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2,923,019

SCOURING DEVICE

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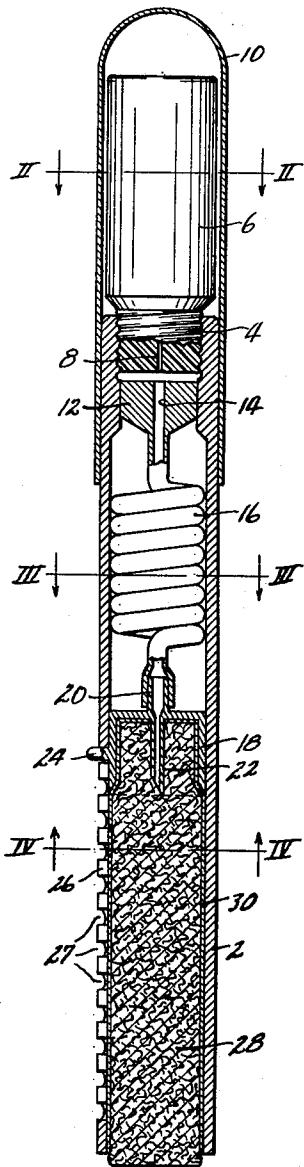


Fig. 1

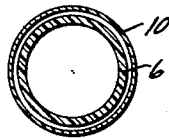


Fig. 2



Fig. 3

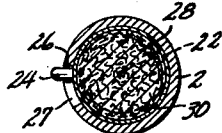


Fig. 4

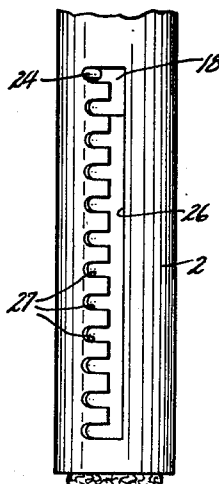


Fig. 5

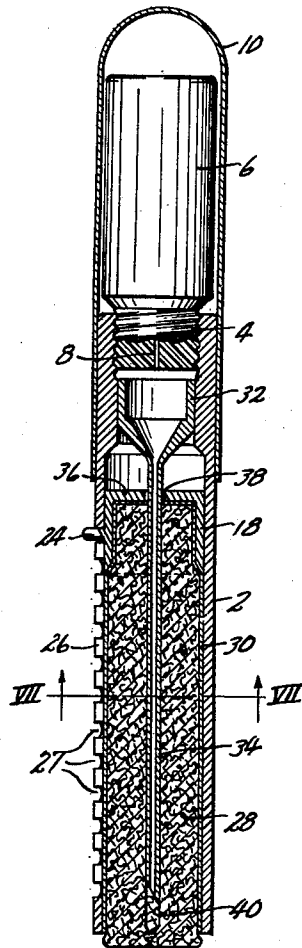


Fig. 6

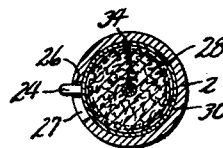


Fig. 7

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2,923,019

SCOURING DEVICE

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5 Claims. (Cl. 15—136)

This invention relates to new and useful improvements in scouring devices, and has particular reference to a device for use by grocery store clerks and the like in removing price marks such as are commonly applied to canned goods and the like. Prices are ordinarily applied directly to the can with a stamping ink, and removing said marks preparatory to applying new prices is often a difficult, tedious and time consuming job. This, however, is an exemplary use only, and other uses will readily occur.

The principal object of the present invention is the provision of a scouring device comprising a scouring member of abradant material and means operative to maintain said member impregnated with a liquid solvent suitable for the job to be performed.

Another object is the provision of a scouring device of the character described having a special holder for the abradant material operable to hold said material for convenient use, the abradant material being normally completely housed and protected in the holder except for the portion thereof in immediate use, and being extendable therefrom as it is used.

A further object is the provision of a scouring device of the character described having an extensible pad or cartridge of abradant material, and having means whereby the liquid solvent is conveyed to the portion of the abradant material in actual use substantially without loss, despite the fact that said pad or cartridge is highly porous and said solvent may be highly volatile.

