POUCH FOR PRECISION TOOLS

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This invention relates to a one-piece pouch for holding articles, and particularly to a pouch made of a unitary envelope of relatively soft elastic material for holding precision tools such as micrometers.

It is an object of the invention to provide a pouch of the kind described affording protection against damage to a meter, for instance, when not in use, as when lying on a work bench or in a tool box, but which pouch is adapted for quick and easy removal of the tool and for like replacement thereof.

Another object of the invention is to present a one-piece pouch as described in which a micrometer or the like may be held securely and completely enclosed and yet be readily accessible for removal.

A further object of the invention is to incorporate in the pouch integrated means for properly positioning and locating the tool in the pouch and bumper means assisting in the absorbing of shocks, as might result from a fall from bench to floor.

In the drawings,

Fig. 1 is a view in perspective of the pouch of the illustrated embodiment of the invention, showing the manner in which it is held for quick opening thereof;

Fig. 2 is a view of the pouch of Fig. 1 in plan;

Fig. 3 is a view in longitudinal section taken substantially along the line 3--3 of Fig. 2; and

Fig. 4 is an end view of the pouch.

Referring to the drawings, it may be seen that the pouch of the illustrated embodiment of the invention comprises an envelope 10 made of a relatively soft and elastic rubber or rubber-like material and having an external configuration closely resembling that of a micrometer. Thus, the envelope includes a generally cylindrical barrel-like portion 11 which at its one end terminates in and merges with a relatively enlarged body portion 12 which is generally flat in cross section as compared with the round cross sectional appearance of the barrel 11. The upper surface of the barrel 11 is cut by a slit 13 which extends longitudinally of the barrel and through the top of the body portion 12.

Normally, the pouch has the appearance shown in Fig. 2, with the slit 13 being self-closing on account of the elastic properties of the pouch. Held in the manner indicated in Fig. 1, however, pressure applied to opposite edges of the body portion 12 spreads apart the edges of slit 13 and so makes possible quick and easy insertion of or withdrawal of the micrometer by the other hand.

With the micrometer installed in the pouch, release of the pressure applied to opposite edges of the body portion 12 permits the slit 13 to close over the micrometer which is accordingly then fully enclosed and protected.

The interior of the pouch 10 is open to receive the micrometer. It may be considered to comprise two intercommunicating spaces or volumes 14 and 15. The former is round in cross section in conformance with the configuration of the barrel 11 and has a length greater than dimensions transverse to the longitudinal axis thereof. The interior 15 is both long and deep in relation to its width and occupies a position in effect offset from the space 14. Thus, the space 15 may be considered to have a major axis parallel to but laterally offset from the longitudinal axis of the space 14. The upper surface of the body portion 12, within which is interior volume 15, coincides in effect forms a continuation of one part of the surface of the barrel 11 and it is within this part that the slit 13 is made, the slit thus being formed in a straight line in what may be termed one side edge of the envelope 10 and extending over substantially the full length thereof.

The upper part of the space or volume 15, or that part nearer the slit 13 is open for free communication with the space 14 and with the exterior of the pouch through slit 13. The bottom of the space 15 is closed and in this area has a curvature corresponding to the curvature of the body portion of a micrometer. Projecting into the space 15, and formed integrally with the envelope 10 on the inner surface thereof are bumpers 16 and 17 which tend to reinforce the envelope at points of greatest shock in the event of a fall of the micrometer while it is contained within the pouch. Also projecting into the space 15 in a lateral sense relatively to the bumpers 16 and 17 is a series of studs 18, also formed integrally with the internal surface of the envelope and serving to position and locate the micrometer and to inhibit relative motion thereof within the pouch. A bumper 19 is at the outer end of the barrel 11 and assists in absorbing end thrusts of the micrometer in that direction.

The pouch is formed on a mold preformed to the desired shape and dipped or otherwise thickly coated with the plastic material which defines the envelope 10. The coated mold then is subjected to successive heating and cooling operations resulting in formation of a firm and elastic envelope which fully encloses the mold except for a small opening 21 through which a projection on the mold extends for suspension thereof. The slit 13 then is made, using a sharp knife, and the envelope is stripped from the mold. The elastic properties of the envelope constrain it normally to assume the position shown in Fig. 2 wherein the slit 13 is in effect closed. The pouch may of course be made in different sizes, as well as in shapes to accommodate other precision tools, within the general concept of the invention.

What is claimed is:

1. A pouch made of a relatively soft, deformable material defining a unitary one piece envelope tending firmly to hold a shape with the walls thereof spaced from one another, said envelope defining a first interior volume substantially round in cross section and long in relation to dimensions transverse to the longitudinal axis of said first volume, and a second interior volume both long and deep in relation to the width thereof, said second volume being longitudinally offset from the longitudinal axis of said first volume and having its depth and length in a plane common to said longitudinal axis, said second volume communicating with said first volume and said envelope presenting a slit for access to the interior thereof, said envelope being self-closing in relation to said slit and responding to applied pressure to open said slit, the portion of the pouch accommodating said second volume being adapted to be received within the hand for application of endwise squeezing pressure for opening of said slit.

2. A pouch to contain and protect an article, said pouch being made of a relatively soft, deformable material defining a unitary one piece envelope tending firmly to hold a shape with the walls thereof spaced from one another, said envelope defining a first interior volume long and deep in a common plane as compared with the width thereof, and said envelope defining a second interior volume round in cross section and long in relation to di-
mension transverse to its longitudinal axis, said longitudinal axis being in said common plane and said interior volumes communicating with one another, said envelope presenting a surface in said common plane extending over the length of said first and second interior volumes and slit substantially from end to end thereof, said envelope being self closing in relation to said slit and responding to endwise applied pressure to open said slit, said envelope being made slightly oversize with respect to said article to permit opening of said slit as described while said article is contained therein.

3. A pouch made of a relatively soft, deformable and elastic material defining a unitary one-piece envelope tending firmly to hold a shape with the walls thereof spaced from one another, said envelope having an interior formation corresponding substantially to the external shape of an article to be contained therein and being slightly oversize in a longitudinal sense with respect to such article, said envelope having a planar surface corresponding in length substantially to the longest dimension of such article, there being a longitudinal slit in said surface whereby said surface may be opened for insertion and withdrawal of the tool, said envelope being self closing in relation to said slit and responding to applied pressure to open said slit, the pressure being applied endwise of said planar surface to utilize the slight additional length of the envelope for opening of said slit.

4. A pouch made of a relatively soft, deformable and elastic material defining a unitary one-piece envelope tending firmly to hold a shape with the walls thereof spaced from one another, said envelope having a flat formation with side walls spaced from one another and side and end portions interconnecting said walls, a planar surface in one of said portions extending over the full length thereof, and a slit in said planar surface whereby to provide access to the interior of the envelope through said one portion, said envelope being self-closing in relation to said slit and responding to pressure applied endwise of said planar surface to open said slit.

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