

April 14, 1942.

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2,279,724

ART OF APPLYING LABELS AND MACHINE FOR APPLYING LABELS

Filed Feb. 23, 1939

2 Sheets-Sheet 1

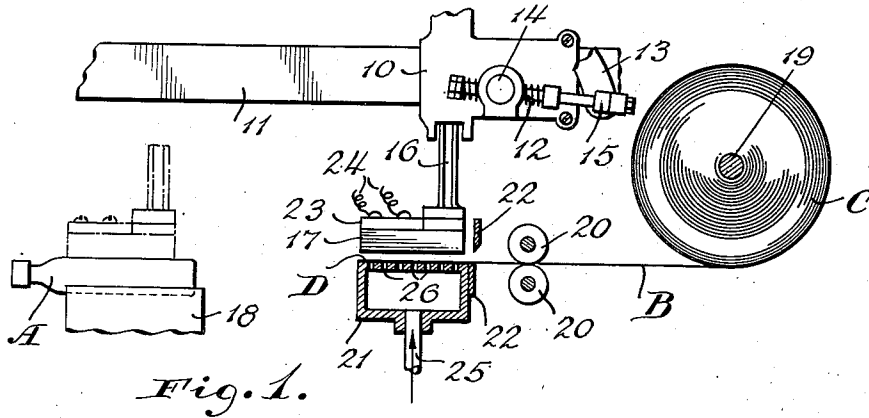
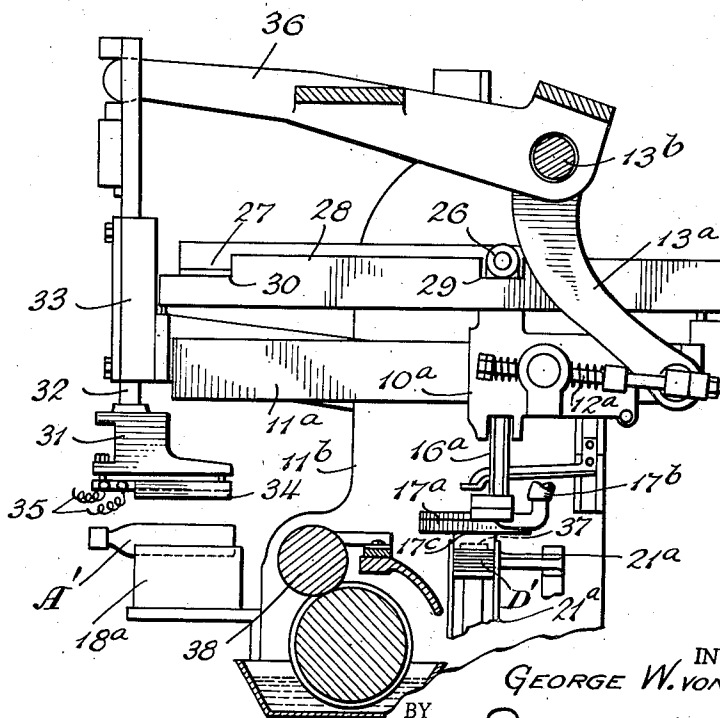


