

Sept. 6, 1955

E. QUINN ET AL

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SHEET TRANSFERRING MECHANISMS

Original Filed March 3, 1950

2 Sheets-Sheet 1

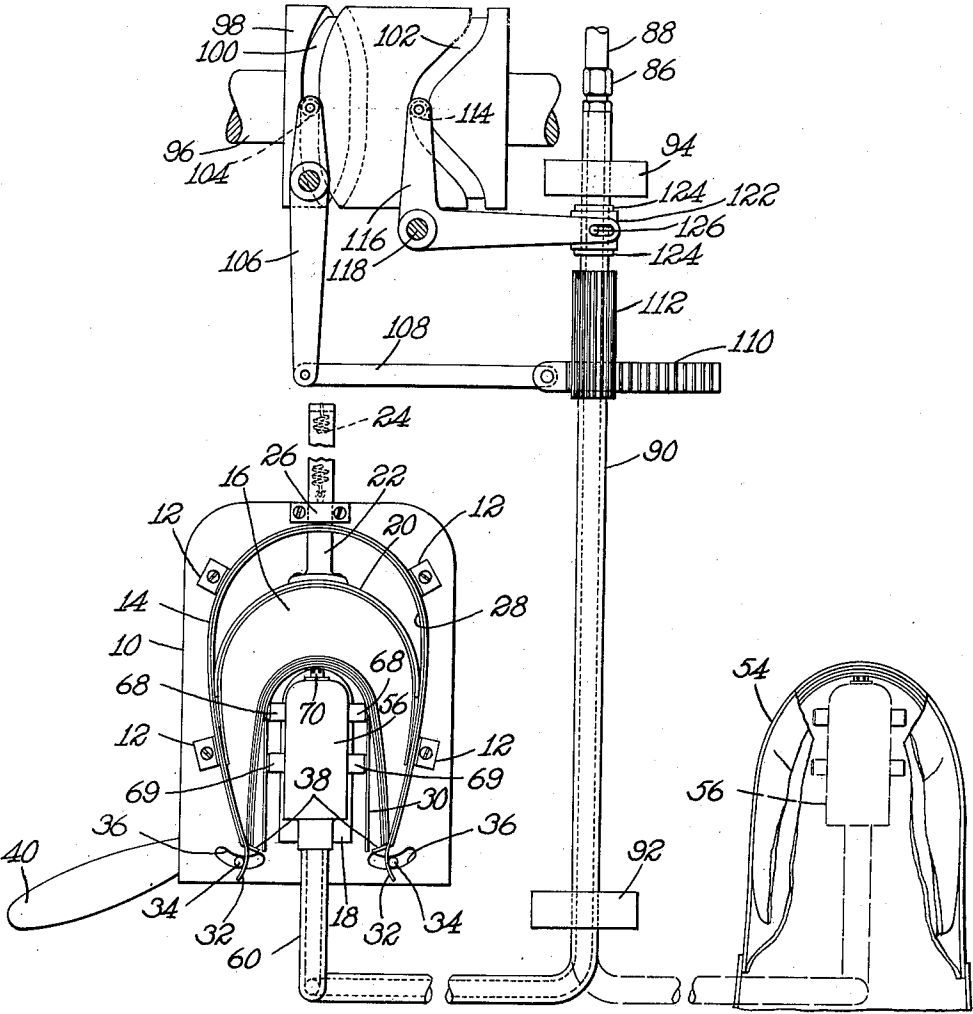


