

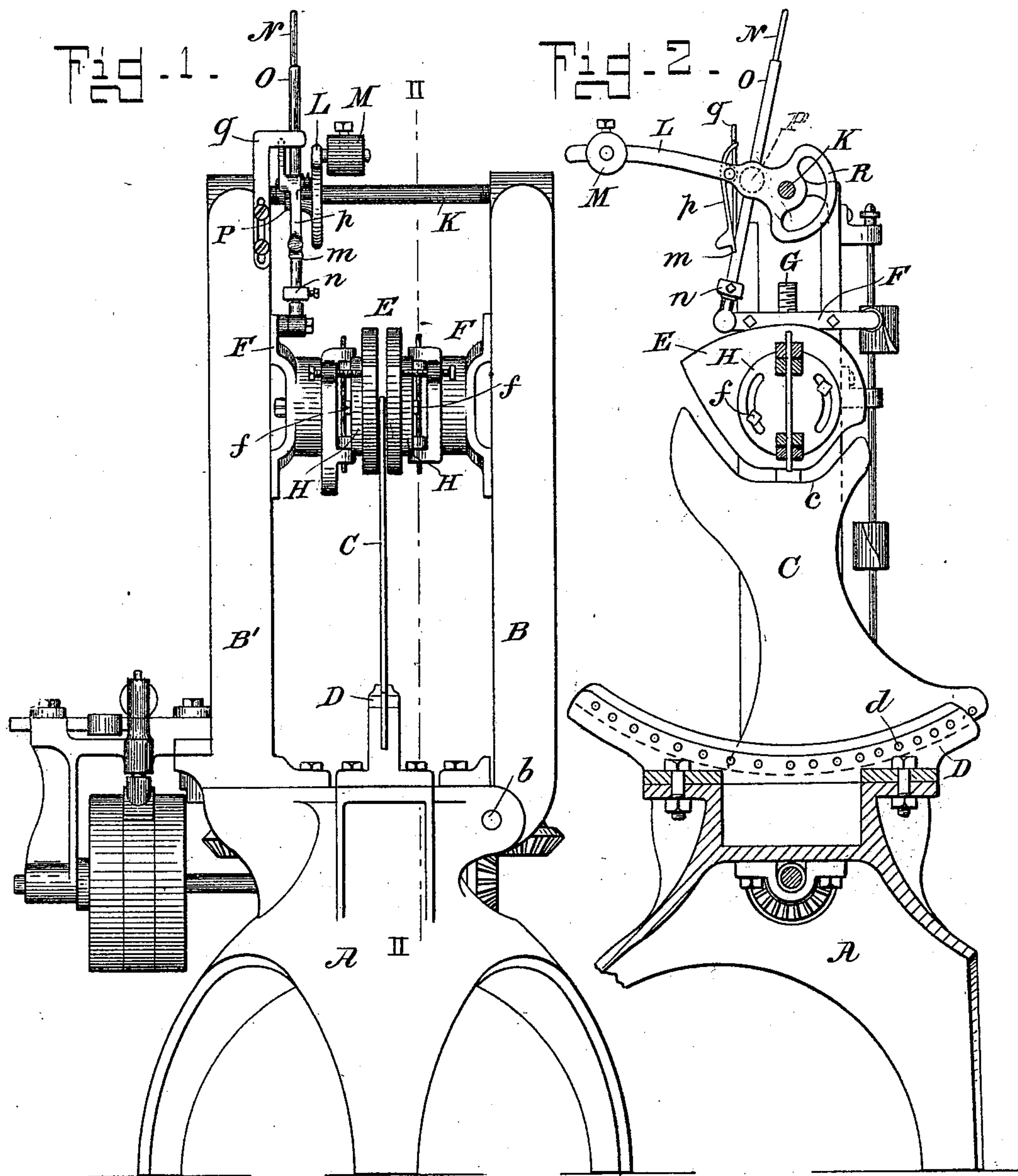
(No Model.)

2 Sheets—Sheet 1.

S. W. JAMISON.
CRIMPING MACHINE.

No. 518,249.

Patented Apr. 17, 1894.



Attest.
Geo. T. Smallwood,
Rev. Lewis.

