April 13, 1965 R. L. MEYERS 3,178,029

CARD FILE

Filed Oct. 5, 1962

2 Sheets-Sheet 1

Fig. 1.

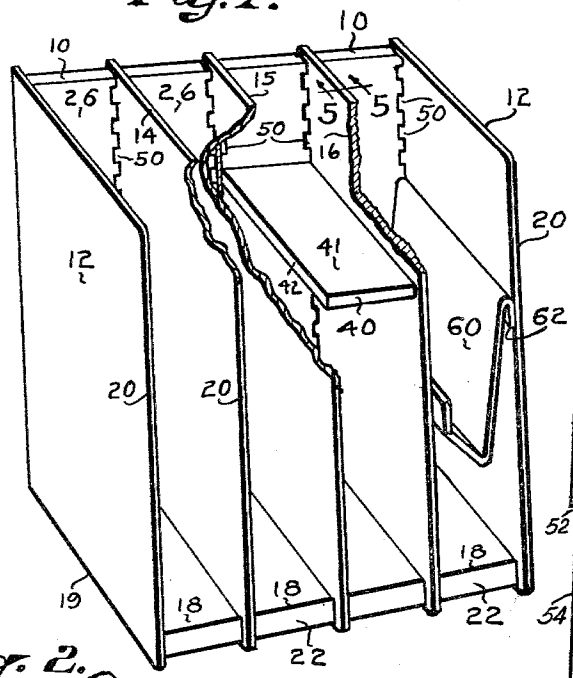


Fig. 6.

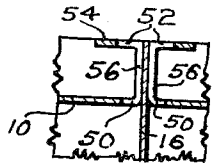


Fig. 2.

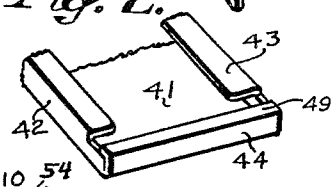


Fig. 4.

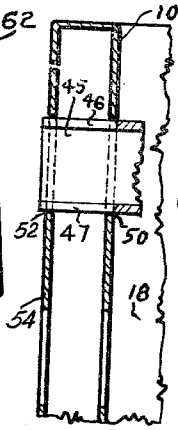
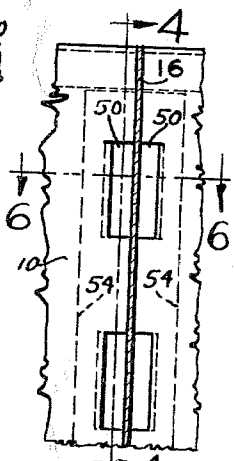


Fig. 5.



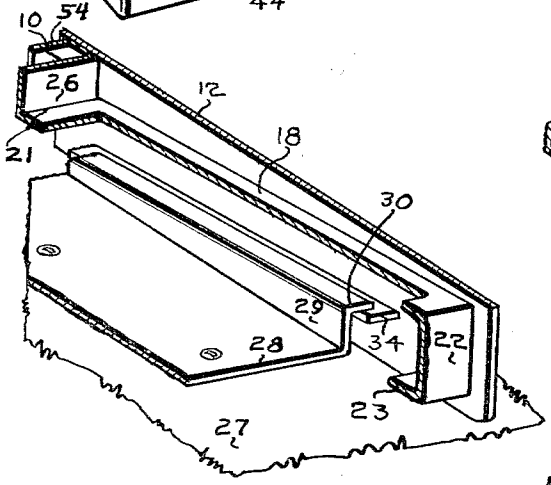


Fig. 11.

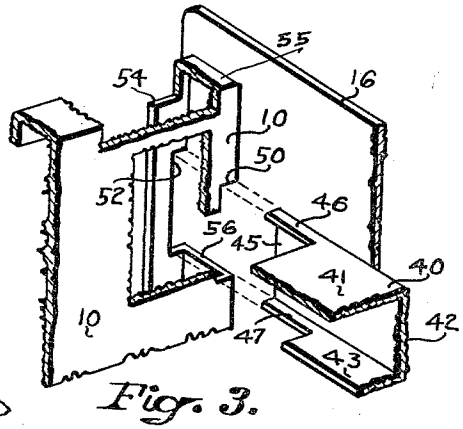


Fig. 3.