Fig. 1

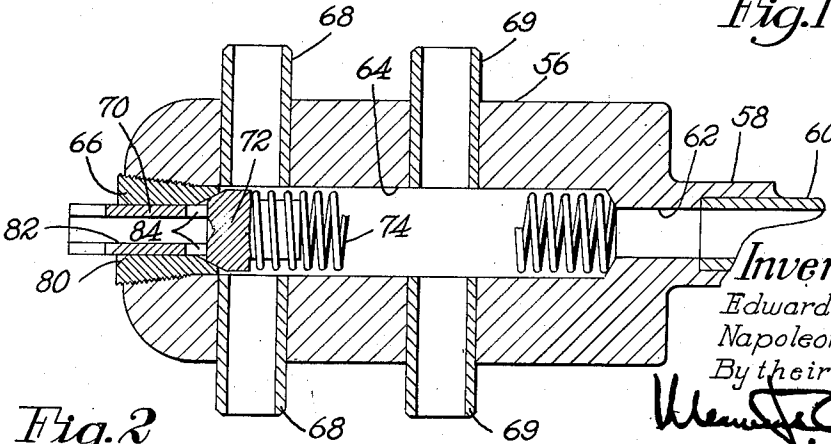


Fig. 2

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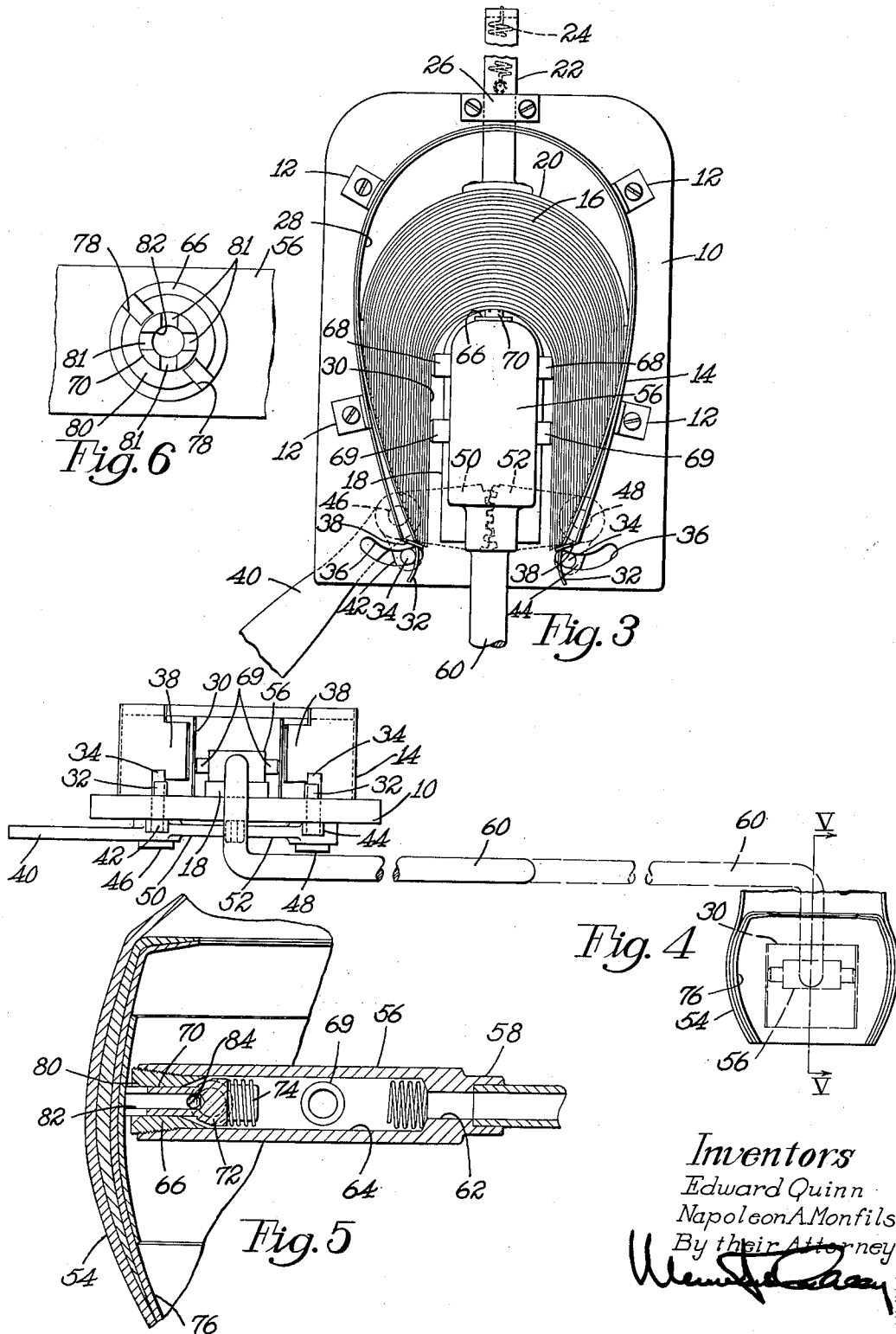
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1