Other objects are simplicity and economy of construction, efficiency and dependability of operation, ease and convenience of refilling with both abradant material and solvent, and adaptability for use in a wide variety of applications.

With these objects in view, as well as other objects which will appear in the course of the specifications, reference will be had to the drawing, wherein:

Fig. 1 is a longitudinal sectional view of a scouring device embodying the present invention, with parts left in elevation and broken away,

Figs. 2, 3 and 4 are sectional views taken respectively on lines II—II, III—III and IV—IV of Fig. 1,

Fig. 5 is a fragmentary side elevational view of the device,

Fig. 6 is a view similar to Fig. 1 showing a modified form of the device, and

Fig. 7 is a sectional view taken on line VII—VII of Fig. 6.

Like reference numerals apply to similar parts throughout the several views, and the numeral 2 applies to a body member comprising a hollow cylindrical tube made of plastic, metal or other suitable material. Said body member is internally threaded at one end for receiving the correspondingly threaded neck portion 4 of the cylindrical bottle 6 disposed coaxially with the body member. Said bottle is preferably of the type commonly known as a "squeeze bottle," being formed of a semi-pliable and

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resilient plastic material capable of holding its shape and of returning to normal shape after deformation but capable also of being deformed easily when squeezed between the fingers. The bottle is adapted to contain a liquid solvent. While acetone has been found very effective in removing markings formed by stamping ink, it will be readily apparent that various solvents could be used as dictated by the particular job to be performed. The neck orifice 8 of the bottle is sufficiently small that the solvent will not normally flow therethrough by gravity regardless of the position of the bottle, but will pass said liquid when the bottle is manually squeezed, and discharge it downwardly into the body member. A tubular cap 10 is provided which encloses the bottle and grips the body member frictionally. Said cap protects the bottle against accidental deformation by blows or unintentional pressure, but may be easily removed when it is desired to squeeze the bottle.

In the species of the device shown in Figs. 1—5, a plug 12 is inserted into the body immediately beneath the bottle neck 8, being press-fitted therein so as to be substantially fixed therein and to seal the body member against the passage of solvent therearound. An axial passage 14 formed through said plug interconnects with a tubular conduit 16 which is formed in helical shape and disposed axially in body member 2. Said conduit may be integral with plug 12 as shown, and is also formed of a semi-pliable and resilient material such as that used for squeeze bottle 6.

A cup-shaped holder 18 is disposed axially in body member 2 beneath conduit 16, said holder opening downwardly. The holder has a tubular inlet 20 formed integrally therewith and extending upwardly therefrom, over which the lower end of conduit 16 is tightly fitted, and a tubular needle-like member 22 formed integrally with the cup and extending axially through said cup to a point substantially flush with the open lower end thereof. A pin 24 is fixed to holder 18 and extends radially outwardly therefrom through a slot 26 formed longitudinally in body member 2. By manipulating said pin, holder 18 may be moved from the position shown in Fig. 1 to a position with its open end approximately flush with the open lower end of the body member, and may be secured at any of a series of intermediate positions by moving said pin selectively into any of a series of lateral notches 27 extending from slot 26.

The abradant pad 28 constitutes a cylindrical cartridge of compressed steel wool, although it will be apparent that other fibrous materials could be used if desired. Said pad has a wrapper 30 which is pliable and easily torn, and which is impervious to the liquid solvent being used. A metallic foil has been found quite satisfactory for this purpose. The pad is inserted into the open lower end of the body member, and pressed firmly into holder cup 18, the lip of said holder being bevelled as shown to facilitate this insertion. As the pad enters the cup, the tubular needle 22 of the cup pierces the wrapper 30 and is embedded in the interior of the pad as shown. The wrapper 30 is torn away from the portion of the pad projecting from the lower end of the body member, thus exposing the abradant material.

