

No. 719,878.

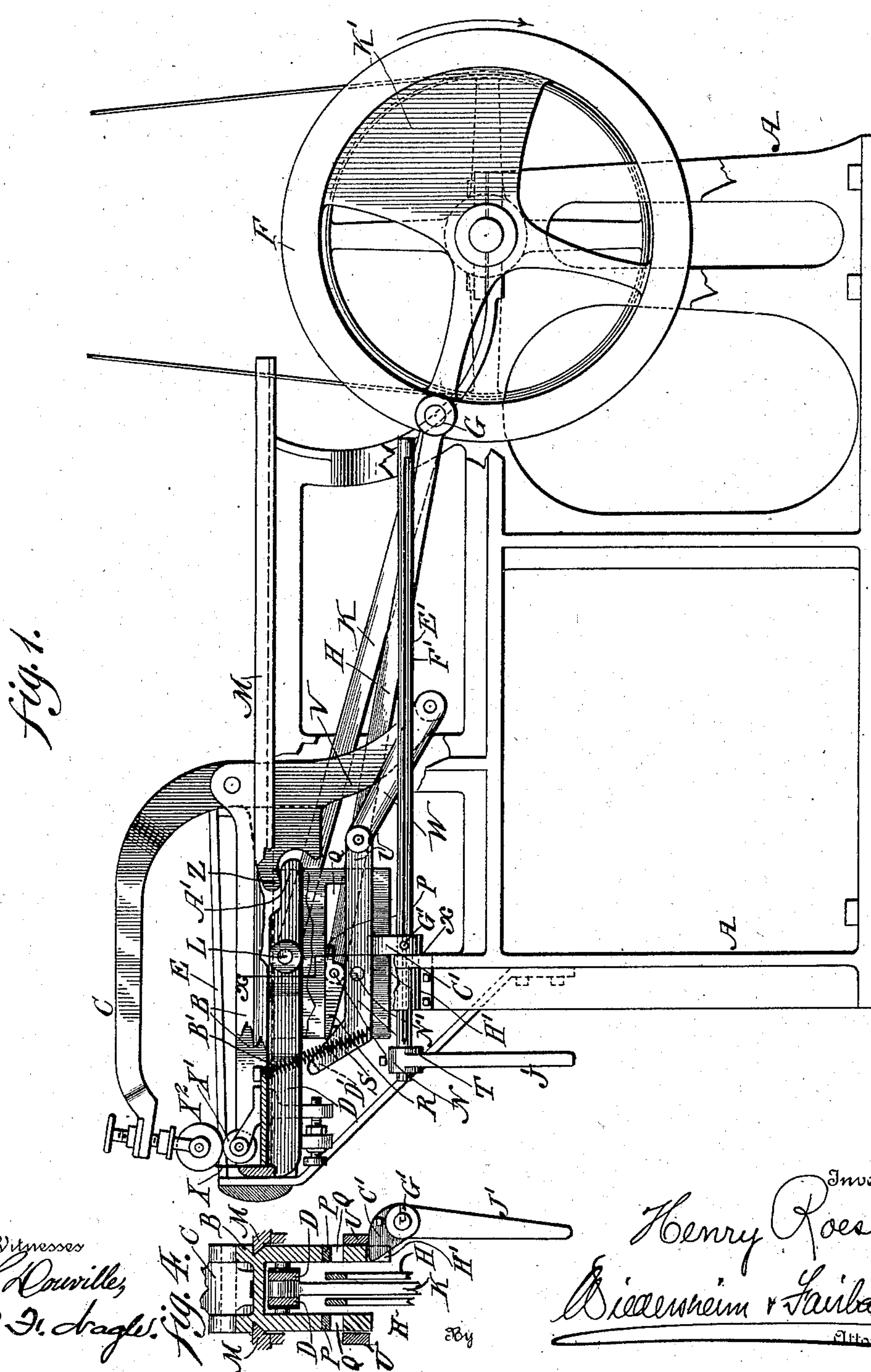
PATENTED FEB. 3, 1903.

H. ROESKE.  
LEATHER STAKING MACHINE.

APPLICATION FILED DEC. 7, 1900.

NO MODEL.