Inventor.
Samuel W. Jamison
by J. H. Mauro,
his attorney.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

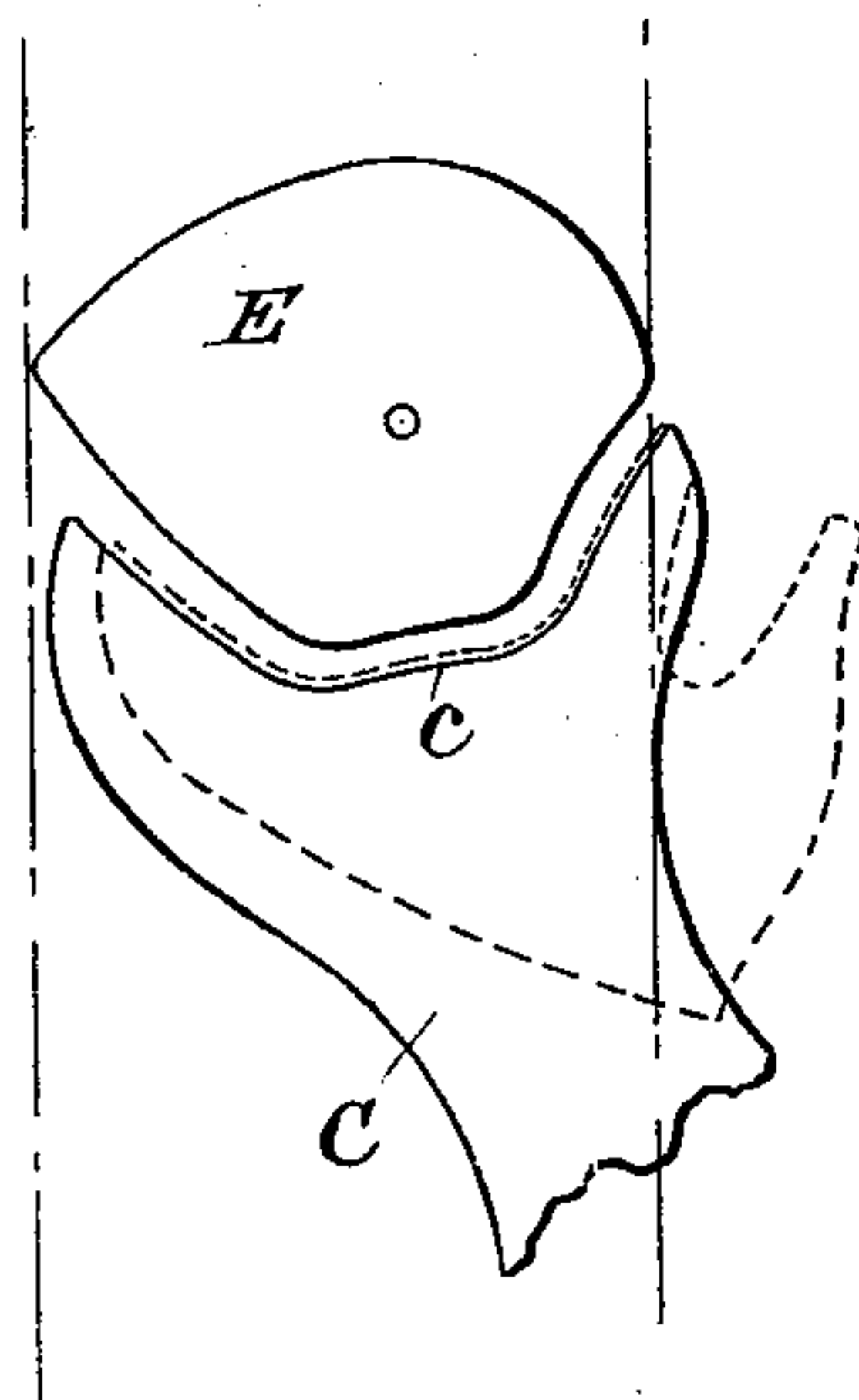


Fig. 4.

