

No. 777,795.

PATENTED DEC. 20, 1904.

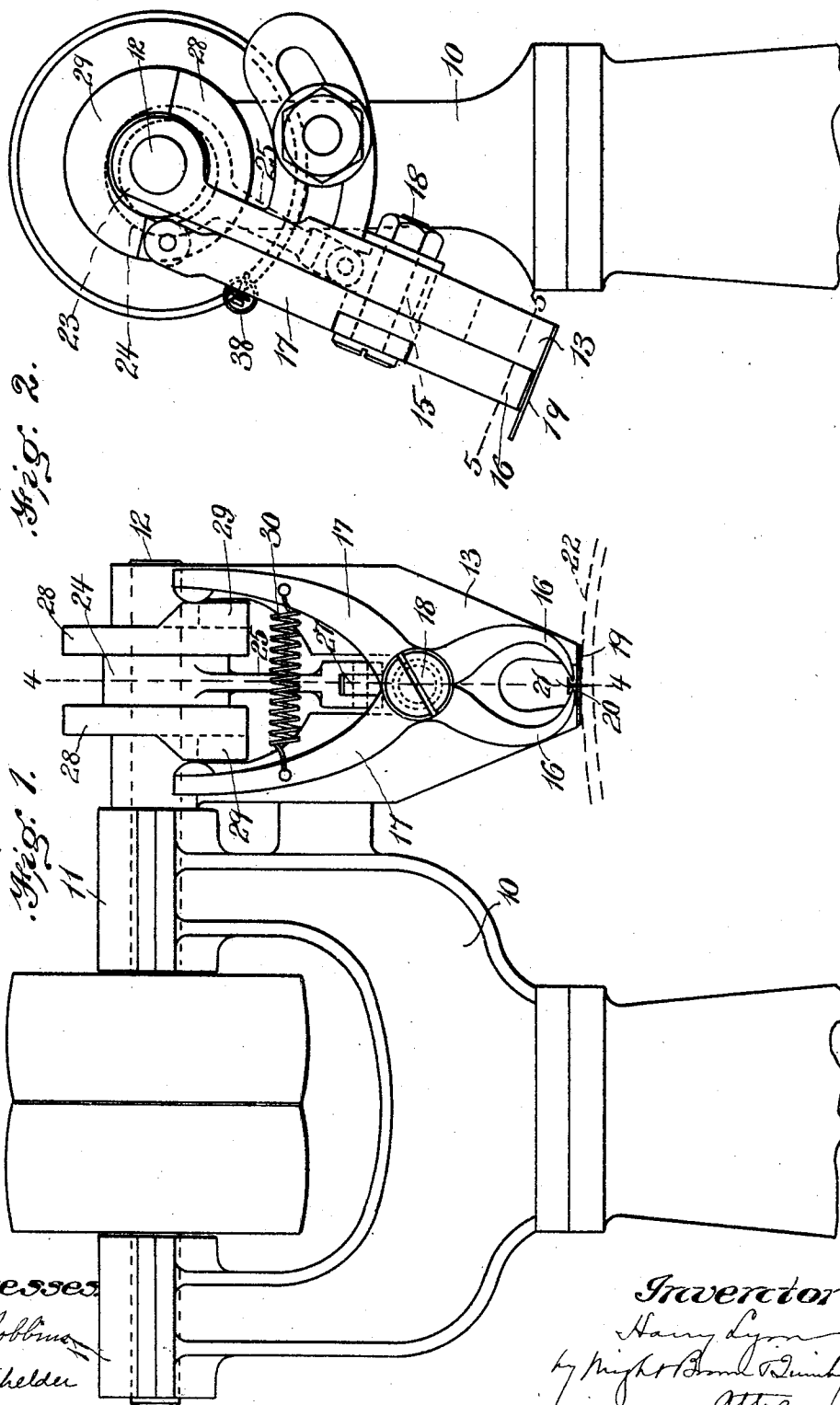
H. LYON.

MACHINE FOR PULLING LASTING TACKS.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
H. L. Robbins
E. Batchelder