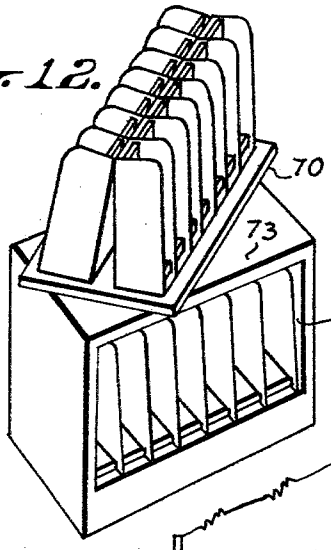
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April 13, 1965 R. L. MEYERS 3,178,029

CARD FILE

Filed Oct. 5, 1962 2 Sheets-Sheet 2

Fig. 12.



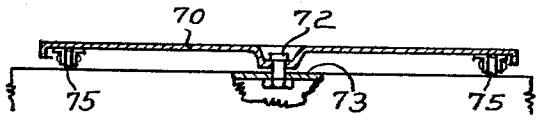


Fig. 13.

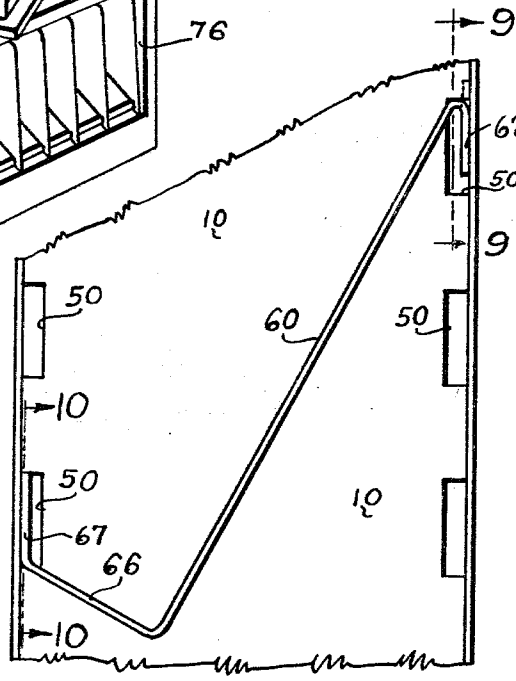


Fig. 8.

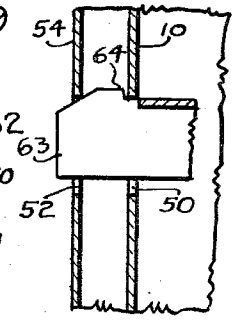
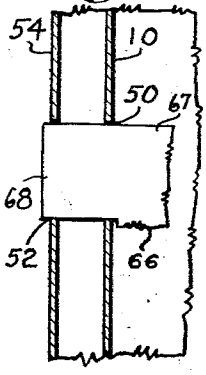


Fig. 9.

Fig. 10.



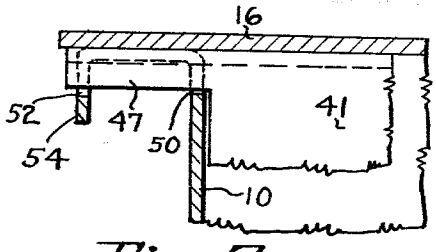


Fig. 7.

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CARD FILE

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Filed Oct. 5, 1962, Ser. No. 228,704
7 Claims. (Cl. 211—10)

This invention relates to a card file and more particularly to a file for holding various sized packs of cards positioned for easy removal.

In a modern business office, a file card is maintained for each customer and on which data is recorded for transfer to punch card or tabulating machines. Various groups of punched cards may be sorted by machine and must be stored temporarily before being fed into the tabulating machine. It is helpful to have the cards sorted and arranged according to special classifications and in varying sized groups, but they must be readily accessible for feeding to the machine. Hence, it is desirable to provide a card storage which satisfies this requirement.

The primary object of this invention is to provide a card file container having readily removable and replaceable shelves which will hold various sized piles or packs of cards and maintain them in accessible positions for feeding to a machine.

It is a further object to provide a card file having shelves which will accommodate cards of different sizes and thicknesses of pack, and wherein the shelves may be readily mounted in different arrangements as the occasion requires, and to provide a construction in which each shelf is positioned for holding a group of cards safely and without danger of their falling out and becoming seriously disarranged.

