Jan. 19, 1932. T. TOLLEFSEN 1,842,131

RECORD AND INDEX CARD SYSTEM

Filed July 15, 1929 3 Sheets-Sheet 1

Fig. 1

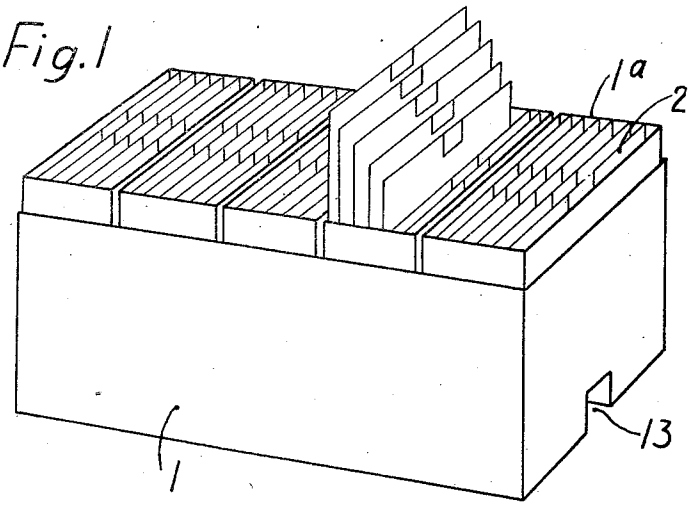
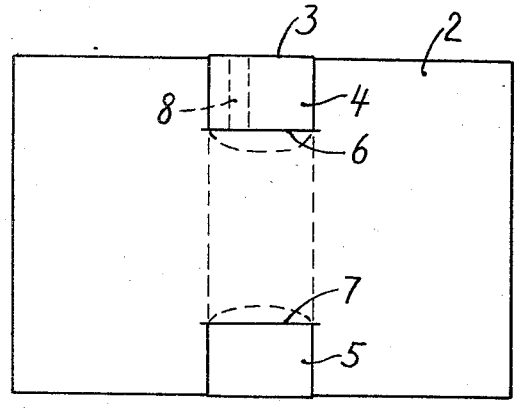


Fig. 2



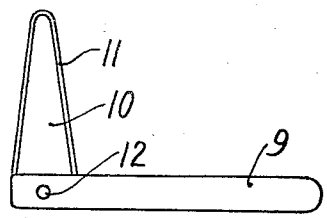


Fig. 3

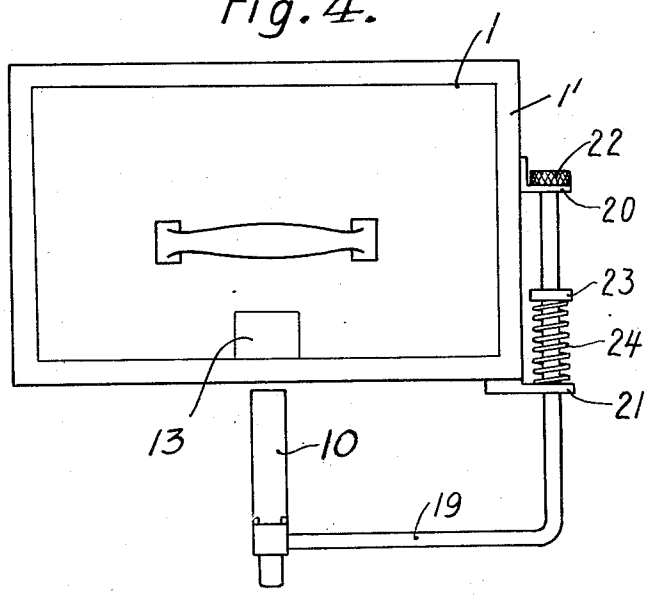
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Fig. 4.



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Fig. 5

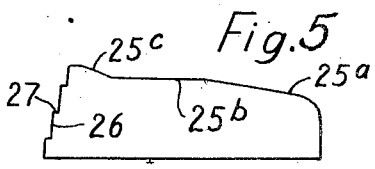


Fig. 6.