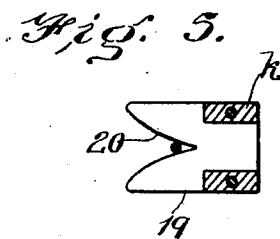
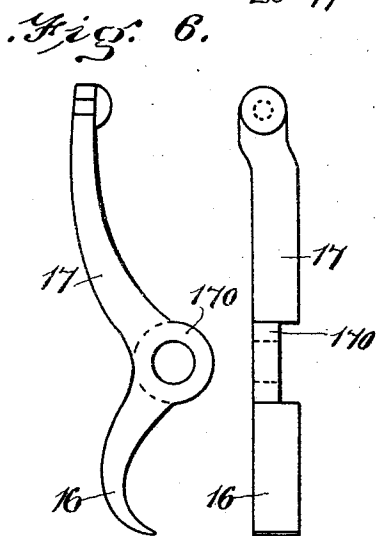
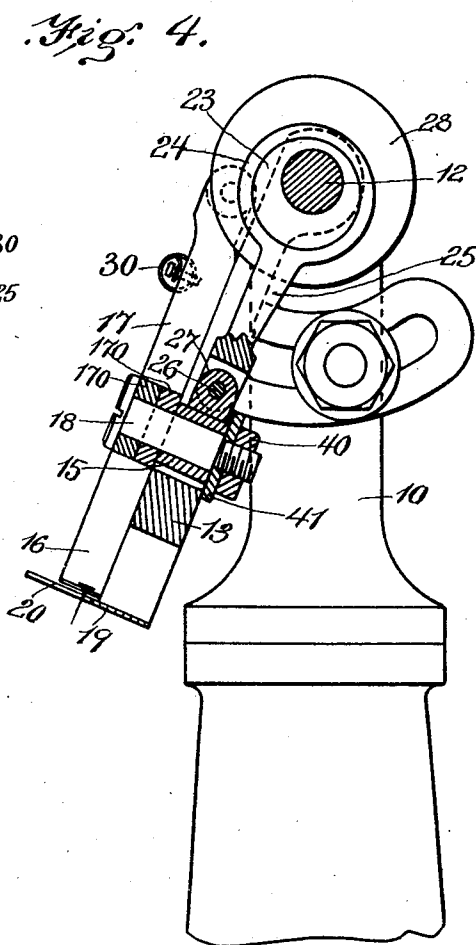
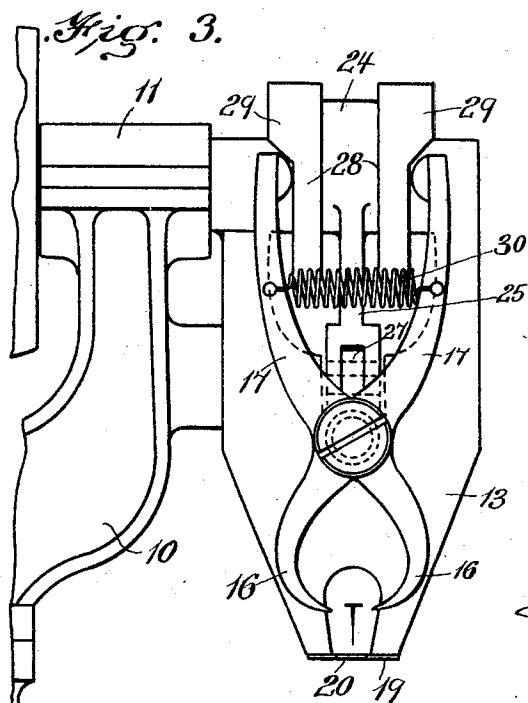
Inventor:
Harry Lyon
by Knight Bond & Quincy
attys.

H. LYON.
MACHINE FOR PULLING LASTING TACKS.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses:
H. L. Robbins
E. Batchelder

