

Sept. 21, 1943.

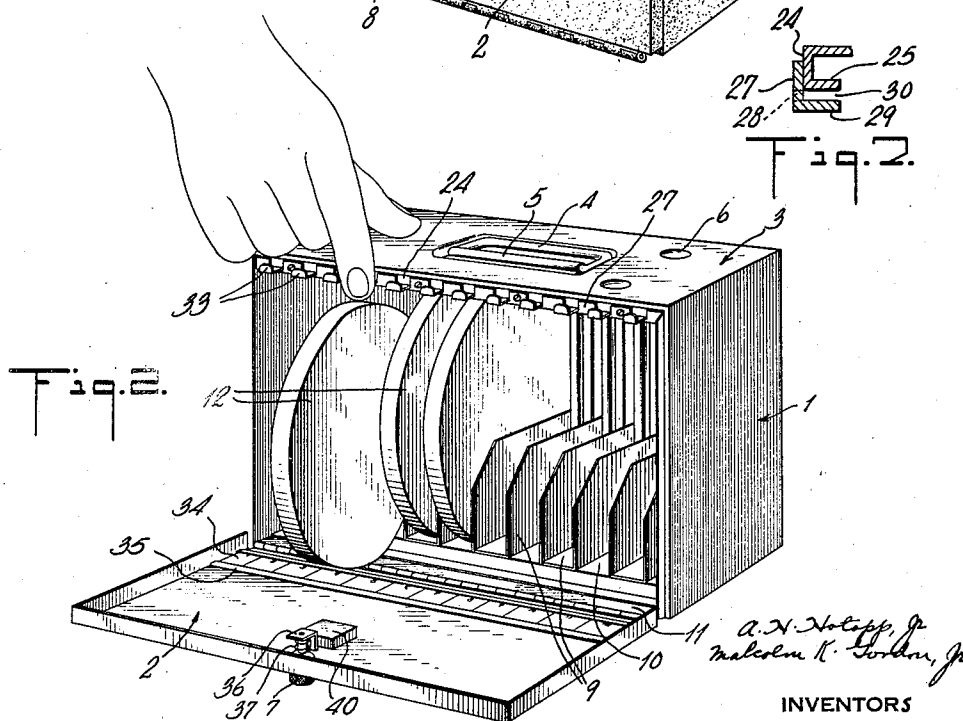
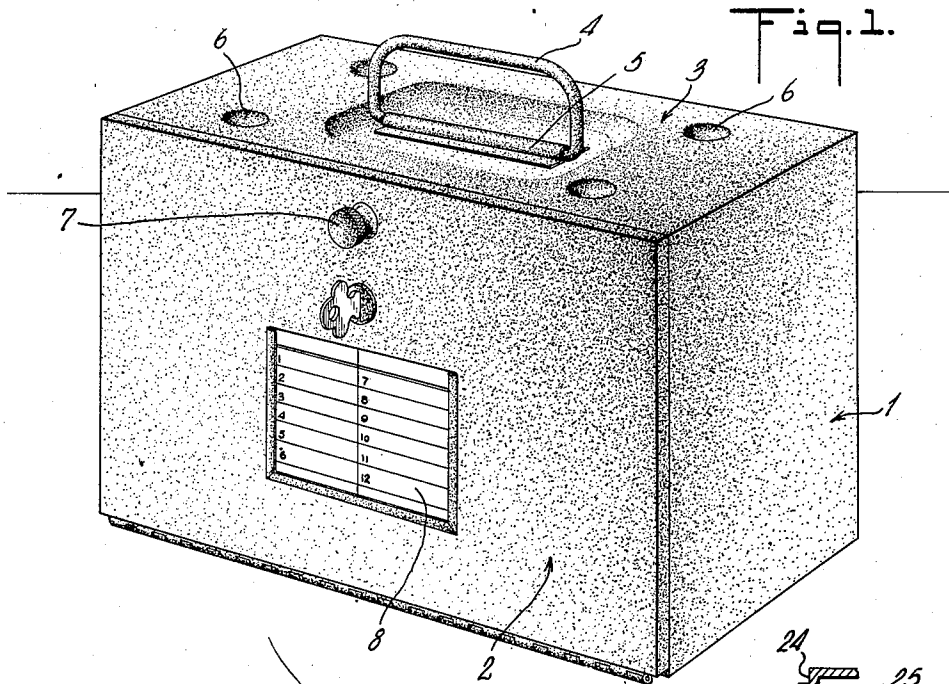
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2,330,173

FILM-EJECTING STORAGE CABINET

Filed April 3, 1941.

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 3.