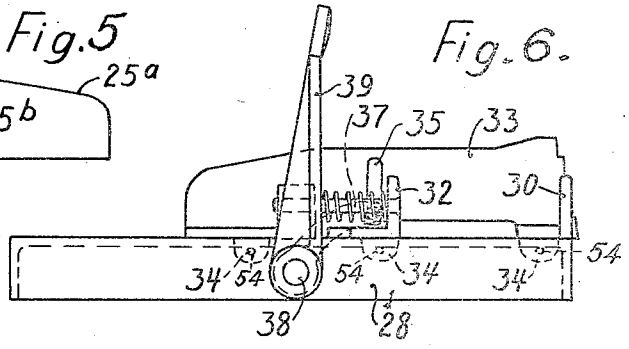
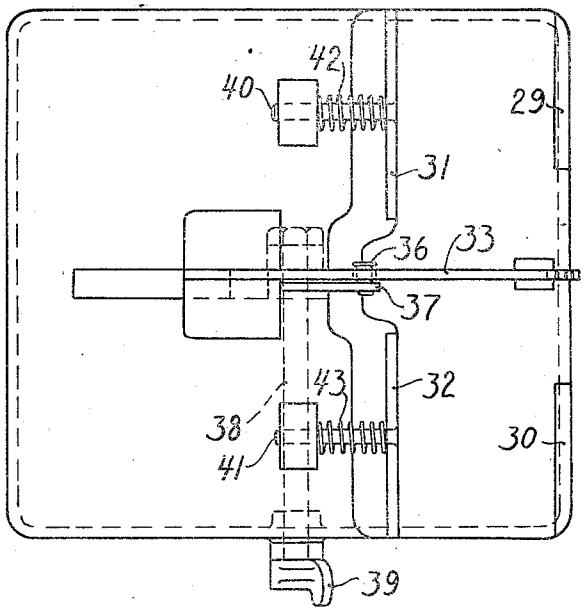


Fig. 7.



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1,842,131

UNITED STATES PATENT OFFICE

THORLEIF TOLLEFSEN, OF OSLO, NORWAY

RECORD AND INDEX CARD SYSTEM

Application filed July 15, 1929, Serial No. 378,417, and in Great Britain January 28, 1929.

The present invention relates to record and index card systems of the kind, wherein the cards occupy an upright position in drawers or the like, and the invention has for its object to provide such an arrangement that the cards may be easily lifted in relation to one another, so that the headings of a row of cards appear clearly for each card separately without any risk of any of the lifted cards being hidden behind cards lying in front thereof.

A further object of the invention is to provide an apparatus of a convenient construction for lifting the cards either automatically or by hand.

In order to facilitate the sliding of a card in relation to the neighbouring cards, they are provided at the middle of the back space with a strip of a suitable smooth material such as for instance celluloid. The strip extends from the bottom edge to the top edge of the card. It may be fastened to the card by hook-shaped bends at the top and bottom, the said bends projecting preferably into slots in the card in order to secure the connection. The bent strip portions may at the same time be utilized as supports for coloured signals which are slid into position under the strip and are fastened at the card edge by suitable means.

The transparent strip is cheap and occupies a small space. It will therefore be possible to provide all cards in use with such a strip, even in very large archives. The strips may also be transferred from one side of the card to the other one. It will be convenient to grip the card by the celluloid strip. Thereby is avoided that the cards become dirty and worn, and this advantage is further increased by the fact that the correct card may be gripped without other cards being necessarily touched.

The strips will also render a greater safety of the cards being reinserted in position than a card without such a marking, because the latter may easily remain undiscovered among other cards and papers.

In order to enable a convenient handling of the cards they should fit well in the box so to obtain a good guiding laterally. The lifting of the cards is effected through a bottom slot in the box corresponding in position to the said smooth card strip.

The cards are suitably collected in boxes, whereby they may be taken down easily from a supporting shelf.

A lifting finger with inclined sides is provided for the purpose of lifting the cards of the series. The lifting finger is preferably provided with a covering of India rubber or it may consist of a substance, such as cork or the like, which is adapted to make some friction with the cards as they slide down upon the finger, whereby the cards will take a position in regular steps. Also the bottom of the boxes may be provided with a sound-deadening substance, and therefore the lifting finger need not be constructed with a frictional covering. In the present combination of cards with celluloid strip and a card lifter with India rubber covering or the like, one card will be pressed against the next one during the lifting operation, whereby the cards will adjust themselves in regular rows. In order to facilitate the motion of the cards relatively to one another, celluloid strips are preferably used. The card lifter should be adjustable into different inclinations to the card box bottom, according as the boxes contain a few cards or many cards.

Colored strips may also be used in order to mark special conditions such as bad payers, fire-dangerous buildings etc.

The invention is illustrated in the accompanying drawings. Fig. 1 is a perspective view of a drawer provided with card boxes according to the invention, some cards in one of the boxes being in a stepped lifted position.

Fig. 2 shows the front side of a card with bent strip ends which are inserted into slots made in the card.

Fig. 3 shows a card lifter in side view adapted for manual operation.

Fig. 4 shows a device for mounting the card lifter on the exterior of a drawer.

Fig. 5 shows a lifting finger provided with card steps on its steep edge to enable the

cards to adjust themselves in stepped relation along said edge.

Fig. 6 is a side view of a holder for a card box adapted for lifting the cards and permitting their stepped falling-down.

Fig. 7 is a corresponding plan view.

Referring to Figure 1, a plurality of separate card boxes 1*a* are arranged in a drawer 1. Each card 2 corresponds in width substantially to the box width, whereby the cards are guided safely laterally.

