

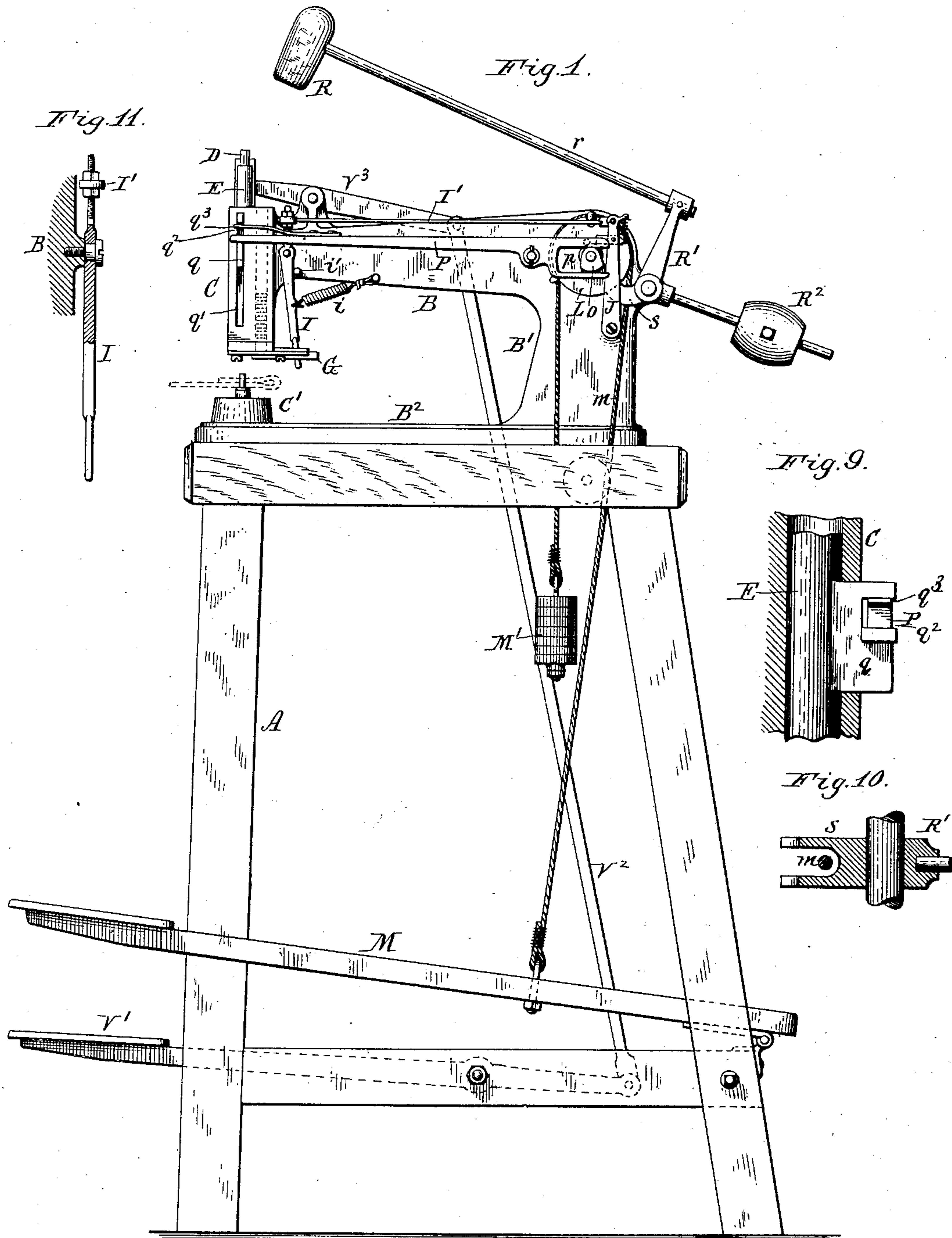
(No Model.)

2 Sheets—Sheet 1.

L. HEWITT.  
RIVETING MACHINE.

No. 367,628.

Patented Aug. 2, 1887.



Chas. Buchheit.  
Theodore L. Popp. Witnesses.

