Nov. 3, 1959 R. O. MARKES 2,910,960

INKING DEVICE

Filed April 19, 1957

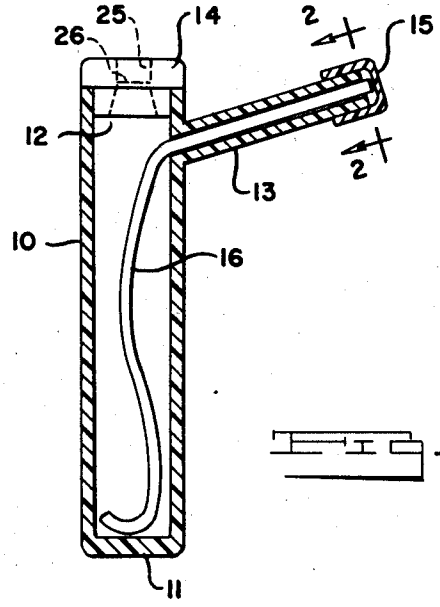

Fig. 1

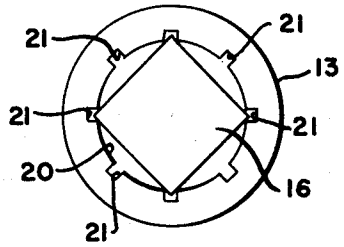

Fig. 2

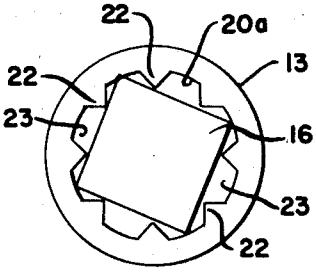

Fig. 3

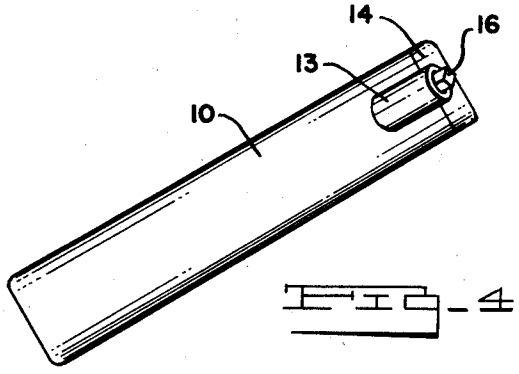

Fig. 4

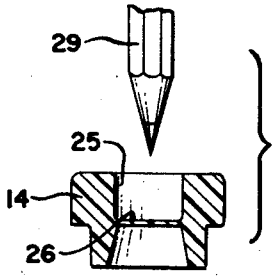

Fig. 5

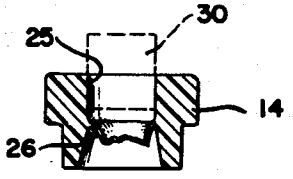

Fig. 6

INVENTOR.

ROBERT ORLAND MARKES

BY

Cullen & Canton

ATTORNEYS

United States Patent Office

2,910,960

Patented Nov. 3, 1959

2,910,960

INKING DEVICE

Robert Orland Markes, Detroit, Mich.

Application April 19, 1957, Serial No. 653,958

4 Claims. (Cl. 118—268)

This invention relates to an inking device and more particularly to inking devices useful for inking the ribbons of typewriters and similar types of office machines.

This inking device is of the same general type as that described in patents to O. W. Markes, No. 2,400,938 and No. 2,588,548. Inking devices of this character are used to carry ink in a storage reservoir and to transmit this ink to the surface of a typewriter ribbon or the like through a wick.

An object of this invention is to form an inking device of such inexpensive construction that it may be used as a single use device, or in the alternative, may be refilled with ink and used over and over again.

An additional object of this invention is to provide an inking device in the form of a reservoir molded of plastic or the like with an integral feed tube formed as part of the reservoir for supporting and carrying a wick extended into the reservoir.

A further object of this invention is to form the feed tube with air conducting channels so that, whereas the reservoir itself is tightly sealed with a cap, air may enter the reservoir through the feed tube regardless of the position or the condition of the wick which almost completely fills the hollow center of the feed tube.

It is also an object of this invention to provide a cap for the reservoir which normally seals the reservoir, but which may be broken open at its center for refilling the reservoir with ink and then closed with a stopper.

These and other objects of this invention will become apparent upon reading the following description of which the attached drawings form a part:

With reference to the drawings, in which

Fig. 1 is a cross-sectional elevational view of the reservoir and feed tube, but with the cap not in cross-section.

Fig. 2 is an enlarged end view of the feed tube taken in the direction of arrows 2—2 of Fig. 1, and

Fig. 3 is a view similar to Fig. 2 but shows a modification.

Fig. 4 shows the inking device in an angular position relative to the horizontal such as it would normally be in when in actual use.

Fig. 5 is a cross-sectional enlargement of the cap.

Fig. 6 is a view similar to Fig. 5 of the cap, but shows the cap punctured.

With reference to the drawings, the inking device herein is formed of a reservoir **10** in the form of an elongated tube with a closed bottom **11** and an open top **12**. A feed tube **13** is formed integral with the reservoir **10** and is hollow with the central bore communicating with the interior of the reservoir.

It is contemplated to form the reservoir and feed tube integrally in a single molding operation using a suitable plastic material for this purpose.

The open top of the reservoir is closed by means of a cap **14** which is forced into the top and, if necessary, cemented to the reservoir so as to form a complete seal.