Each card is provided with a celluloid strip 3, the ends 4 and 5 of which are bent about the top and bottom edge respectively of the card and are inserted into slots 6 and 7 made in the same. 8 denotes a signal which is inserted under the strip 4 before its insertion into the slot 6 and is fastened to the top edge of the card by suitable means.

In Figure 3, 9 denotes the card lifted, 10 the lifting finger and 12 a pin opposing some frictional resistance to turning the finger and enabling angular adjustment of the finger 10 in relation to the handle to obtain a suitable inclination of the finger side, and 11 denotes a finger covering, such as India rubber. A good result may be obtained also by making the finger proper from cork, hard caoutchouc or the like.

In order to enable the handling of the card lifter, the separate boxes and the drawer containing them are provided with a slot-like aperture 13 in bottom, front and rear side.

Figure 4 shows a suitable arrangement of the card lifter outside a drawer. In mountings 20, 21 on the stationary frame of the drawer 1 one arm of a right-angularly bent rod 19 is journalled. The other arm of said rod carries a card lifter, preferably one according to Figure 3. A knurled head 22 serves for operation of the rod. The bottom slot 13 extends throughout the length of the box.

On the vertical portion of the rod a stop 23 for a spring 24 is fastened which operates to raise the card lifter after the adjustment of the drawer. Normally the card lifter is arranged on the underside of the front wall of the drawer frame. In case a special card is to be removed, the rod is pressed down by the head 22 to the position shown in Fig. 4, the spring 24 being thereby compressed. When now the drawer 1 is pulled out, the different boxes 1*a* therein will pass by the card lifter in succession. These boxes are provided with the necessary index indications to enable the operator to stop the drawer with the card lifter in proper position under the desired box. If then the head 22 is released, the card lifter is raised by the spring 24, causing thereby a portion of the cards within the box to occupy the stepped relation shown in Figure 1, whereby the desired card may be easily removed.

In case the card lifter is to be operated manually, the box in question is preferably firstly taken out from the drawer.

Figure 5 shows a lifting device for enabling a lifting and stepped falling down of the cards during the moving of the device along the box bottom. In order to obtain a safest possible handling of the cards, the device is provided with differently inclined lifting portions 25*a*, 25*b*, 25*c*, and the edge 26 causing the cards to fall down in stepped relation is provided with steps 27.

Figures 6 and 7 show a special device serving to handle the cards in the separate boxes. In these figures, 28 denotes the bottom part of the device. On this bottom part stationary abutments 29, 30 and spring-pressed abutments 31, 32 are arranged, the latter operated by springs 42, 43, mounted on guide pins 40, 41, carried by the abutments 31, 32, and engaging openings in the stationary abutments. The card-lifting device 33 is made according to Fig. 5 and is provided with lugs 34, which project through the bottom plate and prevent by means of transverse pins 54 the device from lifting during the operation. To enable its operation it is provided with a slot 35. Into this slot projects a pin 36 on a crank arm 37 fastened to a shaft 38 which may be turned by a handle 39.

When the device is to be used, the box is positioned between the abutments 29, 30, and 31, 32. A fastening of boxes of different width is made possible by means of the spring mounting of the latter abutments.

Besides, the card-lifting device may be arranged in different manners. In case of great card collections it may be suitable to provide for a plurality of card lifters controlled by a key board, so that by depressing one special key the particular card group is lifted which is desired in that special case.

Claims:—

1. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of smooth material adapted to facilitate the sliding of the card on another contacting same.

2. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of smooth transparent material adapted to facilitate the sliding of the card on another contacting same, the ends of the strip being bent about the top and bottom edges of the card and fastened on the opposite side thereof.

3. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of

smooth transparent material adapted to facilitate the sliding of the card on another contacting same, the ends of the strip being bent about the top and bottom edges of the card and fastened on the opposite side thereof by insertion of the said strip ends into slots made in the card.

4. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of smooth material adapted to facilitate the sliding of the card on another contacting same, in combination with a box-like card holder, the sides of which form lateral guides for the cards and provided with a longitudinal bottom slot enabling the insertion of a card-lifting device.

5. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of smooth transparent material adapted to facilitate the sliding of the card on another contacting same, the ends of the strip being bent about the top and bottom edges of the card and fastened on the opposite side thereof, in combination with a box-like card holder, the sides of which form lateral guides for the cards and provided with a longitudinal bottom slot enabling the insertion of a card-lifting device.

6. Card for record and index card systems to be used particularly in combination with a device for lifting the cards, characterized by the provision on one side of the card at its middle portion of a transverse strip of smooth transparent material adapted to facilitate the sliding of the card on another contacting same, the ends of the strip being bent about the top and bottom edges of the card and fastened on the opposite side thereof by insertion of the said strip ends into slots made in the card, in combination with a box-like card holder, the sides of which form lateral guides for the cards and provided with a longitudinal bottom slot enabling the insertion of a card-lifting device.

THORLEIF TOLLEFSEN.