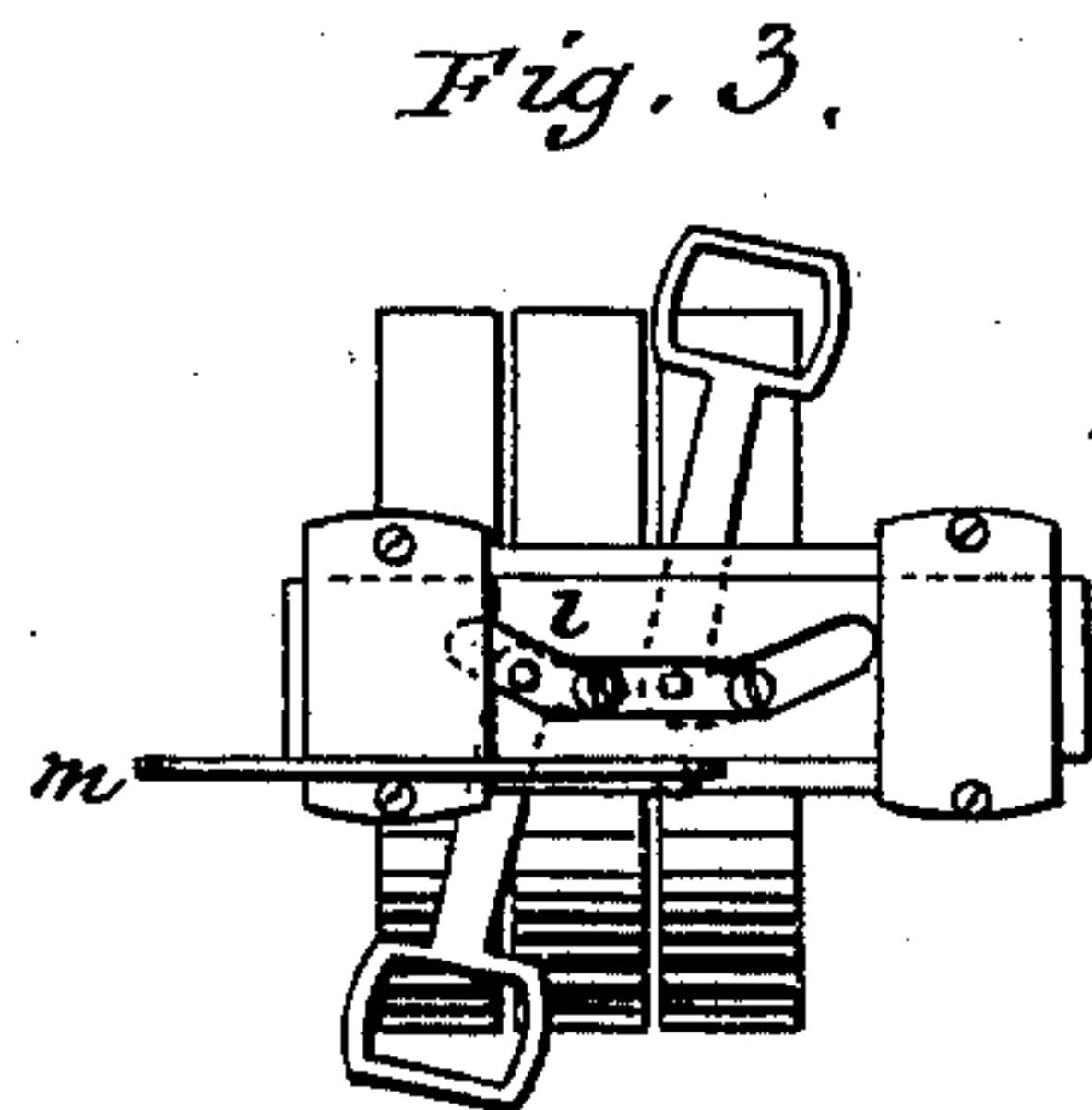
