(No Model.) 2 Sheets—Sheet 1.

J. R. SCOTT.

MACHINE FOR MOLDING BOOT OR SHOE COUNTERS.

No. 545,381. Patented Aug. 27, 1895.

Fig. I.

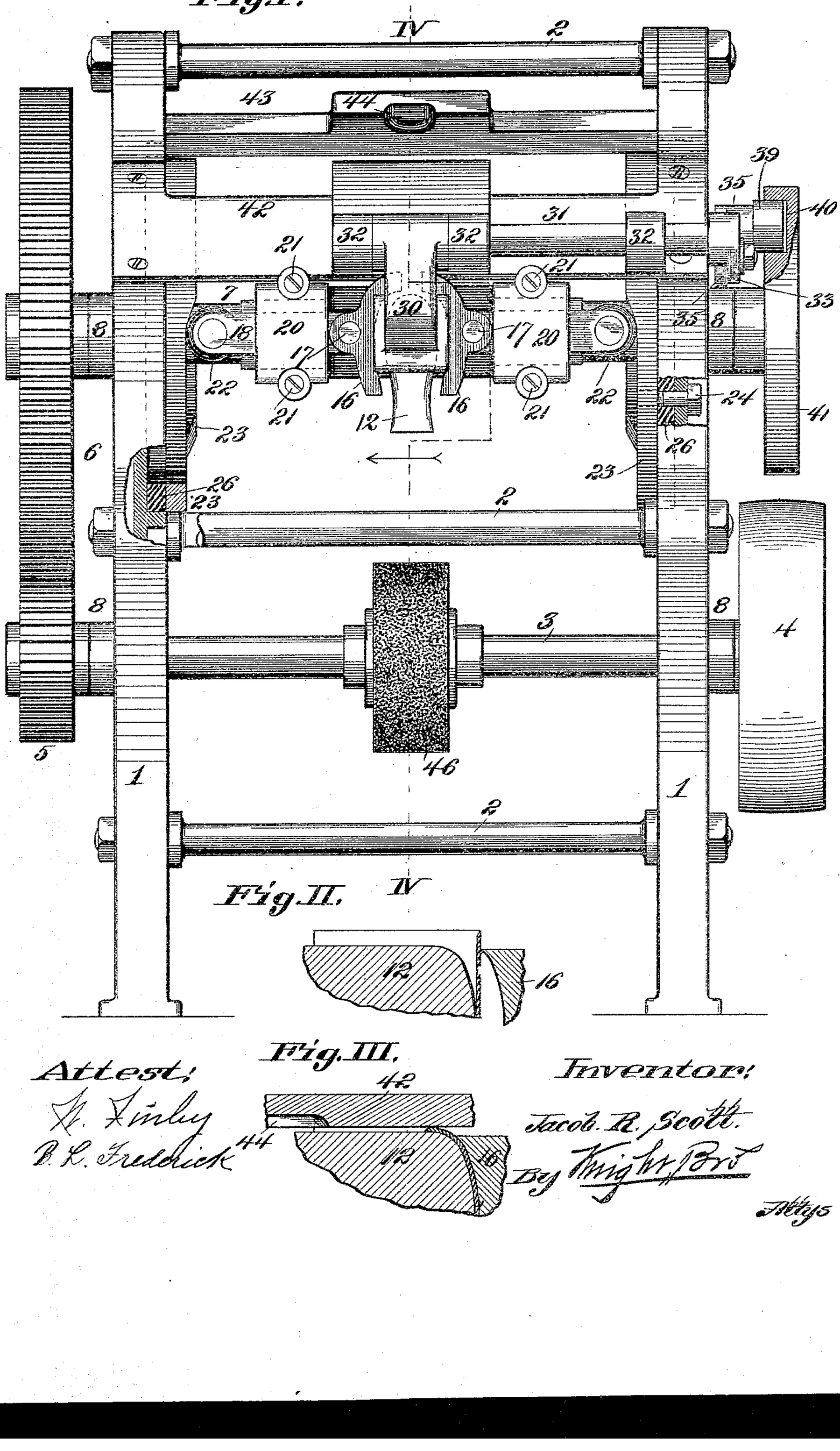

Fig. II.

Fig. III.

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Fig. IV.

