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CONTAINER

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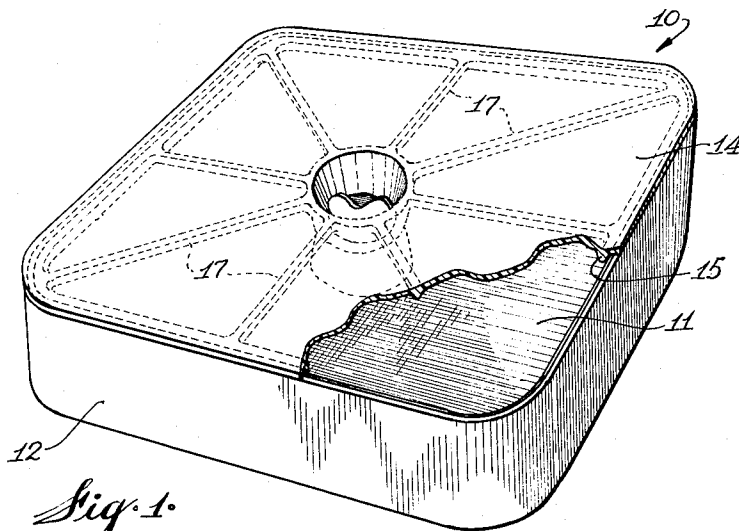


Fig. 1.

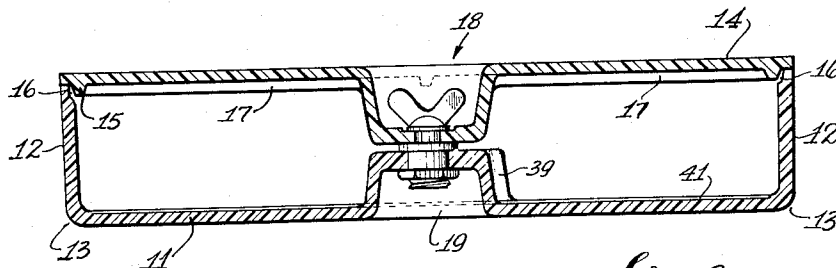


Fig. 2.

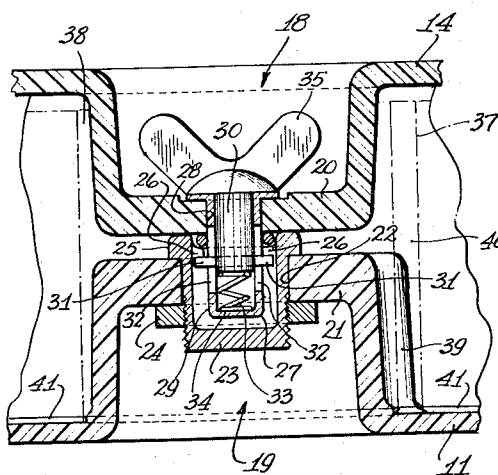


Fig. 3.

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CONTAINER

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This invention relates to containers, and more particularly to containers for tape or like reels.

The production of tapes bearing recordings of programs for subsequent television broadcasting, commonly known as video tapes, has grown to very large proportions in recent years. Each such tape is placed on a reel for storage and handling. The storage of a great many of such tape-containing reels in recording studios, broadcasting stations and the like presents a major problem since it is desirable that they be readily accessible while maintained in undamaged condition. Subsequent handling and shipment of the reels is also a problem since the reels must be carefully packed for shipment. The packing of a reel for shipment is a time-consuming operation.

It is an object of this invention to provide a container for video and like tape-containing reels which is of simple construction, in which the reel may be packed with a minimum of time and effort, which is subject to simple, positive, and complete closure, which provides satisfactory protection for the reel, and which may be employed without replacement or accessory packing means for a substantially unlimited number of storage and shipment steps.

The invention will be described with reference to the accompanying drawing, in which:

FIGURE 1 is a perspective view of a container in accordance with the invention,

FIGURE 2 is a sectional elevation of the container, and

FIGURE 3 is an enlarged partial sectional elevation.

The container illustrated comprises a generally rectangular boxlike portion 10 having a bottom wall 11 and side walls 12. The side walls 12 are of substantially equal extent and merge into each by means of curved corner wall portions 13. As shown the walls 12 are in generally perpendicular relation to the bottom wall 11.