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

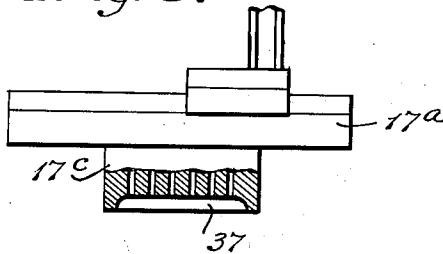
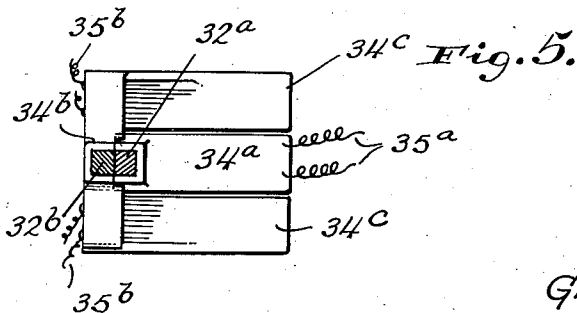
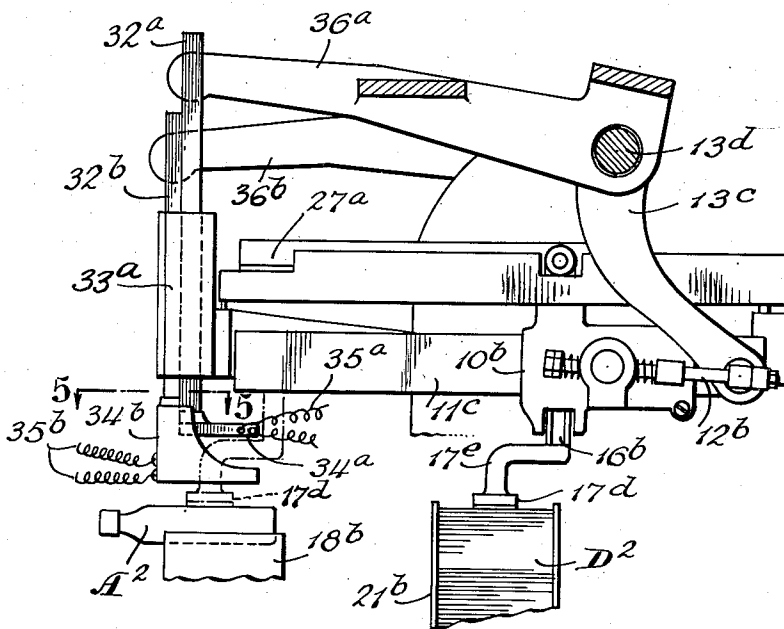


Fig. 4.



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2,279,724

ART OF APPLYING LABELS AND MACHINE
FOR APPLYING LABELSGeorge W. von Hofe, Bound Brook, N. J., assign-
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Application February 23, 1939, Serial No. 257,812

12 Claims. (Cl. 216—55)

The invention relates to the art of applying labels and more particularly to the application of labels provided with a thermoplastic coating on one surface for adhesively connecting said labels with the articles to which they are applied. The object of the invention is to provide novel and simple mechanism whereby adhesive coated labels, and more particularly thermoplastic coated labels, may be efficiently applied to the articles for which said labels are designed. Other more specific objects will appear from the description hereinafter and the features of novelty will be pointed out in the claims.

In the accompanying drawings, which illustrate several examples of the invention without defining its limits, Fig. 1 is a diagrammatic view partly in section showing the novel features in one form; Fig. 2 is a fragmentary elevation of a labeling machine, with parts in section, illustrating the novel features in another form; Fig. 3 is a detail view of an example of the suction mouthpiece shown in Fig. 2; Fig. 4 is a fragmentary elevation of a labeling machine illustrating the novel features in still another form, and Fig. 5 is a detail horizontal section on the line 5—5 of Fig. 4.

It is to be understood that the term "label" as used throughout the description and claims is intended to include not only conventional labels but also anything which may be equivalent thereto as, for example, decalcomanias and the like; in other words, the term "label" is not to be construed as restricting the description and claims to devices commonly referred to as labels although conventional labels are intended to be included in the aforesaid term as used herein.

In the form shown in Fig. 1, a carriage 10 is reciprocated on a suitably mounted stationary rail 11 by mechanism exemplified by the rod 12 and the arm 13, said rod 12 being pivotally connected at 14 with the carriage 10 and at 15 with the arm 13. A member or plunger 16 is mounted on the carriage for vertical reciprocation thereon by suitable means in properly timed relation with the associated elements, and at its lower end carries a pick-up or transferring device which is illustrated in the form of a suction head 17.

In practice the carriage 10 is reciprocated on the rail 11 to carry the suction transfer head 17 between the pick-up station where a label is picked up and the label applying station where said label is applied to the article for which it is intended, it being understood that the member

or plunger 16 is operatively controlled to correspondingly control the operative steps of the suction head 17 or its equivalent. The machine further includes suitable supporting means 18 for supporting the articles A to be labeled in label receiving position at the label applying station.