3 SHEETS—SHEET 1.



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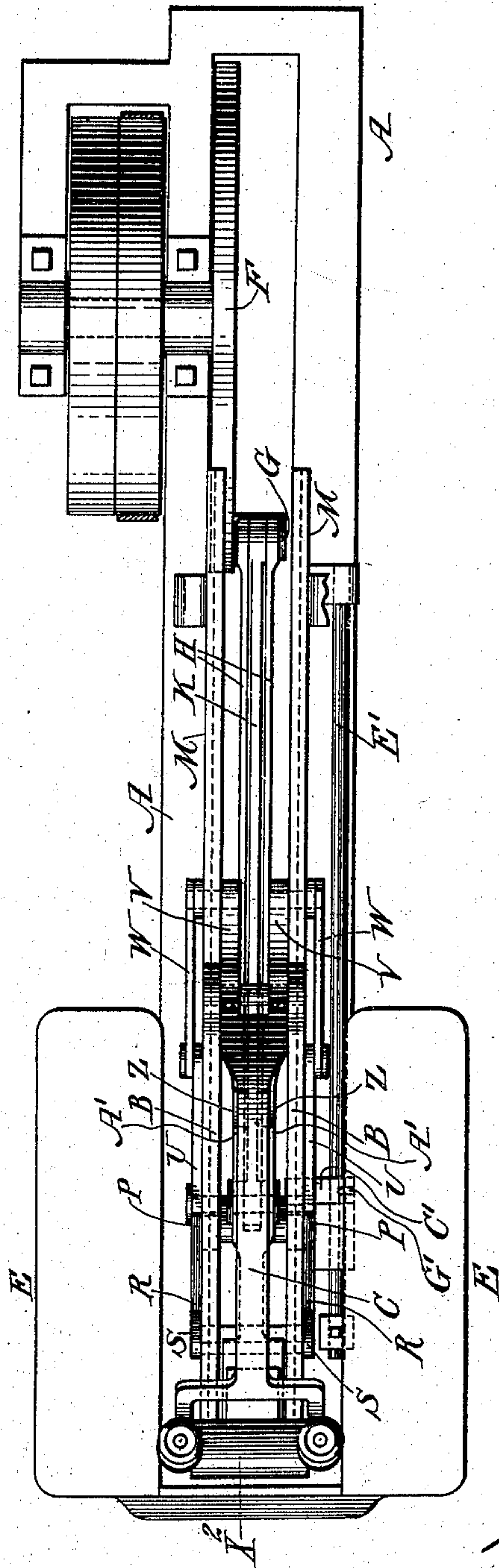
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*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

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## LEATHER-STAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 719,878, dated February 3, 1903.

Application filed December 7, 1900. Serial No. 39,016. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY ROESKE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Leather Staking and Perching Machines, of which the following is a specification.

My invention consists of an improvement upon a leather staking and perching machine for which I made application for Letters Patent on September 12, 1900, Serial No. 29,727, as will be hereinafter fully described and claimed.

Figure 1 represents a side elevation of a leather staking and perching machine embodying my invention with the carriage at the forward limit of its stroke. Fig. 2 represents a similar view of the carriage at the rear limit of its stroke. Fig. 3 represents a top plan view. Fig. 4 represents a fragmentary vertical section taken on the line  $xx$  of Fig. 1. Fig. 5 represents a fragmentary view of a modified construction embodying my invention.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a frame, B the reciprocating carriage, C and D the upper and lower movable arms, and E the table, of a staking-machine. The driving member F is connected, by means of a wrist-pin G, with two sets of pitmen H and K, and the pitman K is connected with the pivot-pin L of the carriage and reciprocates said carriage upon the platform M when the driving member F rotates. The pitmen H are secured to the pivot-pin N upon a slide P, that is guided in the slots Q in the carriage, said slide P being provided on opposite sides with projections R, that are adapted for contact with the end portions S of the levers T, pivoted upon the sides of the carriage B, the other ends U of said levers T being connected with the extensions V of the upper movable arm C by means of links W. The levers T are pivoted to the sides of the carriage, so that when the arm C is lowered or closed an edge of said levers T is practically parallel with or a little inclined with relation to the line of movement of the slide R within the guide-slots Q,

so that as said slide R moves through a portion of a stroke it engages said levers T and serves to hold the arm C depressed or closed and at the same time maintains an even and uniform pressure thereon throughout the back stroke. The end portions S of said levers T are inclined upwardly and situated in the path of the projecting portion R of the slide P, so that during a portion of the stroke of said slide the levers T are turned on their pivots N' to elevate the rear portions U thereof and which, through their link connections with the extension V of the arm C, raise the free end of the latter.