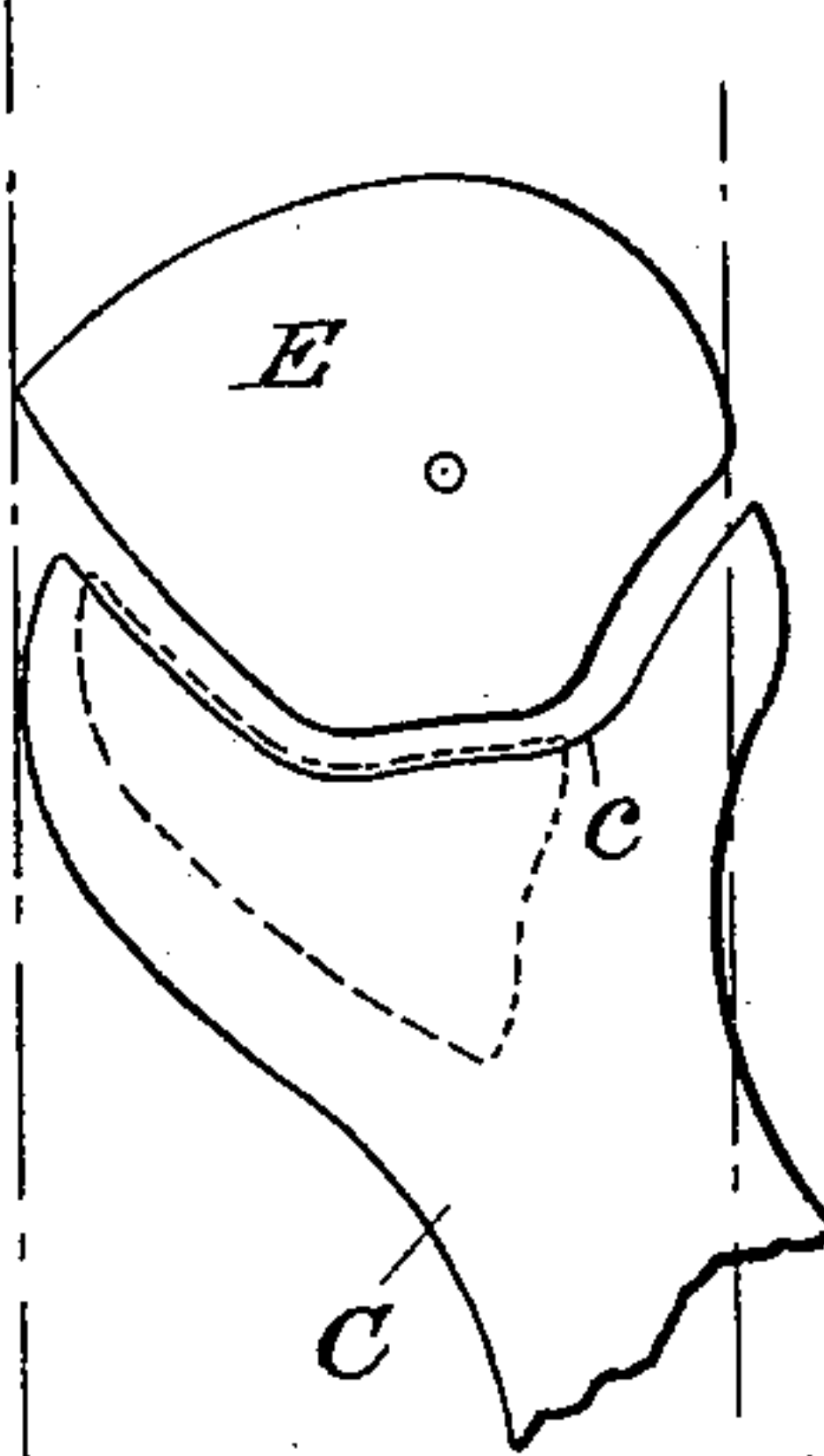
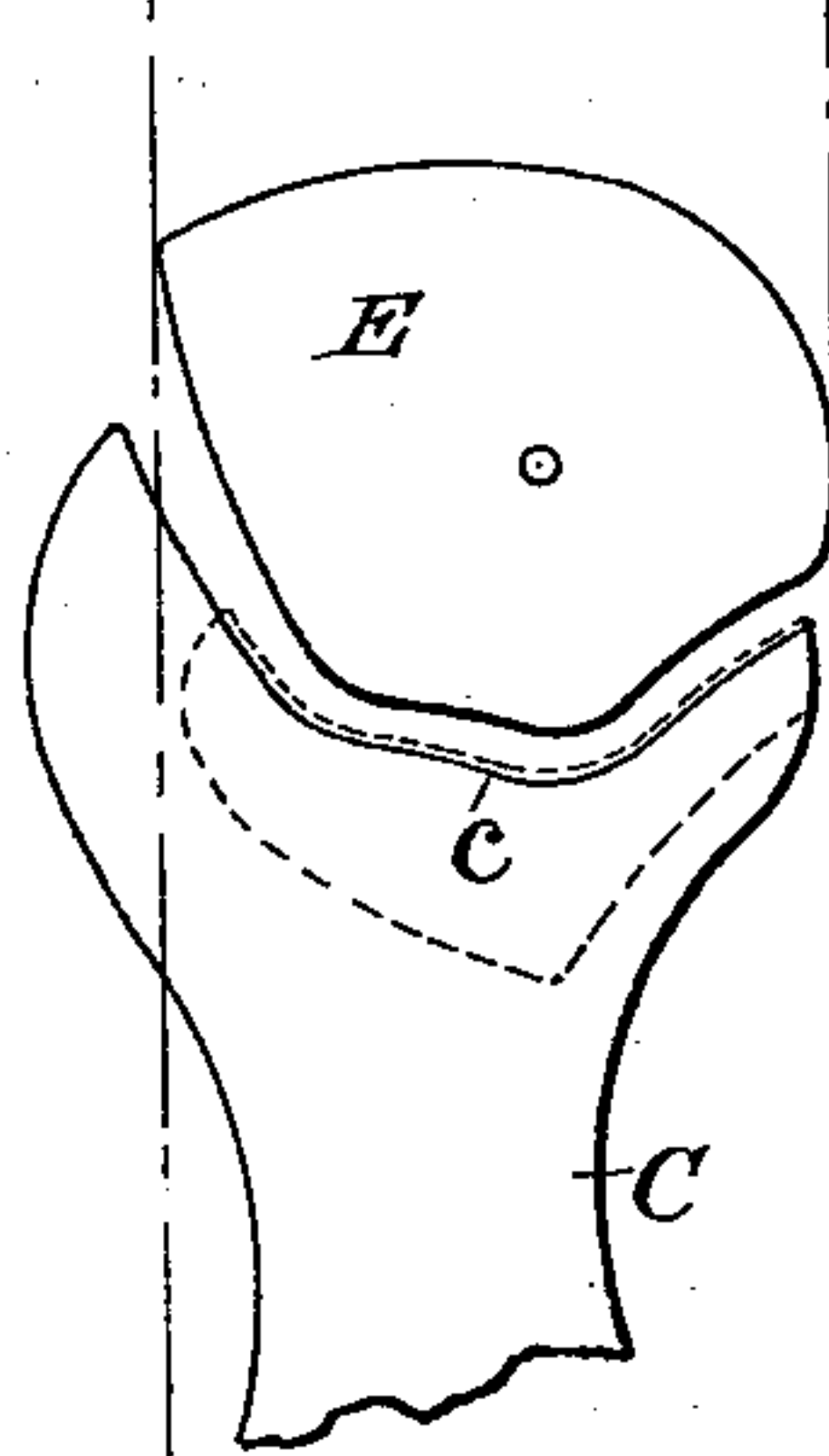