Another object is to provide a readily disengageable mount for a card file container which will hold the cards in desired positions.

A still further object is to provide a rotary mount for one or more card file containers which may be adjusted to various positions as needed. Other objects will be apparent in the following disclosure.

FIG. 1 is a perspective front view of the card file container which has two types of card supporting shelves therein;

FIG. 2 is a perspective view of the underside of the front portion of one of the shelves which supports a stack of horizontally arranged cards;

FIG. 3 is a fragmentary perspective detail showing how a horizontal card shelf is removably mounted on the card file container;

FIG. 4 is a fragmentary vertical section taken on the line 4—4 of FIG. 5 which shows the prongs of a card file shelf in a supported position;

FIG. 5 is a section taken on the line 5—5 of FIG. 1 looking toward the back wall;

FIG. 6 is a sectional detail on the line 6—6 of FIG. 5 which shows the two shelf-supporting back walls;

FIG. 7 is a sectional detail showing a side wall and a plan view of the top of a card supporting shelf having its prong inserted through the back walls;

FIG. 8 is an enlarged fragmentary showing of a front elevation of a laterally inclined shelf for holding cards in a semi-upright position;

FIG. 9 is a sectional detail on the line 9—9 of FIG. 8 showing the upper prong mount for the shelf of FIG. 8;

FIG. 10 is a sectional view on the line 10—10 of FIG. 8 showing the support for the lower prong of FIG. 8;

FIG. 11 is a perspective detail, broken away, which shows a mount for removably holding a card file on a table top;

FIG. 12 is a perspective view showing a rotary table carrying two card files, which is mounted on a storage cabinet for other card files; and

FIG. 13 is a sectional detail of the turntable mount for the rotary table of FIG. 12.

In accordance with this invention, a card file has been provided as a container having an open top and front within which several shelves are removably mounted for the storage of cards in various sizes of packs. Each shelf fits between upright side walls of the container, and one or more prongs on the shelf slidably interfit within and are positioned by horizontally aligned holes in two spaced back walls. The shelves may be adapted for holding the cards horizontally; or, for cards wider than the space between the walls, the shelf may hold the cards upright or in an inclined position. The card file is primarily useful for holding punched cards temporarily for feeding them into and from a tabulating machine, and for convenience of access, the file or container is removably mounted on a movable table, and preferably a rotary turntable, which permits orienting the cards as required for the machine operation.

The card file of FIG. 1 is preferably made of sheet metal and comprises a back wall 10 and at least two vertical side walls providing a compartment for cards which permits access at both the top and the front of the card file. There may be only a single card file compartment between the two outer side walls 12, but in the showing of FIG. 1 intermediate or divider side walls 14, 15, and 16 are arranged in parallelism between the outer side walls 12 to form several open compartments for cards. A bottom support for the card file may be formed by having the side walls 12–16 projecting slightly below a bottom structure 18 welded between the side walls. The bottom edges 19 of the side walls are horizontal, but the front edges 20 of the side walls preferably slope backwards. Likewise, the back wall 10 slopes rearwardly and substantially parallel with the front edges 20 and the bottom 18 is perpendicular to the back wall so that a pack of substantially horizontal cards on the bottom will be tipped rearwardly at a slight angle in order to urge the cards toward the back wall.

Each bottom portion 18 between each pair of opposed side walls may be separate and formed integral with a back wall portion as shown in FIG. 11. That is, each vertical portion 26 of the back wall 10 is bent along the line 21 to project forwardly as the bottom 18. The front portion of this sheet metal is bent downwardly to form a vertical front wall 22 and the latter terminates in an inwardly projecting horizontally strengthening flange 23. Each metal portion of the back and bottom wall is a separate unit mounted on the opposite sides of an inner side wall or divider 14, 15, or 16. Each of these wall portions forming the bottom and back wall structure is spot welded to one side of the adjacent divider partition.