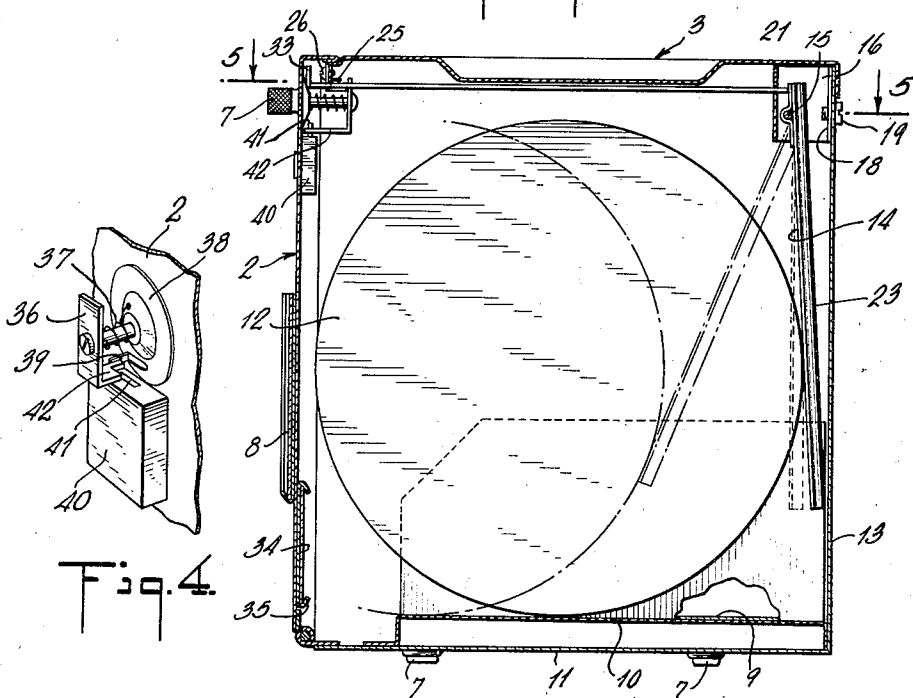


Fig. 4.

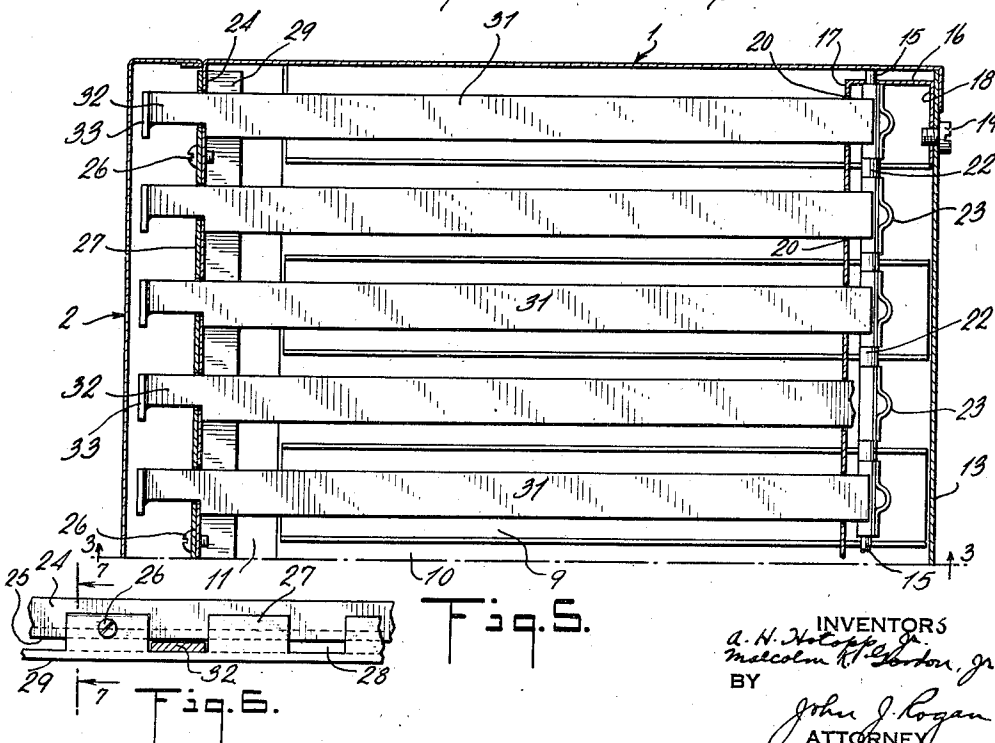


Fig. 5.