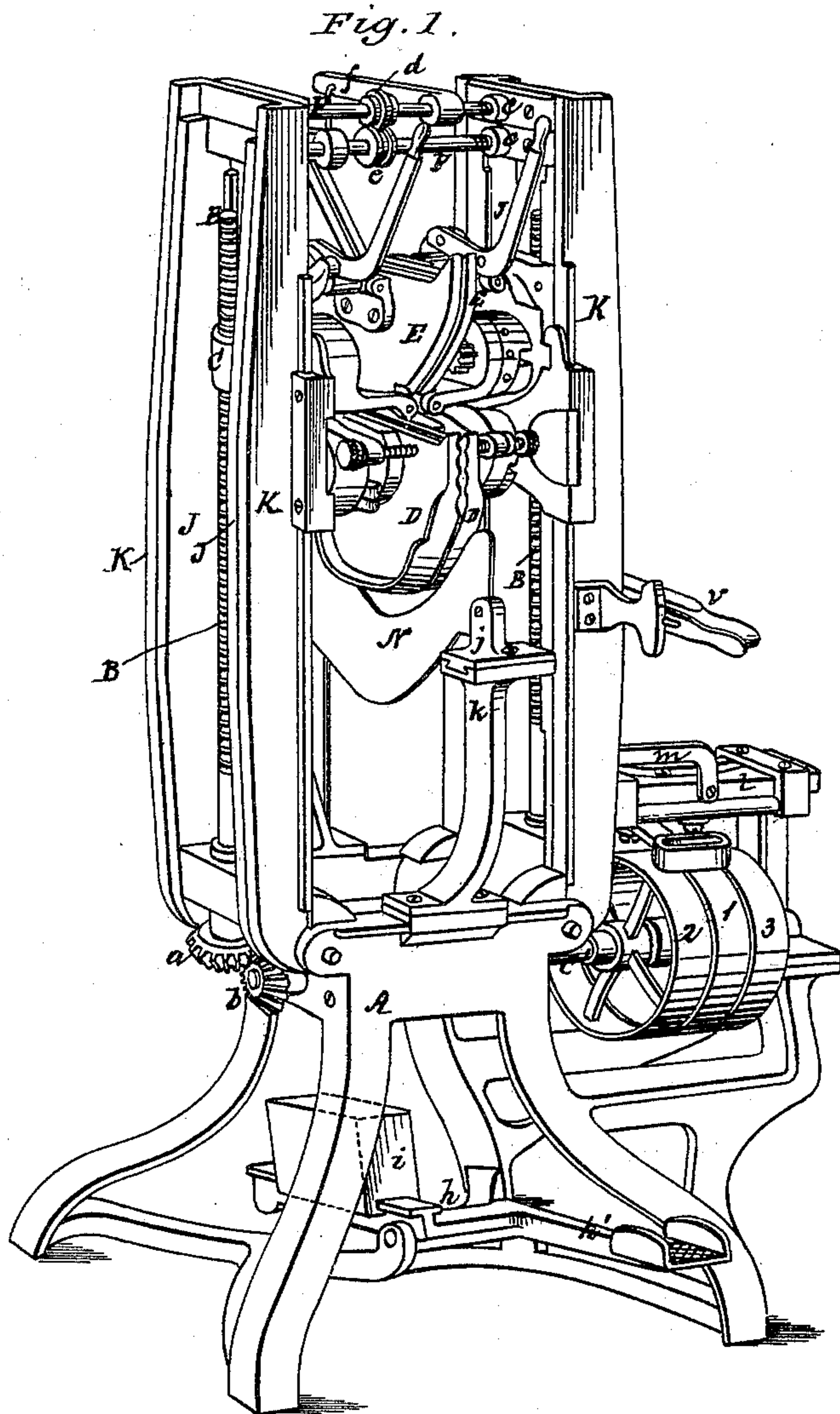