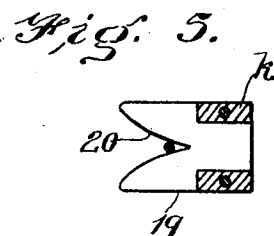
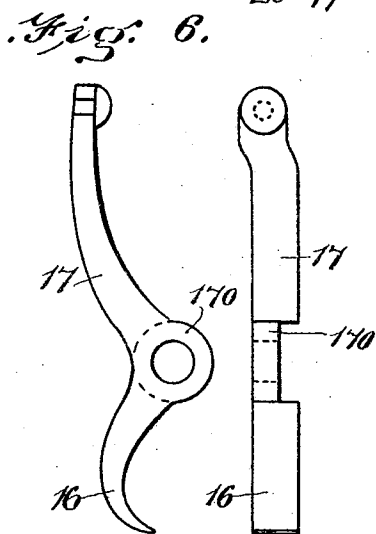
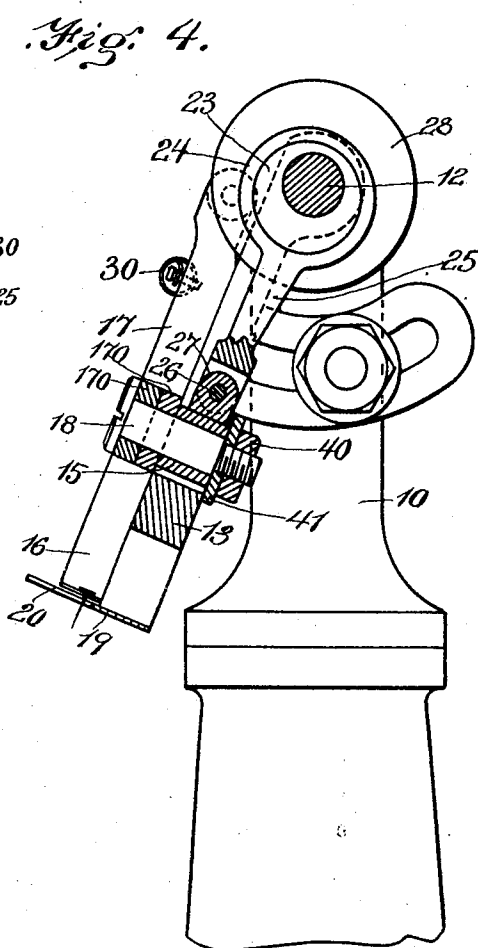
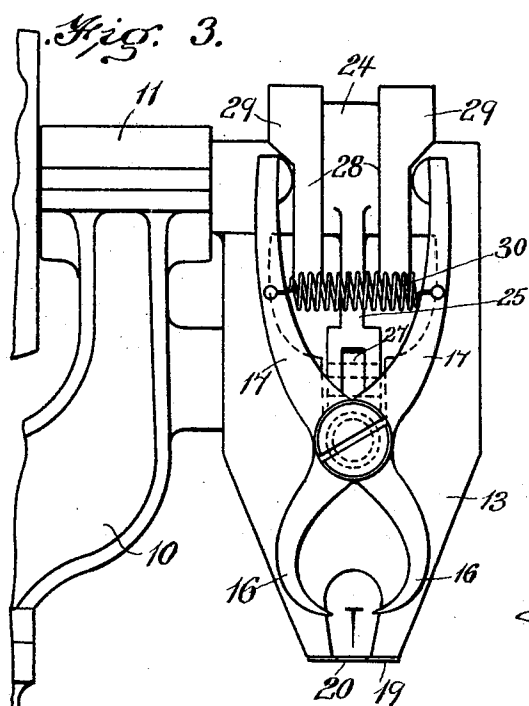
Inventor:
Harry Lyon
by *Wm. Brown* Attorney

H. LYON.
MACHINE FOR PULLING LASTING TACKS.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses:

H. L. Robbins

E. Batchelder

Inventor:

Harry Lyon

by Night Brown Quincy
Atty.

UNITED STATES PATENT OFFICE.

HARRY LYON, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO OSCAR A. CAMPBELL AND SAMUEL HENRY NICHOLS, COPARTNERS, DOING BUSINESS AS BROCKTON SUPPLY COMPANY, OF BROCKTON, MASSACHUSETTS.

MACHINE FOR PULLING LASTING-TACKS.

SPECIFICATION forming part of Letters Patent No. 777,795, dated December 20, 1904.

Application filed January 28, 1904. Serial No. 190,938.

To all whom it may concern:

Be it known that I, HARRY LYON, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Pulling Lasting-Tacks, of which the following is a specification.

This invention has for its object to provide an improved machine for pulling lasting-tacks from the lasted uppers of welted and turned shoes, the said lasting-tacks being driven temporarily and requiring removal before the completion of the shoe.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of a tack-pulling machine embodying my invention, showing the jaws projected and closed. Fig. 2 represents an end elevation of the same. Fig. 3 represents a front elevation, showing the jaws retracted and opened. Fig. 4 represents a section on line 4 4 of Fig. 1. Fig. 5 represents a section on line 5 5 of Fig. 2. Fig. 6 represents in separate views one of the jaws.

The same reference characters indicate the same parts in all the figures.

In the drawings, 10 represents a supporting frame or standard, which may be of any suitable form and is provided with bearings 11 for a driving-shaft 12.

13 represents an arm affixed to the frame 10, said arm having a guide for a movable slide 15. The guide is preferably a slot formed in the arm 13, the slide 15 being movable in said slot and guided by the longitudinal sides thereof.

16 16 represent a pair of opposed tack-grasping jaws, which are preferably formed like ordinary nipper-jaws, said jaws being formed on levers 17 17, which have hub portions 170, pivotally connected by a pivot stud or bolt 18. In this embodiment of my inven-

tion the pivot-stud is extended through the slide 15.

19 represents a work-supporting foot affixed to the lower end of the arm 13 and projecting from one side thereof, the projecting portion of the foot having a tapering slot or throat 20, adapted to receive the portion of a lasting-tack 21, which projects from a lasted shoe-upper 22, the form of the throat being such that its flaring edges guide the tack to a point where the tack bears simultaneously on both edges and is prevented from further inward movement into the throat. The lasted upper is held and manipulated by the hands of the operator, who forces each tack into the throat 20 and holds the tack when it comes to a bearing on the two edges of the throat, the tack being thus accurately located in position to be engaged by the jaws 16, as hereinafter described.