Leslie Hewitt Inventor.  
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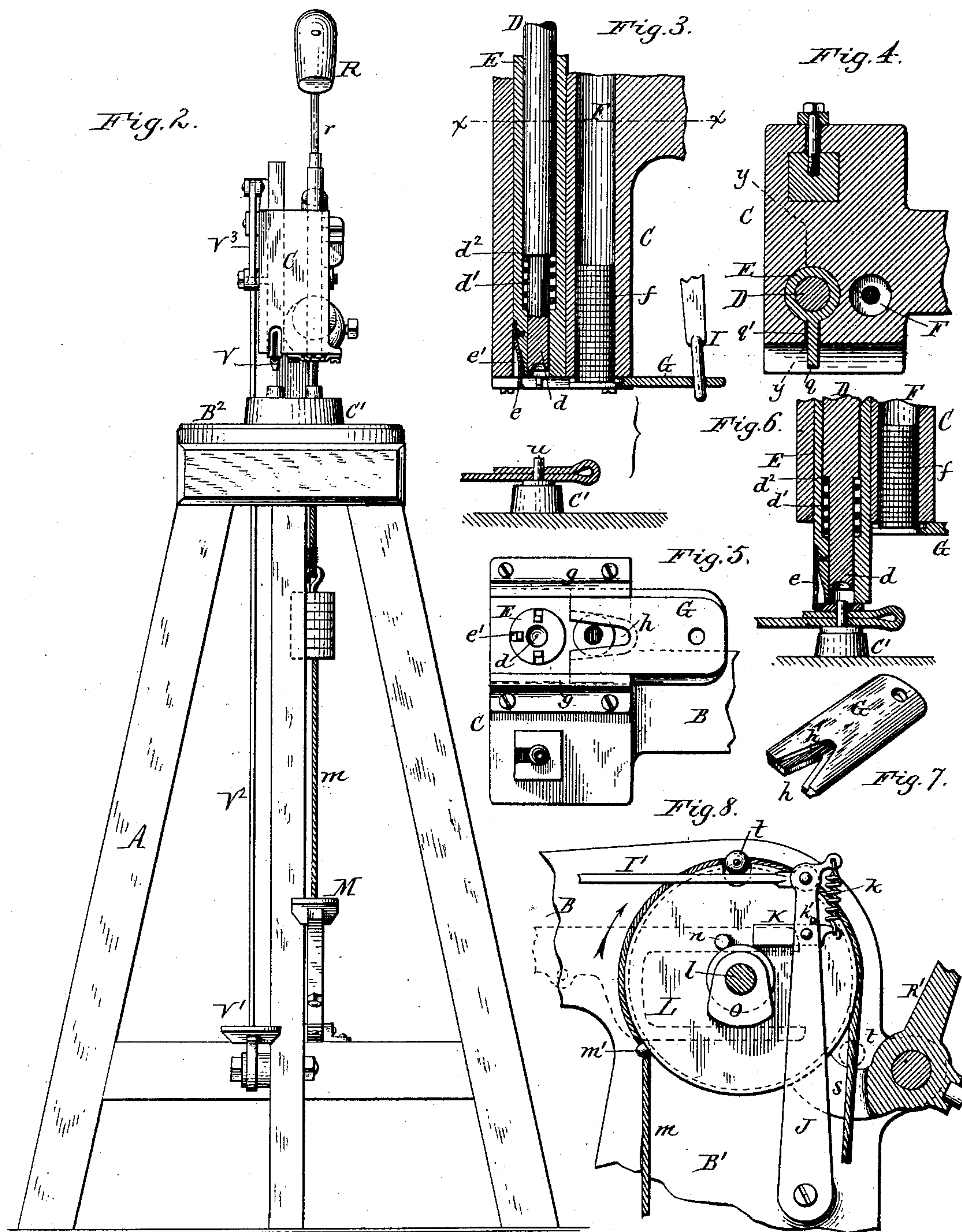
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# UNITED STATES PATENT OFFICE.

LESLIE HEWITT, OF BUFFALO, NEW YORK.

## RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,628, dated August 2, 1887.

Application filed May 11, 1886. Serial No. 201,863. (No model.)

*To all whom it may concern:*

Be it known that I, LESLIE HEWITT, of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Riveting-Machines, of which the following is a specification.

This invention relates to a riveting-machine which is designed to be used for applying rivets to leather straps in saddlery and harness work and for similar purposes; and it has for its object to produce a machine by which the washers are quickly applied to the rivets and the latter are headed or upset in a simple and expeditious manner.

The invention consists of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional elevation of my improved riveting-machine. Fig. 2 is a front elevation thereof. Fig. 3 is a longitudinal sectional elevation, on an enlarged scale, of the head of the machine. Fig. 4 is a horizontal section in line *xx*, Fig. 3. Fig. 5 is a bottom plan view of the head of the machine. Fig. 6 is a longitudinal vertical section of the head of the machine, showing the washer applied to the rivet. Fig. 7 is a perspective top view of the washer-feeding slide. Fig. 8 is a sectional side elevation of the devices by which the riveting and washer-applying mechanism is actuated. Fig. 9 represents a vertical cross-section of the washer-carrying sleeve and connecting parts in line *yy*, Fig. 4. Fig. 10 is a horizontal sectional view of the lower portion of the hammer. Fig. 11 is a front elevation of the lever by which the feed-slide is moved.

