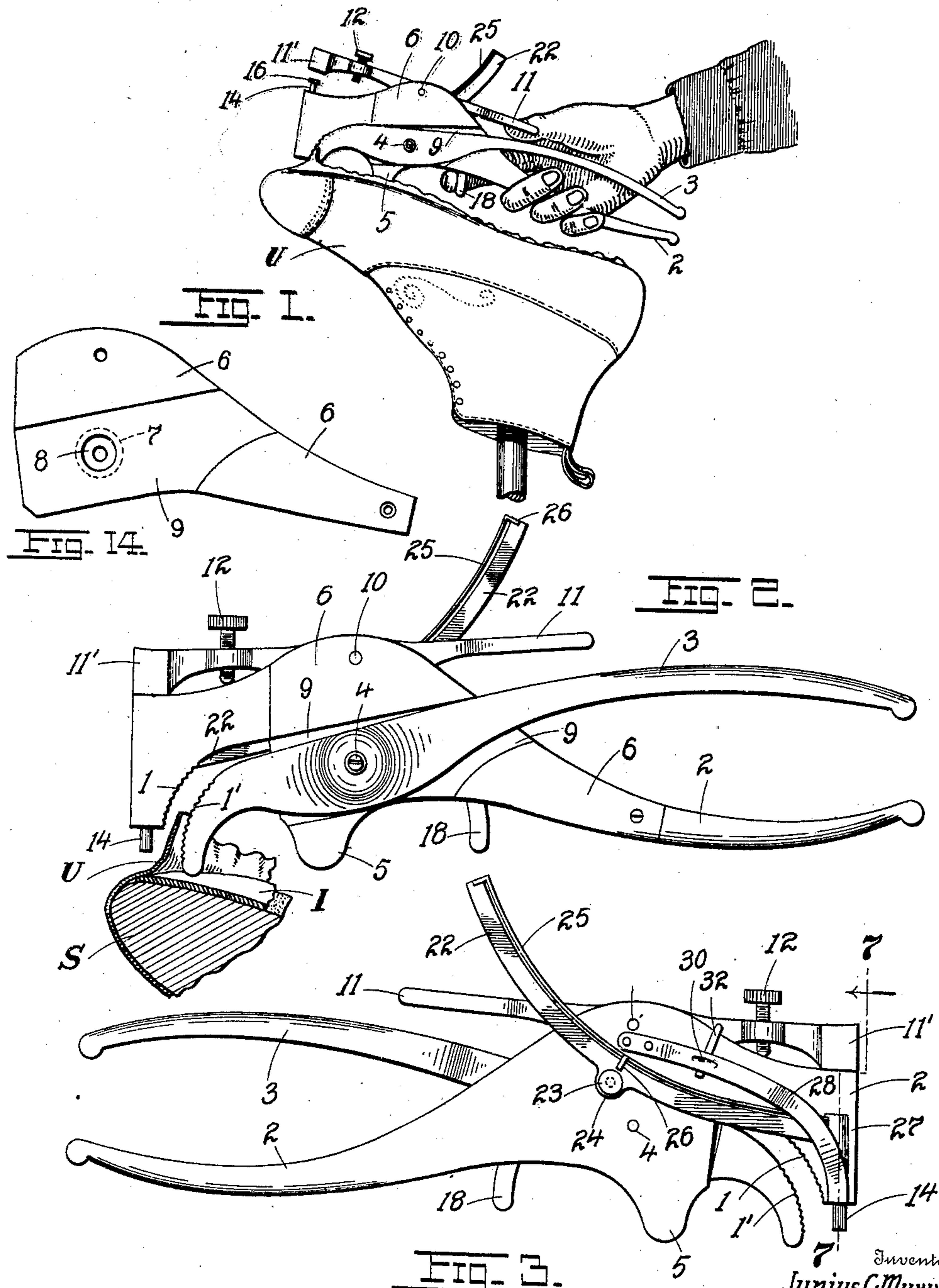


No. 829,482.

PATENTED AUG. 28, 1906.

