

March 5, 1940.

E. L. KALLANDER

2,192,264

THERMOPLASTIC LABEL APPLIERS

Filed Aug. 27, 1938

2 Sheets-Sheet 1

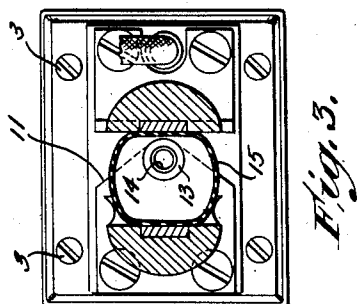


Fig. 3.

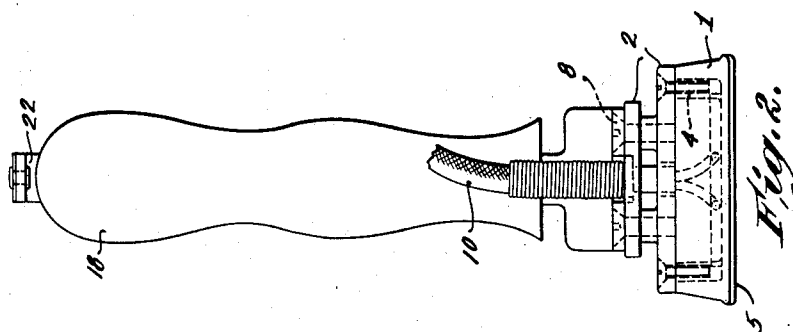


Fig. 2.

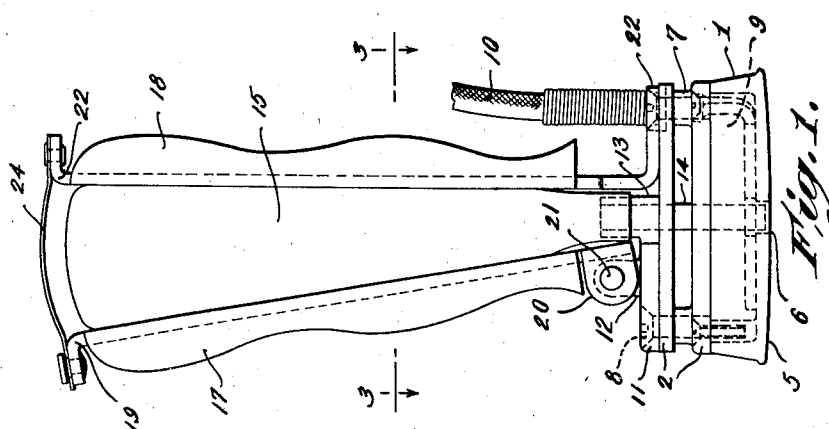


Fig. 1.

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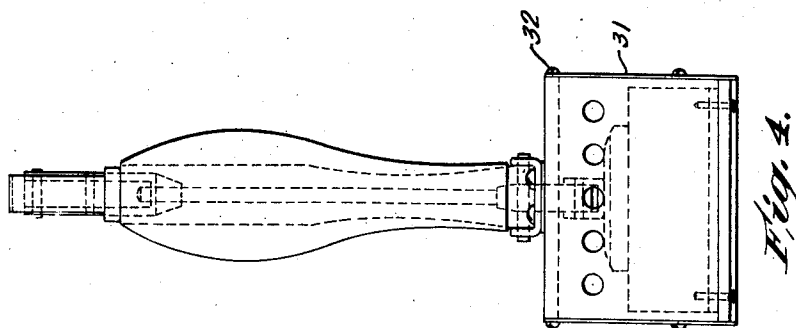
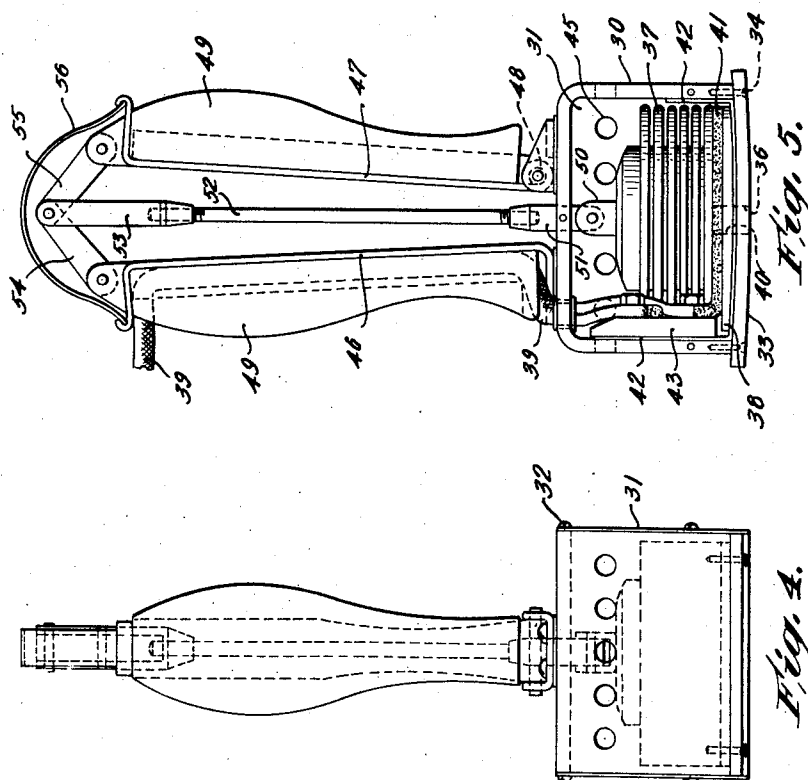
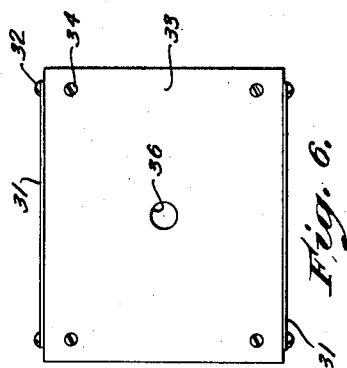
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THERMOPLASTIC LABEL APPLIER