The slide 15 and the pivot-stud 18 constitute parts of a carrier which is adapted to reciprocate on the arm 13 toward and from the foot 19, means being provided, as hereinafter described, for reciprocating said carrier, and thus giving the jaws a longitudinal reciprocating movement toward and from the said foot. Mechanism is also provided for moving the jaws toward and from each other to cause them to alternately grasp and release a tack located by the throat 20.

The preferred means for giving the jaws the above-described movements are as follows: 23 represents an eccentric affixed to the shaft 12, said eccentric being surrounded by a strap 24, to which is affixed a rod 25. Said rod is jointed at 26 to an ear 27 on the slide 15. The eccentric and the connections between it and the jaws impart a reciprocating movement from the eccentric 23 to the jaws, which are thus moved longitudinally toward and from the foot 19. 28 28 represent disks affixed to the shaft 12 and located between the outer ends of the levers 17 17. Said disks are provided with cams 29 29, which project

from the outer sides of the disks and are revolved by the rotation of the disks. The levers 17 17 are held by a spring 30 in contact with the outer sides of the disks 28, the arrangement being such that the conjoint action of the cams 29 and spring 30 will cause the levers 17 to oscillate, and thus move the jaws 16 toward and from each other.

The above-described mechanism is timed to operate as follows: When the jaws are raised above the foot 19, as shown in Fig. 3, they are separated from each other, so that a tack previously held between them is released, the separation of the jaws being caused by the spring 30 when the cams 29 move from the position shown in Fig. 1 to that shown in Fig. 3. The jaws while separated move toward the throat until their grasping edges are below the head of the tack 21, located by said throat. The jaws then move inwardly and engage the shank of the tack under the head. The jaws while thus closed are next moved outwardly or away from the throat and are thus caused to pull the tack. As the jaws approach the upward extreme of their movement they separate and release the tack.

It will be seen from the foregoing that provision is made for quickly and effectively removing lasting-tacks from a shoe-upper.

40 represents a nut engaged with the screw-threaded rear portion of the pivot-stud 18, said nut holding a washer 41 in sliding contact with the rear side of the arm 13.

I claim—

35 1. A tack-pulling machine comprising tack-engaging jaws, means for imparting to said jaws an endwise reciprocating movement, and means for imparting to the jaws tack engaging and releasing movements.

40 2. A tack-pulling machine comprising tack-engaging jaws, means for imparting a reciprocating movement to said jaws, means for imparting tack engaging and releasing movements to the jaws, and means for locating a tack in position to be engaged by the jaws.

45 3. A tack-pulling machine comprising tack-engaging jaws, means for imparting to said jaws a reciprocating movement, means for imparting tack engaging and releasing movements to the jaws, and a fixed work-support-

ing foot having a tapering throat arranged to locate a tack in position to be engaged by the jaws.

4. A tack-pulling machine comprising a pair of pivotally-connected tack-engaging jaws, mechanism for giving said jaws an endwise reciprocating movement in unison, and mechanism for alternately closing and opening the jaws.

5. A tack-pulling machine comprising a pair of pivotally-connected tack-engaging jaws, mechanism for giving the jaws an endwise reciprocating movement in unison, means for locating a tack in the path of the jaws, and mechanism for alternately closing and opening the jaws.

6. A tack-pulling machine comprising a pair of tack-engaging jaws having rearwardly-projecting levers, a slide or carrier to which said levers are pivoted, a fixed guide for said carrier, means for reciprocating the carrier to impart endwise movements to the jaws, and means for oscillating the levers to alternately close and open the jaws.

7. A tack-pulling machine comprising a pair of tack-engaging jaws having rearwardly-projecting levers, a slide or carrier to which said levers are pivoted, a fixed guide for said carrier, a driving-shaft having an eccentric connected with the carrier to reciprocate the same, and a cam or cams on the driving-shaft adapted to engage said levers to close and open the jaws.

8. A tack-pulling machine comprising a supporting-frame, an arm affixed thereto having a guide and a work-supporting foot provided with a tack-locating throat, a slide or carrier guided by said arm, a pair of tack-engaging jaws having levers pivoted to the carrier, means for reciprocating the carrier to move the jaws in unison toward and from said throat, and means for oscillating the jaws to cause them to alternately engage and release a tack.

In testimony whereof I have affixed my signature in presence of two witnesses.

HARRY LYON.

Witnesses:

C. F. BROWN,

E. BATCHELDER.