S. W. JAMISON.  
CRIMPING MACHINES FOR LEATHER.  
No. 176,181. Patented April 18, 1876.



Witnesses:

*Edw. A. Dick*  
*Edw. W. Doud*

Inventor

*Samuel W. Jamison*  
*by atty Philip Bailey*

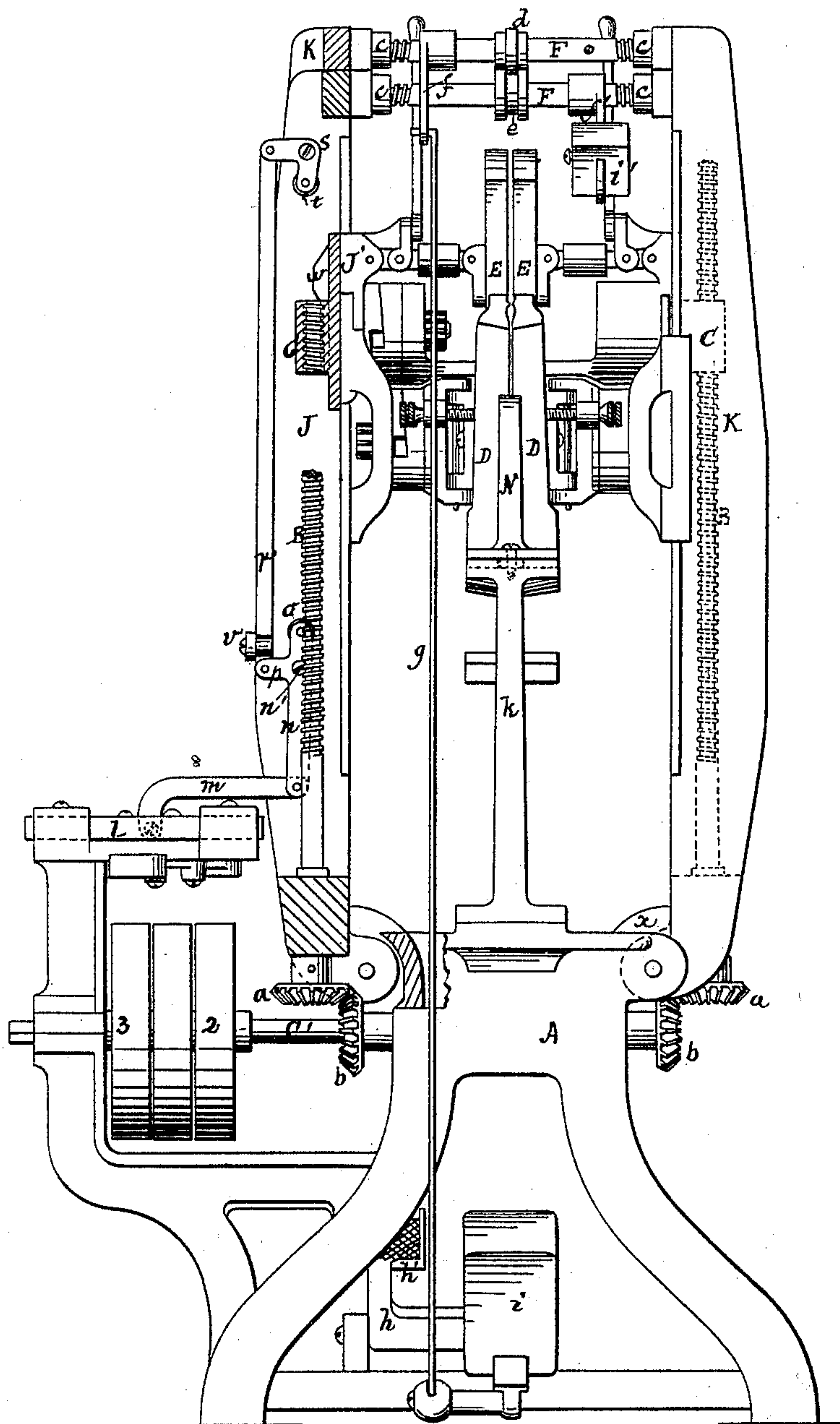
S. W. JAMISON.

## CRIMPING MACHINES FOR LEATHER.

No. 176,181.

Patented April 18, 1876.