J. C. MURRAY.
SHOE LASTING TOOL.
APPLICATION FILED APR. 17, 1905.

2 SHEETS—SHEET 1.



M. D. Whitcomb
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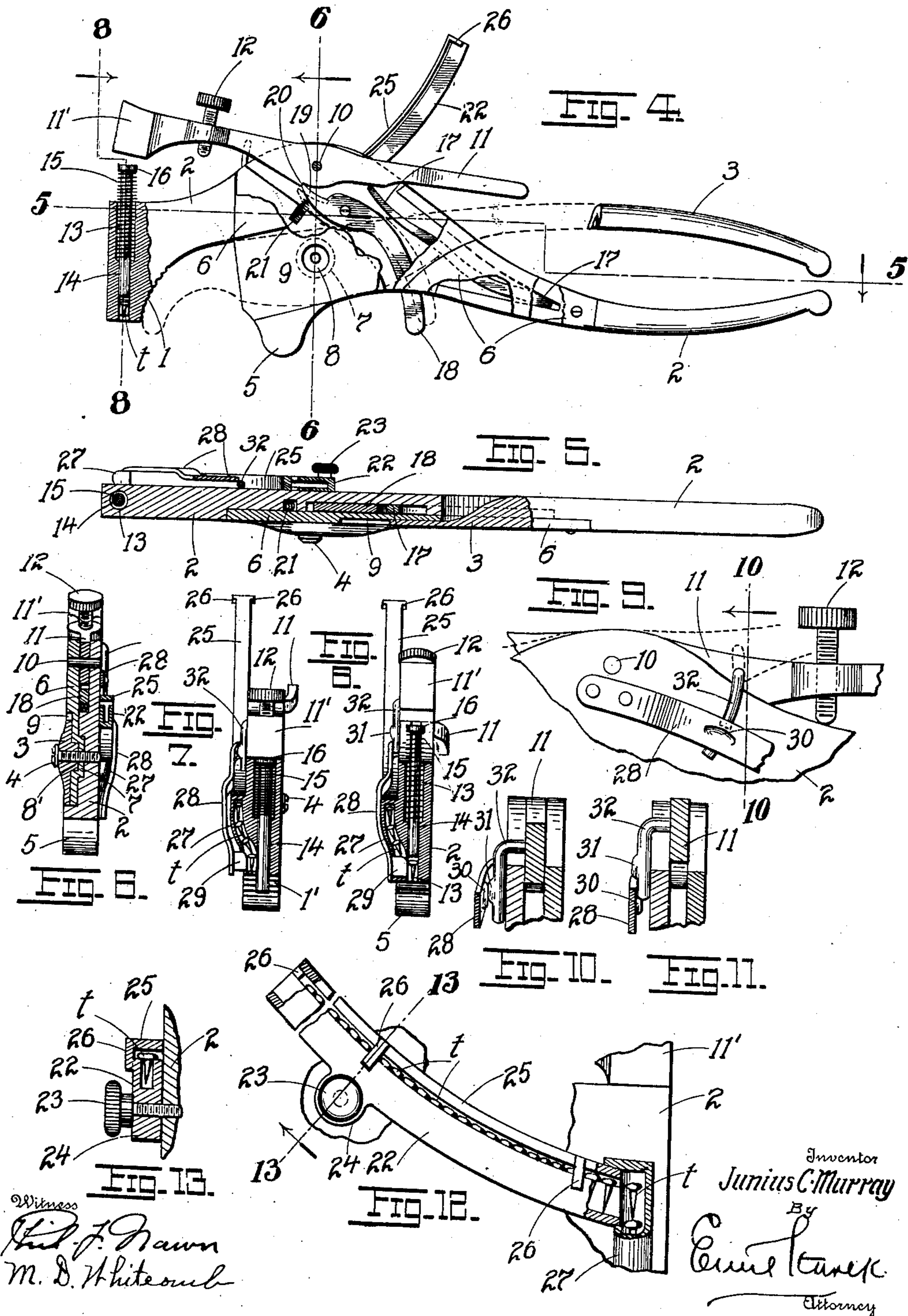
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UNITED STATES PATENT OFFICE.

JUNIUS C. MURRAY, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF
TO HENRY SPARRER, OF ST. LOUIS, MISSOURI.

SHOE-LASTING TOOL.

No. 829,482.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed April 17, 1905. Serial No. 256,016.