The parts above described, with the exception of the lower arm D, are similar to those described in the said application for Letters Patent. The said movable lower arm D is pivoted upon the pin L, mounted upon the carriage B, and is provided at its forward end with the usual leather-working devices—for instance, knife X and roller X', that coact with the roller X<sup>2</sup> of the arm C.

It is understood that the arms C and D are closed so that the leather is grasped between the devices carried thereby during the back stroke of the carriage, and my present invention is constructed so that as the carriage advances the upper arm C is not only raised, but the lower arm D is turned on its pivot L to depress the knife to obviate any possibility of contact between the leather and said knife during the forward stroke of the latter.

Owing to the weight of the lower arm D, its forward end portion, if unsupported, will descend, and to support the arm D in the correct position the upper arm C is provided with a projection Z, that engages a rearward extension A' of said lower arm D, said projection Z and extension A' being so constructed relative to the arms C and D that when the arm C is depressed said projection Z bears upon the projection A' and raises the forward part of the lower arm D to cause the devices carried by said arms to meet in the correct plane, as shown in Fig. 1.

In the operation of the machine and during the back stroke of the carriage—for instance, a half-revolution of the driving member F from the position shown in Fig. 1—the position of the slide P holds down the rear end



portion U of the lever T to depress the free end of the arm C and through the projection Z and extension Q to raise the forward end of the arm D. It will thus be seen that the devices carried by the arms C and D are brought together and gripped upon the piece of leather under treatment by the same actuating devices, although it will be understood that during the forward stroke of the carriage the projection R of the slide P by contact with the end portion S of the lever T depresses said end portion S and raises the end portion U, which through the link W raises the arm C, while the forward end of the arm D drops by its own weight, so that its knife X is a considerable distance below the table E to clear the leather thereon.

Connected with the forward end portion S of the lever T is a spring B' to maintain a constant tension upon this end of the lever to obviate a sudden or jerky movement thereof upon its pivot N' under the influence of the slide P.

I have also provided mechanism by means of which the pressure with which the leather is grasped by said device can be regulated during the operation of the machine, and which consists, broadly, of means for controlling the position of the lever T, and in the instance illustrated I employ a cam C', which engages the rear end portion U of one of the levers T, said levers T on opposite sides of the machine being connected together by a cross-bar D', extending between the end portions S thereof. The said cam C' is mounted to slide longitudinally upon a longitudinally-immovable rock-shaft E', mounted in suitable bearings on the frame A, said rock-shaft E' and cam C' being rotatable together conveniently by means of a longitudinal groove F' in said shaft that is engaged by a pin G' on the cam in a familiar manner. The cam projects into a slot H' in a side piece of the carriage below the guide-slot Q, so that it moves back and forth with the carriage upon said rock-shaft E'. The forward end of the rock-shaft F' is provided with a handle J', by means of which it is manipulated by the knee of the operator. The said lever regulates the extent to which the end portion W of the lever T can be depressed by the slide P, and consequently the relative positions of the free ends of the arms C and D, carrying the leather-working devices. In use this regulating device acts to reduce the pressure, for before operating the machine the leather-working devices are adjusted upon the arms to bear against each other with the greatest working pressure, as shown in Fig. 1, and in this position the lever T stands in an inclined position with the upper edge of the end portion U thereof a little distance above the lower edge of the guide-slot Q, being held in this position by the high part of the cam C', so that it is acted upon by the slide during the back stroke of the carriage. The lever T is thus normally held in an inclined position by the high part of the

cam C' during the back stroke, and to reduce the pressure the cam is shifted to reduce the inclination of the lever T, and consequently the pressure with which it is acted upon by the slide P.