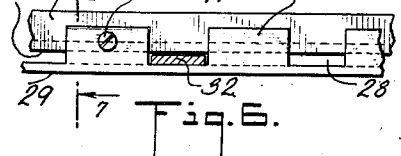


Fig. 6.

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FILM-EJECTING STORAGE CABINET

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Application April 3, 1941, Serial No. 386,604

2 Claims. (Cl. 312-15)

This invention relates to storage cabinets and the like and more particularly to a cabinet for filing, storing and automatically ejecting picture reels and the like.

A principal object of the invention is to provide a novel form of storage cabinet for picture reels.

Another object is to provide a novel form of automatic ejecting means whereby any selected reel can be instantaneously ejected from a storage cabinet without disturbing adjacent reels.

A further object is to provide an improved structure of reel storage cabinet which is compact and specially designed for instantaneous identification and ejection of selected reels.

A feature of the invention relates to the novel form of selective ejecting mechanism whereby any one or more of a series of stored reels or similar devices can be ejected by the simple operation of pressing a button, slide or the like.

A further feature relates to the novel organization, arrangement and relative location of parts which constitute a simple improved and compact automatic ejecting cabinet especially suitable for such devices as motion picture reels and the like.

In the drawings which show one preferred embodiment of the invention,

Fig. 1 is a perspective view of a film storage cabinet and carrying case embodying features of the invention.

Fig. 2 is another perspective view with the front door open to show the manner of storing and ejecting the reels.

Fig. 3 is a sectional view of Fig. 5 taken along the line 3-3 thereof.

Fig. 4 is a detailed perspective view of the interlock and latch mechanism.

Fig. 5 is a sectional view of Fig. 3 taken along the line 5-5 thereof.

Fig. 6 is an enlarged detail of certain parts of the preceding figures.

Fig. 7 is an enlarged detail of part of Fig. 3.

Preferably, although not necessarily, the storage cabinet is fabricated from sheet metal and comprises a box section 1 with a hinged front cover 2. The top wall 3 of the box is provided with a suitable carrying handle 4 which is rotatably held by means of an elongated channelled member 5 welded or otherwise fastened to the top 3. The region of top 3 adjacent the handle is recessed so as to accommodate the handle when it lies flat as shown in Fig. 2, the recess being sufficiently deep so that neither the handle

nor member 5 project above the surface of top 3. In order to enable two or more such cabinets to be superposed in vertical alignment and without danger of relative slipping, the top 3 has four circular recesses 6 adapted to receive the glides or feet 7 on the superposed cabinet. Preferably the feet 7 are of rubber, felt or other relatively soft material. The front cover 2 is provided with an interlocked hand latch and key-lock shown in Fig. 4 and described in detail hereinbelow. A knob 7 is provided for releasing the latch when the key-lock is unlocked. Preferably, the front cover is provided on its outer face with a suitable receptacle 8 for a card index and on which is entered the number and other identification data of the respective reels of film which are to be stored in the cabinet.

As shown in Figs. 2, 3 and 4, the interior of the cabinet is divided into a series of stalls or compartments defined by the channelled metal strips 9 having their flat bases welded to the platform 10 which in turn is welded to the bottom 11 of the box. Preferably, the front corners of members 9 are cut away at an angle as shown. Members 9 not only provide stalls between their own parallel walls but also adjacent members 9 provide additional stalls. Each of the stalls is adapted to receive a circular can or container 12 with which is enclosed a picture reel or the like. Since these reel cans are well-known in the photographic art, a detailed description is not necessary beyond stating that the dimensions of the box portion 1 are such that the reels can be freely inserted and automatically ejected without obstruction. Preferably, the platform 10 is slightly inclined downwardly towards the rear wall 13 so that when the box is resting on a flat table or other support, the cans 12 are held by gravity against the ejector arms 14 (Fig. 3) thus preventing the reels rolling out of the box when the front cover is open.

A plurality of ejector arms 14, one for each of the reel stalls, are freely supported for independent and swingable movement on a circular bar mounted in the end walls 16 of a frame member 17 which extends along the length of the rear wall 13 and has its in-turned ends 18 fastened to the rear wall 13 by screws 19. The member 17 has a series of narrow slits 20, one for each of the ejector arms 14 and in alignment with the upper end of the associated arm. Each arm 14 is swingably supported on bar 15 by means of a channelled member 21 welded thereto adjacent the upper end of the arm, the arms being spaced apart from each other to

maintain them in alignment with the respective stalls by means of spacer collars 22. As shown more clearly in Fig. 3, the arms 14 are sufficiently long to extend downwardly into the associated stalls and preferably the arms 14 are of sheet metal each having a longitudinal strengthening rib 23.

