

E. A. WEBSTER & C. R. TOWLE.
 CEMENTING ATTACHMENT FOR HEEL NAILING MACHINES.
 APPLICATION FILED OCT. 3, 1904.

943,723.

Patented Dec. 21, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

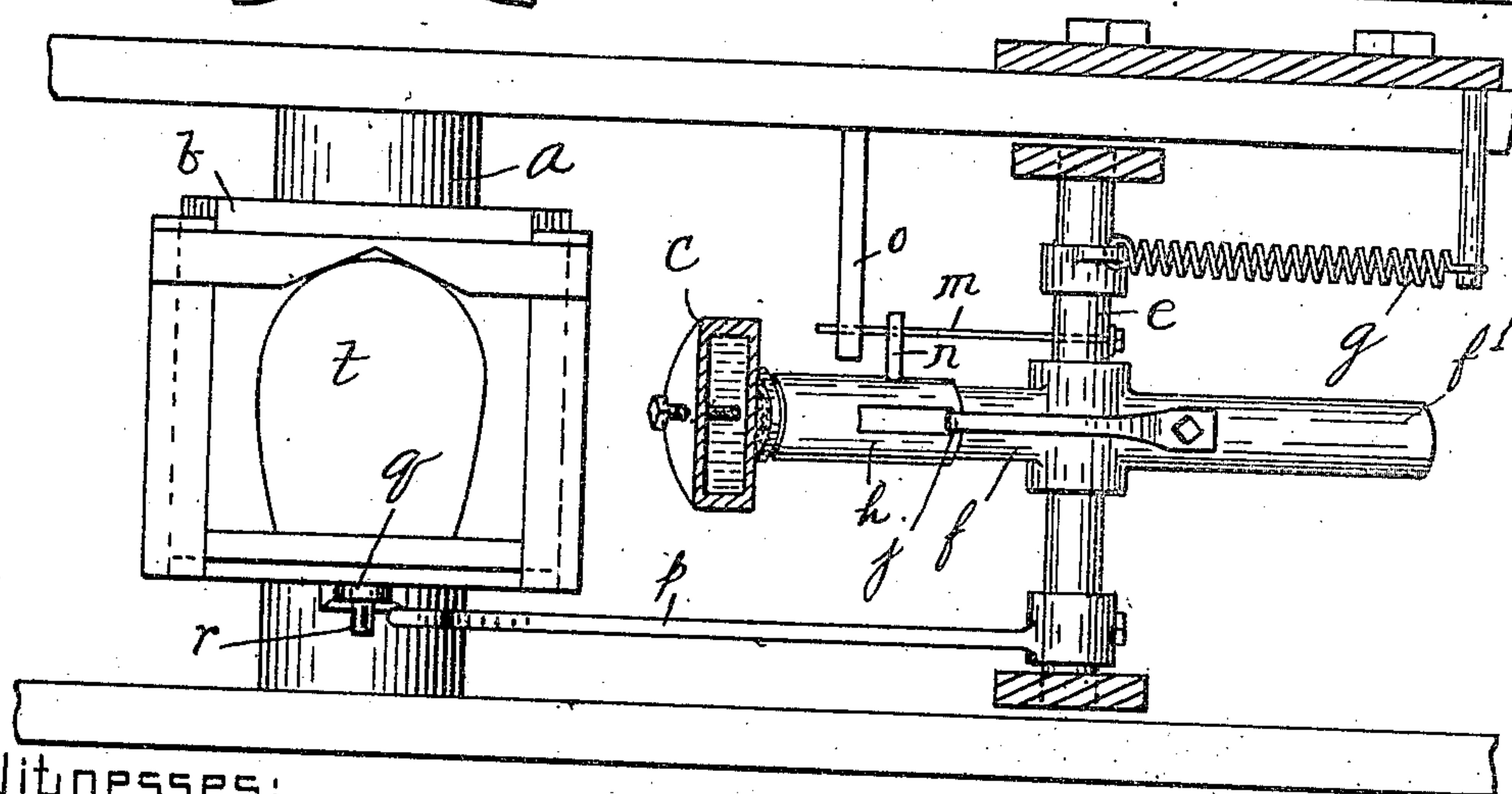
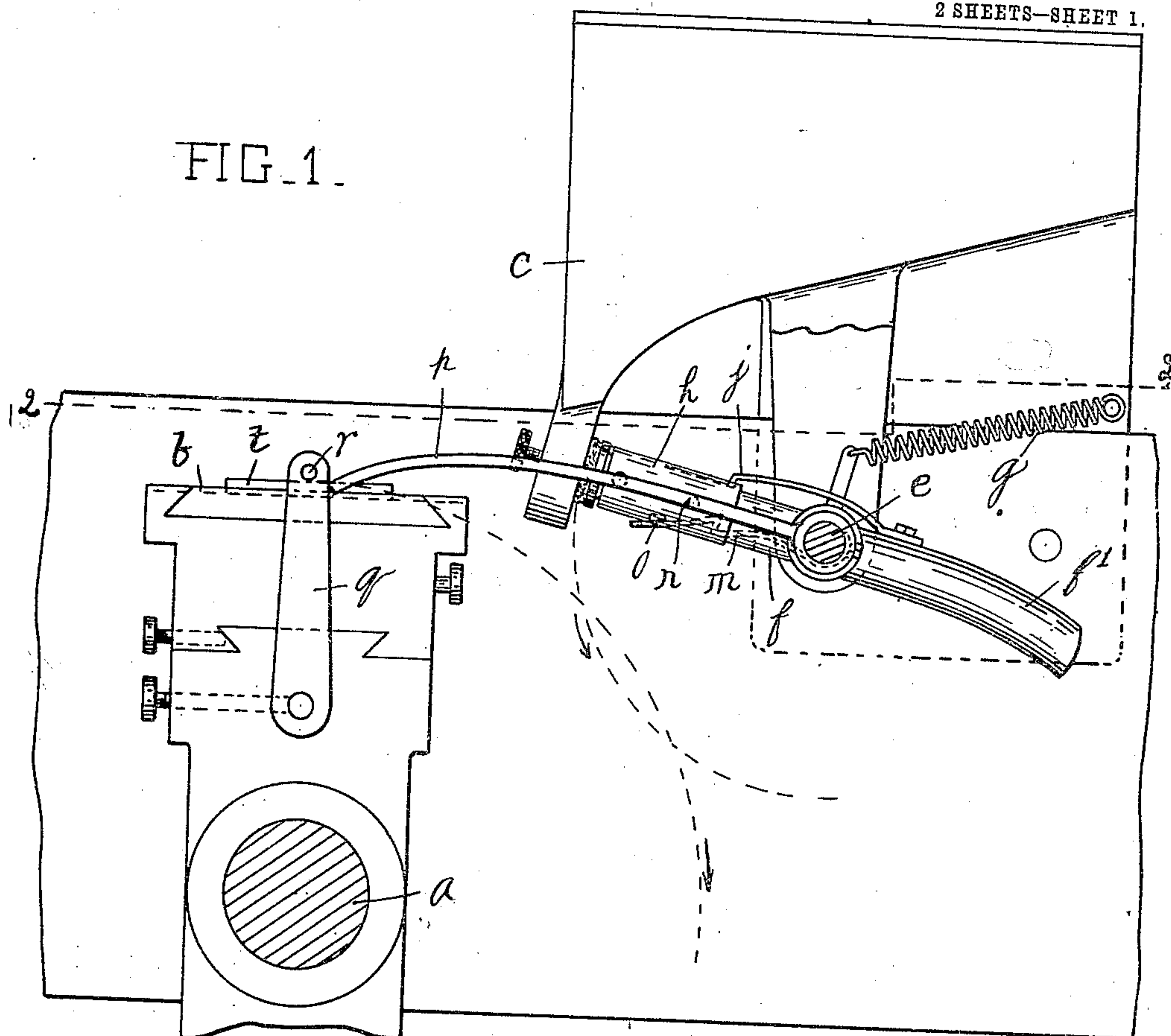


FIG. 2

Witnesses:

H. B. Davis.

Hand M. Piper

INVENTORS.

