

(No Model.)

C. WHITFIELD.  
MECHANISM FOR OPERATING PLUNGERS.

No. 522,279.

Patented July 3, 1894.

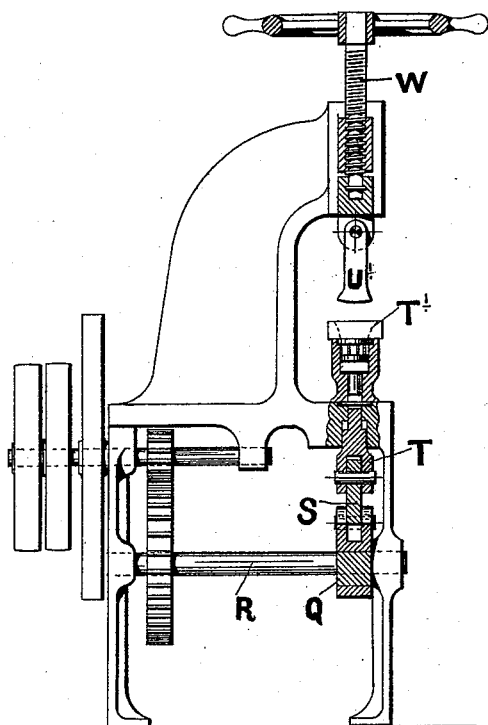


FIG. 3

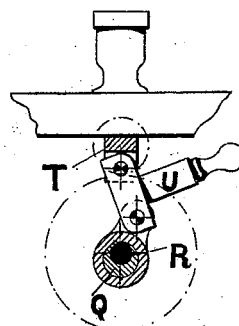


FIG. 4

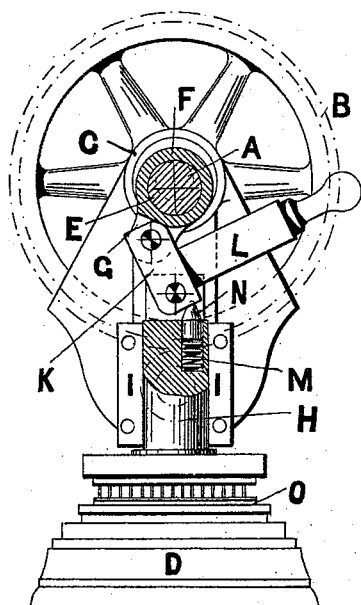


FIG. 1

Witnesses:  
D. W. Rea  
Robert Emmett

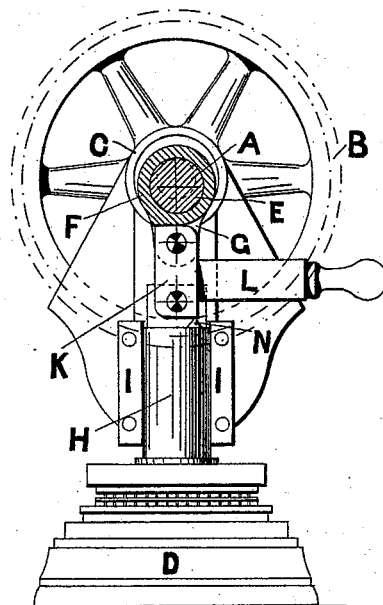


FIG. 2

Inventor:  
Charles Whitfield,  
By *Amos L. Norris* atty.

# UNITED STATES PATENT OFFICE.

CHARLES WHITFIELD, OF KETTERING, ENGLAND.

## MECHANISM FOR OPERATING PLUNGERS.

SPECIFICATION forming part of Letters Patent No. 522,279, dated July 3, 1894.

Application filed March 14, 1893. Serial No. 465,945. (No model.) Patented in England July 31, 1891, No. 12,964.