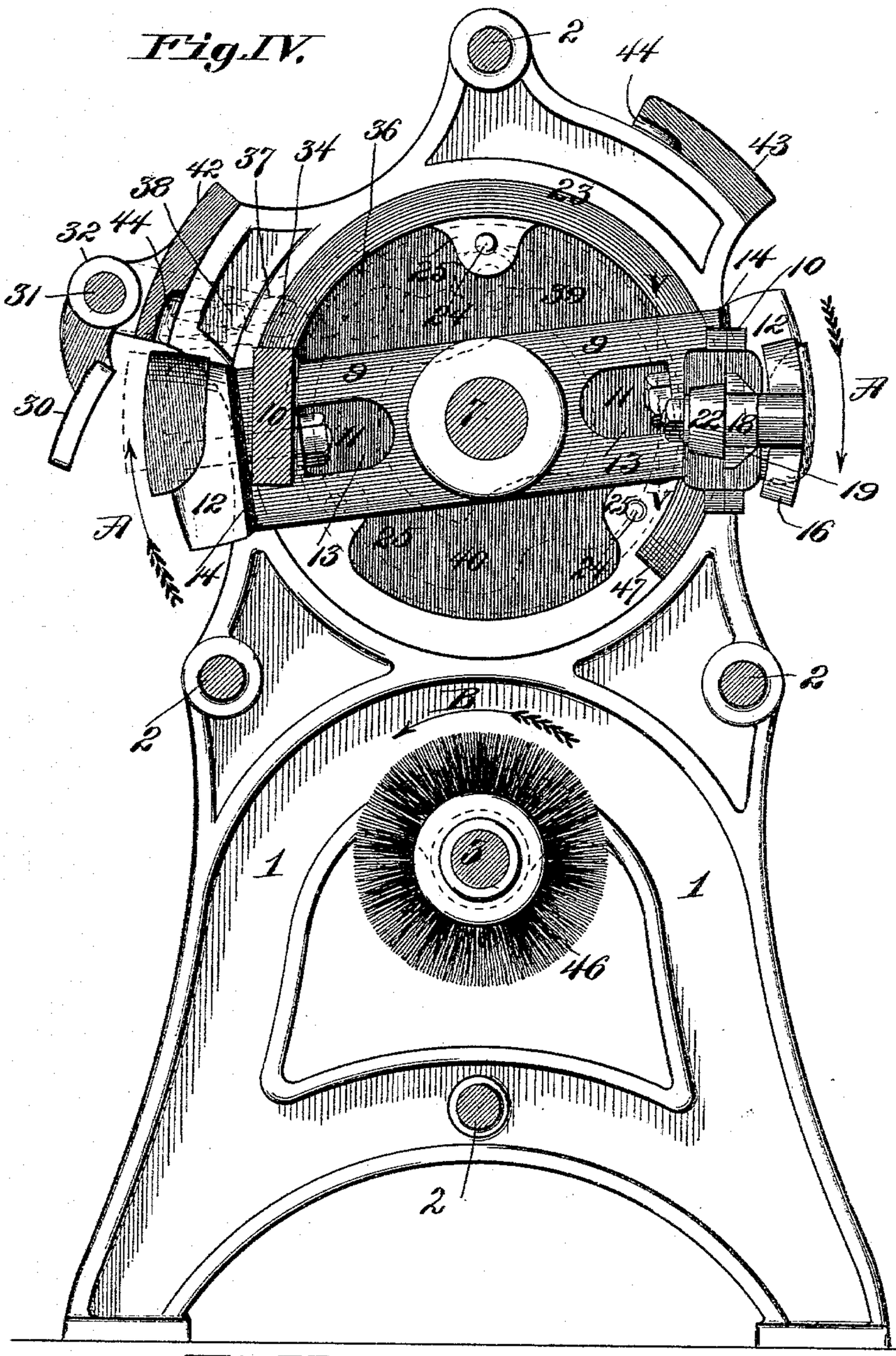
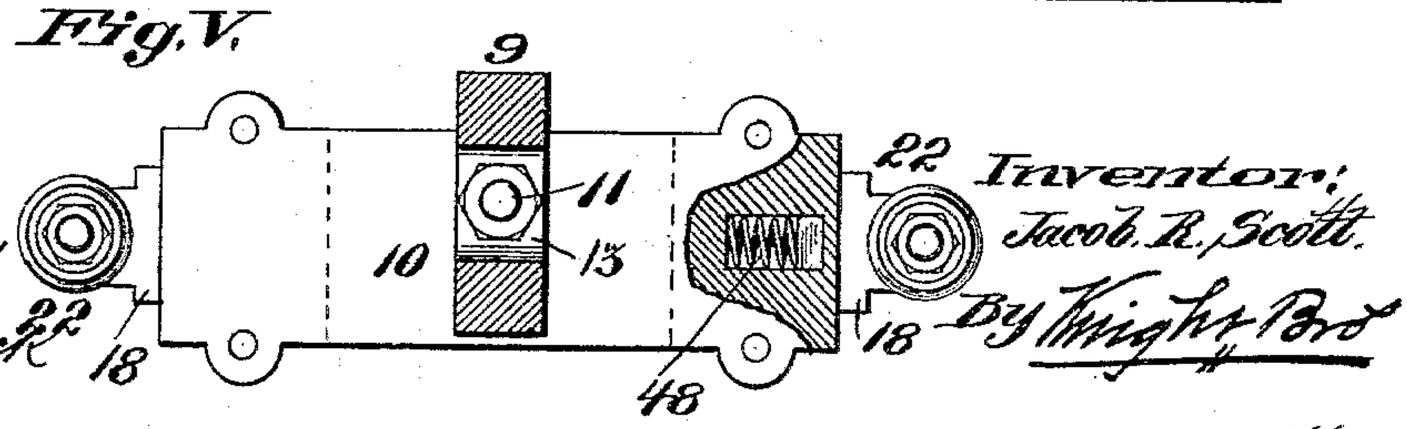


