

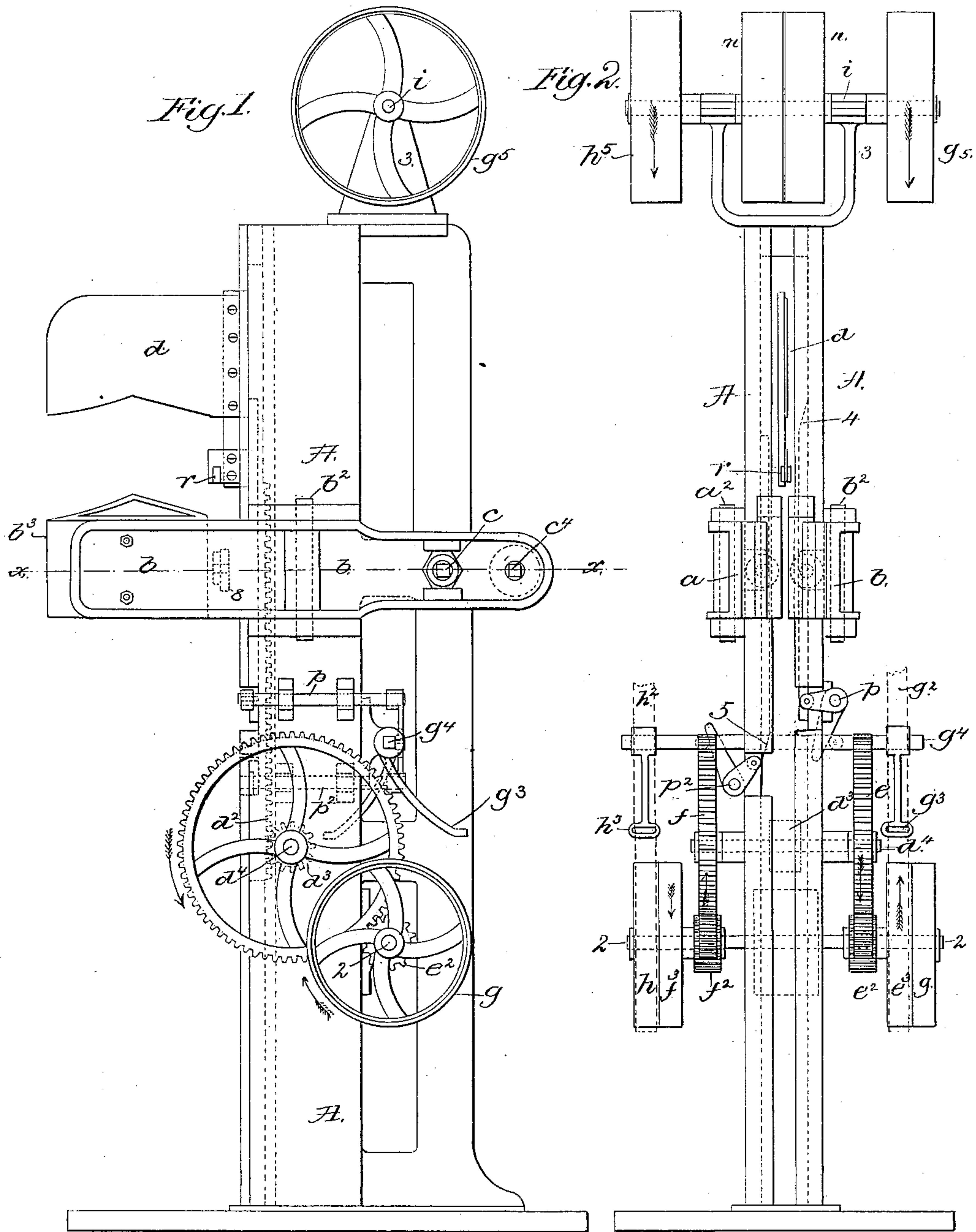
(No Model.)