*Fig. 2.*



*Witnesses:*

Evereasick,  
Edw. W. Bond

*Inventor:*

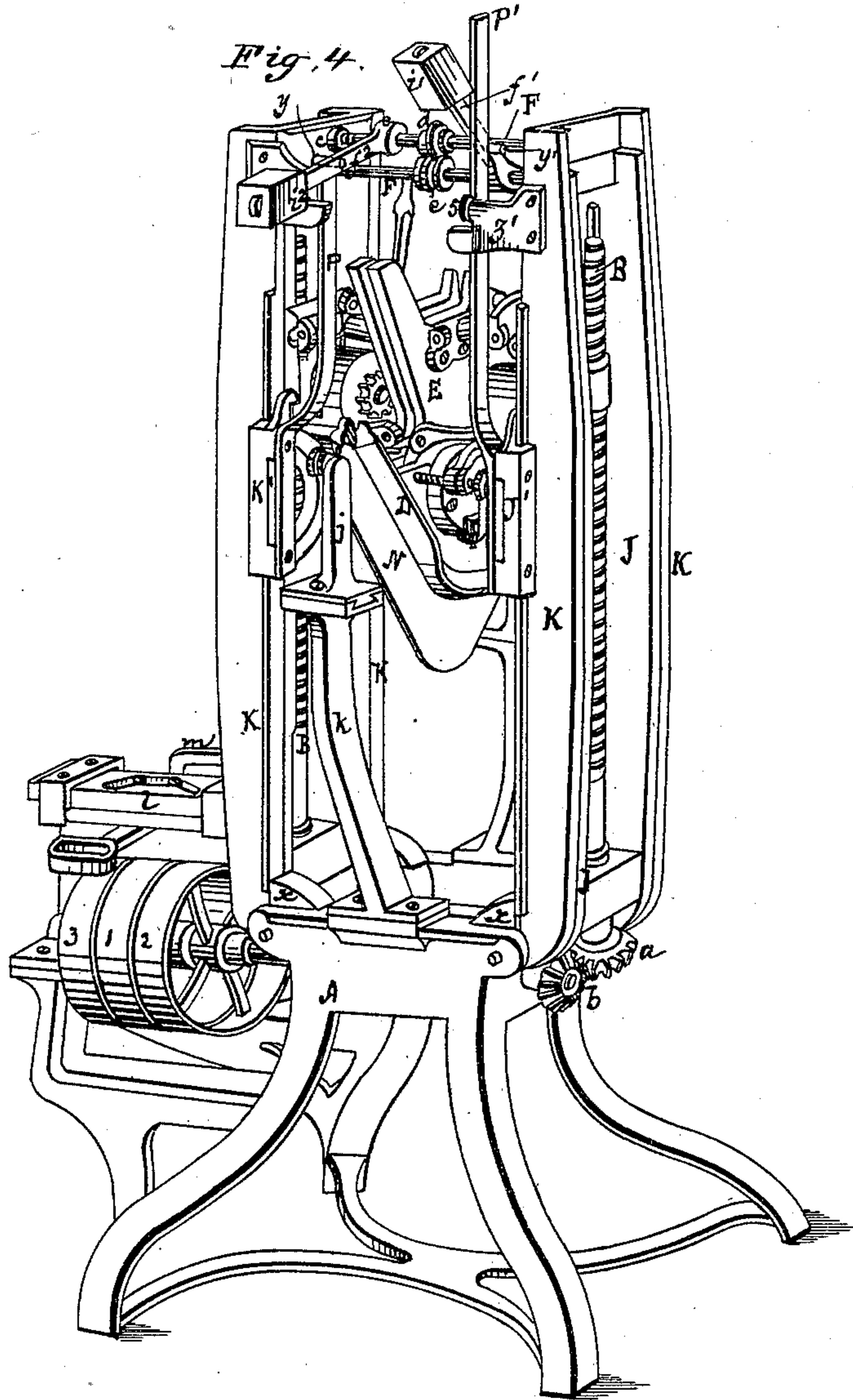
Saml W. Garrison by  
attys. Busk & Bailey

S. W. JAMISON.

CRIMPING MACHINES FOR LEATHER.

No. 176,181.

Patented April 18, 1876.



Witnesses

Edw. W. Down

Inventor.

Saml. W. Jamison  
Guthrie, Rush & Bailey



# UNITED STATES PATENT OFFICE.

SAMUEL W. JAMISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE  
S. W. JAMISON BOOT AND SHOE CRIMPING MACHINE COMPANY, OF  
NEW YORK, N. Y.