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943,723.

2 SHEETS--SHEET 2.

FIG. 3.

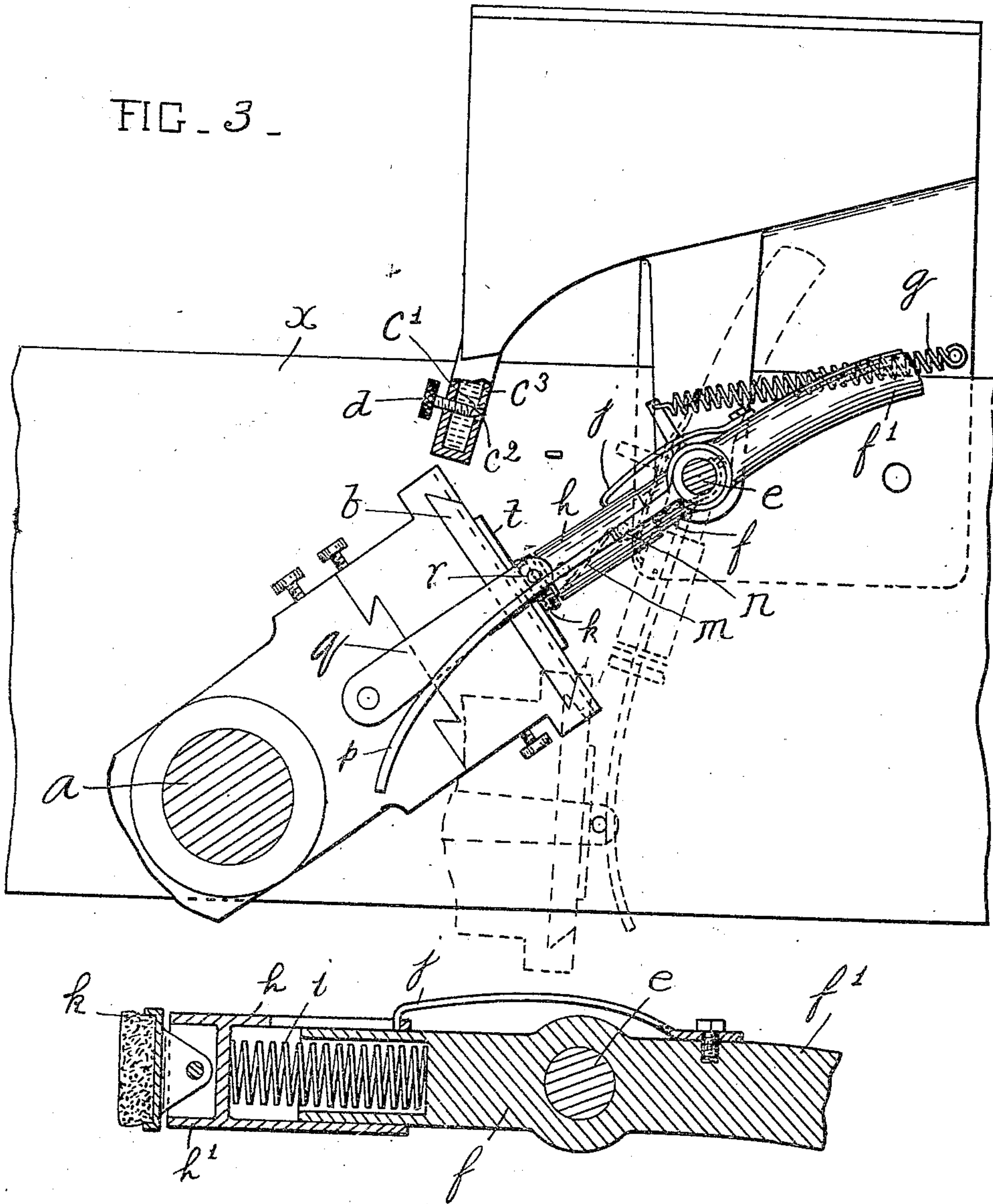


FIG. 4.