Fig. 5.



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UNITED STATES PATENT OFFICE.

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

CRIMPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 518,249, dated April 17, 1894.

Application filed October 27, 1893. Serial No. 489,292. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. JAMISON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machines for Crimping Boots or Shoes, which improvement is fully set forth in the following specification.

This invention has reference to machines for crimping leather for boots and shoes, and more especially to machines of the type shown in Letters Patent heretofore granted to me, as for example, No. 176,181, dated April 18, 1876.

The present invention has for its object mainly to enlarge the range of usefulness of the machine and to enable the same machine to operate upon all varieties of work, and particularly to crimp certain kinds of uppers which heretofore could not be practically crimped by power machines. In such styles as the "seamless creole," "long quarter blucher" and other similar varieties, the quarters or counters are in one piece of leather with the vamp or front, and if attempt were made to shape them in an ordinary crimping machine, the rear portions of the quarters would be distorted or even torn off.

By the improved construction of the form and jaws as heretofore described, I am able not only to crimp uppers of these extreme types, but to perform, upon the same machine all the varieties of crimping required in the manufacture of boots and shoes. These results are of great importance, because as already stated power machines heretofore were limited in their application; and moreover it was customary to make different styles of machines for different kinds of work. In addition to the results stated above the improvements in the form and crimping jaws introduce certain simplifications which cheapen the cost of the machine.