To all whom it may concern:

Be it known that I, JUNIUS C. MURRAY, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Shoe-Lasting Tools, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in shoe-lasting tools; and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a perspective showing the application of my invention. Fig. 2 is a side elevation of the tool, showing the hammer in its released position and a section of a shoe-upper in position to be gripped by the jaws. Fig. 3 is a side elevation of the opposite face of the tool. Fig. 4 is a combined side elevation and section with parts broken away to show the operating parts of the device. Fig. 5 is a horizontal section on line 5 5 of Fig. 4. Fig. 6 is a vertical cross-section on line 6 6 of Fig. 4. Fig. 7 is a vertical cross-section on line 7 7 of Fig. 3. Fig. 8 is a vertical cross-section on line 8 8 of Fig. 4. Fig. 9 is an enlarged detail elevation of the cut-off spring and depending arm of the hammer controlling the same. Fig. 10 is a vertical cross-section on line 10 10 of Fig. 9 and corresponding to the position of the parts shown in Fig. 7. Fig. 11 is a similar section to Fig. 10, but showing the depending arm of the hammer and the cut-off in a position corresponding to the parts in Fig. 8. Fig. 12 is a side elevation of the raceway. Fig. 13 is a cross-section on line 13 13 of Fig. 12, and Fig. 14 is a detail of the cover-plate for the operating parts.

The object of my invention is to construct a hand-operated tool by which a shoe may be lasted with a minimum expenditure of time, thereby cheapening the cost of manufacture.

As now generally practiced, after passing the shoe-upper over the last and the placing of the insole upon the bottom of the last, the edges of the upper are drawn over the edges of the insole and either permanently tacked thereto, as is the case of a McKay shoe, or only temporarily tacked, as in turn and welt shoes. To drive the tack, the operator generally places the tack between his lips, where

he can conveniently reach it; but the placing of the tack from the mouth upon the upper in position for driving into the insole consumes considerable time when figured in the aggregate for the shoe-laster of a large factory. With my invention the upper is drawn over the insole and the tack is driven by the springing of a trigger which releases a spring-controlled hammer, the latter in turn actuating a plunger under which the tack is automatically fed from a raceway mounted on the tool when the hammer is cocked. The manipulation of the hammer and subsequent springing of the trigger by comparison with the old method consumes considerably less time and makes my invention a specially desirable tool for shoe-lasting. In detail it may be described as follows:

Referring to the drawings, S represents a shoe-last, U the shoe-upper, and I the insole carried by the last. The edge of the upper is adapted to be pulled over the edge of the insole by the serrated jaws 1 1', forming the short arms of the levers 2 and 3, respectively, said levers being pivoted to one another about their medial enlarged portions and forming pincers for the gripping of the shoe-upper. The lower edge of the lever 2 is provided at a point slightly in advance of the pivotal screw 4 with a foot 5, which serves as a fulcrum adapted to bear against the insole while the shoe-upper is being drawn or pulled over the insole, Fig. 1. The body of the lever 2 is suitably chambered to receive the operating parts of the tool and to be presently described.

The parts are protected by a plate 6, which is provided with a boss 7, entering a corresponding socket of the lever, the boss 7 in turn having a socket 8 to receive a boss 8' of the lever 3, the screw 4 being passed through the several parts and connecting them together, Fig. 6. This arrangement serves to remove the strain off the screw 4. That the faces of the lever 3 and the plate 6 may come substantially flush the plate has formed on it a depression 9 for the reception of the body of the lever, as shown best in Figs. 2 and 6.

Pivoted between the plate 6 and the lever 2, near the upper edges thereof, and carried by a pin 10, supported by said plate and lever, (the lever 2 for convenience to be hereinafter referred to as the "stationary" member and the lever 3 as the "movable" one,) is

a hammer-lever 11, having a terminal head 11'. Adjacent to the head is an adjusting-screw 12, which limits the descent of the head by coming in contact with the top edge of the member 2. The end of the short arm of the member 2 is provided with a socket 13, through which passes a plunger 14, the upper portion of the socket being enlarged to receive a spring 15, coiled about the plunger and confined between the terminal head 16 thereof and the base of the enlarged portion of the socket referred to, Fig. 4. The hammer-head is forced against the plunger by the action of a spring 17, located within the chamber of the member 2, behind the cover-plate 6, the fixed end of the spring being wedged in between the top and bottom walls of the chamber, making an acute angle with one another, Fig. 4, and the free end of the spring bearing against the base of the hammer-lever to one side of the pivot-pin 10. The hammer is cocked on the order of a fire-arm by means of a trigger 18, pivoted within the chamber of the member 2, the nose 19 of the trigger engaging a shoulder 20 on the hammer, the engagement being made positive by the resilient action of a small spring 21, located in a suitable cavity or socket formed for its reception in the member 2. By springing the trigger (see dotted position in Fig. 4) the hammer is released, and the head 11' thereof is forcibly driven against the plunger 14, which in turn drives the tack *t* through the upper and into the insole to a depth depending on the character of shoe—to the full depth for a McKay shoe and only partially into the insole for a turn and welt shoe. This depth, as before stated, is regulated by the adjustment of the screw 12 on the hammer, the position of the screw defining the extent to which the hammer-head shall descend.