## IMPROVEMENT IN CRIMPING-MACHINES FOR LEATHER.

Specification forming part of Letters Patent No. **176,181**, dated April 18, 1876; application filed  
December 14, 1875.

*To all whom it may concern:*

Be it known that I, SAMUEL W. JAMISON, of Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Crimping-Machines for Boots and Shoes, of which the following is a specification:

My present invention comprises improvements on machinery of the kind described and shown in Letters Patent of the United States heretofore granted me May 7, 1867, No. 64,583, February 15, 1870, No. 99,906, reissued June 29, 1875, No. 6,526, and June 10, 1873, No. 139,717, reissued June 29, 1875, No. 6,525.

In my present machine I dispense entirely with the heavy fixed frame that in the former machines surrounds and surmounts the adjustable way upon which the jaws move, and I mount the belt-pulleys and belt-shipper on a bracket attached to the pedestal of the machine.

The jaws, instead of being moved up and down by rack and pinion, are now operated by upright rotating screw-threaded shafts, which move the jaws with as much certainty as before, and at the same time sustain them with greater ease, and remove liability of their dropping, by reason of their weight, when the machine stops.

In my Letters Patent of February 15, 1870, I described a laterally self-adjusting tree or form. I have improved this feature of my machine by bringing the self-adjusting supports of the tree up high enough to cause them to respond instantly to any side pressure upon the tree. In my patented machine last referred to the tree was adjustably connected at its lower end to the pedestal, and this arrangement was unsatisfactory, in that the tree, when pressed upon by the jaws at its top, would at times simply bend to one side or the other, instead of moving bodily. I have also simplified the arrangement of the weighted levers and their connections, which exercise pressure upon the crimping-jaws.

In the drawings, Figure 1 is a perspective front view of a crimping-machine embodying

my improvements. Fig. 2 is a rear elevation of the same. Fig. 3 is a plan of the belt-shipper.

The working parts of the machine are supported by a pedestal, A. To this pedestal are hinged the upright ways K J. Upon the former move the lower set of jaws D; upon the latter move the upper set of jaws E. These jaws are arranged and combined with each other and with their hinged ways, in all essential respects as described in my Letters Patent No. 139,717, of June 10, 1873, where the same parts are indicated by the same letters of reference. They, therefore, require no further description here.

In lieu of moving the jaws by rack and pinion, I now operate them by means of upright screw-shafts B, which are located one on each side of the machine between the inner ways J J, and are mounted and supported in boxes in the bases of the ways. The shafts pass through screw-threaded boxes or bosses C on the brackets of the jaws E, and they are rotated by means of beveled gears *a* on their lower ends, which engage like gearing *b* on the horizontal driving-shaft *c'*, which is supported in suitable bearings in the pedestal A, and carries the center tight pulley 1 and side loose pulleys 2 3. The pulley-bearing end of the shaft is supported in a bracket on the side of the pedestal, which bracket also supports the belt-shipper hereinafter described. So slight is the movement of the ways J that it may take place without affecting in any material degree the engagement or working of the beveled gears *a b*.

I have simplified the means for pressing together the jaws, by employing with each set of ways K J a connecting rod or shaft, F, which has a right-hand screw-thread on one end, and a left-hand screw-thread on the other. Each shaft F extends across between, and connects its set of ways, entering correspondingly internally screw-threaded boxes *c* at the top of the ways. The shafts, when turned in one direction, will draw their ways together. When turned in the opposite direction they will



spread their ways apart. Each shaft, of course, can be rotated independently of the other. They are connected, however, (to prevent injurious lateral movements, and to preserve the vertical alignment of the two sets of jaws,) by a peripheral spline or rib, *d*, on the one entering the peripheral groove *e* on the other.

From the shaft *F*, that controls the ways *K*, projects an arm, *f*, that is connected by a jointed rod, *g*, to a lever, *h*, on which is an adjustable weight, *i*. This weight tends to pull down the arm *f*, and to turn the shaft *F* in the direction required to induce the movement of the jaws toward each other. The other arm of lever *h* terminates in a treadle, *h'*, by depressing which the weight is elevated, and the shaft *F* turned to cause the pressure exercised by the jaws to relax. From that shaft, *F*, which controls the ways *J* there projects a lever-arm, *f'*, upon which is an adjustable weight, *i'*, which operates in the same way and for the same purpose as does the weight *i* upon its shaft.