Normally, the open end of the feed tube **13** is closed by means of a cap **15** to prevent ink from spilling out of

the device when the reservoir is shipped and stored before actual use. When the device is mounted for use with a typewriter or the like type of instrument, the cap **15** is removed and thrown away.

In order to ink a ribbon, a felt wick **16** is provided which extends through the feed tube **13** and into the reservoir so that it is dipped into the ink contained within the reservoir. Thus, the capillary action of the wick carries the ink through the feed tube to the free end of the wick which is placed in such a position that it rubs against the ribbon to be inked and thus carries ink to such ribbon.

In order to permit the ink to freely leave the reservoir to be carried to the ribbon, it is desirable to provide an air vent into the reservoir so that the empty space within the reservoir may be filled with air thereby replacing the ink drawn off.

With reference to Fig. 2, the vent is provided by means of a series of channels **21** cut into the inside wall **20** of the hollow center of the feed tube. A number of these channels are cut or molded into the wall and these channels extend the full length of the feed tube, from the free end to the end which communicates with the interior of the reservoir. Thus, the wick **16** is securely held within the open feed tube by means of the channels and at the same time air passageways are provided around the wick. While the wick is illustrated as being square in cross-section, in use, it may be either round or square and since it becomes twisted and sometimes swells in use, it may fill the entire center opening at various points thereby leaving only the open channels **21** for carrying atmospheric air into the interior of the reservoir.

A modification of this construction is shown in Fig. 3, wherein the inside wall **20***a* of the feed tube **13** is provided with lands or protuberances **22** to thereby provide channels **23** between the protuberances for the same purpose as those channels shown in Fig. 2.

The reservoir is normally mounted at an angle relative to the horizontal, such as that shown in Fig. 4, in its actual use position on a typewriter or similar instrument. Thus, no matter what position the reservoir is placed in, there is always at least one channel open for the passage of air through the feed tube to thereby communicate the interior of the reservoir with the outside atmosphere.

It is contemplated to form this device so inexpensively that the device may be thrown away after a single use. However, in many cases the user wishes to keep the device and use it over again. Thus, to permit reuse, the cap **14** is provided with a central bore **25** extending from the top of the cap into the interior of the reservoir. The central bore is blocked off by means of a thin, transverse flashing **26** which is formed integral with the plastic material forming the cap and which completely blocks off the bore, thereby sealing the top of the reservoir.

When it is desired to reuse the reservoir, a sharp pencil **29** (see Fig. 5) or any other sharp instrument is pushed against the flashing **26** to puncture the flashing, as illustrated in Fig. 6. Then, ink may be poured through the bore **25** and into the reservoir to fill the reservoir again. At this point, the bore **25** is sealed by means of a conventional stopper **30** made of rubber or cork or the like.

This invention may be further developed within the scope of the following attached claims. Accordingly, it is desired that the foregoing description be read as being merely illustrative of an operative embodiment of this invention and not in a strictly limiting sense.

I now claim:

1. An inking device for use in inking ribbons comprising an elongated tube-like reservoir having a closed bottom and an open top closed by a suitable cap, and an elongated, centrally bored thin walled feed tube extending outwardly of and integrally connected to the reservoir near the top of the reservoir, with its central bore com-

municating with the interior of the reservoir, and a wick inserted in the reservoir and passed through the bore to extend outwardly of the feed tube; a plurality of grooves formed in the inside wall of the bore of the feed tube, the grooves being substantially equally spaced apart from one another around the entire periphery of the inside bore wall and extending the full length of the feed tube from one end to the other thereof and communicating with the inside of the reservoir.

2. A construction as defined in claim 1 and said wick being substantially square in cross-section and with each of its four corners being fitted into one of the grooves, and with the remaining grooves, located between the grooves within which the wick corners are inserted, being free of the wick for carrying air into the reservoir.

3. A construction as defined in claim 1, and said cap being formed with a lower plug portion snugly fitted into the open end of the reservoir tube and inserted in said open end a considerable distance, and with an upper cap portion extending above the end of the reservoir tube a considerable distance, with the cap being sealed to the reservoir tube, and with the cap being centrally bored from end to end and the cap bore being sealed by a thin, breakable flashing formed transverse of the bore, said flashing being located a considerable distance beneath the upper end of the cap, whereby the flashing may be broken for refilling the reservoir tube and a stopper may be inserted in the cap bore to reseal the cap.

4. In an inking device for use in inking ribbons and

formed of an elongated tube-like reservoir having a closed bottom and an open top closed by a cap and a centrally bored feed tube connected with and extending from a side wall of the reservoir, and a wick inserted into the reservoir and through the central bore of the feed tube and extended out through the free end of the feed tube, the improvement comprising a cap closing the top of the reservoir tube and sealed thereto, said cap being provided with a lower portion snugly fitted within and extending into the open top of the reservoir tube a considerable distance, said cap being centrally bored from end to end thereof, the bore being of a wide diameter relative to the width of the cap, and the bore being sealed by a thin, breakable flashing formed integral with the cap and positioned transversely of the cap bore and located a considerable distance beneath the upper end of the cap bore, whereby the cap bore may be unsealed by puncturing the flashing with a sharp instrument and the reservoir may be refilled with ink through the cap bore and then the cap bore may be resealed with a stopper inserted into the cap bore.

References Cited in the file of this patent

UNITED STATES PATENTS

2,588,548	Markes	Mar. 11, 1952
2,599,561	Knight	June 10, 1952
2,731,013	Holmes	Jan. 17, 1956
2,732,824	Brown	Jan. 31, 1956