Like letters of reference refer to like parts in the several figures.

A represents the stationary supporting-frame, consisting of suitable supporting-legs and a top plate or platform.

B represents the stationary arm of the machine, supported at its rear end by a standard, B', which rests upon a base-plate, B<sup>2</sup>, the latter being firmly secured to the top of the supporting-frame A.

C represents the head of the machine, which is formed on or secured to the front end of the arm B and which depends below the arm.

C' represents the anvil, secured to the base-plate B<sup>2</sup> below the head C.

D represents the vertical riveting or upsetting bolt, arranged in the head C above the anvil C', so as to be capable of movement toward and from the anvil.

E represents a sleeve which surrounds the riveting-bolt D, and also capable of movement in a cylindrical socket formed in the head C. The riveting-bolt D is provided with a reduced lower portion, *d*, which slides in a socket of corresponding diameter formed in the lower portion of the sleeve E.

*d'* is a spiral spring arranged in an enlargement of the socket of the sleeve E below the shoulder *d*<sup>2</sup>, formed at the upper end of the reduced portion *d* of the riveting-bolt, so as to hold the latter in an elevated position in the sleeve E.

*e* represents the washer-holding fingers, secured to the lower portion of the sleeve E and arranged in a recess, *e'*, formed in the outer surface of the same. These fingers project below the lower end of the sleeve E sufficiently to hold the washers, and are made of spring-steel or otherwise rendered elastic, so as to grasp the washers.

F represents the vertical bore or socket, formed in the head C immediately in rear of the sleeve E, for the reception of the washers *f*, which are placed in said recess or pocket one above the other, as represented in Fig. 3.

G represents the washer-feeding slide, arranged horizontally against the under side of the head C and made movable between guides or ways *g*, secured to the head, as clearly represented in Figs. 3 and 5.

*h* represents a notch formed in the front end of the slide G and provided on the upper side of the slide with a marginal recess, *h'*, in which one washer is supported at a time, as represented in Figs. 3 and 5. The notch *h* is made sufficiently wide to permit a rivet to pass freely through the same.

I represents a lever by which the washer-slide G is moved back and forth between the ways *g*. The lever I is pivoted to the side of the arm B near the head C, and is connected with its lower end to the slide G, while its upper end is connected by a rod, I', to an actuating-lever, J, which latter is pivoted to the



standard B'. The lever I is held in a retracted position by a spring, *i*, which connects the lever with the arm B and holds the lever against a stop, *i'*, on the arm. The lever J is

5 pivoted at its lower end to the standard B', and is connected with its upper end to the rod I', as clearly represented in Fig. 8.

K represents a spring-pawl, which is pivoted to the lever J near the upper end thereof, and which is held by its spring *k* in a horizontal position, so as to project forwardly from the lever J, the rear end of the pawl being held by the spring against a stop, *k'*, on the lever J.

15 L represents the actuating-wheel, secured to a shaft, *l*, which is journaled in the rear portion of the arm B'.

*m* represents a rope, cord, or chain, which is secured to the periphery of the wheel L by a staple, *m'*, or other suitable fastening, and which connects said wheel with a treadle, M, pivoted to the supporting-frame A. The opposite end of the rope *m* carries a weight, M', which returns the parts to their position of

25 rest when the treadle is released.  
*n* represents a pin or projection formed on the side of the wheel L, so as to strike against the pawl K when the treadle M is depressed and swing the arm J backwardly in the direction of the arrow in Fig. 8, thereby moving the slide G forwardly. This forward movement of the washer-slide causes the washer which rests in the recess *h'* to slide forwardly between the holding-fingers *e*, which latter

35 seize the washer so presented to them.  
O represents a cam, secured to the shaft *l* on one side of the wheel L and engaging with the short arm of a lever, P, which is pivoted to the side of the arm B', the short arm of said lever being bifurcated, as shown at *p*, for the purpose of being moved in either direction by the cam O. The front end of the lever P is connected with the sleeve E, so as to move the latter vertically in its socket in the head C. The sleeve E is provided for this purpose with a laterally-projecting wing, *q*, which plays in a slot, *q'*, in the side of the head C, and provided with a notch, *q''*, in which the front end of the lever P engages. The latter is provided

50 on its upper side with a spring, *q'''*, which bears against the upper end of the notch, while the lever P itself bears against the lower end of the notch, as clearly represented in Figs. 1 and 9.  
R represents the hammer-head whereby the riveting-bolt D is driven down. The head R is secured to a rod, *r*, which is attached with its rear end to the upper arm of a bell-crank lever, R', the latter being pivoted to the rear

60 portion of the standard B'. The lower arm of the bell-crank lever is provided with a weight, R<sup>2</sup>, which elevates the hammer-head when the treadle M is released. The bell-crank lever R' is provided below its pivot with a short bifurcated arm, *s*, through which that portion of the rope *m* passes which connects the wheel L with the treadle M, as represented in Fig. 10.