Normally, i. e., when there is no reel can in a stall, the weight of the arms 14 causes them to assume a substantially vertical position represented by the dotted outline in Fig. 3. However, when a reel can is placed in its stall, it rolls towards the back of the box and its weight rotates the arm 14 about bar 15 to the full line position shown in Fig. 3. The top wall 3 of the box at its front edge has a downwardly extending lip or flange 24 which is bent back inwardly of the box to form a horizontal lip 25. Attached to the portion 24 by screws 26 is an L-shaped metal strip 27 having its vertical wall divided into a series of slots or windows 28, one for each of the ejector arms 14 and in alignment therewith. The strip 27 is fastened to flange 24 so that the horizontal lip 25 is slightly above the horizontal lip 29 of member 27, thus providing a series of flat narrow guides 30 defined by lips 25, 29 and the edges of the window 28, these guides being in alignment with the slits 20 in member 17.

For the purpose of operating the ejecting arms 14, each is provided with a flat metal slide 31 having its rear end extending through the associated slit 20 and its front end extending through the associated guide 30. In order to prevent dislodgment of the slides, each slide is provided at its front end with a notched portion 32 of approximately the same width as the windows 28 and the front end 33 of each slide is bent upwardly at an angle to provide a pushing surface as illustrated in Fig. 2. Assuming that each of the stalls has a reel can placed in it, then the weight thereof holds the arms 14 so that their upper ends abut against the inner ends of the associated slides 31, thus forcing the slides to their forward position as shown in Figs. 3 and 5. When it is desired to eject a selected reel, the corresponding member 33 is pushed towards the rear of the box causing the associated arm 14 to rotate in a clockwise direction (as viewed in Fig. 3) and this motion of the arm 14 ejects the selected reel from its stall.

In order to simplify the selection of the appropriate reel, a suitable index strip 34 may be removably inserted in a suitable channeled receptacle 35 fastened on the inner face of the front cover 2.

In order to prevent accidental opening of the front cover 2, it is provided with an interlock mechanism consisting of a rotatable L-shaped latch 36 which is fastened to the shaft of knob 7. A coil spring 37 has one end anchored in an opening in the collar 38 welded to cover 2 and the other end fastened to the knob shaft. A lug 39 is struck-up from the member 38 to act as a stop for the latch 36, the spring 37 therefore normally maintains the latch 36 in its vertical posi-

tion where it can engage the rear edge of lip 29 to prevent the cover 2 accidentally falling to its open position. When it is desired to lock the chest permanently, there is provided any suitable form of key-lock 40, the tongue 41 of which is adapted to be raised in interlocking relation with the notched end 42 of the latch 36 thus preventing the latch being turned to open the cover 2. By constructing the chest in the manner described above, the contents are rendered dust-proof and not only can individual reels be expeditiously selected and ejected but the device is very compact and of easy portability. Thus, while reference has been made herein to a picture reel, it will be obvious that the invention is equally applicable to the ejection of other devices such as phonograph records; and that the structure of the storage cabinet and ejecting means is not limited to any particular type of reel or record.

Various changes and modifications may be made in the particular embodiment disclosed without departing from the spirit and scope of the invention.

25 What we claim is:

1. A device for storing picture reels and the like, comprising a cabinet for containing the reels and having on its interior means to space the reels apart, slotted guide means at the rear of said cabinet, corresponding slotted guide means at the front of the cabinet, the slots in both said guide means being in alignment, a plurality of operating members passing through the aligned slots in said guide means, a plurality of swingably supported levers each having one end adapted to be engaged by a corresponding one of said operating members, the other end of each lever normally engaging a corresponding one of said reels whereby selective operation of one of said operating members causes the corresponding one of the reels to be ejected from the cabinet, said slotted guide means at the front of the cabinet comprising a downwardly extending lip on the front edge of the cabinet with an inwardly extending horizontal flange, and a notched member attached to said edge with the notches extending below said edge to define guides for said operating members.

2. A device for storing picture reels and the like, comprising a cabinet for containing the reels, means to support and separate the reels within the cabinet, said means including a platform inclined downwardly towards the rear of the cabinet so that said reels are held by gravity towards the rear of the cabinet, a cover hinged to the bottom wall of the cabinet, said platform terminating abruptly a substantial distance from said hinge so as to define therewith a stopping channel for reels ejected from the said supporting and separating means, and a plurality of ejecting levers, one for each reel and normally resting thereagainst and adapted to be selectively operated to eject a corresponding reel from the cabinet into the said channel.

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