The tacks are fed to the plunger by the following mechanism: Secured to the member 2 on the opposite side from the member 3 is a raceway 22, the same being connected to the tool by a screw 23, passed through a lug 24 thereof, Figs. 12, 13, the raceway being in the form of a curved channel having a surmounting hood or cover 25, secured at intervals to the sides of the raceway by connecting members or brackets 26, brazed to the sides, Fig. 13, the heads of the tacks *t* spanning and resting on the edges of the channel and sliding down the same, Fig. 12. The delivery or discharge end of the raceway communicates with a feed-tube 27 (closed at the bottom) through the wall thereof, the tube 27 being curved toward the socket in which the plunger 14 is mounted, Fig. 7, and into which it discharges its tacks from the side. Secured rigidly to the member 2, just above the raceway, is one end of a cut-off or spring-arm 28, which curves downwardly, the free end thereof being provided with a

block 29, which is free to pass into the tube 27 through the side of the latter and, under conditions to be presently referred to, intercept the tacks coming down the tube. Formed on the arm 28 on the face adjacent to the member 2 is a cam or knob 30, with which is adapted to engage a corresponding cam or knob 31 on an arm 32, depending from the hammer 11 and passing between the member 2 and the spring or cut-off 28. When the device is cocked, Figs. 1, 4, 8, 11, the knob 31 is out of engagement with the knob 30 and the block 29 is immediately under and closes the discharge end of the feed-tube 27, the closing or inward movement of the block having previously forced the bottom tack of the series into position under the plunger, Fig. 8. By springing the trigger, and thus releasing the hammer, the latter drives the plunger against the tack thus in position beneath it, the tack being driven into the upper and insole, the said upper having previously been drawn over the insole by the closing of jaws 1 1', the fulcrum 5 being used as a leverage to pull the upper over the insole. The moment the hammer descends to drive the tack the cam 31 engages the cam 30, thus forcing the spring-arm 28 away from the member 2 sufficiently to retract the intercepting-block 29 from under the bottom tack in the tube 27, Fig. 7, this movement releasing the series of tacks and allowing the bottom one to drop on the bottom of the tube and come in line with the block and there be frictionally held against the now fully-descended plunger, Figs. 3, 7, 10. The moment, however, the device is cocked again to the position shown in Fig. 1 the spring 15 retracts the plunger, and the hammer being pulled upward will retract the knob 31 away from the knob 30, allowing the cut-off 28 to spring back toward the member 2 and force the block 29 thereof back to the position shown in Fig. 8, thus again shoving the last tack under the plunger, where it holds it frictionally against the wall of the socket 13. When one raceway is empty, a fresh raceway may be immediately attached by simply unscrewing the screw 23.

In the operation of the device the operator places the foot 5 against the insole, then gripping the edge of the upper draws the same over the insole. He can then with his thumb pull down on the rear end of the hammer, which cocks it, thus allowing the last tack of the series to be shoved by the block 29 under the plunger. Then by pulling the trigger with his forefinger the tack is driven into the upper and insole, and the next tack of the series is brought into position opposite the block 29 to be again shoved under the plunger with the next cocking of the hammer.

With my device a very rapid lasting of the shoe can be effected, with no waste of tacks

and with no inconvenience whatsoever. I may of course depart in a measure from the details here shown without in any wise affecting the nature or spirit of my invention.

5 Having described my invention, what I claim is—

10 In a shoe-lasting tool, a pair of pivoted intersecting members having gripping-jaws, a foot projecting from one of the members and serving as a fulcrum, a spring-actuated trigger-controlled hammer pivoted to the same member above the pivotal connection between the members, a spring-controlled plunger at one end of the same member actuated by the tripping or release of the hammer, a curved raceway, a tube into which the

raceway discharges, a cut-off for the tacks having a terminal block adapted to intercept the tacks descending toward the bottom of the tube and push the bottom tack under the 20 plunger upon the cocking of the hammer, and to release the succeeding bottom tack of the series and allow the same to descend to the bottom of the tube upon the springing or release of the hammer, substantially as set 25 forth.

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

JUNIUS C. MURRAY.

Witnesses:

EMIL STAREK,
MARY D. WHITCOMB.