

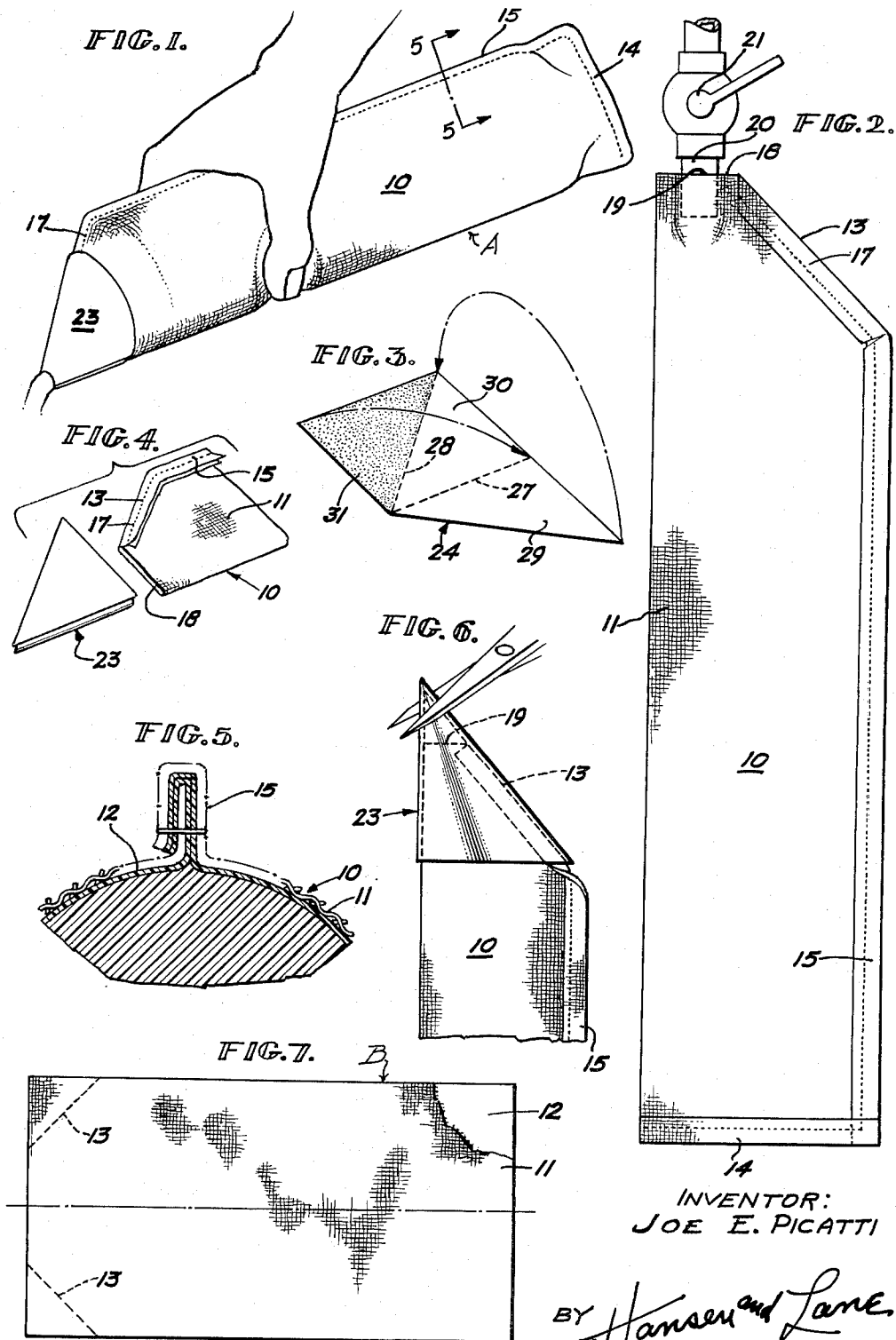
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COLLAPSIBLE BAG TYPE APPLICATOR

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COLLAPSIBLE BAG TYPE APPLICATOR

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The present invention relates to a mastic applicator, and pertains more particularly to a collapsible bag type applicator for fluent, cementitious material wherein a strong, rupture-proof bag has a filler opening in the apex of a tapered end portion thereof, a conical closure cap being fitted onto and adhesively attached to the tapered end portion after the bag is filled, the apex of the conical cap being severable to provide an opening through which the contents of the tube can be extruded.