In the mechanism being described the labels, one surface of which is coated, for instance, with a thermoplastic coating, are connected in the form of a continuous web B carried in the form of a roll C by a rod or axle 19 which is journaled in the machine in any convenient manner. The web B is fed toward the pick-up station in any suitable way as for instance by feed rollers 20 operated intermittently in steps dependent upon and corresponding to the dimensions of the labels. At the pick-up or label transfer station the machine is provided with a support 21 over which the web B is fed as illustrated in Fig. 1, the web B being transversely cut by suitably operated cutting means 22 to separate the individual terminal labels D from the web B; the arrangement and operation is such that the individual terminal labels D are supported on the support 21 in accurate label receiving relation with the suction transfer head 17. The labels D as above stated may have a thermoplastic coating on one face thereof, that is the bottom face in the illustrated example, which coating is subjected to the action of heat to soften the same for adhesively attaching successive labels D to successive articles A. In the form shown in Fig. 1, the suction head 17 accordingly carries a heating device 23 whereby the heating of the thermoplastic coating on the labels D is heated, said device 23 for instance, being electrically operated and connected with a source of electricity by the wires 24.

In order to prevent the heated suction head 17 from interfering with the proper picking up of successive labels D for instance by causing the latter to adhere to the support 21, the suction head 17 does not contact with the labels D on the support 21 but in its pick-up position is located in vertically spaced receiving relation to said support 21 as shown by solid lines in Fig. 1. At this stage the label D resting upon the support 21 is blown into contact with the suction head 17, in which suction is effective at the time, and accordingly is held in surface engagement with said head 17 in accurate position for application to the article A with predetermined registry thereon with the thermoplastic coated surface of said label D exposed and facing downwardly. For

this purpose the support 21 may be hollow and have its interior connected by means of a tube 25 with a source of air under pressure, the upper or top wall of said support 21 in such case being provided with perforations or air vents 26 as shown in Fig. 1. It will be understood that suitable provision is made to control the compressed air supply to the interior of the support 21 and consequently its exit through the vents 26 in any convenient manner.

With the parts as illustrated in Fig. 1, the suction head 17 is in the pick-up position at the pick-up station and a terminal label D and is in place on the support 21 in accurate receiving relation with the suction head 17, the heating device 23 being in operation at the time to heat said suction head 17. At the proper moment in the cycle of operations compressed air will be admitted to the interior of the support 21 and accordingly will issue therefrom through the vents 26 in the form of a plurality of jets. These jets will be effective upon the aforesaid label D and will blow the latter into surface contact with the face of the suction head 17 in which suction is effective at the time to maintain said label D accurately in place on said head 17. The carriage 10 is then shifted to the left on the rail 11 in Fig. 1 and carries with it the suction head 17 and the label D held thereon by suction, to thereby shift the carriage 10 and its associated elements to the label applying position. During the aforesaid movements of the carriage 10 the label D carried by the suction head 17 is being heated by the action of the heating device 23 and the thermoplastic coating of said label D consequently is being softened by heat during the transfer of the label D from the pick-up station to the label applying station. At the latter, the member or plunger 16 is moved downwardly on the carriage 10 to bring the label D with its heat softened thermoplastic coating into surface engagement with the bottle or other article A which is in place on the supporting means 18 at the time.

The heat softened condition of the aforesaid thermoplastic coating causes the label D to adhere to the bottle or other article A, and at the proper moment the suction in the head 17 is cut off and said head 17 is raised on the carriage 10 which is shifted to the right on the rail 11 as the first step in a repetition of the aforesaid operative cycle. The action of the head 17 alone may be relied upon to firmly press the label D into adhesive engagement with the bottle or other article A, or the initial deposit of the label D thereon may be followed by pressure applied subsequently to complete the application of said label D to said bottle or other article A.

