

6. The combination, with bed-piece G, of shaft I^2 , having cam I', bar H, having finger h^2 and spring i' , support K, arm K' , plates $K^2 K^3$, and spring k^2 , whereby said plates are given a longitudinal reciprocating movement, substantially as shown and described.

7. The combination, with bar K' , having slot k , and plates $K^2 K^3$, of rib k' , of wedge form, and retracting-spring k^2 , whereby said fingers are caused to spread or open as they move in one direction and to close or come together

as they move in the opposite direction, substantially as shown and described.

8. The combination of clamp or device E, comprising tongue E' and levers e' e', with the bar K', having sliding finger-plates K² K³, substantially as shown and described.

9. In a beading-machine, the combination of oppositely-reciprocating members E and plates K² K³, and mechanism for reciprocating said members, substantially as shown and described.

10. In combination with cloth-plate g and hammer M, the pad N, comprising cushion n and frame N', substantially as shown and described.

11. The combination, with a vibrating arm, L, of a hammer, M, having a shank pivotally fastened thereto, whereby it imparts a rubbing stroke or blow, substantially as shown and described.

12. The combination, with vibrating arm L, of hammer M, having a shank, m', pivotally connected to said arm, and having also a spring-connection with the same, substantially as described.

13. The combination, with vibrating arm L

and pivoted hammer M, of adjustable stop P, substantially as shown and described.

14. The combination, with the cloth-plate g and standard l², of arm Q, having bracket-plate Q', substantially as shown and described.

15. In a leather-working machine, the combination, with beading or stretching devices, substantially as described, of a hammer and mechanism for imparting motion thereto, whereby scallops are simultaneously beaded or stretched and hammered, as set forth.

16. The combination, with a bed-piece, G, having a cloth-plate, g, and a hammer, M, of beading or stretching devices, substantially as described, located in front of said cloth-plate, whereby as the scallops are successively passed from the beader or stretcher they move over the cloth-plate and are acted upon by the hammer, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

ANTON SCHMIEDL.

Witnesses:

EDWARD E. PAXSON,
M. D. CONNOLLY.