Any suitable treadle arrangement for relaxing the pressure of the jaws *E* may be used, although I find that such an arrangement is not for these jaws very necessary, and in lieu of the special treadle arrangement shown any suitable arrangement for the purpose may be employed, whether to be operated by the hand or foot or automatically.

It is manifest that in case the arrangement of the machine is reversed—that is to say, in case the jaws remain at rest, and the crimping-form moves—the above-described arrangement of right and left screw-threaded shaft, lever, and adjustable weight may readily be applied to the jaws.

The tree or crimping-form is shown at *N*. Its connection with the machine is in this instance at a point considerably above the pedestal, and in the neighborhood of—that is, in nearly the same horizontal plane as—that point where the jaws and tree first come in contact. I do not, of course, limit myself to this precise location; but it is very necessary, in order to secure proper bodily adjustment of the tree, that the connection should be made at some point in proximity to that indicated. The connection is formed in this instance by slides *j*, with dovetailed projections on their under faces, which fit in dovetailed ways or grooves formed in the tops of supporting-standards *k*, one at each end of the tree. The slides can move in the ways with freedom, and I have found that under the described arrangement the tree will respond instantly, by proper change of position, to any change in position or adjustment of the jaws. So sensitive, indeed, is it that I have found it unnecessary to adjust the two jaws of each set to different thicknesses of leather. I, therefore, as indicated in the drawing, am enabled to, and do, dispense on one side of the ma-

chine (on the right of the machine, in Fig. 1) with the devices represented in my Letters Patent of February 15, 1870, and June 10, 1873, for setting the jaws at different distances apart, thus saving in the cost of manufacture and enabling the workman to more quickly effect a change of adjustment. The jaws on the left of the machine in Fig. 1 are arranged for their different adjustments, and are connected with their brackets, in all essential respects, as indicated in my two last above mentioned Letters Patent. The same remark is applicable to the jaws on the right of the machine, with the exception above noted.

The belt-shipper, shown particularly in Fig. 3, is substantially that described in Letters Patent No. 113,939, dated April 18, 1871, to W. H. H. Sisum, and therefore will require no farther description here. To adapt this device to my machine, I connect the slotted sliding bar *l* of the shipper by a jointed connecting-rod, *m*, with a vibratory arm or lever, *n*, pivoted at *n'* to one of the ways *J*. This lever is a three-armed lever. That arm, which is on the prolongation of the longer arm, is provided with a friction-roll, *o*. The arm *p* that projects at right angles connects by a rod, *r*, with an elbow or bell-crank lever, *s*, pivoted to the way *J* near its top. The lever *s* carries on its free arm a friction-roll, *t*. To the connecting-rod *r* is jointed a lever-handle, *v*, which is pivoted to the way *K*, and which can be vibrated on its pivot to move the connecting-rod *r* up and down. When the rod is moved down it will throw the friction-roll *t* inward and the roll *o* outward. In this position the roll *s* will stand in the path of a double-beveled projection, *w*, on the bracket *J'* of the jaw *J*. The movement of the rod to its extreme reverse position will throw the roll *o* in the position before occupied by roll *s*.

When the handle *v* is in a central position between the two extremes of its movement, neither roll will be in the path of projection *w*. To cause the jaws to descend the handle *v* is depressed to its lowest position. This will throw the belt upon the tight pulley, that will cause the shaft to revolve in the proper direction to effect the descent of the jaws, and will, at the same time, throw the lower roll *o* inward in the path of projection *w*. When the jaws have descended far enough projection *w* strikes against roll *o*, throws it outward, and so shifts the driving-belt to its loose pulley, thus arresting the machine. To move the jaws upward the lever-handle *v* is lifted to its highest position, throwing the proper belt on the tight pulley, and, at the same time, bringing the upper roll *s* in the path of projection *w*. When the latter strikes the roll *s* the shipper will be operated to cause the driving-belt to shift from the tight pulley to its loose pulley. In this way I arrest the movement of the machine at the times required.