One feature of the improved construction consists in the employment of smooth or plain jaws instead of the corrugated jaws heretofore used. I have found that, with all kinds of leather the smooth jaws are more efficient in operation, but they are useful more particularly in operating upon fine and fancy grades, such as morocco and patent

leather, which require to be held for a certain time under the stationary pressure of the jaws. If the latter be corrugated, their movement over the leather cannot be arrested without indenting and marring it. These and similar grades of leather are, without difficulty or injury crimped on the improved machine. Furthermore, the use of plain jaws permits the wide range of angular displacement of the jaws, which is a feature of the improved construction and is necessary to include all classes of work. With corrugated jaws it is desirable that the direction of the corrugations should bear a certain relation to the line of their movement, so that the limits of adjustment were somewhat restricted.

The invention also comprises improved means for applying the pressure of the jaws, and controlling that pressure, and for regulating the extent to which the jaws are opened, which of course, must vary with the thickness of the leather. Heretofore special means, such as cams, have been provided to set the jaws closer together or farther apart, as might be required according to the character of the leather under treatment. These means are now dispensed with, and a simple mechanism provided whereby as the jaws ascend, the ways are automatically spread, a sufficient distance to open the jaws to the desired extent.

The new improvements as well as the advantages attending their use, will be fully explained in the following detailed description, wherein reference is made to the accompanying drawings which form part of this specification, and in which—

Figure 1 is a rear elevation of a machine embodying my present improvements. Fig. 2 is a sectional elevation, the plane of section being indicated by the line II—II on Fig. 1. Figs. 3, 4 and 5 are details hereinafter referred to indicating different positions of the form and jaws for different classes of work.

The general features of the machine and its mode of operation are well understood from the descriptions given in former patents, and the present specification will be mainly confined to the improvements briefly outlined above.

A represents the pedestal, which in this

case has three legs, their arrangement being such that there is no obstruction to the workman while standing in front of the machine to manipulate it. This pedestal supports the usual upright ways B B', the former being pivoted at *b*, and the latter being rigid.

C represents the crimping form, having its upper edge brought to the shape to which the leather for the upper of the boot or shoe is to be creased or crimped. This form is a solid metal plate whose lower edge is a circular arc struck from a center a short distance above the level of throat *c* and it is supported in a grooved rim or base D of corresponding shape, but of considerably greater extent than the width of form C. The latter can thus be adjusted widthwise to different positions in its base or support D, so as to present the throat or crimping edge *c* at varying angles with reference to the line of movement of the jaws E. This adjustment of the form C is one of the chief factors in the adaptability of the machine to different classes of work. In all of its positions the form is solidly supported by its base D, and when adjusted to the desired position it is secured by pins passing through holes *d* in the rim, and corresponding holes in the form.

The crimping jaws E are carried by slides F which move upon the ways B, as heretofore and are actuated by the usual upright screw-shafts G. These jaws, whose lower edges conform in shape to the throat *c*, are pivoted centrally to the plates H and secured by set screws *f* which pass through curved slots in plates H, permitting the adjustment of the jaws to correspond with the angle of the form C. These jaws instead of being corrugated as heretofore, are smooth-faced, the improvements resulting from this change, particularly when combined with a width-wise adjustable form, having been already explained.

Heretofore special adjusting devices, such as cams have been employed to set the jaws toward and from each other, to accommodate the machine to different thicknesses of leather. It is, of course, understood that the pressure of the jaws on the leather must be very accurately regulated, as well as the exact moment when the pressure begins, which should be when the lower edges of the jaws have passed a short distance beyond the throat *c*. It has also been the custom heretofore to employ special means for regulating the movement of the ways toward and from each other. By the devices which I will now describe the spreading of the ways, and the moment when, by their approach, the jaws are brought into action upon the leather, are determined automatically after the machine has once been adjusted to the particular work in hand. The cams or adjusting devices for the jaws are altogether dispensed with.

K represents the actuating screw shaft for the ways having at its respective ends a right and left handed screw thread, as heretofore,

the pitch of the screws being such that in the maximum oscillation of shaft K the ways have a range of motion of about a quarter of an inch, which is sufficient to take in the thickest leather. Shaft K has an arm L carrying weight M, by which the pressure of the jaws is effected. This weight is, of course, adjusted according to the character of the work. The slide F carries a rod N, surrounded by a sleeve O, adjustable lengthwise on said rod, and provided with a notch or step *m* and a collar or stop *n*. The sleeve O passes loosely through a hole in stud P on the side of arm L and is guided thereby. Arm L also carries a pawl or pivoted dog *p*, whose tooth is caught by the step or notch *m* in sleeve O, as the latter rises. When this engagement occurs the ways are relieved of the pressure of weight M and continue to spread during the ascent of the slide F, until the pawl *p* is tripped by an arm *q* suitably arranged for that purpose. This disengages the pawl from the notch, and the weight drops a short distance, the end of the pawl being caught by the collar *n*, so that the slide still sustains the weight, keeping its pressure off the work until that point in the descent of the jaws is reached at which it is desired to have the pressure applied. As represented in Fig. 2 the pawl *p* is about to be tripped by arm *q*.

