

[54] CASING FOR INKING ROLLERS

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206/52, 59; 248/128; 242/55.2, 68,
242/68.3; 226/190, 194

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[57]

ABSTRACT

An inking roller assembly includes an inking roller having a central core with conical ends. The assembly has a casing for the roller with a lateral opening to receive the roller. The shaped apertures extending from the opening terminate in bearing shells having conical surfaces for holding the conical ends of the core, so that the roller is held in a position out of contact with the walls of the casing.

1 Claim, 3 Drawing Figures

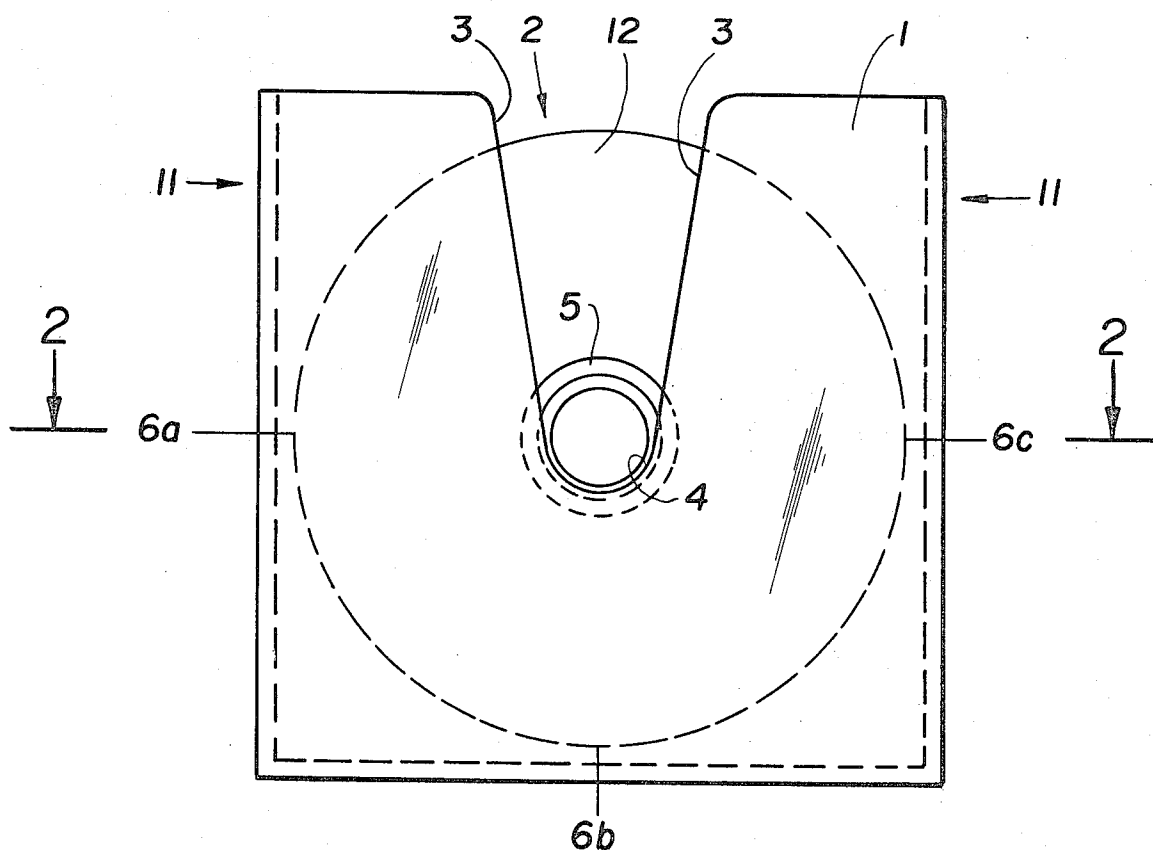


FIG. 1

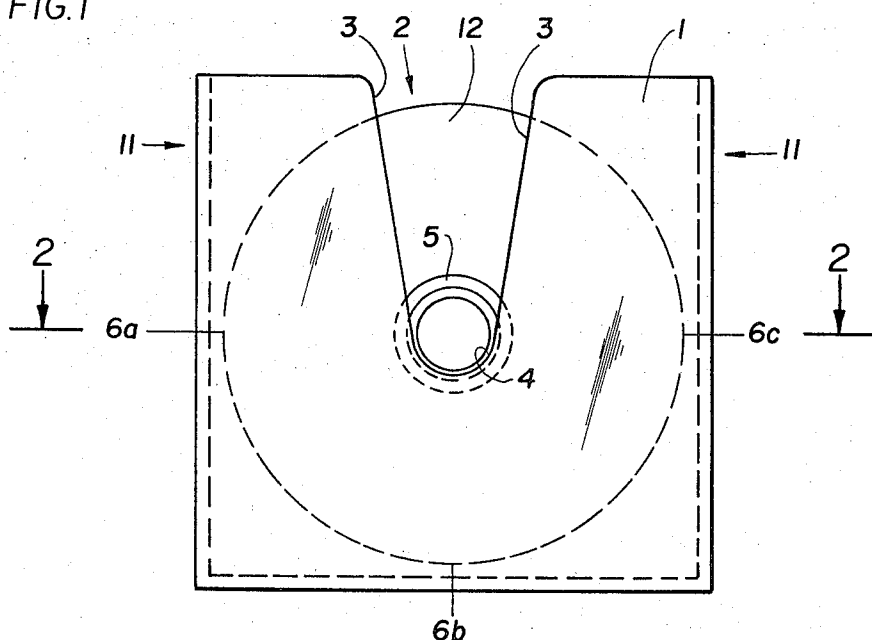


FIG. 2

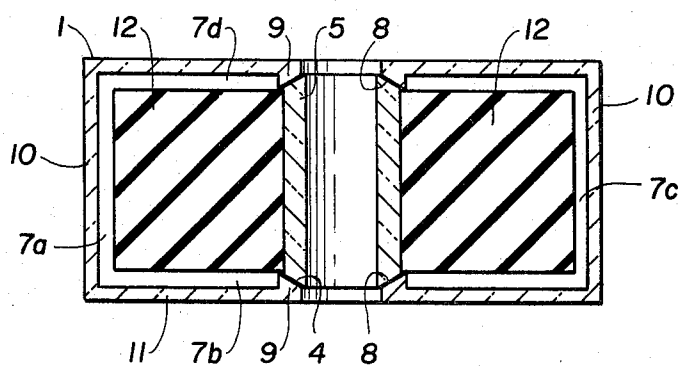
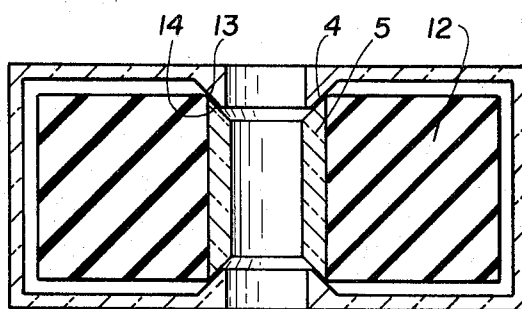


FIG. 3



CASING FOR INKING ROLLERS

BACKGROUND OF THE INVENTION

This invention relates to inking roller assemblies of the type incorporating an inking roller for use in a writing machine, and the invention is particularly directed to the provision of such an assembly in which a covering for the inking roller may be readily separated from the inking roller.

Writing machines of various types conventionally employ "inking rollers," i.e. rollers of a permeable material filled with ink. A problem exists in the storage of these rollers preparatory to immediate use, the storage of them in supply locations and in the shipping and handling of them without soiling hands and equipment as well as clothing. Another problem involved in the use of such inking rollers resides in the premature loss of ink due to unintentional pressure which might be applied to the ink soaked rollers. In the past it has been customary to package these inking rollers in ink rejecting foil of various kinds, for example, plastic foil. However, this type of packaging has been found to be unsatisfactory.