The pedestal A is provided with stops or shoulders  $x$ , which arrest the inward movement of the ways at the proper point, and serve to maintain them in substantially an upright position.

I have above intimated that the jaws can be operated to automatically open and close. An arrangement of mechanism for this purpose is shown in Fig. 4, which is a perspective view of the machine from the rear.

The treadle mechanism in this instance is dispensed with, and the shaft F that controls the ways K is provided with a lever-arm,  $f^2$ , and adjustable weight  $i^2$  similar to the arm and weight on the shaft F that controls the ways J. To one of the sliding brackets or bases K' of the jaws D' is attached an upright bar, P, which is in the path of a pin or projection,  $y$ , on the arm  $f^2$ . The arrangement is such that when the jaws rise the upper end of the lifting-bar comes in contact with pin  $y$ , and thus raises the arm  $f^2$ , with its weight  $i^2$ , the distance required to spread the jaws apart. When this is accomplished the end of the bar clears and passes by the pin, and the arm  $f^2$  consequently ceases to rise, although held in its elevated position by the pin  $y$  resting against the side of the bar. To enable the bar to withstand this strain an abutment or brace,  $z$ , is provided in rear of the bar, having a friction-roller, 4, against which the back of the bar runs.

The movement of the parts is, preferably, so timed that when the jaws descend the lifting-bar drops the weighted arm and quits the pin  $y$  at the time the jaws reach the crimping-form, and the goods to be crimped have just about entered the jaws. A similar arrangement is provided for the jaws E, the parts being marked P'  $y'$   $z'$  5. The lifting-bar P' is attached to one of the supporting-brackets J' of the jaws E, and the parts are constructed and arranged to operate the jaws E under conditions similar to those under which similar parts operate the jaws D, as just specified.

Having described my invention, and the manner in which the same is or may be carried into effect, I shall state my claim as follows:

1. In a crimping-machine, having moving jaws combined with adjustable guideways, as described, the combination, with the guideways and the jaw-supporting brackets, of rotating screw-threaded shafts or rods, which support and give motion to said brackets, substantially as set forth.

2. In a machine for crimping boots and shoes, the combination, for the purpose of forcing together the crimping-jaws, of laterally-movable jaw-supporting ways, a right and left screw-threaded shaft, a lever-arm, and a weight adjustable thereon, substantially as set forth.

3. The combination, in a crimping machine, of these elements, namely, laterally-moving jaw-supporting ways, a right and left screw-threaded shaft, a lever-arm on said shaft, a weight adjustable on the lever-arm, and mechanism by which the shaft may be rotated in a direction opposite to that in which the weight tends to move it, substantially as shown and set forth.

4. The combination, with each set of hinged ways, whether one or more sets be employed, of the right and left screw-threaded shaft and its adjustably-weighted lever, substantially as set forth.

5. The crimping-form, in combination with its laterally self-adjusting slides, and the supports for the same; but this combination is claimed only when the said slides and supports are arranged and located with reference to the crimping-form, as shown and specified.

6. The combination, with the described belt-shipping mechanism, of the levers, connecting-rod, and handle, constructed and arranged to operate together and in connection with a tripper or incline on one of the jaw-brackets, substantially as set forth.

7. The combination of the hinged ways, the vertical screw-shafts that move and support the jaws, the pedestal, and the driving-shaft, pulleys, and shipper, arranged in and carried by the pedestal, for operation as set forth.

8. The combination, with the right and left screw-shaft for controlling the pressure of the jaws, of a lifting-bar, moving with the crimping-jaws, and an adjustably-weighted lever-arm, provided with a pin or other projection to engage the lifting-bar, substantially in the manner set forth.

9. The right and left screw-threaded shaft and its adjustably-weighted lever-arm, in combination with the lifting-bar, back brace, and friction-roller, substantially as set forth.

In testimony whereof I have hereunto signed my name this 20th day of November, A. D. 1875.

S. W. JAMISON.

Witnesses:

B. F. STONE,  
MELVILLE BIGGS.