For the purpose of illustrating and describing the novel features in another form, I have selected a labelling machine constructed and operating in a manner corresponding to the machine which forms the subject matter of my prior application Serial No. 113,796. As shown in Fig. 2 of the accompanying drawings, this machine includes a carriage 10^a similar to the carriage 10 and likewise arranged to be reciprocated on a stationary rail 11^a suitably supported on the frame 11^b of said machine. The carriage 10^a is operatively connected by means of a rod 12^a with an arm 13^a which is fixed on a shaft 13^b journaled in the frame 11^b and rocked on its axis in any suitable manner, for instance, as shown in the aforesaid prior application, to correspondingly actuate the arm 13^a and thereby alter-

nately pull and push the carriage 10^a lengthwise of the rail 11^a.

The carriage 10^a constitutes a support for a member 16^a which is vertically movable on said carriage 10^a and at its lower end is provided with a pick-up device 17^a for instance of the vacuum or suction controlled type, and connected by means of a preferably flexible tube 17^b with a suitable source of suction. In its illustrated form the pick-up device 17^a includes a suction transfer head 17^c in which the suction is effective to pick-up successive labels at the pick-up station of the machine as will be more fully described hereinafter.

In operation, the shaft 13^b is rocked to correspondingly actuate the arm 13^a and to thereby reciprocate the carriage 10^a lengthwise of the rail 11^a and carry the pick-up device 17^a and associated elements from the pick-up station of the machine to the label applying station and vice versa. At the applying station the machine is provided with supporting means 18^a for supporting successive articles A' in label receiving position thereat. In the arrangement under discussion the labels D' provided on one face with a thermoplastic coating are supported in the form of an upright stack in a hopper or container 21^a, suitable provision being made for periodically restoring the upper end of said stack to a predetermined level. As illustrated in Fig. 2, the hopper 21^a is arranged so as to locate the stack of labels D' at the pick-up or label transfer station of the machine, and includes well-known means for advancing the terminal labels in said stack to said label transfer station and for supporting them thereat in accurate label receiving relation with suction transfer head 17^c.

Suitable means is provided for vertically actuating the member 16^a and with it the pick-up device 17^a on the carriage 10^a at the proper points in the operative cycle to pick up successive terminal labels D' from the supply stack and to initially deposit said labels on bottles or other articles A' mounted in label receiving position on the supporting means 18^a. For instance, the member 16^a may be provided with rollers 26 one of which is arranged to travel along a movable rail 27 and the other of which is adapted to traverse a fixed rail 28 mounted in the frame 11^b in spaced parallel relation to the movable rail 27 and provided with recesses 29 and 30; the latter are located so as to prevent the one roller 26 from interfering with the movement of the member 16^a and device 17^a at the pick-up and applying stations respectively. The operation of the movable rail 27 may be controlled in any suitable manner as for instance by means of mechanism such as disclosed in my prior application referred to hereinbefore.

In the machine now being described, the final steps in the application of the thermoplastic coated labels D' are effected by heated pressure means operative at the applying station at which the articles A' are successively located. The mechanism accordingly includes a pressure device 31 carried by a member 32 which is arranged for vertical reciprocation in a stationary guideway 33 supported upon the frame 11^b in any convenient manner. The pressure device 31 includes a pressure head or member 34 dimensioned and shaped in accordance with the dimensions and shape of the articles A' and heated in any suitable way as by means of an electrical heating device of conventional type diagrammatically illustrated by the wires 35. The mechanism where-

by the member or plunger 32 is vertically reciprocated in properly timed synchronism with the other steps in an operative cycle of the machine may be of any conventional type and is exemplified by a lever 36 loosely mounted on the shaft 13^b and having its free end connected with the member or plunger 32, for instance, as illustrated in Fig. 2. The lever 36 may be rocked on the shaft 13^b to operatively reciprocate the member or plunger 32 and its associated elements by any suitable means such as, for instance, is illustrated and described in my prior application hereinbefore referred to.