*t* represents a button, stop, or enlargement, secured to the rope *m* on the periphery of the wheel L and adapted to interlock with or bear against the bifurcated arm *s* of the bell-crank lever R when the treadle M is released, as represented in dotted lines in Fig. 8.

A rivet, *u*, being placed in the opening or openings formed in the strap, the other part to which the rivet is to be applied or riveted is placed with its head upon the anvil C', as represented in Figs. 1 and 3, and the treadle M is depressed, whereby the washer is applied to the rivet, and the latter is headed or upset. Upon depressing the treadle M the wheel L is turned by the rope *m* in the direction of the arrow in Fig. 8. This movement of the wheel L causes first the backward movement of the lever J by the pin *n* striking against the pawl K, whereby the washer is fed forwardly between the holding-fingers *e*, as before described. As soon as the pin *n* clears the pawl K during the continuing forward movement of the wheel L, the pawl K is returned to its former position by the spring *k*, leaving the washer attached to the sleeve E by means of the fingers *e*. The forward movement of the wheel L still continuing, the cam O next raises the rear end of the lever P, whereby the sleeve E and bolt D are moved downwardly until the sleeve E rests upon the leather. This downward movement of the sleeve E applies the washer to the rivet, as represented in Fig. 6. During the final forward movement of the wheel L the projection *t* of the rope *m* strikes against the bifurcated arm of the bell-crank lever R' and swings the hammer down, which strikes the upper end of the bolt D, and thereby causes the rivet to be headed or upset. The treadle is now released, and the weight returns the wheel L to its former position. During the return movement of the wheel L the hammer is elevated by the weight R<sup>2</sup> and the rear end of the lever P is depressed by the cam O, thereby raising the sleeve E and bolt D. At the beginning of this upward movement of the sleeve E the holding-fingers *e* withdraw from the washer, their lower ends being slightly projected so as to hold the washer sufficiently to apply it to the rivet, while being able to withdraw from the washer as soon as the latter is secured in place. The spring *q'''*, applied to the lever P, serves to cushion the lever P when the front end of the latter reaches the limit of its upward movement. As soon as the slide G is withdrawn to its retracted position by the spring *i*, the column of washers in the pocket F descends, and the lowest washer enters the recessed portion *h'* on the upper side of the slide, ready to be fed forwardly during the next forward movement of the slide.

By my improved machine the operation of applying the rivets to harness and saddlery work and other work of a similar nature is greatly facilitated, as the single operation of depressing the treadle serves to apply the washer to the rivet and also head the same.



If desired, a punching-tool can be connected with the machine for the purpose of punching the holes in the leather preparatory to inserting the rivets in the same. A punching-tool suitable for this purpose is indicated in the drawings, in which the punching-tool V is represented as being arranged in the head C, to one side of the sleeve E, with a suitable die secured to the anvil C'. The punching-tool V is operated by a treadle, V', connecting-rod V<sup>2</sup>, and lever V<sup>3</sup>.

I claim as my invention—

1. The combination, with the head C, having a washer-receptacle, F, of a feed-slide, G, provided with a notch, *h*, having a marginal recess, *h'*, substantially as set forth.

2. The combination, with the head C, having a washer-receptacle, F, and the feed-slide G, of the lever I, spring *i*, rod I', lever J, provided with pawl K, wheel L, provided with stop *n*, and a treadle, M, connected with the wheel L, substantially as set forth.

3. The combination, with the head C, provided with a washer-carrier, E, of the lever P and actuating cam O, substantially as set forth.

4. The combination, with the washer-carrier E, provided with a notched wing, *q*, of the lever P, engaging in the notch of the wing and provided with a spring, *q*<sup>3</sup>, substantially as set forth.

5. The combination, with the riveting-bolt D and pivoted hammer R, having an actuating-arm, *s*, of the wheel L, cord *m*, provided with a projection, *t*, and a treadle, M, substantially as set forth.

6. The combination, with the head C, having a washer-receptacle, F, the feed-slide G, sleeve E, and riveting-tool D, of a treadle, M, a wheel, L, provided with a stop, *n*, a cord, *m*, provided with a projection, *t*, a hammer, R, which is actuated by the projection *s*, a lever, J, which is actuated by the stop *n* and connected with the feed-slide G, and a cam, O, and lever P, whereby the sleeve E is actuated, substantially as set forth.

Witness my hand this 4th day of May, 1886.

LESLIE HEWITT.

Witnesses:

OSCAR SCHAUB,  
JNO. J. BONNER.