In the past, many devices have been developed for expressing fluent materials from a collapsible container, such as, for example, the well known pastry bag used by chefs in decorating cakes and other food products.

Another prior type of collapsible bag or tube type applicator is shown in Johnson Patent No. 2,769,578, issued Nov. 6, 1956.

An object of the present invention is to provide an improved, bag type applicator for cementitious material which will of itself tend to seal off any initial tendency to leak from the filler opening, and which will withstand powerful expressing pressures exerted thereon.

Another object of the invention is to provide an improved, collapsible bag type applicator for fluent, cementitious material, wherein a filling opening is provided in the apex of a tapered end portion of a bag element thereof, and a conical cap is fitted onto and adhesively secured to the tapered end of the bag after the latter has been filled.

A further object of the invention is to provide an applicator for plastic, fluent sealant material wherein a bag is made of strong, impervious fabric material, one end of the bag being tapered, the tip of the tapered end of the bag being truncated to provide a filling opening, and the untapered end, one side and the tapered end of the bag up to the filler opening being firmly hemmed to provide a strong and permanent seal, a funnel-shaped tip portion of relatively stiff sheet material such as gummed paper being fitted and secured onto the tapered end of the bag after the latter has been filled.

These, and other objects and advantages of the invention, will be apparent from the following description and the accompanying drawings, wherein:

FIG. 1 is a perspective view of a filled, bag type tube embodying the present invention in use.

FIG. 2 is a side elevational view of the empty bag portion of the device shown in FIG. 1 as it appears when its filling opening is applied to a filler tube through which the plastic material with which the bag is to be filled is expressed into the bag to fill it.

FIG. 3 is a perspective view showing one form of adhesive coated paper blank for forming the funnel-shaped end member which is applied to the bag portion after filling the latter to complete the tube.

FIG. 4 is a perspective view in reduced scale of the funnel-shaped end member and a fragment of the tapered end of the bag to which it is adhesively applied.

FIG. 5 is an enlarged fragmentary transverse sectional view taken along line 5-5 of FIG. 1.

FIG. 6 is a fragmentary side elevational view of the discharge end portion of a filled tube in the process of having the pointed end portion of the funnel-shaped cap snapped off to provide a discharge opening.

FIG. 7 is a plan view in reduced scale of a calendared fabric blank used in making the bag portion of the tube.

Referring to the drawings, a filled, collapsible tube A (FIG. 1) embodying the invention comprises a bag por-

tion 10 which is made by folding double along its longitudinal center line an elongated blank 8 (FIG. 1) of a suitable fabric, such as, for example, a cotton canton flannel, with a sealing coat 12 (FIG. 5) on its inner side to seal the desired contents of the bag therein.

A corner portion of the folded blank is cut away to provide a tapered end portion 13, and the superposed free edges of the folded blank are securely hemmed at 14 across the large closed end thereof, at 15 lengthwise thereof, and at 17 along the tapered end portion 13. The tapered end portion 13 is truncated at 18, and is unhemmed to provide a filler opening 19 into which a filling tube 20 can be inserted. The filling tube is controlled by a valve 21, and desired fluent cementitious material, for example, roof mastic, may be expressed through this tube from a suitable container (not shown) to fill the bag.

To provide a suitable applicator, and to seal the tube A during shipping and handling prior to use, a conical sealing cap 23 of suitable stiff, sheet material, such as, for example, a heavy, kraft type gummed paper, is shaped to conform to the tapered end portion 13 of the bag 10. As illustrated in FIG. 3 this sealing cap 23 is made from a trapezium shaped blank 24 of the desired material, divided by fold lines 27 and 28 into three similar, right-triangular portions 29, 30 and 31, each triangular portion of which is substantially similar to the tapered portion 13 of the bag blank B. These triangular portions are so arranged that when the portion 29 is folded over along the line 27 into superposed relation with the central triangular portion 30, and the portion 31 is moistened and is folded over along the line 28, and is pressed into superposed, adhering relation with the portion 29, the conical cap 23 illustrated in FIG. 4 is formed.

The term "cementitious" as used herein to describe the material which the tubes are intended to contain, means "air hardening" or "air setting", since it is an important feature of the invention that any slight seepage of the cementitious material from the filler opening into the space between the fabric of the bag and the interior of the cap 23, by absorption of solvents in the cementitious material, and/or exposure to air occluded in the fabric, causes such seeping material to skin over, harden or set. Such initially seeping material then creates a strong sealing bond between the bag fabric and the cap around the filler opening to securely seal it.