In the instant machine the thermoplastic coated labels D' are removed from the supply stack in the container 21^a in individual succession and in normal condition so that the thermoplastic coating of the label is relatively non-adhesive, and are initially deposited upon the articles A' by the suction head 17^c as will be more fully described hereinafter. In order to temporarily maintain the deposited labels D' on the articles A' pending the final application of said labels to said articles by the pressure device 31, said labels D' are provided with a minimum or restricted amount of tacky adhesive sufficient to temporarily hold said labels D' in place during the transfer of said labels D' from the pick-up station to the application station of the machine. This adhesive is applied to the thermoplastic coating of the labels D' at spaced points thereof in any suitable manner to provide the desired results; in other words, the aforesaid adhesive may be applied in the form of a plurality of relatively small spaced dots or in spaced relatively thin lines. As an example of how the result may be accomplished, the suction head 17^c may be recessed as indicated at 37 in Figs. 2 and 3 so that when the terminal individual labels D' are removed from the upper end of the stack, the suction effective in said head 17^c will draw the major portions of said labels into the recess 37 as will be apparent. With successive individual labels D' in this position on the head 17^c the major portion of said labels is distorted out of the normal plane thereof by the suction which is effective in the head 17^c at the time successive terminal labels D' are removed from the supply stack. As the carriage 10^a moves to the left on the rail 11^a, each label D' carried by the head 17^c in the aforesaid distorted condition is moved in progressive tangential contact with an adhesive roller 38 forming part of adhesive applying means located between the pick-up station and the applying station of the machine as shown in Fig. 2. As this progressive tangential contact takes place, those parts of each label D' carried by the head 17^c in the normal plane of said label receive an application of adhesive on the thermoplastic coatings thereof, while the distorted portion of said label D' in the recess 37 does not contact with said adhesive roller 38. As the movement of the carriage 10^a to the left continues, the suction head 17^c will finally reach the applying station at which the member or plunger 16^a will be moved downwardly for instance by the downward movement of the movable rail 27, the one roller 26 at this stage being in registry with the recess 30 of the fixed rail 28. The label D' carried by the head 17^c at the time is thereby deposited upon the particular article A' and is caused to adhere thereto by the action of the aforesaid adhesive when the parts are operated to lift the suction head 17^c upwardly away from said article A'; it will be understood that as this latter operation

takes place, suction in the suction head 17^c will be discontinued so as to leave the label D' in initial connection with the particular article A'. The elevation of the suction head 17^c is such that in the return movement of the carriage 10^a to the right on the rail 11^a the head 17^c will be located at a level above that of the adhesive roll 38 and accordingly will not contact with said roll 38 during this return travel to the pick-up station at which the plunger or member 16^a is moved downwardly at the proper time to cause the head 17^c to pick up the next successive terminal label D' from the stack in the hopper 21^a. Subsequent to the initial deposit of a given label D' upon a given article A' the pressure means 31 will be moved downwardly to cause the pressure device 34 to develop a pressure upon the deposited label D'. As the pressure device 34 is heated, the thermoplastic coating of said label D' will be coincidentally softened so that the particular label D' will be firmly pressed into place on the article A' and will be caused to firmly adhere thereto.

The labelling machine selected for the purpose of illustrating and describing the novel features in still another form shown in Figs. 4 and 5 is of substantially the same construction and arrangement as shown in Fig. 2.

A carriage 10^b is arranged for reciprocation lengthwise of a stationary rail 11^c mounted in the machine in any convenient manner and is operated, for instance, by means of an arm 13^c fixed upon a rock-shaft 13^d and operatively connected with the carriage 10^b by a connecting rod 12^b. A member or plunger 16^b is slidably mounted on the carriage 10^b and is vertically reciprocable thereon by means of a movable rail 27^a operated and controlled, for instance, in the same way as set forth in my prior application above mentioned. At its lower end the member or plunger 16^b carries a pick-up device preferably of the vacuum type illustrated in the form of a suction transfer head 17^d. For reasons which will appear more fully hereinafter, the suction transfer head 17^d is located in off-set relation to the member or plunger 16^b by means of an angle arm 17^e, the arrangement being such that the suction head is located somewhat in advance of the carriage 10^b when the latter moves toward the left on the rail 11^c. As in the previous form, the labels D² provided with thermoplastic coatings are arranged in the form of a supply stack in a container or hopper 21^b, the latter being located at the pick-up or label transfer station of the machine and providing for the advancing of the terminal labels to the label transfer station and for the support of said labels thereat in accurate receiving relation to the suction transfer head 17^d. In the form now being described, the suction head 17^d may be relatively considerably smaller than the dimensions of the labels D² and may be of a given size for all types of labels D². The machine also includes suitable supporting means 18^b located at the label applying station of the machine for supporting the bottles A² or other articles in label receiving position thereat. As shown in Fig. 4, a successively effective compound pressure means is operative at the aforesaid label applying station and consists of a plunger 32^a vertically slidable in an upright guideway 33^a suitably mounted on the frame of the machine. At its lower end the plunger 32^a carries a pressure device 34^a which may be heated in any convenient manner as by means of an electrical heating device diagram-