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UNITED STATES PATENT OFFICE.

EDWIN A. WEBSTER AND CHARLES R. TOWLE, OF HAVERHILL, MASSACHUSETTS, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CEMENTING ATTACHMENT FOR HEEL-NAILING MACHINES.

943,723.

Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed October 3, 1904. Serial No. 226,960.

To all whom it may concern:

Be it known that we, EDWIN A. WEBSTER and CHARLES R. TOWLE, both of Haverhill, county of Essex, and State of Massachusetts, have invented an Improvement in Cementing Attachments for Heel-Nailing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to mechanism for applying cement.

In the manufacture of boots and shoes cement is commonly applied to top lifts before attaching them to heels in order to hold them securely to the heels. Heretofore the cement has been usually applied by hand, for, although mechanism for performing this operation mechanically has been produced, yet, so far as we are aware, such mechanism has never gone into general use.

An object of our invention is to produce practically successful mechanism for applying cement to top lifts prior to their attachment to heels in a heel attaching machine.

The invention is accordingly herein shown embodied in an attachment for heel nailing machines for accomplishing this purpose. It will be understood, however, that this embodiment of the invention is illustrative merely and that all features of the invention are not restricted for their advantageous employment to cementing top lifts or to machines of this particular class.

It is desirable that the cement applied to the blanks be uniform in amount, that it be accurately applied, and that the waste that results from exposure to the air and consequent evaporation be avoided as far as possible. To this end we have provided mechanism for positively applying to a predetermined part of the blank a fixed amount of cement. This mechanism comprises a cement supplying means and a cement carrier for transferring cement from the supplying means to the face of a blank. The cement supplying means is provided with an outlet passage and the arrangement is preferably such that the cement carrier controls the outlet passage and normally covers the end of said outlet passage. The cement carrier has a cement applying surface which is also normally covered and which at a predetermined point in the cycle of operations of

the heel attaching machine is uncovered and brought into engagement with the blank. This arrangement insures that both the body of cement and that portion which is to be applied to the next top lift shall be exposed to the air only momentarily and evaporation will thus be reduced to a minimum.

In the machine shown the cement supplying means is mounted in stationary position and the cement carrier is movable from a cement receiving position into a cement applying position. The top lift is supported upon a top lift carrier movable from a position in which the top lift is placed upon the carrier into attaching position. The arrangement is such that the cement is applied to the top lift after the top lift has been placed upon the top lift carrier and before the top lift carrier is placed in attaching position.

In the construction shown, which is adapted more particularly to heel attaching machines in which a top lift carrier is sustained upon a rotatable turret, the arrangement is such that the top lift carrier and cement carrier move in paths which meet and their respective movements are so timed that in the movement of the carrier from receiving into attaching position a cement carrying face of the carrier is brought into contact with a predetermined portion of the face of the top lift. In the further movement of the top lift carrier into attaching position the cement carrier is returned to its normal position.

Other features of the invention will be hereinafter described and defined in the claims.

In the drawings, which illustrate mechanism constituting one embodiment of the invention,—Figure 1 is a view in side elevation of a portion of a heel attaching machine with our invention applied. Fig. 2 is a sectional view thereof on the line 2—2 of Fig. 1. Fig. 3 is a side elevation showing the parts in a different position from that shown in Fig. 1, and, Fig. 4 is a detail longitudinal sectional view of the pad holder.

The invention is shown herein applied to a heel nailing machine in which is employed a vertically movable cross head carrying a turret provided with drivers and top lift holder.