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SHEET TRANSFERRING MECHANISMS

Edward Quinn, Saugus, and Napoleon A. Monfils, Haverhill, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Continuation of application Serial No. 147,452, March 3, 1950. This application October 19, 1954, Serial No. 470,784

23 Claims. (Cl. 12—1)

This invention relates to sheet transferring mechanism and is a continuation of a pending application for United States Letters Patent Serial No. 147,452, filed March 3, 1950, in the names of Edward Quinn and Napoleon A. Monfils, and now abandoned. The invention is herein illustrated in its application to mechanism for transferring a last slip paper from a supply to the heel portion of a supported upper where it is engaged by the heel end portion of a last when the last is inserted into the upper and serves to facilitate the removal of the last from the shoe after the shoe has been completed. The illustrated mechanism is particularly adapted to be incorporated in a machine of the type disclosed in United States Letters Patent No. 2,318,632, granted May 11, 1943, on an application filed in the name of Edward Quinn. The Quinn machine is provided with mechanism for inserting a counter into the heel portion of an upper before a last is inserted into the upper and is also provided with mechanism for performing lasting operations upon the heel portion of the upper after the insertion of the last. The illustrated mechanism operates to position a last slip paper in the heel portion of an upper supported in the machine after a counter has been inserted into the upper and prior to the insertion of a last.

In shoe factories where a last slip papers are employed it is the usual practice to transfer the paper manually from the supply to the heel end portion of a last, then to wrap the paper manually about the end of the last and to hold it in place on the last while the last is manually inserted into the upper. This is a slow and tedious operation and it is difficult to locate the paper accurately with relation to the last and to maintain the position of the paper relatively to the last while the last is inserted into the upper. Even when the greatest care is exercised it sometimes happens that the paper is so located that a portion of it projects upwardly beyond the top face of the insole and becomes bound between the quarter lining and the insole in the heel end lasting operation. When this occurs the paper cannot move freely from the shoe with the last but must be torn from the shoe after the last is pulled.

It is an object of the present invention to provide mechanism which will transfer a last slip paper from a supply to the interior of the heel portion of a supported upper more quickly than an operator could perform the same operation manually. It is a further object of the invention to provide mechanism which will locate the paper in the upper with a higher degree of accuracy than could be expected of an operator performing the operation manually. More particularly it is an object of the invention to provide automatic mechanism which may be incorporated in a machine of the type described in the Quinn patent above referred to, and which will reliably position a last slip paper in a supported upper with its top edge spaced from the lasting margin of the upper sufficiently to insure freedom of movement of the paper with the last when the last is pulled from the shoe.

2

With the above objects in view, the present invention consists in the provision of a magazine for so mounting a pack of last slip papers that the leading paper in the pack is arranged to be received by a carrier characterized by the provision therein of suction elements facing in opposite directions and arranged to hold a last slip paper in bent condition thereon. Suitable means is provided for bending the pack of papers in the magazine to bring the leading paper in the pack into contact with the oppositely oriented suction ports of the carrier. The carrier is mounted on a shaft which is moved longitudinally to separate the leading paper from the pack and is rotated to advance the carrier into a supported shoe upper. The suction ports of the carrier communicate with suitable suction means through the shaft which is made tubular for this purpose. After the carrier has transferred the paper to the supported upper, a suction release valve incorporated in the carrier operates to permit the paper to spring away from the carrier and to come into contact with the quarter lining of the upper where it is held by friction until a last is inserted into the upper. In the illustrated organization, the release valve operates in response to pressure of the carrier against the interior of the upper.

The illustrated magazine for last slip paper comprises a horseshoe-shaped plate secured to a base plate and enclosing a second horseshoe-shaped plate within which a pack of papers is mounted, the inner plate being mounted for bending movement to close the pack upon the paper carrier. For bending the inner plate two actuating members engaging opposite end portions of the plate are constructed and arranged for equal and opposite movement and suitable means is provided for effecting such movement of the actuating members. The pack of papers is positioned against an abutment on the base plate and a spring pressed plunger is provided for engaging the outer paper of the pack and urging the pack into a position determined by the engagement of the leading paper with the abutment.