matically illustrated by the wires 35^a. The afore-said compound pressure means further includes an associate plunger 32^b vertically slidable in the guideway 33^a in surface engagement with the plunger 32^a. The associate plunger 32^b at its lower end carries a pressure device 34^b including two horizontally extending pressure members 34^c located in spaced parallel relation to each other and heated in any convenient manner as by means of an electric heating device exemplified diagrammatically by the wires 35^b. As illustrated in Fig. 5, the transverse dimension of the pressure device 34^a corresponds substantially to the space between the members 34^c of the pressure device 34^b; the pressure device 34^a and the pressure members 34^c preferably also terminate at their free ends in line with each other. The operative vertical movements of the compound pressure means may be developed in properly timed relation to each other and to the other steps of an operative cycle of the machine in any convenient way. For instance, a lever 36^a may be loosely mounted on the shaft 13^d and have its free end connected with the plunger 32^a, for instance as shown in Fig. 4; similarly a second lever 36^b may be loosely mounted on the shaft 13^d with its free end connected with the associate plunger 32^b as also shown in Fig. 4. The levers 36^a and 36^b may be rocked on the shaft 13^d in proper operative sequence to operatively reciprocate the compound pressure means in any suitable manner such as for instance by mechanism of the type illustrated and described in my prior application previously mentioned herein.

With the parts as illustrated in Fig. 4, the suction head 17^d is in position to remove the terminal label D² from the upper end of the supply stack at the label transfer station, it being understood that suction is effective in the head 17^d at this stage in the operations and that the label D² because of its accurate receiving relation with said suction transfer head 17^d is positioned for application to the article A² with predetermined registry. The terminal label is removed from said supply stack by raising the plunger 16^b on the carriage 10^b in the manner previously set forth herein, after which the carriage 10^b is shifted to the left on the rail 11^c to transfer the thermoplastic coated label D² from the pick-up station to the label applying station of the machine. At the latter station the angle arm 17^c passes into the space between the pressure members 34^c of the compound pressure means and beneath the pressure device 34^a which occupies a raised position at this time as illustrated in Fig. 4. This brings the suction head 17^d with the label D² carried thereby into label applying relation to the article A² as shown by dotted lines in Fig. 4. The plunger 16^b is then moved downwardly on the carriage 10^b to cause the suction head 17^d to deposit and temporarily maintain the label D² held thereby upon the bottle or other articles A².

In properly timed relation the lever 36^b is moved downwardly and thereby moves the plunger 32^b downwardly in the guideway 33^a and thereby brings the members 34^c of the pressure device 34^b into engagement with the deposited label D² on the bottle A² or other article upon opposite sides of the suction head 17^d. The heated members 34^c accordingly soften the thermoplastic coating of the deposited label D² at spaced points thereof upon said opposite sides of the suction head 17^d and coincidentally subject

the deposited label to pressure at said spaced points whereby the opposite end portions of said label D² are applied to the bottle A² or other article. As the members 34^c of the pressure device 34^b come to rest against the deposited label D² on the bottle A² or other article, the downward movement of the auxiliary plunger 32^b will be arrested and said members 34^c will remain in pressure contact with said opposite end portions of the deposited label D² to maintain the latter in place on the bottle A² or other article.