The position of the lifting sleeve O on its rod N determines the moment, during the ascent of the jaws, at which the latter begin to separate. For thick leather the sleeve is adjusted upwardly, and the action begins proportionately sooner. To vary the extent to which the jaws separate tripper *q* is also adjustable vertically. Thus the mechanism described, which is of simple and durable construction, provides for all the varying conditions that arise in operating upon the different grades of leather from delicate morocco to coarse bull's hide. It will be observed that after the weight M is relieved from the support of collar *n* on sleeve O, its action upon the leather, through the ways and jaws, is entirely free, the pressure being a yielding instead of a fixed pressure. The forward end of arm L, which projects toward the front of the machine is provided with a handle R, which is within easy reach of the operator, and by means of which he can increase or relax the pressure whenever in his judgment it is desirable so to do, as in case of crimping an exceptionally stiff or an exceptionally delicate piece of leather.

Figs. 3, 4 and 5 represent the positions of the jaws and form in different kinds of work, the outline of the work in each case being indicated by dotted lines. In Fig. 3 is represented an upper of the style known as "seamless creole" for crimping which the form is moved very much to one side, and the jaws adjusted correspondingly. It will be observed that the crimping action extends almost from end to end of the upper edge of the form. This is one of the most difficult styles to

crimp, it being necessary that the pull of the jaws be distributed along this edge, and the proper direction maintained until the moment when the jaws release the leather entirely, and that no tension be applied to that part of the leather which lies beyond the vertical line indicating the path of the edge of the jaw. It has not been possible heretofore upon power machines to effect the crimping along the full extent presented to be crimped in this style of shoe, without tearing the leather of the quarter, or at least distorting its shape. For an upper of the shape shown in Fig. 5 which is known as the "Congress top," the form is pushed to the side opposite to that it occupies in Fig. 3 to give the right direction to the pull which the jaws exert on the leather.

Fig. 4 illustrates the crimping of another style, in which the form occupies a position intermediate between the two illustrated by Figs. 3 and 5 respectively.

The workman will readily determine, for each style of upper, the exact position of the form which gives the best results, and may always be able to return to that position by marking the particular hole in rim D into which the holding pin is to be inserted.

Having now fully described my invention, what I claim is—

1. In a crimping machine the combination with the crimping jaws, their slides and actuating mechanism for closing the jaws as the slides descend, of a form supported in a grooved rim, formed in the arc of a circle having its center at about the level of the crimping edge of said form, the latter being adjustable in said rim, substantially as described.

2. The combination with the crimping jaws adjustable upon a center, and with their actuating mechanism, of a grooved circular base or rim projecting from the frame of the machine, said rim being the arc of a circle, and a crimping form fitted and adjustable in said rim and having its lower edge shaped to con-

form to said groove, so as to be solidly supported in all its positions, substantially as described.

3. The combination of the vertical guide ways, means for moving them toward and from each other, slides or carriages moving on said guide-ways, smooth-faced crimping jaws adjustable axially upon said supports and a crimping form having its lower edge curved in a circular arc, and slidably supported in a grooved rim of corresponding shape, substantially as described.

4. The combination of the jaws, the sliding supports therefor, the upright ways upon which said supports travel, devices for moving said ways toward and from each other, and an adjustable lifter-rod carried by one of said supports for actuating said devices, substantially as described.

5. The combination of the upright ways, the screw shaft for moving the same, the slides carrying the jaws, an arm for turning said shaft, an adjustable lifter rod for engaging said arm carried by one of said slides, and an adjustable tripping device for releasing the arm from engagement with said rod, substantially as described.

6. The combination of the ways, the slides movable thereon, the screw shaft for causing the ways to approach or recede from one another, a weighted arm projecting from said shaft, a pawl carried by said arm, an extensible lifter rod on one of said slides having a notch to engage said pawl and a stop to catch the end of the same when released from the notch, the notch and stop being adjustable in extending said rod, and a tripper for releasing the pawl from said notch, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

SAMUEL W. JAMISON.

Witnesses:

PHILIP MAURO,
SAMUEL H. FISHER.