After the bag 10 has been filled with a desired fluent, plastic, cementitious material, such as, for example, roof mastic, the interior of a cone shaped sealing cap 23 is moistened, and is fitted firmly onto the tapered end portion 13 of the bag 10, substantially as shown in FIGS. 1 and 6. The moistened, adhesive coating on the interior of the conical cap 23 then adheres to the exterior surface of the tapered portion 13.

When it is desired to use the contents of the tube A, a portion of the tip of the conical cap 23 is cut off as shown in FIG. 6 to provide a discharge opening of desired size. Obviously, the further from the tip the cut is made the larger will be such opening. By then gripping the bag portion 10 as shown in FIG. 1 and squeezing it, the contents thereof can be extruded through such opening. After the tube A is empty the bag portion 10 thereof can be used as a rag upon which to wipe the user's hands, and may then be discarded.

The invention provides a simple, clean, leak-proof, easily handled, easily used and easily disposed of tube for containing and applying fluent, plastic, cementitious material. Tubes embodying the invention are easily and cheaply made, and can be easily and permanently sealed after initial filling. Any initial slight seepage or leakage of material from the filler opening is self sealing as explained previously herein. Any portion of the contents of

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the tube remaining unused can be protected by the application, over the original conical cap 23, of a supplementary cone shaped cap, not shown, which may be similar to the original one. When thus closed, the tube is again completely sealed, and the contents will remain fresh and ready for use whenever desired. When it is desired to use any such remaining portion of the contents, either such supplementary cap may be withdrawn if it has not adhered too tightly, or the tip of the supplementary cap may be severed as in the initial instance.

While I have illustrated and described a preferred embodiment of the present invention, it will be understood, however, that various changes and modifications may be made in the details thereof without departing from the scope of the invention as set forth in the appended claims.

Having thus described the invention, what I claim as new and desire to protect by Letters Patent is defined in the following claims.

1. A collapsible bag type tube for containing and applying fluent plastic cementitious material comprising: an elongated blank of strong fabric folded double lengthwise thereof,
a layer of sealing material impervious to the intended contents of the tube coating and sealing the inner surface of the folded fabric blank, one end of the folded fabric blank being tapered,
a folded hem along the initially free edges of the untapered end, the longitudinal edge, and the tapered end portion of the doubled, tapered blank to provide a strong and firmly sealed bag structure, the apex of the tapered end portion of the bag thus formed being truncated and unhemmed to provide a filler opening, a conical cap of stiff, sheet material of a size and shape fitted snugly onto the tapered end portion of the bag thus formed when the latter is filled with a fluent, plastic, cementitious material, and adhesive means adhesively interconnecting the interior of the conical cap with the exterior of the portion of the tapered end of the bag covered by the cap.
2. A collapsible bag according to claim 1 wherein the fabric of the blank is a cloth of soft, absorbent material so as to provide a wiping cloth after the bag has been emptied of its contents.
3. A collapsible bag type tube for containing and applying fluent, plastic, cementitious material comprising: an elongated blank of strong, impervious sheet material folded double along the longitudinal center line

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thereof, the two halves of the thus folded blank being similar and superposed, one end of the folded blank being tapered, means strongly interconnecting in sealed relation the superposed edges of the untapered end, side, and tapered end portions of the doubled, tapered blank to provide a strong, rupture proof bag structure, the apex of the tapered end portion of the bag thus formed being truncated and open to provide a filler opening, a conical cap of stiff, sheet material fitted snugly in conforming relation onto the tapered end portion of the bag after the latter has been filled through its filler opening with a fluent, plastic, cementitious material, and adhesive means adhesively interconnecting the interior of the cap with the exterior of the portion of the tapered end of the bag covered by the cap.

4. A collapsible bag according to claim 3 wherein the cap is a conical cap of gummed paper with the gummed surface thereof on the interior.

5. A collapsible bag according to claim 4 wherein the conical cap is formed from a blank of gummed paper with two lines of fold dividing the blank into three similar triangular portions with corresponding sides of adjacent triangular portions on each side of each line of fold, the triangular portions being folded in sequence toward the gummed side of the blank into superposed relation with each other along the two lines of fold, with the last triangular portion to be folded enclosing a free edge of the first such triangular portion, thereby to form the conical cap.

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