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(54) IMPROVEMENTS IN OR RELATING TO HOLDERS FOR TAPE CASSETTES

(71) We, IDN INVENTIONS AND DEVELOPMENT OF NOVELTIES A.G., a Swiss Company, of CH-7078 Lenzerheide, Switzerland, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to holders for tape cassettes and, in particular to holders which include a supporting rail into which a cassette can be inserted.

The object of the invention is to provide a cassette holder of the type including a supporting rail, which is comparatively simple and enables the removal of cassettes from a single holder or a series of stacked holders to be carried out conveniently.

The present invention provides a holder for a tape cassette of the type having projections which laterally flank the long open side of the cassette, the holder including a supporting rail of U-shaped cross-section, into which rail a cassette can be inserted from one end of the rail with the ends of the limbs of the U, which are inwardly curved, engaging closely over the projections on the cassette, resilient means supported by a transverse wall closing the other end of the rail the resilient means being positioned to be compressed by a cassette inserted into the rail, and locking means operable to retain an inserted cassette in the rail.

Preferably, the locking means comprises a tongue with lug and release key moulded onto it, the tongue being formed as part of the base of the rail.

For the connection of holders to one another, i.e. in order to stack cassettes, the rail may have on its outer surface a dove-tail-shaped strip on one side and a corresponding groove on the other.

If the tape spools of the cassette are to be locked during storage resiliently-deflectable arms with spool-securing cams may be provided on the rail.

By way of example only an embodiment of the invention will now be described in greater detail with reference to the accompanying drawings, of which:

Figure 1 is a section through the holder in a plane parallel to the largest cassette surface, the section being along the line I-I in Fig. 2, and

Figure 2 is an end view of the holder in the direction of the arrow II in Fig. 1.

The holder includes a supporting rail 1, the cross-section of which is substantially U-shaped with limbs 2 and 3. The dimensions are such that the distance between the two limbs 2, 3 just allows a cassette 5 with its projections 4 laterally flanking the side face of the cassette to be pushed in from one end of the rail (on the right in Fig. 1). The inwardly-curved ends 6, 7 of the limbs 2, 3 engage over the edges 8 of the projections 4 of the cassette.

The rail is closed at one end—on the left in Figure 1—by an end wall 9 which serves as support for a helical spring 10. The spring 10 is compressed when the cassette 5 is pushed into the rail (from the right in Figure 1). To ensure that the cassette 5 is held firmly in the inserted position, a lug 14 engages over the side 11 of the cassette. The lug 14 is situated at the end of a tongue 13 which is produced by slotting base wall 16 of the rail 1 over a length 12 and parallel to the insertion direction of the cassette 5. The tongue 13 can be deflected downwards in relation to the remainder of the rail 1. When pressure is exerted on the key 15 formed on the tongue 13, the cassette is therefore pushed out by the spring 10 and can be removed. The ends 6, 7 of the limbs 2, 3 rest with slight pre-tension against the cassette 5 and slow the release of the latter

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to such an extent that it is not catapulted out.

On the outer surface of the rail limbs 2, 3 there are means for the connection of several similar holders. In the embodiment illustrated the means comprise dovetail guides which can be engaged with one another on the tongue-and-groove principle, there being a strip 17 on the limb 2 and a corresponding groove 18 in the limb 3.

Base strips 19 are provided for the U cross-section rail 1 to raise the rail to such an extent that the key 15 has adequate clearance for its operation and does not contact a surface on which the holder may be resting.

If required, the holder may be so constructed that the tape spools of the cassette 5 are secured against accidental rotation when the cassette is in the holder. For this purpose, in the embodiment shown, resiliently-deflectable arms 20 are provided which are moulded onto the limb 3 of the rail and have cams 21 which drop into the core apertures of the tape spools when the cassette is inserted but are pushed out by movement of the cassette out of the holder.

The entire holder, apart from the spring 10, is a one-piece member made of a preferably thermoplastic plastics material, e.g. polystyrol.

WHAT WE CLAIM IS:—

1. A holder for a tape cassette of the type having projections which laterally flank the long open side of the cassette, the holder including a supporting rail of U-

shaped cross-section, into which rail a cassette can be inserted from one end of the rail with the ends of the limbs of the U, which are inwardly curved, engaging closely over the projections on the cassette, resilient means supported by a transverse wall closing the other end of the rail, the resilient means being positioned to be compressed by a cassette inserted into the rail, and locking means operable to retain an inserted cassette in the rail.

2. A holder according to Claim 1, in which the locking means comprises a tongue with lug and release key moulded onto it, the tongue being formed as part of the base of the rail.

3. A holder according to Claim 1 or 2, in which the outer surface of one limb of the rail is provided with an outwardly projecting strip and the outer surface of the other limb is provided with a complementary groove whereby similar holders may be connected together.

4. A holder according to any one of Claims 1 to 3, in which the rail includes resiliently deflectable arms with cams for securing the tape spools of an inserted cassette.

5. A holder substantially as herein described with reference to and as illustrated by the accompanying drawings.

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