The illustrated paper carrier comprises a member having in general the peripheral shape of the heel portion of a shoe on a reduced scale. Said member is provided with suction ports in opposite sides thereof and a suction release valve, the ports and the valve being interconnected by an air duct, and said release valve being arranged to operate when the carrier comes to the limit of its paper transferring movement to release the suction on the paper, thus to permit the paper to spring away from the carrier and into contact with the quarter lining of the shoe. The illustrated suction release valve is characterized by a hollow stem which projects beyond the end of the carrier and is so arranged that it engages the quarter lining in advance of the body portion of the carrier causing a relative movement of the valve element and the carrier which opens the valve and releases the paper. The outwardly projecting end of the stem is notched to provide ports for the passage of air into the hollow stem and said stem is provided with ports which communicate with the suction members which engage the last slip paper.

These and other features of the invention will now be described with reference to the accompanying drawings and pointed out in the appended claims.

In the drawings,

Fig. 1 is a plan view illustrating mechanism embodying the features of the present invention;

Fig. 2 is a sectional view taken through the center of the paper carrier illustrated in Fig. 1;

Fig. 3 is an enlarged plan view of the paper magazine together with the paper carrier;

Fig. 4 is a front elevation illustrating portions of the mechanism shown in Fig. 1;

Fig. 5 is a section taken on the line V—V of Fig. 4; and

Fig. 6 is an enlarged view illustrating the valve end portion of the paper carrier.

The drawings illustrate a paper transfer mechanism adapted to be incorporated in a machine such as that illustrated in the Quinn patent above referred to. The Quinn patent discloses an automatic machine which during the first part of its cycle inserts a molded counter into the heel portion of an upper supported in the machine and then comes to rest to permit the manual operation of mechanism for upwiping the quarter lining to bring it into intimate contact with the inner surface of the counter and to permit the manual insertion of a last into the upper preparatory to the heel end lasting operations which are performed in the latter part of the machine cycle. The herein illustrated mechanism operates to transfer a last slip paper from a magazine to the interior of the heel portion of the upper after the lining has been upwiped preparatory to the insertion of the last into the upper. The paper is transferred from a pack of papers mounted in a magazine conveniently positioned in the machine relatively to the supported upper. The paper is transferred by a carrier which, as herein illustrated, is automatically actuated by a cam mechanism the operation of which is controlled by a suitable one-revolution clutch mechanism (not shown) which is operated independently of the starting and stopping mechanism for the main cycle of the machine. The operation of the illustrated paper transfer mechanism is manually started at the will of the operator during the interval between the first part and the last part of the main cycle of the machine.

Referring to Fig. 1 the numeral 10 identifies a platform fixed to the machine frame and having secured in fixed relation thereto by angle brackets 12 and upright horseshoe-shaped band 14 which serves as the outer wall of a magazine for mounting a pack of papers 16. These papers have the general shape of a shoe counter on a somewhat reduced scale and are mounted on edge within the magazine as illustrated in Fig. 1. The papers are positioned between the arcuate rear edge face of an abutment member 18 fixed to the platform 10 and an arcuate plate 20 fixed to the head of a plunger 22 which is urged forwardly by a light spring 24 into engagement with the outer paper of the pack 16. The plunger is slidably mounted in a bracket 26 fixed to the platform 10 and extends through a suitable clearance opening in the central portion of the band 14. For closing the pack of papers 16 in order to bring the leading paper into contact with the paper carrier hereinafter described a resiliently flexible band 28 is mounted within the band 14. The pack of papers is arranged in a curved position about the abutment member 18, as shown in Fig. 1, and is held against the inner surface of the band 28 by its normal tendency to return to a straight or outspread position. The pack of papers 16 is centered endwise thereof in the magazine by causing the forward edges of the leading paper 30 and the papers adjacent thereto to abut inwardly bent extensions 38 of the band 14. The leading paper is brought into engagement with a paper carrier by moving the end portions of the inner band 28 toward each other thereby to exert a contracting action upon the pack of papers. The movement of the end portions of the inner band 28 toward each other is effected by angular movement of a hand lever 40 in a counterclockwise direction from its position in Fig. 1 to its position illustrated in Fig. 3. The operation of the hand lever causes equal and opposite movement of pins 34 projecting upwardly through arcuate slots 36 formed in the platform 10, said pins being constructed and arranged to engage concave surfaces of curved forward portions 32 of the inner band 28 extending beyond the extensions 38 of the outer band 14. Referring to Fig. 4, it will be seen that the bottom portion of the outer band 14 is cut away at each end thereof to provide clearance for the lateral movements of the

forward portions of the inner band 28 and that the width of said forward portions is reduced by cutting away the upper portion of the inner band at each end thereof to permit it to operate within the space thus provided.