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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,192,264

THERMOPLASTIC LABEL APPLIER

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Application August 27, 1938, Serial No. 227,077

6 Claims. (Cl. 216-61)

This invention relates to appliers for affixing thermoplastic labels, that is stamps or other labels having a coating of adhesive material which is normally dry but which becomes tacky when heated.

Objects of the invention are to provide an applier which is light and portable, which can be operated with one hand, and with which a label may be picked up, heated sufficiently to become tacky and then pressed against the article to which it is to be applied, all without the hand coming into direct contact with the label, and generally to facilitate the application of thermoplastic labels.

According to the present invention the applier comprises a head having a surface, preferably flat or only slightly curved, for pressing a label against the article to be labeled, together with suction or other means operative through one or more openings in the aforesaid surface for holding the label against the surface while the label is heated and applied. The heat is preferably applied to the label by the aforesaid head, either by heating the head from an external source before contacting the label or by a heating medium within the head. The suction means may be actuated by two relatively movable parts, at least one of which comprises a handle and in the preferred embodiments both parts constitute a handle. Means is preferably provided yieldingly to urge said parts apart when the grip on said handle is relaxed; and this means may comprise either a part of the suction means or a part in addition thereto or both. The suction means may comprise a bellows in said head, a rubber syringe-like device between said handles, or other expansible chamber conveniently actuated by the hand in which the applier is held.

For the purpose of illustration typical embodiments of the invention are shown in the accompanying drawings in which

Figs. 1 and 2 are side and rear elevations of one embodiment;

Fig. 3 is a section on line 3-3 of Fig. 1;

Figs. 4 and 5 are front and side elevations of another embodiment; and

Fig. 6 is a bottom plan view of the latter embodiment.

The particular embodiment of the invention shown in Figs. 1 to 3 comprises a head including a hollow casting 1 and a cover 2 secured to the hollow casting by means of screws 3 extending through openings in the part 2 and threaded into bosses 4 inside the part 1. As shown in Fig. 1 the bottom surface 5 of the casting 1 is curved from

front to rear and as shown in Fig. 2 this surface is flat from side to side. At the center of the bottom wall of the casting 1 an opening 6 extends vertically through the wall. The cover 2 is formed in upper and lower portions integrally interconnected by four posts 7 which are hollow and which are internally threaded to receive the screws 8. In the hollow casting 1 is mounted an electric heater 9 which is supplied with current through a cable 10.

Mounted on the top of the cover 2, by means of two of the four screws 8, is a plate 11 having an upstanding pivot lug 12 and an upstanding tubular portion 13 aligned with the opening 6 in the casting 1. A Bakelite tube 14 is fitted into the tubular part 13 and extends downwardly through openings in the two portions of the cover 2 to the opening 6. A collapsible rubber bag 15 communicates with the tube 14 through a single opening in its lower end which tightly fits around the upstanding tubular portion 13 of the plate 11. A handle comprising two parts 17 and 18 serves to compress the rubber bag 15 when the handle is gripped. The part 17 is mounted on a strap 19 having pivot lugs 20 pivotally mounted on the lug 12 by means of a pin 21. The part 18 is mounted on top of the cover 2 by a strap 22 having its lower end secured to the cover by the other two of the four screws 8. At the upper end the two straps 19 and 22 are bent outwardly and interconnected by a spring 24 which flexes upwardly when the two parts of the handle are squeezed together. When the grip on the handle is relaxed the spring 24 assists the rubber bag 15 in moving the handles apart, thereby to draw air inwardly through the opening 6.