Further, it is also known to employ auxiliary lateral disks between which the inking roller is held. In one arrangement the disks must be removed by hand prior to inserting the inking roller into the machine. This procedure constitutes a substantial source of soiling. Thus, in another prior art, the lateral disks are not removed since they may be inserted into the writing machine along with the inking roller. However, even in this instance it is necessary to remove the roller from its container, which again constitutes a source of soiling.

OBJECT OF THE INVENTION

In view of the foregoing it is the object of the invention to provide a casing for an inking roller which will hold the inking roller in such a manner that any source for soiling is obviated.

SUMMARY OF THE INVENTION

According to the invention a casing is provided for an inking roller. The casing has a lateral opening which may be closed by any type of cover member. The casing is also provided with V-shaped apertures extending in the walls of the casing from the open side inwardly generally to the middle points of the walls. The inner ends of these apertures are formed as bearing shells for the roller itself. The two bearing shells have inwardly facing marginal or rim enforcements which preferably extend in a conical manner relative to the central axis of the casing, i.e. the axis of the roller.

An inking roller is supported in the casing according to the invention in such a manner that it is free to contact at all points except for its rigid hollow core. This core has conical end portions arranged for cooperation with said conical marginal reinforcements of the bearing shells, so that these conical ends of the core will snap into the conical bearing ends.