FIG. 11 also shows how the card file may be removably mounted on a table top 27. This comprises a U-shaped plate 28 having two upturned parallel tapering side flanges 29 terminating in outwardly turned and aligned flanges 30. The flat bottom of the plate is suitably mounted as by means of screws, on a table top 27. The parallel side flanges 29 are V-shaped, so that the flanges 30 slope rearwardly. A pair of slide rails 34, projecting laterally and inwardly from the side partitions, are spaced in alignment and are mounted to slope rearwardly and parallel with the flanges 30 of the support 28, so that when the latter is secured on the table top the card file casing may be slid into place with the slide rail 34 riding below the slide rail 30. The higher end of the support 28 is located toward the front of the card file casing, so that when the container is slid rearwardly the rails serve to wedge the container or casing firmly into

position against the table. Several of these mounts may be used and preferably one between each pair of opposed side walls so as to hold the card file container securely.

FIG. 1 shows two forms of card supports or shelves **40** and **60** which may be mounted in various arrangements and ordinarily in multiplicity between the opposed side walls of the card file compartments. Each of the shelves **40** is preferably mounted in a substantially horizontal position, but tilted back slightly so as to urge the cards rearwardly. The preferred structure for the horizontal shelf **40** (FIGS. 2 and 3) is one in which a single piece of sheet metal is shaped to provide a flat shelf top **41** integral with a front wall and two depending parallel vertical side walls **42** which terminate in inturned flanges **43**. The top **41** is also bent to provide a front flange **44** which is inturned to provide a flange **49** aligned with the flange **43**. The shelf has a rear prong arranged to be mounted on the rear wall structure of the casing. For convenience in manufacture and assembly, two spaced prongs are employed. As shown in FIGS. 2 and 3, the side walls **42** project rearwardly to form two prongs **45** adapted to be inserted into aligned holes in the rear wall structure. Each prong has narrow parallel, horizontal flanges **46** and **47** spaced by the width of the wall **42**. The flange **46** is a continuation of the shelf top **41** and the part **47** is a narrow terminal portion of the lower flange **43**. These prongs are intended to be inserted into a selected hole **50** in the wall **10** and an associated hole **52** in a narrow vertical rear wall frame **54** spaced horizontally from the wall **10** as shown particularly in FIG. 3. These holes are preferably arranged, as shown in FIGS. 1 and 5, on opposite sides of each of the dividers **14**, **15** and **16** and on the inner sides of the outer walls **12**.

Each wall **10** is a separate piece located between the pair of opposed side walls of each compartment, i.e., between two adjacent dividers **16** or between an outer wall **12** and an inner partition or divider **16**. Each wall **10** is bent along spaced vertical lines to form narrow channel-shaped members, each of which has an inwardly directed flange **54**, spaced from the main portion of wall **10** by a connecting portion **55**, as shown in FIG. 3. The flanges **54** on the opposite edge portions of each wall **10** are aligned and may be considered as forming a rear back wall spaced from the forward wall **10** of the compartment. The central portion **55** of each channel member contacts an adjacent side wall **12**, or an inner divider **16**, and it is spot welded thereto. The portion **55** of this channel member is cut away between the wall **10** and the back wall flange **54** to form part of the holes **50** and **52** which receive a shelf prong **45**, **46**. The narrow top surface **56** (FIG. 3) of the cutaway part of the channel portion **55** forms a slide rail between the holes **50** and **52** on which the shelf prong rides. This construction thus provides two sets of vertically spaced openings **50** and **52** adjacent to the two opposed side walls of each card compartment, and the shelf prongs may be inserted into a pair of these openings and there ride on the upper and lower surfaces of the cutaway parts of the central portion **55** of the channel member between the two spaced rear wall portions **10** and **54**. The side **42** of the shelf slides against and is laterally supported by the side wall **10** or **16** when the shelf is inserted into position. The direction of movement of the shelf **40** is indicated by the dotted lines in FIG. 3.

It will also be appreciated that the top and bottom surfaces of the wall parts which form the holes **50** and **52** serve as shelf retaining surfaces. That is, the shelf bears down on the bottom of the front hole **50** in wall **10** and upwardly against the top of the rear hole **52** in the wall **54**, as well as the corresponding upper and lower surfaces **56** of the cutaway channel part **55**. The aligned surfaces of the two holes are arranged to cause the shelf **40** to slope slightly rearwardly. Although but one of the shelves **40** is shown, it is to be understood that a multiplicity of shelves may be inserted in any appropriate pair of the aligned holes so as to hold stacks of cards of various thicknesses.