Referring to Fig. 3, the pins 34 are mounted in the free end portions of short arms 42 and 44 pivotally mounted on headed studs 46 and 48 fixed in the platform 10. The hand lever 40 above referred to is formed integrally with the arm 42. The hand lever actuates the arm 44 through intermeshing gear segments 50 and 52 formed integrally with the arms 42 and 44, respectively.

In the operation of the machine the hand lever is moved in a counterclockwise direction from its position in Fig. 1 to its position illustrated in Fig. 3 to bring the leading paper 30 into contact with the paper carrier and is moved in a clockwise direction back to its position in Fig. 1 to permit the pack of papers to return to its position shown in Fig. 1 by its own resiliency after the leading paper has been taken by the paper carrier as hereinafter described.

After the pack has been permitted to return to its expanded position by clockwise movement of the hand lever 40 a movement of translation is imparted to the counter carrier to transfer the leading paper 30 from its position in the pack of papers 16 into a predetermined position in the heel portion of an upper supported in the machine, the position of the supported upper being generally indicated by the showing of the heel end portion of an upper 54 in Figs. 1 and 4. In its movement of translation the paper carrier moves forwardly to disengage the leading paper from the pack and then moves in an arcuate path in a vertical plane to carry the paper into the supported upper. At the beginning of the forward movement of the paper carrier the bottom margin of the paper mounted thereon is bent upwardly and drawn along the top of the abutment member 18. In order to facilitate the bending movement of the bottom margin of the paper two vertical slits are formed therein at opposite sides of the center of the paper at points approximately in line with the sides of the abutment member.

The paper carrier is herein illustrated as a plate 56 which is substantially smaller both widthwise and lengthwise than the heel end portion of a shoe. Extending longitudinally through the central portion of the plate is an air duct which communicates with a forwardly extending throat portion 58, said throat portion providing a mounting for a tube 60 which communicates with a suitable suction means (not shown). The air duct in the plate 56, as illustrated in Fig. 2, comprises a drilled hole 62 which communicates with a counterbore 64 extending longitudinally of the plate through the central section thereof and communicating at the rear portion of the plate with a threaded countersunk opening in which is mounted an externally threaded tapered plug 66. The counterbore 64 also communicates with four tubes 68, 69 two at each side of the plate, extending laterally from the counterbore at opposite sides thereof. The tubes extend slightly beyond the sides of the plate 56 and their outer ends are arranged to receive the opposite side portions of the leading paper in the magazine when the pack of papers is closed on the carrier as shown in Fig. 3. In order to free the paper from the carrier after the carrier has come to rest within the heel portion of the upper a release valve is mounted in the plug 66. As shown in Fig. 2, the release valve comprises a stem 70 slidably mounted in an axial bore in the plug said stem terminating at its inner end in a head 72 which is beveled for engagement with a beveled valve seat formed in the plug 66. A spring 74 mounted in the counterbore 64 normally holds the valve closed as shown in Fig. 2. The head 72 is made somewhat smaller in diameter than the counterbore in order to permit free passage of air from the release valve to the two tubes 69 when the valve is in its open position, as shown in Fig. 5. The suction release occurs with the paper carrier in its position shown in Fig. 5 in which position the carrier has come

to the limit of its advancing movement. In this position the valve stem 70 will have been depressed to open the suction release valve. In most cases the carrier 56 will come to rest without bringing the plug 66 into contact with the paper, but in the event that the end face of the plug is brought into contact with the paper at the end of the advancing movement of the carrier provision is made for causing the suction release to remain open until the return movement of the carrier has been initiated and the stem 70 has returned to its position shown in Fig. 2. To this end the plug 66 is provided with radial grooves 78 through which air passes freely into the carrier when the release valve is in its open position. The grooves 78 communicate with a countersink 80 formed in the plug and said countersink communicates with four notches 81 formed in the outer end portion of the valve stem 70. The notches communicate with a longitudinal bore 82 which extends to ports 84 (Fig. 2) which open into the counterbore 64.