Fig. V.



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UNITED STATES PATENT OFFICE.

JACOB R. SCOTT, OF CHICAGO, ILLINOIS.

MACHINE FOR MOLDING BOOT OR SHOE COUNTERS.

SPECIFICATION forming part of Letters Patent No. 545,381, dated August 27, 1895.

Application filed February 11, 1895. Serial No. 537,971. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. SCOTT, of the city of Chicago, Cook county, State of Illinois, have invented a certain new and useful Improvement in Machines for Molding Boot or Shoe Counters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved machine for crimping or forming counters for boots or shoes, the machine being automatic in its operation.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a front elevation of my improved machine, part in section. Fig. II is an enlarged detail view showing part of one of the lasts and part of one of the clamps, the latter being in its open position. Fig. III is a similar view with the clamp closed and showing, also, part of one of the wipers or crimpers. Fig. IV is a vertical transverse section taken on line IV IV, Fig. I, and looking in the direction of the arrow, the clamp omitted on one side. Fig. V is a detail section taken on line V V, Fig. IV, looking outward.

Referring to the drawings, 1 represents the side frames of the machine connected by bolts or rods 2.

3 is the main driving-shaft, upon which is mounted a belt-pulley 4 at one end and a pinion 5 at the other end. The pinion meshes into a gear-wheel 6, mounted on a counter-shaft 7. The shafts 3 and 7 are journaled in the side frames 1, as shown at 8. Secured to the shaft 7, so as to turn therewith, is a radial arm 9, that preferably extends in both directions from the shaft, and at the outer ends of the arm 9 are cross-heads 10, parallel with the shaft and cast in one part with or secured to the arm. Secured to the end faces of the arm are lasts 12, that are held to the arm by means of bolts 11, these bolts passing through the lasts and through the ends of the arm to openings 13 in the arm, where they are provided with their retaining-nuts.

14 represents rubber or other elastic washers between the lasts and the ends of the arm, which provides for a slight inward yielding of the lasts to guard against breakage where the leather of the counters is unusually thick.

On each side of each last is a clamp 16, connected by pivot 17 to a slide 18, dovetailed, as shown at 19, Fig. IV, into the cross-heads or into the caps 20 of the cross-heads, the caps being held to the cross-heads by screws 21 and the caps serving to hold the slides to the cross-heads. On the outer end of each slide 18 is a friction-roller 22. These rollers are adapted to bear against cams 23, secured to the side frames of the machine by bolts 24. The bolts 24 pass through the side frames 1 of the machine, as shown in Fig. I, and enter lugs or ears 25, formed on the cams. (See Fig. IV.) The cams are in the form of rings, as shown in Fig. IV. Between the cams and the frame I place an elastic packing or washer 26, (see Fig. I,) so that the cams may yield slightly to prevent the breaking of the clamps 16 or other parts of the machine where the leather being treated is unusually thick.

30 represents a gage mounted on a rock-shaft 31, journaled in bearings 32, formed upon or secured to one of the wiper-bars of the machine. On the end of the shaft 31 is a crank 33, having a slot 34, as shown by dotted lines, Fig. IV.

35 represents a lever pivoted at 36 to the frame of the machine, (see dotted lines, Fig. IV,) one end of this lever extending across the crank 33 and having a slot 37.

38 represents a pin or bolt passing through the slots 34 and 37 of the crank and lever, respectively, and connecting the crank to the lever. By moving this bolt 38 in or out the inward movement of the gage 30 may be regulated—that is to say, the gage may be caused to move inwardly a greater or less distance, as desired. On the end of the lever 35 is a friction-roller 39, fitting in a cam-groove 40 of a disk 41, secured to the counter-shaft 7.