At the proper moment the suction effective in the head 17^d is discontinued and the latter is raised on the carriage 10^b which is then shifted to the right on the rail 11^c to bring the suction head 17^d back to the pick-up station ready to repeat the operations of picking up the next subsequent terminal label D² from the top of the supply stack and transfer said last named label D² to the label applying station of the machine. The members 34^c of the pressure device 34^b, in addition to their other functions, constitute means for holding the label D² in position on the article A² while the suction transfer head 17^d is withdrawn subsequent to the deposit of said label D² on the article A². After the suction head 17^d has been moved out of the space between the members 34^c and out of the way, the second lever 36^a is rocked on the shaft 13^d to thereby shift the plunger 34^a downwardly in the guideway 33^a and to bring the pressure device 34^a into the space between the members 34^c and into engagement with that portion of the initially applied label on the bottle A² or other article which is in registry with the space between the two members 34^c as illustrated in Fig. 5. The heat of the pressure device 34^a therefore becomes effective to soften that portion of the thermoplastic coating of said label D² which is intermediate of the opposite end portions of said coating previously softened by the heated members 34^c. At the same time the pressure device 34^a exerts a pressure upon said intermediate portion of said label D² to thereby complete the application of the latter to the particular bottle A² or other article. The compound pressure means is then raised by a reverse operation of the levers 36^a and 36^b after which the hereinbefore described cycle of operations is repeated.

The novel features in all forms constitute improvements in the art of applying labels whereby adhesively coated labels and more particularly labels provided with thermoplastic coatings are efficiently applied to the articles for which they are designed in a uniform and efficient manner. The mechanisms are simple in construction and require no particularly skilled supervision in their operation and may be readily incorporated in many existing types of labeling machine. By applying the thermoplastic coated labels and their equivalent to the articles by pressure in the presence of heat, the operative step of applying said label is of maximum efficiency at all times.

Various changes in the specific forms shown and described may be made within the scope of the claims without departing from the spirit of the invention.

I claim:

1. In a labeling machine for applying thermoplastic coated labels under heat, the combination of article supporting means at the label applying station of said machine for positioning articles to be labeled in label receiving position thereat, a source of label supply, means for ad-

vancing the terminal label to a label transfer station, means for supporting said label thereat in accurate label receiving relation to a suction transfer head, means including said suction head operating in definite relation to the article on said article supporting means for removing each label from said supporting means at said transfer station without disturbing its relation to said suction head and transferring said label to said label applying station, said suction head depositing said label in contact with said article thereat in its intended position thereon with predetermined registry, and means for applying heat directly to the label to effect the application thereof to said article.

2. In a labeling machine for applying thermoplastic coated labels under heat, the combination of article supporting means at the label applying station of said machine for positioning articles to be labeled in label receiving position thereat, a source of label supply arranged to advance successive terminal labels to a label transfer station, means for supporting the terminal labels at said station in predetermined label receiving relation to a transfer device, means including said transfer device operating in definite relation to the article on said article supporting means for removing each label from said supporting means at said transfer station without disturbing its relation to said transfer device and transferring said label to said label applying station for direct application to said article thereat in its intended position on said article with predetermined registry, and means for applying heat directly to the label to effect the application thereof to said article.

3. In the art of applying thermoplastic coated labels to articles, that improvement which comprises feeding a web of connected labels to a pick-up station, cutting said web transversely to separate individual labels therefrom at said station, blowing said individual labels into surface engagement with a heated pick-up device, shifting said pick-up device to transfer the label carried thereby to an applying station and coincidentally heating said label whereby the thermoplastic coating thereof is softened and rendered adhesive during said transfer, and applying said heated label by pressure at said applying station while said thermoplastic coating is in a heated, softened condition.

4. In the art of applying thermoplastic coated labels to articles, that improvement which comprises removing successive terminal labels from a supply stack at a pick-up station, and transferring said labels to an applying station, applying adhesive in restricted amounts to the thermoplastic coatings of said labels during such transfer, depositing the labels on the articles at said applying station and initially maintaining said labels in place on said articles by said restricted amounts of adhesive, and applying pressure in the presence of heat to said deposited labels to soften the thermoplastic coatings thereof whereby the application of said labels to said articles is completed.