### *To all whom it may concern:*

Be it known that I, CHARLES WHITFIELD, a subject of the Queen of Great Britain and Ireland, and a resident of Kettering, in the county of Northampton, England, have invented certain new and useful Improvements in Mechanism for Operating Plungers, also applicable to Heel Building and Attaching Machines, (for which I have obtained Letters Patent in Great Britain, No. 12,964, bearing date July 31, 1891,) of which the following is a specification.

This invention consists of a machine for punching leather and similar substances, characterized by an eccentric or crank mounted upon a revolving shaft in combination with a sliding plunger carrying the punches and connected together by a special form of link, which under the influence of a spring or its equivalent assumes a folded position and nullifies the thrust of the eccentric on said plunger, but which on being straightened out or unfolded imparts the thrust of the eccentric upon the plunger and so causes the plunger to descend and effect the punching operation. The operation of straightening out the link may be done at will, facility being afforded for this purpose.

This improved construction of machine with suitable modifications may be adapted to heel building and attaching machines.

On the accompanying drawings Figures 1 and 2 are front views of my improved punching machine (partly in section) showing the idle and active positions of the link. Fig. 3 is a sectional side elevation of a heel building machine with my improvements applied thereto. Fig. 4 is a sectional front view of the eccentric and link.

In accordance with my invention A is the horizontal shaft (seen dotted) driven by toothed gearing B and supported in bearing C rising from the bed or base D.

E is the eccentric formed upon the end of the shaft A and surrounded by the sleeve F having a link or finger G connected by my improved link K to the plunger H as illustrated. This link is provided with a lever handle L or other equivalent device for bringing it in a line with the plunger H. The

plunger is fitted with punches as illustrated and works in the vertical slide or cylinder I, the front half of which is shown removed.

M is the spring situated in a recess formed in the plunger which pushes the point N against the link and causes the same to fold as illustrated in Fig. 1.

The action of my improved machine is as follows: Continuous revolving motion being imparted to the horizontal shaft, and the leather to be punched being placed beneath the plunger at O, the link K is pulled by handle L into line as illustrated in Fig. 2. The thrust of the eccentric is then imparted to the plunger, causing it to descend and so punch the leather. As soon as the punching operation is completed the handle L may be "let go," the link K simultaneously folding outward and again assuming the position shown in Fig. 1, the shaft A continuing to revolve without having any effect on the plunger through the idle action of the link. It will be readily apparent that the punching operation can only be effected so long as the link is straightened out.

As applied to heel building machines, Q is the eccentric mounted on the shaft R driven by means of pulleys and toothed gearings, as illustrated, while S is the link connecting the ring or sleeve on the eccentric Q with the plunger T all arranged beneath the table of the machine. The plunger in this case operates in an upward direction for driving the nails into the heel formed in the mold T' and for attaching such heel to the boot. The link is opened out by means of the handle U or an equivalent foot lever.

U' is the block either employed for compressing the heel in course of building or for holding the boot against the heel during the process of attaching, being forced and held in position by the screw W.

Each end of the link is formed with a rounded corner to allow for folding in one direction, while the other corner is formed square to prevent the link folding out in the opposite direction when held in line by the lever handle.

Having thus particularly described and ascertained the nature of my said invention and

in what manner the same is to be performed, I declare that what I claim, and desire to secure by Letters Patent, is—

1. In mechanism for operating plungers,  
5 the combination with a plunger, of a shaft, an eccentric on the shaft, a sleeve on the eccentric, a link pivotally connected with the plunger and with the sleeve, and means adapted to act upon said link for throwing  
10 the same into and out of operative position with respect to the eccentric, substantially as described.

2. In mechanism for operating plungers, the combination with a plunger, of a shaft,

an eccentric on the shaft, a sleeve surround- 15  
ing the eccentric, a link pivotally connected to the plunger and to the sleeve, a spring device adapted to throw said link out of operative position, and a handle connected to the link for throwing the same into operative po- 20  
sition, substantially as described.

In testimony whereof I affix my signature to the foregoing specification.

CHARLES WHITFIELD.

Witnesses:

WALTER GUNN,  
EDMUND WILSON.