5 a indicates the shaft of the turret which is rotatably mounted in the cross head x of a nailing machine, of the character above referred to, and b the plate and top lift holder, which is connected to the turret and is provided with a well-known means for holding a top lift t thereon. In devices of this character it is customary for the operator's assistant to place the top lift on the holder while the latter is disposed face up in a horizontal position, the turret being rotated through half a circle to carry the top lift into a position in which it is spanked onto the heel. A tank c is provided which is mounted upon the cross head of the machine, and contains a suitable liquid cement, ordinary fish glue generally being employed for this purpose. At the lower end of the tank a discharge chamber c' is provided, said chamber having an outlet opening c^2 which is adapted to be closed by a conical shaped regulating valve d , as shown in Fig. 3. Said opening c^2 leads to the middle of a flat face c^3 , the plane of which is slightly inclined from the vertical. A shaft e is rotatably mounted in the cross head and a carrier arm f is mounted on said shaft, said arm preferably being provided with a counter weight f' , and a spring g is connected to said arm and normally acts to hold the arm f in the position of Fig. 1. A sleeve h is telescopically mounted on the end of said arm f , and a spring i is interposed between a head h' on the end of said sleeve h and the bottom of a chamber formed in the end of arm f , see Fig. 4, said spring normally acting to push said sleeve away from the shaft e . A cementing pad k is mounted on the head h' , a pivotal connection preferably being provided between said pad and said head, as shown in Fig. 4, the arrangement being such that the pad k is normally pressed against the face c^3 of the cement tank, with the discharge orifice c^2 opposite the center of said pad, so that the latter may act to close said opening when in such position.

40 A stop arm j is provided on the arm f to limit the reciprocating movement of the sleeve h on said arm in both directions. A spring catch m is mounted on the shaft e in position to engage a projecting pin n secured to the sleeve h , and a finger o is mounted on the cross head and is adapted to hold said spring catch m out of engagement with the pin n when the arm f is drawn up to the position of Fig. 1. A curved finger p is rigidly secured to the shaft e , and an arm q is secured to the turret, and is provided with a horizontally projecting pin r so arranged that, when the turret is rotated to the right, it will engage said finger p .

60 The operation of the above described device is as follows: The top lift t having been placed upon the spanker plate, or in the holder therefor, the operator rotates the

shaft a to the right to turn the turret to the position in which the top lift may be spanked onto the heel. As the turret is rotated the pin r strikes the finger p and causes said arm f to be swung downwardly, so that the top lift and the pad k are swung toward each other convergently, until they meet and the pad k is pressed against the middle portion of the top lift, the jointed connection between the pad holder and the head h permitting the face of the pad to bear evenly on the surface of the lift while it is in contact therewith. As the pad k has been resting against an open orifice it will be saturated with the glue or cement, and will apply a suitable quantity thereof to the face of the top lift. It will be observed that the pad k is brought in contact with but a portion of the cement constituting the source of supply and that this amount may be varied by adjusting the valve d , thus permitting the cement applied to said pad to be of a predetermined amount. It will also be observed that the area of the top lift covered with cement is determined by the area of the face of the pad k . The portion of a top lift covered with cement by the cement-applying mechanism is consequently under all conditions of a predetermined area. As soon as arm f is swung downwardly the spring catch m will be moved away from the finger o , permitting said catch to swing upwardly, so that, as the sleeve is pressed back on the arm f , in moving to the full line position of Fig. 3, its pin n will be carried over the tooth on the spring catch m and will be thereby prevented from moving outward or downward, as the lift is moved out of engagement with the pad, and the parts assume the dotted line position of Fig. 3. Continued downward movement of the turret will cause the pin r to be carried out of contact with the finger p , so that the spring g will then be free to act to swing said arm f upwardly. The sleeve h will be held back by the catch m until it is directly opposite the face c^3 and then the end of the catch will strike the finger o , and be drawn downwardly, permitting the spring i to force the pad k against the face c^3 , the parts thereby being returned to the initial position. During the time when the pad is being swung down by the turret and is returning to its initial position, a small quantity of cement will run through the orifice c^2 onto the face, thus providing an additional supply of cement for the pad when the latter is returned. As this face c^3 is inclined or disposed at an angle to the horizontal the tendency is for the cement, when it runs from the orifice during the time when the pad is out of contact therewith, to spread over said face, instead of dripping from the face, as it otherwise might. Moreover, as the cement is caused to spread over the face, a more uni-

form application thereof to the pad is secured. Distribution of cement uniformly over the face of the pad is also facilitated by the absorbent material of which the pad is composed.