5. In the art of applying thermoplastic coated labels to articles, that improvement which comprises removing terminal labels from a supply stack in individual succession, transferring the labels to an applying station and depositing said labels on said articles thereat, applying pressure in the presence of heat to said deposited labels at spaced points thereof to soften the thermoplastic coatings thereof to initially apply said

labels to said articles, and applying additional pressure in the presence of heat to said initially applied labels intermediate of said spaced points to soften the intermediate portion of said thermoplastic coatings to thereby complete the application of said labels to said articles.

6. In a labeling machine for applying adhesive coated labels under heat, the combination of means for transporting an adhesive coated label over a predetermined path from a label transfer station to an applying station definitely related to said transfer station for positive application to an article in its intended position thereon at said applying station, means for supporting said label at said label transfer station in accurate label receiving relation to said transporting means to predetermining the applying position of said label to said article, and means for applying heat directly to said label to effect the application thereof to said article at said applying station.

7. In a labeling machine, the combination of a support provided with air vents, means for feeding a web of connected thermoplastic coated labels to said support, means for cutting said web transversely to separate individual labels therefrom at said support, a heated vacuum pick-up device movable into receiving relation to said support, means for blowing air through said air vents to blow a label from said support into surface engagement with said vacuum pick-up device to be held thereby, and means for shifting said heated pick-up device to transfer the label carried thereby into applying relation to an article, said label being heated during said transfer to soften said thermoplastic coating, said pick-up device being actuated to deposit said label on said article while said coating is softened and to develop a pressure on the deposited label whereby the latter is adhesively applied to said article.

8. In a labeling machine, the combination of a supply stack of thermoplastic coated labels, a vacuum pick-up device for successively removing individual terminal labels from said stack and for transferring said labels into applying relation to successive articles, means for applying adhesive in restricted amounts to predetermined, separated portions of the thermoplastic coating of said labels, said vacuum pick-up being actuated to deposit said labels on said articles and to initially connect the same therewith by said adhesive, and heated pressure means for developing pressure on said deposited labels and for coincidentally heating the thermoplastic coatings thereof whereby said labels are adhesively applied to said articles.

9. In a labeling machine, the combination of a supply stack of thermoplastic coated labels, means for supporting successive articles in label receiving position, a pick-up device for successively removing individual terminal labels from said stack and for depositing said labels on said articles, and compound heated pressure means for successively heating different portions of said labels to successively soften corresponding portions of the thermoplastic coatings thereof and for coincidentally applying successive pressures to adhesively apply said different portions of said labels to said articles.

10. In a labeling machine, the combination of a supply stack of thermoplastic coated labels, means for supporting successive articles in label receiving position, a vacuum pick-up device of relatively small dimensions for removing individual terminal labels from said stack and for de-

positing said labels on said articles, a plurality of plungers, heated pressure members carried by one plunger in spaced parallel relation to each other, an additional pressure member carried by the other plunger in registry with the space between said parallel pressure members, and means for operating said plungers to cause said parallel heated pressure members to soften spaced portions of the thermoplastic coatings of said labels and to concurrently press corresponding spaced portions of said labels into adhesive connection with said articles to initially apply said labels thereto, and to subsequently cause said additional heated pressure member to soften the portions of said thermoplastic coatings intermediate of said spaced portions and to concurrently press corresponding intermediate portions of said labels into adhesive connection with said articles.

11. In a labeling machine, the combination of a holder for a supply of labels, means for supporting articles in label receiving position, a trans-

fer device for successively removing individual labels from said supply and depositing said labels on said articles, said transfer device being individually withdrawn subsequent to said deposit, and means for holding said label in position on said article during said withdrawal of said transfer device.

12. In a labeling machine, the combination of a holder for a supply of labels, means for supporting articles in label receiving position, a transfer device for successively removing individual labels from said supply and depositing said labels on said articles, and means operative on said deposited labels upon opposite sides of said transfer device for holding said labels in position on said articles, said transfer device being withdrawn from between said label holding means subsequent to the engagement of the deposited label thereby.

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