In the operation of the machine the paper carrier moves forwardly from its position shown in full lines in Fig. 1 to separate the leading paper 30 from the pack 16 and then moves 180° in an arcuate path to advance the paper into the heel portion of the upper 54 and finally moves rearwardly within the upper into its position shown in broken lines in Fig. 1. During the latter part of the rearward movement of the paper carrier the central portion of the paper is brought to bear against the quarter lining 76 and then the carrier is advanced relatively to the movable valve element, opening the valve and releasing the air pressure which holds the paper on the carrier. Thereupon the paper springs away from the ends of the tubes 68 and 69 by its own resiliency and comes to rest against the quarter lining where it is held by friction awaiting the introduction of a last into the upper.

The tube 60 serves as an air duct from the paper carrier to a suction means and also serves as a shaft which is operated to effect the paper transferring movements of the carrier above described. As shown in Figs. 1 and 4 the tube 60 extends forwardly from the paper carrier for a short distance, then downwardly to an elevation midway between the position of the carrier in the magazine and its position in the supported upper, then laterally to the right to a point centrally located between the magazine and the supported upper, and then rearwardly to a coupling 86 which connects the tube 60 with a tube 88 which communicates with the suction means. The centrally located portion 90 of the tube 60 is journaled for rotary and sliding movements in bearings in a forward standard 92 and a rear standard 94. For imparting such movements to the tube 60 there is fixed to a driven shaft 96 controlled by a one-revolution clutch mechanism (not shown) a cylindrical member 98 having formed therein cam grooves 100 and 102. Mounted in the cam groove 100 is a roll 104 carried by the rear end of a lever 106 the forward end of which is connected by a link 108 to a rack 110 which meshes with a long pinion 112 fixed to the centrally located portion 90 of the tube. Mounted in the cam groove 102 is a roll 114 carried by the rear end of a bell crank lever 116 mounted on a shaft 118. The opposite end of the bell crank lever is bifurcated to embrace a collar 122 loosely mounted on the tube and held against endwise movement thereon between collars 124 fixed thereto. The bifurcated end portion of the arm 120 is slotted to receive pins 126 projecting radially from the collar 122. The operation of the bell crank lever 116 moves the paper carrier forwardly from its position in the magazine indicated by full lines in Fig. 1 thereby disengaging the leading paper from the pack before the lever 106 operates to rotate the tube 60. Upon the completion of the rotary movement of the tube the bell crank lever operates to move the paper carrier rearwardly into its position shown in broken lines in Fig. 1. In this position the outwardly projecting portion of

the valve stem 70 has been arrested by the back line portion of the upper and the stem has been brought into its position relatively to the carrier shown in Fig. 5, thus releasing the suction on the paper and permitting the paper to spring away from the carrier and into engagement with the quarter lining of the upper. The paper carrier does not remain in its position shown in Fig. 5 but immediately upon release of the paper from the carrier the bell crank lever 116 swings in a clockwise direction, as shown in Fig. 1, to move the carrier forwardly thus disengaging it from the paper. The lever 102 then operates to rotate the tube 60 to bring the paper carrier into alinement with the magazine and thereupon the bell crank lever is again operated to move the paper carrier rearwardly to its starting position.

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

1. In combination, a magazine for last slip papers, a carrier for transferring the leading paper in the magazine to the interior of the heel portion of a supported upper, and suction elements facing in opposite directions for holding the paper in bent condition on the carrier during its transfer from the magazine to the upper.

2. In combination, a magazine for last slip papers, a carrier for transferring a paper from the magazine to the interior of the heel portion of a supported upper, suction elements facing in opposite directions for causing the paper to be held in bent condition on the carrier during its transfer from the magazine to the upper, and a suction release valve incorporated in the carrier.