Various other means for supplying the cement to the pad *k* may be provided, but we prefer the means shown, as it is simple and unlikely to get out of order.

It will be seen that the pad *k* controls the outlet openings *c*² and that it normally covers said opening, said opening being exposed for a short interval only, during the movement of the top lift into attaching position. This feature, whereby the cement outlet is normally covered, is of advantage in preventing clogging of said outlet and evaporation of the liquid components of the cement. Exposure of said outlet causes the cement sustained thereon to gradually dry or harden and consequently interferes with the flow of cement therethrough, renders the dried cement useless and consequently involves expense, and prevents application of a uniform quantity of cement to the top lifts. It will also be observed that the cement applying face of the pad *k* is normally covered, said face in the construction shown normally lying in contact with and being covered by the face *c*³ to which cement is supplied through the outlet *c*². The cement upon said pad and upon said face *c*³ is thus prevented from drying through continual exposure.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. In combination with a heeling machine turret bearing a top lift holder, a movably mounted cement carrier adjacent said holder and means for moving the same simultaneously with the turret into engagement with the lift as it is carried by the turret in said holder, substantially as described.

2. In combination with a heeling machine turret, bearing a top lift holder, a movably mounted cement carrier and means for moving the same simultaneously with the turret in a path which converges with and meets the path of movement of the lift as it is carried by the turret in said holder, substantially as described.

3. In combination with a heeling machine turret, bearing a top lift holder, a pad and means for supplying cement thereto, and means for moving said pad, simultaneously with the turret, into engagement with the lift as it is carried by the turret, in said holder, substantially as described.

4. In combination with a heeling machine turret bearing a top lift holder, a rotatably mounted cement carrier, means, carried by the turret, for causing rotation of said carrier toward the turret, when the latter is rotated toward the carrier to move said

pad into engagement with the lift carried by said turret in said holder, substantially as described.

5. In combination with a turret for carrying a heel lift, a yieldingly supported, and rotatably mounted pad and means for supplying cement thereto, and means for causing said pad to engage the lift carried by the turret when they are rotated toward each other, substantially as described.

6. In combination with a heeling machine turret bearing a heel lift holder, a rotatably mounted pad, a tank having a face and a discharge orifice therein, a spring for holding said pad against said face and over said orifice, and means whereby said turret and pad may be rotated simultaneously toward each other to cause said pad to engage the lift carried by said holder, substantially as described.

7. In combination with a heeling machine turret bearing a top lift holder, a pad rotatably mounted about an axis parallel to the axis of the turret, a tank having a face and a discharge orifice leading therethrough, a spring for holding said pad against said face to close said orifice, means whereby said turret and pad may be rotated simultaneously toward each other to cause said pad to engage the lift carried by said holder at one side of the plane of said axes, means for locking said pad in a retracted position, and means for returning the pad to a position adjacent said face and for thereafter unlocking the same, substantially as described.

8. In a machine of the class described, the combination with a cement receptacle having a discharge outlet, of a blank support and a cement carrier movable from a cement-receiving position, in which it arrests the discharge of cement from the receptacle by engaging with the walls of said outlet, into engagement with a blank, held by said support, to apply cement thereto and to open said outlet, substantially as described.

9. In a machine of the class described, the combination with a cement receptacle having a tubular discharge outlet, of a cement carrier arranged for movement with relation to said receptacle and constructed to cover said outlet in its cement receiving position and arrest discharge of cement through said outlet, and to expose said outlet in its movement away from said position.

10. In a machine of the class described, the combination with a cement receptacle and means for sustaining a blank, of a carrier arranged for movement from operative relation to said receptacle into engagement with the blank and provided with a cement applying surface of absorbent material, and means for normally covering throughout its entire area the cement applying surface of said carrier.

11. In a machine of the class described, the

combination with means for supporting a blank, of cement supplying means having a cement sustaining face and a supply passage leading to said face, and a carrier for transferring cement from said face to the blank, said carrier having a cement carrying face normally in contact with and covered by said cement sustaining face.