The operation of the device is believed readily apparent. As the abradant material is worn away by use, pin 24 is moved another of notches 27, thus propelling an additional portion of the abradant pad outwardly from the body member into position for use, and wrapper 30 is torn away from the freshly exposed portion. Liquid solvent from bottle 6 passes through plug 12, conduit 16 and needle 22 into the pad, which is of course quite porous, and is conducted through said pad by gravity and capillary action to the exposed end thereof.

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Said solvent greatly increases the speed and ease with which ink markings and the like may be removed by the scouring pad. As the holder 18 is advanced, the conduit extends longitudinally in the manner of a helical spring, so that the liquid solvent is always conveyed thereby directly to the pad, regardless of the position of the latter. The wrapper 30 of the pad insures that solvent deposited in the pad by needle 22 will be conveyed through the pad to the exposed and operative portion thereof, preventing loss by fluid flow or evaporation through slot 26, or back into the upper portion of the body member.

The construction and operation of the modified form of the device shown in Figs. 6 and 7 differs from the species shown in Fig. 1 in that plug 12 of Fig. 1 is replaced by a cup 32 which is press-fitted in body member 2 just below the neck 4 of bottle 6, and conduit 16 and needle 22 of Fig. 1 are replaced by an elongated tubular needle 34 which is integral with and communicates with cup 32 and which is disposed axially in body member 2, its sharpened lower end projecting to a point adjacent the open lower end of the body member. The end wall 36 of holder cup 18 is provided with a central hole 38 through which needle 34 extends, so that the holder may move slidably along the needle. It will be seen in Fig. 6 that the needle thus must be inserted through nearly the entire length of pad 28 as the pad is inserted in the holder. As this insertion may be difficult if the abradant material of the pad is highly compressed and very dense, it is contemplated that the pad may be formed and furnished to users with an axial hole formed therethrough for receiving the needle, this hole being indicated at 40 in Fig. 6. Also as shown in Fig. 6, the repeated flexings and disturbances during use of the fibers of the abradant material will cause the lower end of hole 40 to be kept closed, so that the liquid solvent cannot flow from the pad through the hole and be lost. The construction and operation of the species of Figs. 6 and 7 is otherwise identical to that of the species of Figs. 1-5.

While I have shown and described a specific embodiment of my invention, it will be apparent that many minor changes of structure and operation could be made without departing from the spirit of the invention as defined by the scope of the appended claims.

What I claim as new and desire to protect by Letters Patent is:

1. A scouring device comprising a body member, a porous pad of abradant material carried in said body member and having a portion thereof extending exteriorly of said body member, a container for liquid solvent car-

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ried by said body member, a conduit interconnecting said container and said pad, whereby solvent is conveyed from said container into said pad, and a wrapper enclosing said pad and impervious to said solvent, said wrapper being formed of easily tearable material so as to be conveniently removable from the exteriorly extending portion of said pad.

2. A scouring device as recited in claim 1 wherein a portion of said interconnecting conduit is formed by a tubular needle piercing said wrapper and extending into the interior of said pad.

3. A scouring device as recited in claim 1 with the addition of a cup-shaped holder mounted for axial movement in said body member, said pad being frictionally inserted in said holder, said wrapper sheet enclosing said pad except for the exposed portion thereof, and means whereby said holder may be manually moved whereby to propel said pad from said body member, and wherein said interconnecting conduit includes a tubular needle entering said holder parallel to the axis thereof, said needle being operative to pierce said wrapper and enter said pad as said pad is inserted in the holder.

4. A scouring device as recited in claim 1 wherein said body member is substantially tubular, and with the addition of a cup-shaped holder disposed for axial sliding movement in said body member and opening toward an open end of said body member, and means whereby said holder may be manually moved, and wherein said interconnecting conduit includes a tubular needle carried fixedly by said holder and extending parallel to the axis thereof, said pad being adapted to be inserted frictionally in said holder whereby said wrapper is pierced by said needle, and a resiliently extensible conduit section interconnecting said container with said needle.

5. A scouring device as recited in claim 4 wherein said resiliently extensible conduit section comprises a helical coil of resilient tubular material.

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