3. In combination, a magazine for a pack of last slip papers, a carrier for transferring the leading paper in the magazine to the interior of the heel portion of a supported upper, said carrier being provided with suction ports oriented oppositely to each other against which the leading paper is held during transfer, a hollow shaft on which the carrier is mounted, said hollow shaft communicating with said suction ports through suitable openings in the carrier, bearings in which said hollow shaft is mounted for longitudinal and rotary movements, a suction line connected to said hollow shaft, means for moving the hollow shaft longitudinally from a rest position in which the carrier is arranged to receive the leading paper of the pack in the magazine, means for rotating the shaft to advance the carrier into the supported upper, and means operable while the carrier is in its rest position to bend the pack thereby to bring the leading paper into contact with the oppositely oriented suction ports of the carrier.

4. In combination, a magazine for last slip papers, a carrier for transferring the leading paper in the magazine to the interior of the heel portion of a supported upper, said carrier being provided with suction ports against which the leading paper is held during transfer, a hollow shaft on which the carrier is mounted, said hollow shaft communicating with said suction ports through suitable openings in the carrier, bearings in which said hollow shaft is mounted for longitudinal and rotary movements, a suction line connected to said hollow shaft, and a suction release valve mounted in the carrier and constructed and arranged to be operated to release the suction in said ports by pressure against the interior of the supported upper.

5. In combination, a magazine for last slip papers, a carrier for transferring the leading paper in the magazine to the interior of the heel portion of a supported upper, said carrier being provided with suction ports against which the leading paper is held by atmospheric pressure during transfer, a suction release valve mounted in the carrier and having a stem projecting from the carrier, a spring biasing said valve to its closed position, a shaft on which the carrier is mounted, bearings in which said shaft is mounted for longitudinal and rotary movements, and means for effecting longitudinal movement of said shaft

after the completion of the transfer movement of the carrier from the magazine to the supported upper thereby to bring the outwardly extending portion of the valve stem forcibly into engagement with the interior of the upper in order to open the valve and thus to release the paper from the carrier.

6. A magazine for a pack of papers comprising a horseshoe-shaped plate, a member mounted within the horseshoe-shaped plate, means for causing the member to advance a pack of papers in the magazine, and means for closing the pack of papers upon a paper carrier.

7. The combination with a paper carrier of a magazine for a pack of papers comprising a horseshoe-shaped plate, a member mounted within the horseshoe-shaped plate, means for advancing the member into engagement with a pack of papers in the magazine, and means for closing the pack of papers upon a paper carrier.

8. A magazine for a pack of papers comprising a horseshoe-shaped plate, a member mounted within the horseshoe-shaped plate, an abutment, means for advancing the member to bring a pack of papers in the magazine into a position determined by the abutment, and means for bending the pack of papers thereby to bring the leading paper in the pack into contact with a paper carrier.

9. A magazine for last slip papers comprising a horseshoe-shaped plate, an abutment member constructed and arranged to be engaged by the leading paper in a pack of papers in the magazine, means for advancing the pack to bring the leading paper into engagement with the abutment member, and means for bending the pack to bring the leading paper into contact with a paper carrier.

10. A magazine for last slip papers comprising a horseshoe-shaped plate, a bent plate mounted within the horseshoe-shaped plate, an abutment member, means for actuating the bent plate thereby to advance a pack of papers in the magazine into a position determined by the abutment member, and means for bending the pack of papers thereby to bring the leading paper in the pack into contact with a paper carrier.

11. A magazine for last slip papers comprising a base plate, a first horseshoe-shaped plate secured to the base plate in fixed relation thereto, a second horseshoe-shaped plate mounted within the first horseshoe-shaped plate, and means for bending the second horseshoe-shaped plate thereby to close the papers mounted in the magazine upon a paper carrier.

12. A magazine for last slip papers comprising a base plate, an abutment on the base plate determining a normal position of the leading paper in the magazine, a first horseshoe-shaped plate secured to the base plate in fixed relation thereto and providing the outer wall of the magazine, a second horseshoe-shaped plate mounted within the first horseshoe-shaped plate, and means for bending the second horseshoe-shaped plate thereby to close a pack of papers mounted in the magazine about said abutment and upon a paper carrier supported on said abutment.