J. W. D. FIFIELD.

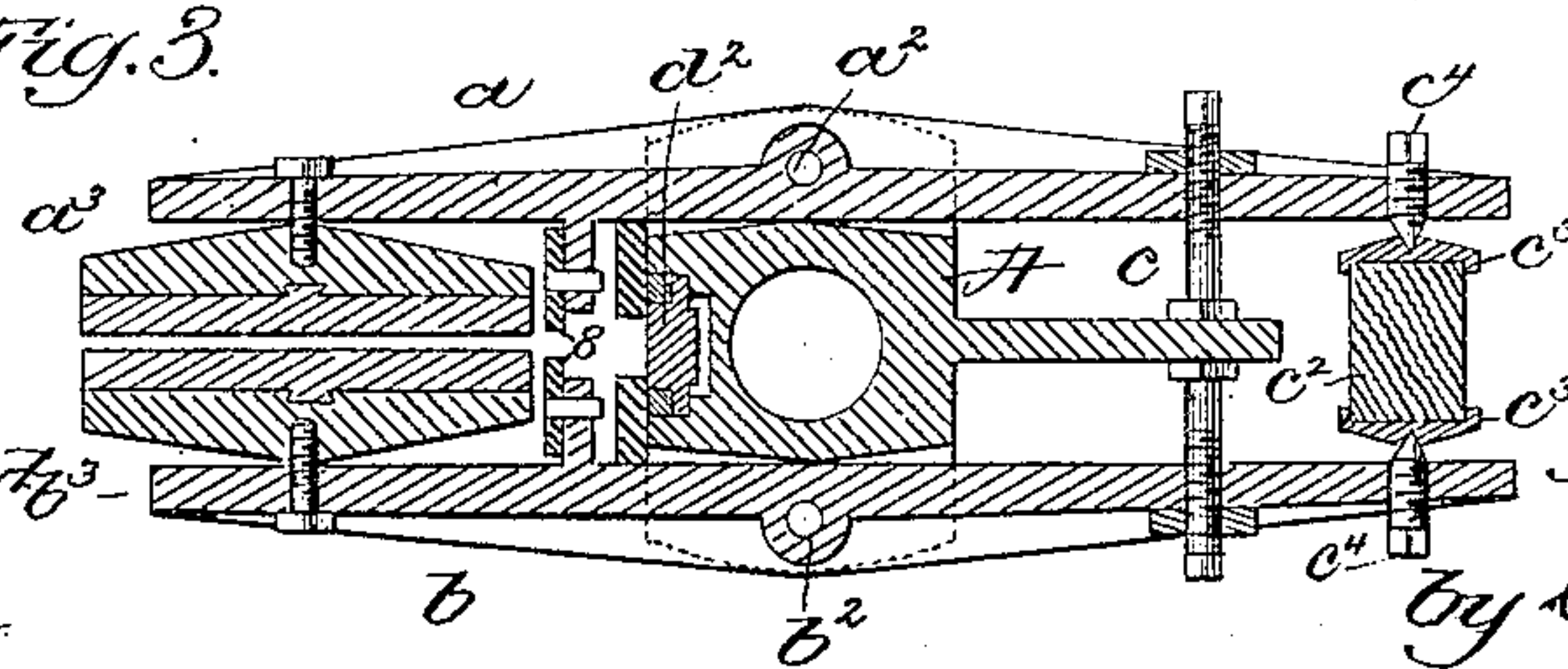
CRIMPING MACHINE FOR BOOTS AND SHOES.

No. 258,734.

Patented May 30, 1882.



Witnesses.
John P. Pinkerton
B. J. Noyes



Inventor:
John W. D. Fifield
By Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

JOHN W. D. FIFIELD, OF NORTH BROOKFIELD, MASSACHUSETTS.

CRIMPING-MACHINE FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 258,734, dated May 30, 1882.

Application filed February 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. D. FIFIELD, of North Brookfield, county of Worcester, State of Massachusetts, have invented an Improvement in Crimping-Machines for Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification.

This invention in crimping-machines has reference to mechanism for automatically controlling the driving-belts that actuate the pulleys and gearing which reciprocate the form or crimping-plate; also, to the combination, with the form and jaws, of means carried by and made movable with the form to enter between and separate the arms which carry the jaws, whereby the latter are separated just as the leather to be crimped is being inserted between them, as will be hereinafter described.

This invention is an improvement on United States Patent No. 225,434, March 9, 1880, and No. 246,303, August 30, 1881, to which reference may be had.

Figure 1 represents in side elevation a crimping-machine embodying my present improvements; Fig. 2, a front view thereof, and Fig. 3 a sectional detail taken on the lines xx through the arms or levers which carry the jaws.

The arms or levers a b , pivoted at a^2 b^2 on the frame-work A , the pivoted jaws a^3 b^3 , and the right and left hand adjusting-screw c , to determine the nearness of the faces of the jaws to each other, are all substantially as in United States Patent No. 225,434, referred to. Instead of the spiral spring, as therein shown, I have herein shown an india-rubber spring, e^2 , placed between heads e^3 , held in place by pointed adjusting-screws e^4 , the said spring keeping the front ends of the jaws or levers pressed toward each other, and causing the jaws a^3 b^3 to bear against the leather being crimped with a yielding pressure, dependent upon the force of the said spring.

The form d , of usual or suitable shape for the boot or shoe to be crimped, and of metal, is secured or fastened to the vertically-movable rack d^2 , adapted to be moved longitudinally in a suitable groove in the frame-work A , as shown in section, Fig. 3, in dotted lines, Fig. 1.

