F. SUPPLE.

Horseshoe-Machines.

No. 158,871. Patented Jan. 19, 1875.

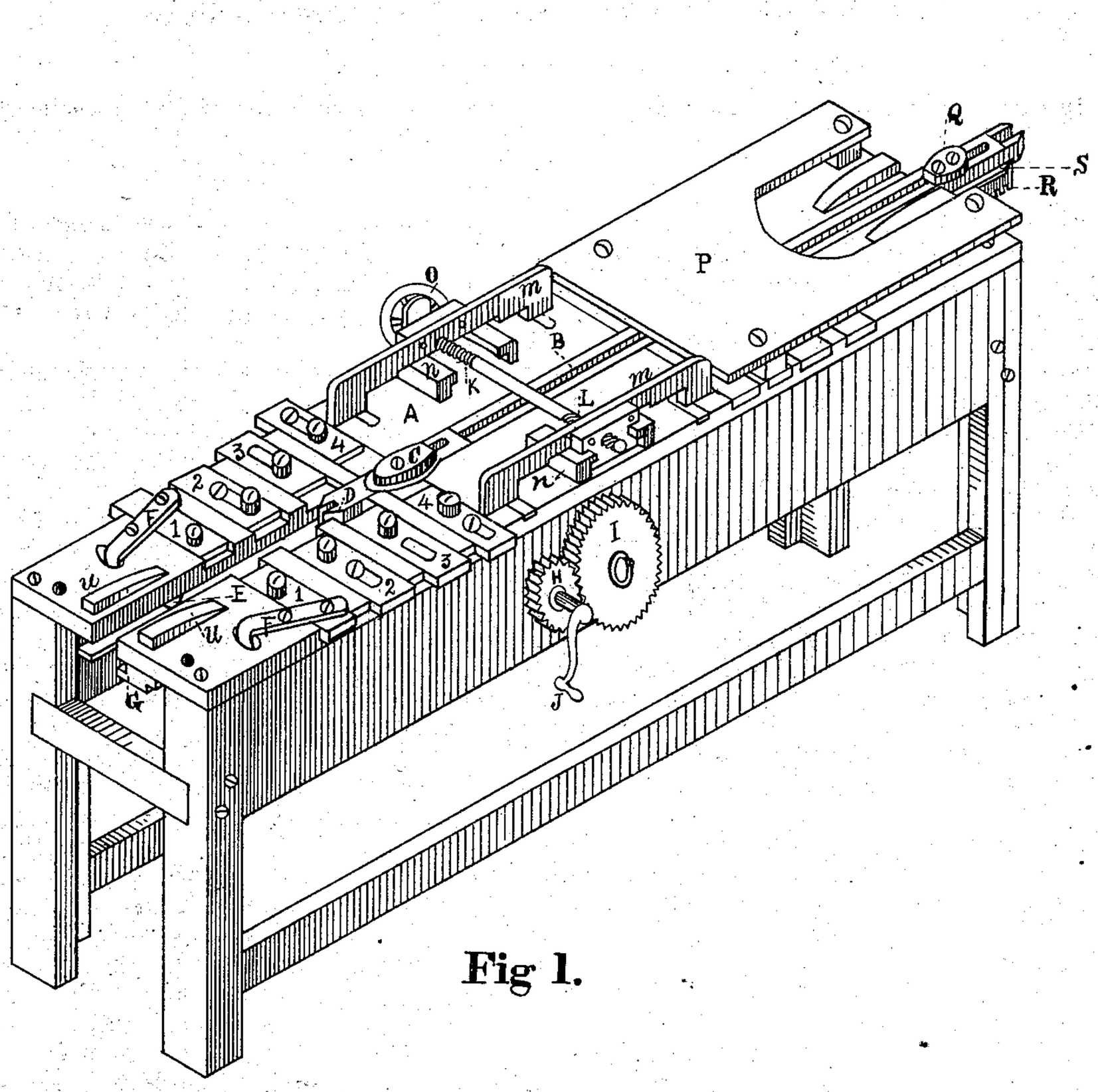

Fig 1.

Witnesses;
Saml C. Oliver
H. E. Metcalf.

Inventor;
Francis Supple,
per C. A. Shaw,
Atty.

UNITED STATES PATENT OFFICE.

FRANCIS SUPPLE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO JAMES F. SUPPLE AND BERNARD F. SUPPLE, OF SAME PLACE.

IMPROVEMENT IN HORSESHOE-MACHINES.

Specification forming part of Letters Patent No. **158,871**, dated January 19, 1875; application filed December 16, 1874.