42 and 43 represent wiper bars or plates secured to the machine-frame. These bars or plates are provided with recesses 44, these recesses being in the path of the lasts 12, and the recesses being of such width as to crimp the overhanging edge of the leather forming the counter down onto the last as the arm 9 is revolved. The recesses 44 extend only part way across the wiper-plates, so that after the

leather is crimped onto the last the plates serve to keep the leather pressed against the last during the balance of the time that the last is passing the plates.

The direction in which the lasts revolve is indicated by the arrow A in Fig. I.

46 represents a brush on the shaft 3, that revolves in the direction of the arrow B, Fig. 1.

The operation of the machine is as follows: The operator places the strip of leather from which the counter is to be formed upon the last on the left-hand side of Fig. IV and starts the machine. The arm 9 commences to revolve and before the last reaches the wiper-plate 42 the gage 30 moves inwardly, and, coming against the edge of the blank, moves it inwardly on the last, so that just a sufficient amount of the blank overhangs the face of the last. The operator should take care to place the blank sufficiently far out on the last, and any excess of overhanging portion of the blank is corrected by the gage, which forces the blank inwardly on the last to its proper position. Just as the gage shifts the blank on the last to its proper position the friction-rollers 22 of the clamps come against the cams 23, and the clamps are moved inwardly against the blank and hold the blank firmly to the last. The continued movement of the arm 9 now causes the blank to pass under the wiper-plate 42, which crimps the overhanging portion of the blank down over the last and wipes this portion of the blank forcibly against the last, so that it will retain its position or form. The continued movement of the arm 9 brings the last with the counter to the wiper-plate 43, where the counter is further crimped and wiped. During all this movement of the arm the clamps are holding the counter to the last. After the arm leaves the wiper 43 the rollers 22 of the clamps come to the end 47 of the cams 23 and the clamps then release the counter, the clamps being forced outwardly now by springs 48, set into the ends of the cross-heads, as shown in Fig. V. The continued movement of the arm causes the last to move past the brush 46, which is revolving at a higher rate of speed than the arm 9, and the brush removes the counter from the last, which is then ready to receive another blank before it again reaches the gage 30. The arm 9 revolves at a slow rate of speed, so that the operator has ample time to place another blank on the last while it is moving from the brush to the gage, so that the machine runs continuously. It is evident that the radial arm 9 may only extend in one direction from the counter-shaft 7, so as to carry but a single last, the machine then having only half the capacity that it has with the arm extending in both directions from the shaft and each end of the arm being provided with a last and with a cross-head carrying the clamps. It is possible, also, that the wiper-plate 42 will be found sufficient in working some leathers, and in that case the wiper-plate 43 may be omitted.

I claim as my invention—

1. A machine for molding counters for boots and shoes comprising a fixed wiper plate, a shaft, a radial arm secured to the shaft, and adapted to carry a last, a cross-head secured to the arm, a pair of slides mounted on the cross-head, clamps pivoted to the slides for embracing the last, and means for operating the slides; substantially as described.

2. A machine for molding counters for boots and shoes, comprising a fixed wiper plate, a shaft, a radial arm secured to the shaft and adapted to carry a last, a cross-head secured to the arm, a pair of slides having rollers and mounted on the cross-head, clamps pivoted to the slides for embracing the last, and means for operating the slides consisting of cams secured to the side frames for pressing the slides inward, and springs secured to the cross-head for pressing the slides outward; substantially as described.

3. A machine for molding counters for boots and shoes comprising a fixed wiper plate, a shaft, a radial arm secured to the shaft, and adapted to carry a last, a cross-head secured to the arm, a pair of slides mounted on the cross-head, clamps pivoted to the slides for embracing the last, means for operating the slides, a rock-shaft, a gage secured to the rock-shaft, and means for operating the rock-shaft; substantially as described.

4. In a machine for molding counters for boots and shoes, the combination of a movable last, a wiper plate, a gage for adjusting the counter on the last, and means for automatically operating said gage, consisting of a rock-shaft to which the gage is secured, a slotted crank on the rock-shaft, a slotted pivoted lever, a bolt connecting the slotted end of the lever with said crank, a friction roller secured to said lever, and a cam disk for operating said lever, substantially as set forth.

5. A machine for molding counters for boots and shoes comprising a fixed wiper plate, a main-shaft, a brush, mounted on the main shaft, the counter-shaft, gearing connecting the main shaft and counter-shaft, a radial arm secured to the counter-shaft, and adapted to carry a last, a cross-head secured to the arm, a pair of slides mounted on the cross-head, clamps pivoted to the slides for embracing the last, and means for operating the slides; substantially as described.

JACOB R. SCOTT.

In presence of—
GEO. H. KNIGHT,
M. FINLEY.