This rack is engaged by the gear d^3 on the

shaft d^4 , the latter having at opposite ends of it, as in Fig. 2, toothed gears e f .

The gear e is engaged by a pinion, e^2 , secured to the shaft 2, to which is also secured the belt-pulley e^3 , and gear f is engaged by a pinion, f^2 , secured on the said shaft at the side of belt-pulley f^3 , fast thereon. At the sides of the pulleys e^3 f^3 are loose pulleys g h , one of which receives one of the driving-belts g^2 or h^2 , (shown in dotted lines, Fig. 2,) according to the direction of movement of the follower. The pulley h receives the belt h^2 when the belt g^2 is on the pulley e^3 and the form d is being run down, while the pulley g will receive the belt g^2 when the belt h^2 is on the pulley f^3 and the form d is being raised. The belt g^2 , which will be a crossed belt, is embraced by the loop g^3 of a belt-shipper, g^4 , and belt h^2 by a loop, h^3 , of the same belt-shipper. The belts g^2 h^2 are driven constantly by the pulleys g^5 h^5 , fast on shaft i , supported in bearings 3 at the top of frame A , the said shaft having on it a third fast pulley, m , and a loose pulley, n . The shaft i will be driven by a belt on the pulley m in any usual way. The rack d^2 , at its opposite sides, (see Fig. 2,) has two wedges or inclines, 4 5, (shown in dotted lines,) to determine the times at which the belt-shipper will be moved automatically to keep the rack and form traveling up and down constantly. The incline 4, after the form d passes the leather down through between the jaws, will strike an arm of a rock-shaft, p , or a roller thereon, (shown at the right of Fig. 2,) and will cause the other arm of the said rock-shaft to act against and move the belt-shipper to the right from its position in Fig. 2. The lower end of the incline 5, at the opposite edge of the rack-bar, just as the form reaches its highest position, acts upon an arm of the rock-shaft p^2 , as shown at the left of Fig. 2, and causes another arm of the said rock-shaft to move the belt-shipper into its farthest position toward the left, so that the belt h^2 will be placed on the loose pulley h and belt g^2 on the pulley e^3 , to turn it, its pinion e^2 , and gear e to immediately start the rack and form downward.

In Patent No. 246,303, referred to, the jaws were separated a little, through levers and links, just as the form was entering between

the jaws the material to be crimped. In this my present invention I have projected from the rack d^2 , just below the form, (see Fig. 1,) a jaw-opening wedge or projection, r , which, just
 5 as the lower edge of the form with the leather thereon is about to meet and enter between the jaws, strikes between the rollers 8, one on a suitable pin or stud on each arm or lever $a b$, and causes the said levers to be moved away
 10 from each other in the direction to separate the jaws $a^2 b^2$ just sufficient to permit the form to insert the leather between the jaws, when by the passage of the projection r below the said rollers the spring e^2 will thereafter press the
 15 jaws closely against the leather on the form being forced down between them, thus stretching and crimping the leather into shape. Temporarily separating the jaws in the manner described avoids tearing or injuring the upper
 20 where it bears on the lower edge of the form.

In Patent No. 225,434 the form was depressed positively, but was raised by a weight and chain, instead of gearing, and continuously, as herein shown.

25 I do not broadly claim moving the rack and form continuously up and down, as that is claimed in United States Patent No. 216,768, granted to C. Stoddard and myself.

30 The jaws at their lower edges will be provided with suitable thin metallic yielding plates to come in contact with the form and detach the crimped upper as the form is raised.

Such plates are shown in another application (No. 53,164) made by me for United States Patent, so need not be herein shown. 35

I claim—

1. The longitudinally-movable form carrying rack having the inclines 4 5, combined with the rock-shafts $p p^2$, their arms, and the belt-shipper, to operate substantially as described. 40

2. The rack having the inclines 4 5, the form thereon, the rock-shafts $p p^2$, and the belt-shipper, combined with the toothed wheels $e f$, pinions $e^2 f^2$, and pulleys $e^3 f^3$, to operate all 45 substantially as described.

3. The shaft i , its loose pulley and three fast pulleys, the pulleys $g h e^3 f^3$, pinions $e^2 f^2$, gears $e f$, and pinion d^2 , combined with the rack-bar and its form and the jaws $a b$, substantially as described. 50

4. The jaws $a b$ and their carrying arms or levers, and projections or rollers 8 thereon, combined with the rack-bar, its projection r , and the form, substantially as and for the 55 purpose described.

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

JOHN W. D. FIFIELD.

Witnesses:

JOS. P. LIVERMORE,
 B. J. NOYES.