Another improvement which I have made consists in counterbalancing the reciprocating carriage. It is obvious that owing to the load upon the carriage during the back stroke and the absence of any load during the forward stroke the rotation of the driving member will be irregular. To overcome this, said driving member is provided with a counterbalancing-weight K' on the opposite side thereof from the wrist-pin G. For instance, in Fig. 1 this counterbalancing-weight is about to descend and the carriage is about to commence its back stroke, while in Fig. 2 this counterbalancing-weight K' is about to rise and the carriage is about to descend, being free of the leather. Thus at the point in the revolution of the driving member F when a very quick and sudden forward stroke is made by the unloaded carriage this counterbalancing-weight K' must be raised, while the reverse is true when the carriage is about to commence its back stroke, so that this counterbalancing-weight produces an equilibrium and causes the machine to run easy and regular.

In Fig. 5 I have shown a modification of my invention, the same consisting in connecting the rear end of the arm D with the extension V of the arm C by means of the link L', which is pivoted to said parts, the same taking the place of the projection Z, (shown in Figs. 1 and 2,) the lower side of which the rear end of the carriage engages. The operation of this construction will be readily understood, as said link L' supports the arm D in the desired position, according to the principle of my invention, which consists in operating the lower pivoted arm by the same means employed for raising and lowering the upper arm.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the kind specified, a reciprocating carriage provided with upper and lower arms, leather-working devices carried by said upper and lower arms, a driving member, a connection between said driving member and the carriage for reciprocating the latter, a connection between said driving member and the upper arm for raising and lowering the latter, said connection between the driving member and upper arm being independent of the connection between the driving member and carriage, and a connection between said arms for raising and lowering the lower arm by the movement of the upper arm.

2. In a machine of the kind specified, a carriage provided with upper and lower arms, a driving member, a connection between said driving member and the carriage for reciprocating the latter, a connection between said driving member and the upper arm for raising and lowering the latter, said connection between the driving member and upper arm being independent of the connection between the driving member and carriage, and a connection between said arms for raising and lowering the lower arm by the movement of the upper arm.



cating the latter, a connection between said driving member and the upper arm for raising and lowering the latter, said connection between the driving member and upper arm  
 5 consisting of a plurality of relatively movable members having sliding connections with each other and with the carriage, and a connection between said upper and lower arms for raising and lowering the lower arm by the  
 10 movement of the upper arm.

3. In a machine of the kind specified, a carriage having upper and lower arms, a driving member independently connected with said carriage and with the upper arm for actuating the same, the connection between  
 15 said driving member and upper arm embracing a plurality of movable members connected with said carriage and movable independently and interdependently during a portion  
 20 of their movement, and a connection between said upper and lower arms for raising and lowering the latter, the said connection between the upper and lower arms being independent of the connections between the driving member and the carriage and the upper  
 25 arm.

4. In a machine of the kind specified, a carriage, a driving member connected therewith and with a movable arm upon said carriage,  
 30 the connection between said member and said arm embracing a lever and a slide to actuate the same, and means for regulating the movement of said lever during the operation of the machine.

35 5. In a machine of the kind specified, a carriage, a driving member for actuating said carriage, a movable arm thereon, a connection between said member and arm embracing a lever and a slide to actuate the same,  
 40 a movable member engaging said lever to

regulate the position thereof, and means for operating said movable member during the operation of the machine.

6. In a machine of the kind specified, a carriage, a driving member connected therewith  
 45 and with a movable arm thereon, connections between said member and arm embracing a lever and a slide to actuate the same, said slide and lever being mounted upon the carriage, a movable member movable with  
 50 said carriage and adapted to engage said lever to regulate the position thereof, and means for operating said member during the operation of the machine.

7. In a machine of the kind specified, a carriage, a driving member connected therewith  
 55 and with a movable arm carried thereby, a connection between said member and arm embracing a lever and a slide to actuate the same, said lever and slide being mounted  
 60 upon the carriage, a cam movable with said carriage adapted to engage said lever, and means for operating said cam during the operation of the machine.

8. In a machine of the kind specified, a carriage, a driving member connected therewith  
 65 with a movable arm thereon, connections between said member and arm embracing a lever and a slide to actuate the same, said lever and slide being mounted upon the carriage,  
 70 a rock-shaft mounted on said machine, and a cam mounted to slide upon said rock-shaft and movable with said carriage, said cam being adapted to engage said lever to regulate the position thereof.

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