12. In a machine of the class described, the combination with a cement receptacle having a discharge outlet and a cement sustaining face arranged to receive cement from said outlet, of a blank support, a cement carrier movable from a cement-receiving position, in which it arrests the discharge of cement from the receptacle by engagement with the walls of said outlet and has contact with said cement sustaining face, into engagement with a blank, held by said support, to apply cement thereto and to open said outlet, and means for regulating the flow of cement through said outlet while the carrier is out of engagement therewith, substantially as described.

13. In a machine of the class described, the combination with a cement receptacle having a discharge outlet, of a blank support and a cement carrier movable from a cement-receiving position, in which it arrests the discharge of cement by engagement with the walls of said outlet, into engagement with a blank held by said support to apply cement thereto and to open said outlet, said outlet being constructed to permit a predetermined quantity of cement to flow therethrough while the carrier is out of engagement therewith, substantially as described.

14. In a machine of the class described, the combination with a cement receptacle having a discharge outlet, of a cement carrier disposed entirely without said receptacle and movable with relation thereto from a cement-receiving position, in which it engages the walls of said outlet to close the same and prevent the flow of cement from the receptacle, to a cement applying position in which it exposes said outlet to permit such flow, substantially as described.

15. In a machine of the class described, the combination with a blank support, of cement-supplying means having a cement sustaining face and a supply passage leading to said face, and a carrier having a cement-carrying face held, when in its normal position, in contact with and covered by said cement-sustaining face and closing said passage, said carrier being movable from said position to cause its face to engage a blank held by said support, and to open said passage, substantially as described.

16. In a machine of the class described, the combination with a movable holder for moving a blank into position to be attached, a cement carrier arranged normally out of

the path of the blank, and means, actuated by said holder, for moving said carrier into engagement with the blank during the movement of the holder and for moving the carrier out of engagement with the blank prior to the arrival of the holder into attaching position.

17. In a heel attaching machine, a holder for sustaining a blank to be attached to a shoe, a cement carrier arranged normally out of contact with said blank, and provided with a cement carrying face of a predetermined area, and means for moving said carrier into contact with said blank at a predetermined point in the cycle of operations of the machine constructed to bring said face into even engagement with the blank.

18. In a machine of the class described, the combination with a movable top lift holder arranged to be manually supplied with a lift, of a cement carrier provided with a cement carrying face of absorbent material arranged to have contact with the lift, means for supplying said carrier with cement and means for mechanically bringing said carrier into engagement with the lift during the movement of the holder.

19. In a heel attaching machine, a top lift holder movable from receiving position into attaching position, a cement carrier movable from a cement receiving position into the path of the top lift, and means for simultaneously actuating the holder and carrier to bring a cement sustaining face of the carrier into engagement with the top lift.

20. In a machine of the class described, the combination with cement supplying means having a cement sustaining face, of a movable cement carrier for transferring cement from said face to a point removed from said supplying means, and means for yieldingly holding said carrier in contact with said face in the cement receiving position of the carrier.

21. In a machine of the class described, the combination with means for supporting a blank, of cement supplying means having a downwardly extending, cement-sustaining face, and a supply passage leading to said face, and a carrier for transferring cement from said face to the blank, said carrier having a cement carrying face normally in contact with and covered by said cement sustaining face.

22. In a machine of the class described, the combination with mechanism arranged for manipulation by the operator for mechanically moving a top lift into attaching position, a cement carrier arranged normally out of the path of the lift and provided with a cement carrying surface of absorbent material, and means actuated by the manipulation of said mechanism for moving said carrier into engagement with the lift during the movement of said lift.

23. In a machine of the class described, the combination with a cement receptacle, of means for sustaining a blank, a cement carrier arranged for movement from operative relation to said receptacle into engagement with the blank, and means for covering throughout its entire area the cement applying surface of said carrier while the carrier is in operative relation to said receptacle.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

EDWIN A. WEBSTER.
CHARLES R. TOWLE.

Witnesses:

L. H. HARRIMAN,
H. B. DAVIS.