Due to the cooperation between the marginal reinforcements of the two bearing shells on the one hand and the conical ends of the hollow rigid roller core on the other hand, it is possible to support the roller in the casing without physical contact between the inked portions of the roller and the casing. If an auxiliary tool is inserted into the hollow core of the roller, for example,

a pencil, it is possible to easily remove the roller from the casing without any danger of contacting the inked portions of the roller. Preferably, however, such rollers are inserted into the respective machines together with the entire casing so that the hollow core is placed onto a bearing shaft or stud in the machine, whereupon the casing may be laterally removed without ever touching the inking roller itself.

BRIEF FIGURE DESCRIPTION

In order that the invention may be clearly understood, it will now be described, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a plan view of an inking roller assembly in accordance with one embodiment of the present invention;

FIG. 2 is a cross-sectional view of the assembly of FIG. 1 taken along the section line 2—2; and

FIG. 3 is a partial cross-sectional view of an inking roller assembly in accordance with another embodiment of the invention.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

FIG. 1 is a plan view of a casing 1 having an open top, hereinafter referred to as a lateral opening. V-shaped apertures 3 extend from the internal opening downwardly in a pair of opposite side walls of the casing. These apertures 3 are provided at their lower ends with reinforcing flanks forming bearing shells 4. The apexes of the apertures are preferably positioned so that the axes of the bearing shells are substantially at the mid points of the walls. An inking roller 2, having a hollow core 5 and an ink soaked portion 12 is inserted in the casing 1.

The hollow core 5 has ends extending out of the roller proper, i.e. beyond the inked portion 12. These outwardly extending ends of the hollow core 5 cooperate with the bearing shells 4 in such a manner that the inking roller may be snapped into position and securely held inside the casing without physical contact between the inked portion 12 of the roller and the inner walls of the casing, as shown at the points 6a, 6b and 6c.

The above mentioned position of the roller 2 inside the casing 1 is also clearly visible in FIG. 2, which is a cross-sectional view into the casing from its internal opening. Thus, FIG. 2 shows that the inked portion of the roller is free of contact from the inner walls of the casing as illustrated by reference numerals 7a, 7b, 7c and 7d. The snap-in feature is obtained since the core 5 is provided at both ends with a conical chamfer or bevel 8 which fits into the respectively conical shape 9 of the bearing shells 4, so that the open ends of the core extend into the V-shaped apertures 3.

Although the conical chamfer of the bearing shells is shown in FIG. 2 to be concave (i.e. with the conical apexes outside of the casing), and the outer ends of the core 5 are shown to be convex for cooperation with the concave bearing shells, it will be appreciated that the arrangement can be the other way around provided that the walls of the casing are sufficiently flexible for snapping into the concave open ends of the core 5. This arrangement is illustrated in FIG. 3, wherein it is seen that the conical surfaces 13 of the bearing shells 4 are convex and the conical surface 14 of the ends of the core are concave.

It is an advantage of the invention that the inking roller may be easily removed from its strapped in position in the bearing by means of a simple tool such as a pencil, whereupon the inking roller may be placed onto a bearing stud or shaft in a writing machine. Alternatively, the inking roller may be removed by simply compressing the lateral side walls **10** of the casing as shown by the arrows **11** in FIG. 1 so that the side walls which comprise the bearing shells are slightly spread apart, whereby the bearing shells release core **5**.

If desired, the illustrated assembly may be provided with a suitable cover of conventional construction for covering the lateral opening.

Although the invention has been described with reference to specific example embodiments, it is to be understood, that it is intended to cover all modifications and equivalents within the scope of the appended claims.

What is claimed is:

1. An inking roller device comprising a central roller core having conical end surfaces coaxial with said core, an ink roller mounted on said core, and a casing having a pair of flexible, spaced apart side walls and an open

top to which said side walls extend, said roller and said core fitting into said casing through said open top, each of said flexible side walls having an aperture extending from the edge thereof adjacent said open top to terminate in a centrally located apex in the respective side wall, wherein the apertures of the two side walls are defined by aperture edges aligned with each other, a reinforced bearing shell around the apex of each aperture, each bearing shell having a conical surface directed inwardly into said casing and merging into the respective aperture edges, said conical surfaces of the bearing shells being shaped and spaced to releasably receive the conical end surfaces of said core which is fitted between said conical surfaces of said bearing shells so that the conical end surfaces of said core engage the conical surfaces of said bearing shells with a snap fit due to said flexible side walls, the conical end surfaces of said core providing the only supporting surfaces of said core, whereby the conical surfaces on said bearing shells support said core within said casing in such a position that contact between said ink roller and the walls of said casing is prevented.

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