

Oct. 9, 1956

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2,765,769

ADHESIVE APPLICATOR

Filed May 1, 1952

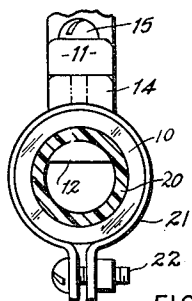


FIG. 3

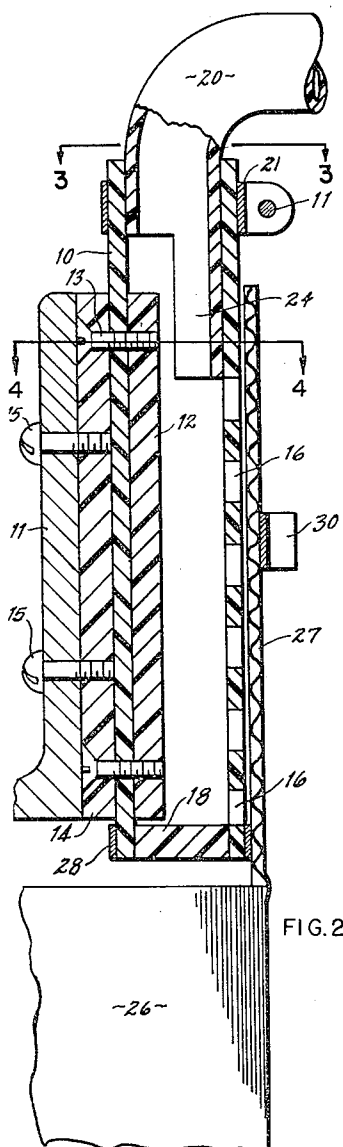


FIG. 2

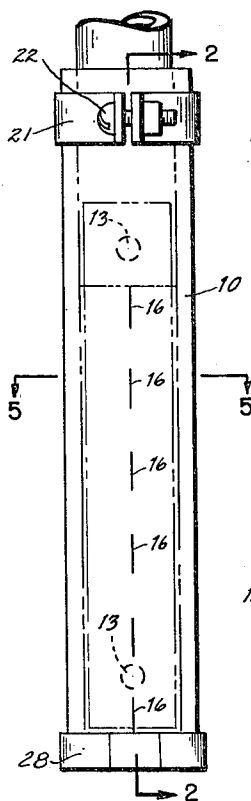


FIG. 1

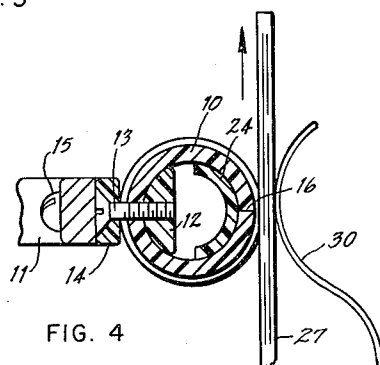


FIG. 4

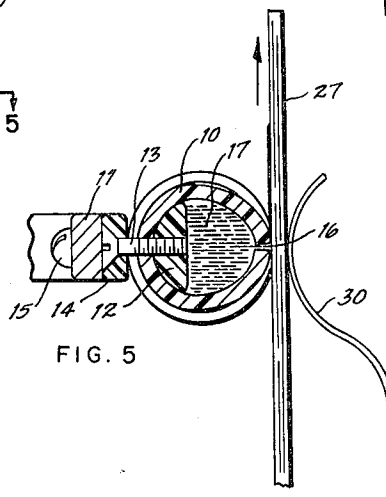


FIG. 5

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2,765,769

ADHESIVE APPLICATOR

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Application May 1, 1952, Serial No. 285,445

1 Claim. (Cl. 118—411)

This invention relates to applicators for applying adhesive or glue to flat surfaces such, for example, as the flat portions of cardboard cartons.

Applicators of the type referred to are employed for applying and spreading adhesive on the end closure flap portions of cartons in carton sealing machines, such as the type disclosed in my Patent No. 2,660,844, issued December 1, 1953. The adhesive applicators function to apply and spread adhesive on the surfaces, or on selected surfaces, of the carton flaps as the carton is moved relative to the applicators.