A closure 14 comprises a substantially flat plate arranged to seat upon the free edges of walls 12 and 13. The inner surface of the closure is provided with a continuous lip or rib 15 in closely spaced relation to the periphery thereof. The free edges of walls 12 and 13 may be recessed at 16 to receive the lip 15, which therefore provides a positioning and retaining means for the closure. Preferably, the edge of the closure is substantially flush with the outer surfaces of the walls 12 and 13. Thus, the outer surfaces of the container are unobstructed. The closure plate 14 may be provided with a plurality of reinforcing ribs 17 on the inner surface thereof.

Means are provided for releasably locking the closure plate 14 to the box portion 10. To this end, a generally cylindrical depression 18 is formed axially in the closure plate 14 and a corresponding cylindrical depression 19 is formed axially in the bottom wall 11 of the box portion 10. With the closure 14 in position on the box portion the bottom walls 20 and 21 of the depression are in aligned and closely spaced parallel relation. Mounted in an axial opening 22 in the wall 21 of depression 19 is a cylindrical socket member 23 which is fixed to the wall 21 by means of a nut 24. The socket member has a flanged lip 25 seated on the inner surface of wall 21.

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Socket member 23 also has a pair of opposed lugs 26 projecting radially inwardly from the lip 25.

A tubular member 27 is fixed within an axial opening 28 in the wall 20 of depression 18. The tubular member has a depending portion 29 arranged to enter the socket member 23 in the closed position of closure plate 14. A rod 30 is rotatably and reciprocally mounted in tubular member 27 and has limited reciprocal movement therein by means of a pair of opposed lugs 31 fixed to rod 30 and extending slidably through slots 32 in the wall of tubular member 27. A spring 33 seated on the bottom wall 34 of tubular member 27 engages the end of rod 30 to urge the latter in an outer direction. The outer end of the rod within depression 18 is provided with a pair of manually engageable wings 35.

In operation with the closure plate seated on the box portion 10, the user rotates the rod 30 by means of the wings 35 until the lugs 31 clear the lugs 26 and the rod is then pressed downwardly against the action of spring 33 until the lugs 31 are located below lugs 26, when the rod is again rotated to place the lugs 31 in underlying relation to lugs 26. The rod 30 is then released and the spring 33 moves the rod upwardly to place the lugs 31 in locking engagement with lugs 26 under pressure of the spring. The locking means is released by following a reverse procedure.

A sealing ring 36 may be interposed between the under surface of wall 20 and lugs 26.

A tape reel is indicated at 37. The reel has an axial opening 38 into which the depressions 18 and 19 are arranged to fit. In order to prevent rotative movement of the reel in the container, a lug 39 is preferably formed on the outer surface of the wall of depression 19 within the box portion 10, such lug being arranged to enter a groove 40 which is conventionally formed in the inner wall of the axial opening 38 in the reel. Preferably, also, the inner surface of bottom wall 11 of the box portion 10 is recessed at 41 to receive a portion of the reel 37 and further prevent undue movement of the reel in the container.

It will be observed that the locking means is wholly contained within the depressions 18 and 19 whereby the unobstructed character of the outer surfaces of the container are not impaired.

The box portion 10 and the closure plate 14 are formed of any suitable rigid, strong material such as metal or plastic composition. Preferably, these parts are formed of a molded plastic composition of the unsaturated polyester type reinforced with glass fibers.

There has thus been provided a container into which the tape-containing reel may be quickly and readily packed for handling and storage. Moreover, since the container includes positive closure locking means, it may be employed for shipping the reel without transfer thereof to another packing and without employing any additional packing means.

I claim:

A tape reel container comprising a box portion having bottom and side walls and an open top, a separate closure plate arranged for seating engagement on said side walls to close said top, each said bottom wall and closure plate having a centrally disposed open depression therein, said depressions being of substantially equal size, each said depression having a bottom wall and a side wall in opposed spaced relation to said box portion side wall, said depression bottom walls being arranged for parallel, aligned, closely spaced relation with respect to each other, and locking means housed wholly within said depressions and mounted on said depression bottom walls, said locking means comprising a socket member fixed in said

bottom wall of said box portion depression, a tubular member fixed in said bottom wall of said closure plate depression and having a depending portion arranged to enter said socket portion, a rod rotatably and reciprocally mounted in said tubular member means limiting the reciprocal movement of said rod, a spring in said tubular member urging said rod in one direction, and a pair of inter-engageable locking lugs carried by said rod and said socket member.

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