In use the device is connected to a suitable source of current, and, after the head is heated to the desired temperature, a label is picked up and affixed in the following manner. Before picking up the label the handles are squeezed together. The device is then positioned over a label lying on a flat surface with the opening 6 above the label. The handle is then relaxed somewhat to hold the label against the head by suction. The label is then transferred to and pressed again the surface to which it is to be affixed, the hot head softening the adhesive on the lower surface of the label. As the label is pressed against the surface to which it is to be affixed the device may be rocked back and forth on the curved surface 5 more effectively to secure the label throughout its entire surface. The handle is preferably squeezed again as the device

is lifted from the affixed label preparatory to picking up another label.

The embodiment shown in Figs. 4, 5 and 6 comprises a head in the form of a U-shaped portion 30 covered at the sides by plates 31 secured by screws 32 and covered at the bottom by a curved plate 33 secured by screws 34. The bottom 33 is provided with a central opening 36 corresponding to the opening 6 in the first embodiment. Mounted in the hollow head is a bellows 37 having an opening in its bottom communicating with the opening 36. Mounted between the bellows 37 and the bottom 33 is an electric heater 38 supplied with current through a cord 39, the heater having a central opening 40 in line with the opening 36. The bellows and the heater are separated with a layer of insulation 41. Each of the four sides of the head is protected with a layer of mica 42. In the left-hand side of the head (Fig. 5) is mounted an electrical connection panel 43 of insulating material. Openings 45 are provided in each of the four sides of the head for the purpose of ventilation.

Mounted on top of the head member 30 is a handle comprising two metallic straps 46 and 47, the latter being pivoted to the head at 48, and two grip pieces 49 fastened to the straps 46 and 47. The bellows 37 is interconnected with the upper ends of the handle through a lug 50 on top of the bellows, a link 51 pivoted to the lug 50, a rod 52 threaded into the link 51, another link 53 threaded upon the upper end of the rod 52 and two links 54 and 55 pivotally interconnecting the upper end of the link 53 with the two parts of the handle. The opposite ends of rod 52 are preferably threaded in opposite directions so that the effective length of the rod may be varied by rotating the rod after the parts are assembled. A spring 56 serves not only to control the relative position of the two parts of the handle but also to cover the links 54 and 55. The spring 56 may either assist or oppose the spring action of the bellows or it may assist throughout a portion of the movement and oppose throughout the remainder of the movement; but the parts are preferably adjusted so that the handles normally stand in the position shown in Fig. 5.

In use this embodiment of the invention is manipulated in the same manner as the embodiment shown in Figs. 1 to 3, except in that air is drawn in through the opening 36 to pick up a label by squeezing the two parts of the handle together instead of by relaxing the grip as in the first embodiment.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, a handle rigidly connected to said head approximately perpendicular to said surface, and suction means associated with said handle for drawing air inwardly through said opening, thereby to pick up a label on said surface for application to an article.
2. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, suction means for drawing air inwardly through said opening to pick up a label on said surface for application to an article, and two relatively movable handle parts for actuating said suction means, at least one of said handle parts being rigidly attached to said head.
3. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, a handle for said head, the handle comprising two parts movable toward each other when gripped in the hand, and suction means associated with said handle for drawing air inwardly through said opening to pick up a label on said surface for application to an article, said suction means including means yieldingly urging said parts apart.
4. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, a handle for said head, suction means in said head for drawing air inwardly through said opening to pick up a label on said surface for application to an article, and means associated with said handle for actuating said suction means.
5. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, suction means for drawing air inwardly through said opening to pick up a label on said surface for application to an article, and two relatively movable parts for actuating said suction means, at least one of said parts comprising a handle for said head and said means including an expansible chamber between said two parts.
6. A label applier comprising a head having a surface for pressing a label against an article to be labeled, said surface having an opening therein, a handle for said head, the handle comprising two parts movable toward each other when gripped in the hand, suction means in said head for drawing air inwardly through said opening to pick up a label on said surface for application to an article, and toggle mechanism kinematically interconnecting said means with said parts.

ERNEST L. KALLANDER. 60