This invention has as an object an adhesive applicator embodying a construction particularly economical to manufacture and which functions to apply a predetermined amount of adhesive material to the carton flaps, the arrangement being such that the applicator contacts the carton flaps only during the period that the adhesive is being applied to the flaps.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

In the drawings—

Figure 1 is an elevational view of an applicator embodying my invention.

Figure 2 is a vertical sectional view taken on line 2—2, Figure 1.

Figure 3 is a view taken on line 3—3, Figure 2.

Figure 4 is a view taken on line 4—4, Figure 2.

Figure 5 is a view taken on line 5—5, Figure 1.

The applicator consists of a tubular member 10 formed of resilient material. Preferably, the tube 10 is formed of synthetic transparent plastic material. The tube is fixedly mounted upon a support 11 attached to the frame of the carton handle and sealing machine. A rigid member 12 is positioned within the tube 10 and is semi-circular in cross section, as illustrated in Figures 3, 4 and 5. The convex surface of the member 12 is positioned against one side of the bore of the tube and is fixedly secured to the tube by screws 13 extending through an outer rigid member 14 through the side wall of the tube and threading into the member 12. The member 14 is fixedly secured to the support 11 by screws 15.

The side of the tube opposite the member 12 is formed with a series of spaced apart axially extending slits 16. Normally, the tube 10 is of circular, or cylindrical form, and the slits 16 are closed to prevent the adhesive, indicated at 17, Figure 5, from exuding through the slits. The lower end of the tube 10 is provided with a closure member 18, and the upper end is connected to a hose or conduit 20 extending to a tank or supply of adhesive material. The hose 20 extends in the upper end of the tube 10, and the tube is clamped to the hose by a band 21 and screw 22. The end portion of the hose, extending into the tube 10 is formed semi-cylindrical, as at 24, the por-

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tion 24 engaging the side wall of the tube in which the slits 16 are formed.

The carton 26 is advanced with an end closure flap 27 thereof extending vertically in juxtaposition to the side of the tube containing the slits 16. The lower end portion of the tube is encircled by a band 28 flattened at one side for engagement by the carton flap 27 and serves to space the carton flaps slightly from the tube 10, as illustrated in Figures 2 and 4.

Upon the application of pressure on the adhesive within the tube 10, the side of the tube containing the slits 16 is free to move radially outwardly and in so doing, the slits 16 open—that is, the side walls of the slit separate slightly, permitting the adhesive material under pressure to exude outwardly through the slits. Upon this outward radial movement of the side wall of the tube 10, the tube engages the confronting surface of the carton flap 27, the flap slidably engaging a backer strip 30 to limit any movement of the carton flap away from the tube. Accordingly, the adhesive material 17 is deposited upon the confronting surface of the flap as long as pressure is applied to the adhesive. Upon the cessation of pressure on the adhesive, the tube 10 assumes to cylindrical form and the slits 16 are instantly closed and in doing this, the tube moves out of engagement with the flap 27. Accordingly, when no adhesive material is being exuded from the tube, the flap 27 is not rubbing against the tube. This is an important feature of the applicator in that it prevents the tube from being worn off, or flattened, by frictional engagement with the carton flap. During the exudation of the adhesive, the adhesive acts as a lubricant, with the result that there is substantially no wear on the tube during the application of the adhesive material.

Preferably, the adhesive material and the material from which the tube 10 is formed is chosen so that there is no adhesive affinity between the adhesive and the tube. Accordingly, the tube 10 can be easily kept clean and, because of its transparency, the operator is advised if the supply of adhesive is running low.

The function of the semi-circular portion 24 of the supply hose 20 is that by moving the hose axially within the tube, one or more of the slits 16 may be closed off so that the applicator may accommodate carton flaps of different vertical lengths.

What I claim is:

An applicator for applying adhesive to carton flaps and the like comprising a tubular member formed of resilient material connected to a supply of liquid adhesive, a band of substantially non-yielding material encircling one end of said tubular member for engagement by a carton flap being advanced past the tubular member, one side of said tubular member being formed with a series of axially spaced apart axially extending slits, a rigid member mounted in the tubular member and engaging the side wall of the bore thereof opposite said slits, the side of said tubular member containing said slits being movable radially upon the application of pressure on the adhesive in the tubular member to separate said slits for the exudation of adhesive.

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