To all whom it may concern:

Be it known that I, FRANCIS SUPPLE, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Horseshoe-Bending Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an isometrical perspective view.

My invention relates to that class of bending-machines which are designed to be driven by power; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a simpler, cheaper, and more effective device of this character is produced than is now in common use.

In the drawing, A represents the bed or top of the machine, which is divided longitudinally by the slot or elongated aperture B, in which the bar S is disposed, being arranged to slide in the ways G. This bar is provided on its lower side with the rack R, and is actuated by means of a pinion on the shaft of the wheel I, the wheel intersecting with the spur-wheel H on the main driving-shaft. Two formers, C Q, are attached to the upper side of the bar S, one at either end, and both are rendered adjustable thereon by means of slots and screws. The levers F F are centrally pivoted to the bed of the machine, being bent at one end to pass downwardly through elongated slots in the same, the bent or curved ends being also attached to slides E E, which project into the slot B or pathway of the bar S. Arranged in rundlets or ways on either side of the aperture B, and near each end of the machine, are a series of slides arranged in pairs 2 2, 3 3, 4 4. These slides carry upwardly-projecting studs fitted with friction-rollers, and are rendered adjustable by means of slots and screws. Pivoted to the straight ends of the levers F F are two sliding plates, 1 1, also fitted with studs and friction-rollers. A right-and-left-hand screw, K L, provided with the wheel O, is disposed midway across the top of the machine, and on this screw are two gage-plates, *m m*, fitted to slide in the rundlets *n n*, in such a manner that when the wheel O is turned the plates will be moved conjointly toward or from the slot B.

From the foregoing the nature and operation of my invention will be readily obvious to all conversant with such matters.

In preparing the machine for use, the slides 2 2 3 3 4 4 are adjusted and fixed on two converging lines, or in such a position that the rollers on the slides 4 4 will be slightly farther apart than those on the slides 3 3, and the rollers on the slides 3 3 slightly farther apart than those on 2 2, thus forming a **V**, with its top nearest the gage-plates *m m*. A plate or cap corresponding with the plate P is then screwed down over the slides 1 1 2 2 3 3 4 4, and the bar to be bent is placed in front of the former C, between the gages *m m*, by which it is "centered" or brought into a correct position with reference to the former. Power being now applied to the crank-shaft J, the former C will be caused to advance under the cap, forcing the blank first against the studs on the plates 4 4, next against those on the plates 3 3, and finally against those on 2 2, thus bending it around the former into **U** shape. It is necessary, however, in order to complete the process, that the ends of the blank should be still further bent inwardly, in order to form the heel of the shoe. This is accomplished by the slides E, levers F, and the studs upon the sliding plates 1 as follows: After the blank has been forced past the plates 2 2, the bar S continuing to advance, the wedge-shaped head D of the same is brought into contact with the slides E, forcing them outwardly from the pathway of the bar, thus causing the levers F F to swing upon their pivots, and to move the slides 1 1 toward each other, bringing their studs against the ends of the blank, and bending them around the former C, to give the requisite shape to the heel of the shoe, in a manner which will be readily apparent without a more explicit description.

In the drawing but one of the slides E is represented; but it will be understood that each of the levers F is to be provided with such a slide, having a chamfered or inclined

end next the slot B, corresponding with the wedge D, and that proper springs are to be employed in connection with said slides, to force the same against the bar S.

In the drawing but one series of slides and levers are shown; but it will be understood that a corresponding series is located at the opposite end of the machine under the plate P, and that a proper system of fast and loose pulleys and shippers is to be used in connection with the shaft of the gear H, to change or reverse the motion of the bar S, so that while the former C is bending a blank at one end of the machine another blank is to be inserted between the gages *m m*, which will be caught and bent by the former Q when the bar is retracted or its motion reversed.

Near the slides 1 1 are two inclined plates or clearers, *u u*, disposed upon either side of the slot B. The object of these plates is to clear or disengage the bent blank from the former C as the bar S advances, the clearers passing under the blank, raising it from the former, and permitting it to drop into any convenient receptacle.

It will be obvious that spring-gages may be used to center the blank and present it properly to the formers, instead of the gages *m m*, without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

In a horseshoe-bending machine, the adjustable former C, reciprocating bar S, studded plates 2 2 3 3 4 4, slides 1 1, levers F F, and slides E, combined and arranged to operate substantially as and for the purpose specified.

FRANCIS SUPPLE.

Witnesses:

THOMAS ROGAN,

JAMES MCGAUGHEY.