13. A magazine for last slip papers comprising a base plate, an abutment on the base plate having the general shape of the heel portion of a shoe bottom, a first horseshoe-shaped plate secured to the base plate in fixed relation thereto and providing the outer wall of the magazine, a second horseshoe-shaped plate mounted within the first horseshoe-shaped plate, and means for bending the second horseshoe-shaped plate comprising a pair of actuating members constructed and arranged to engage the opposite end portions of the second horseshoe-shaped plate, and means for effecting equal and opposite movements of said actuating members.

14. A magazine for last slip papers comprising a base plate, an abutment on the base plate determining a normal position of the leading paper in the magazine, a first horseshoe-shaped plate secured to the base plate in fixed relation thereto and providing the outer wall of the magazine, a second horseshoe-shaped plate mounted within

the first horseshoe-shaped plate, means for bending the second horseshoe-shaped plate thereby to close a pack of papers mounted in the magazine about said abutment and upon a carrier supported on said abutment, and a spring pressed plunger constructed and arranged to engage the outer paper of the pack of papers in the magazine thereby to urge the pack into a position determined by the engagement of the leading paper with the abutment.

15. In combination, a magazine for last slip papers, a carrier for transferring a paper from the magazine to the interior of the heel portion of a supported upper, said carrier comprising a plate having means mounted in opposite sides thereof providing suction ports oppositely oriented, said ports being constructed and arranged to engage simultaneously opposite side portions of a last slip paper thereby to hold the paper in bent condition on the carrier, and pressure operated means mounted in the plate and constructed and arranged to cause the release of the suction in said ports.

16. A carrier for transferring last slip papers from a magazine to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe, means mounted in said plate providing suction ports in opposite sides thereof, and a suction release valve mounted in said plate and arranged to communicate with said ports, said plate being bored to provide an air duct to the suction ports and from the suction ports to the release valve.

17. A carrier for transferring last slip papers from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, tubes mounted in said plate providing suction ports in opposite sides thereof, a suction release valve mounted in said plate and arranged to communicate with said ports, and a spring biasing said valve to closed position.

18. A carrier for transferring last slip papers from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, said plate having suction ports in opposite sides thereof, a suction release valve mounted in said plate and arranged to communicate with said ports, and a spring biasing said valve to its closed position.

19. A carrier for transferring last slip papers from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, said plate being provided with suction ports on opposite sides thereof, a suction line extending from one end of said plate, a suction release valve mounted in that end of said plate opposite the suction line and arranged to communicate with said ports, and a spring biasing said valve to its closed position.

20. A carrier for transferring last slip papers from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, a suction release valve mounted in said plate, said plate having an opening providing a suction line extending longitudinally thereof and communicating with the release valve and having also lateral openings communicating with said longitudinal opening.

21. A carrier for transferring last slip papers from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, said plate having an opening providing a suction line extending longitudinally thereof, a suction release valve mounted in said plate and arranged to communicate with said opening, said valve comprising a sliding member terminating in an outwardly projecting hollow stem which is notched to provide ports for the pas-

9

sage of air into said hollow stem when the end of the stem is closed by engagement thereof with the interior of the heel portion of a supported upper.

22. A carrier for transferring a last slip paper from a pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, said plate having an opening providing a suction line, a suction release valve characterized by a head constructed and arranged to operate against a valve seat, and a hollow stem projecting from the head of said valve and arranged to extend outwardly through an end portion of the opening in said plate, said hollow stem being notched to provide ports for the passage of air into said hollow stem when the end of the stem is closed by engagement thereof with the interior of the heel portion of a supported upper.

23. A carrier for transferring a last slip paper from a

10

pack to the interior of the heel portion of a supported upper, said carrier comprising a plate having in general the peripheral shape of the heel portion of a shoe on a reduced scale, said plate having an opening providing a suction line, a suction release valve characterized by a head constructed and arranged to operate against a valve seat, and a hollow stem projecting from the head of said valve and arranged to extend outwardly through an end portion of the opening in said plate, said hollow stem being notched to provide ports for the passage of air into said hollow stem when the end of the stem is closed by engagement thereof with the interior of the heel portion of a supported upper, said hollow stem having a port through which air passes from the hollow stem into the opening in said plate when the valve is unseated.

No references cited.