At the right in FIG. 1 is shown a shelf **60** arranged to hold cards of sizes larger than the width of the compartment between the pair of vertical side walls. This comprises a metal plate, as shown in FIG. 8, which is intended to be arranged at an obtuse angle to the horizontal. At its upper end is a downwardly depending vertical flange **62** which terminates in a prong **63** (FIG. 9) corresponding with the prong **45** of the horizontal shelf **40**. The prong **63** may have a straight top surface, but it is shown in FIG. 9 as having an upwardly projecting lug **64** adapted to lock behind the wall **10** when in use. There is, however, sufficient clearance in the holes to permit tilting the shelf for removal of the prongs. The lower portion of the plate **60** is bent upwardly to form a support **66** for carrying the bottoms of a stack of cards, and this portion **66** terminates in a vertical edge portion **67** which has a laterally projecting lug **68** (FIG. 10) adapted to be inserted through selected holes **50** and **52** in the walls **10** and **54**, as above explained. These holes are made in proper size for insertion of the lugs and retention of the card supporting shelves. The parts **62** and **67** are spaced to engage the opposed side walls of the card file container. This shelf structure is therefore adapted for holding a stack of cards in an upright arrangement and a plurality of shelves may be mounted in any of the appropriate pairs of holes of the walls. Hence, by employing various combinations of these two shelves **40** and **60**, cards may be mounted as desired in the card file casing.

The card file casing may be mounted, as above explained, on various table tops. It is shown in FIGS. 12 and 13 as mounted on a rotary turntable so that it will be comparatively easy for the operator of a punched card or tabulating machine to swing the file into various positions as needed. As there illustrated, a turntable may be formed of a metal plate **70** having a depressed central portion carrying a pin **72** which in turn is suitably mounted on the top **73** of a cabinet or table structure. The weight of the cards is preferably distributed by mounting the table on a plurality of rollers **75** mounted beneath the plate for rolling on the top of another table or cabinet. These rollers may be suitably mounted on pivot pins carried by depending lugs on the underside of the rotary table **70** and they serve to hold the table horizontal against tilting. One or more card file casings may be removably mounted on that rotary table **70** by means of the structure shown in FIG. 11. As shown in FIG. 12, two card file casings are mounted back to back on the top of the table. Also, as indicated, a set of card files **76** may be suitably mounted within the cabinet so that the machine operator has a large number of cards available for use in the machine.

It will now be appreciated that this card file structure lends itself for many varied uses and for handling a large number of file cards. It is also to be understood that various modifications may be made in the structure, and that the above description of a preferred embodiment is not to be interpreted as imposing limitations on the appended claims.

What is claimed as novel and useful is:

1. A card file comprising a bottom support, a first back wall and at least two opposed side walls forming a container which is open at the top and the front, said back wall having a set of vertically spaced openings bordered by shelf positioning surfaces, a second back wall spaced from the first back wall which has openings and shelf positioning surfaces substantially horizontally aligned with and opposed to said back wall openings and surfaces, and a card supporting shelf having a rearwardly projecting prong arranged for removable insertion into a selected pair of prong arranged opposed openings in the two back walls and into engagement with said surfaces to hold the shelf in a card supporting position.

2. A card file according to claim 1 in which the prong and the surfaces of the opposed openings in the back walls hold a substantially horizontal shelf tilted slightly rearwardly so as to urge a stack of cards towards the back walls.

3. A card file according to claim 1 in which the back walls have spaced sets of vertically spaced openings located respectively near two opposed side walls, and said shelf has sides engaging two opposed side walls and two spaced prongs selectively insertable into opposed openings in the back walls.

4. A card file according to claim 1 in which the shelf has a laterally inclined surface for supporting the side of a pack of cards and a lower surface for supporting the card edges, said shelf having an upper prong removably insertable into a pair of back wall openings adjacent to one side wall and a lower prong insertable into a pair of back wall openings adjacent to the opposed side wall.

5. A card file comprising a bottom support and opposed vertical side walls of a plurality of open compartments, a separate back wall for each compartment formed of a plate shaped at its upright edge portions adjacent the side walls to provide opposed channel members extending rearwardly, said channel members having aligned flanges opposing and spaced from the front portion of said plate, said front portion and the flanges having sets of vertically spaced pairs of aligned openings, and a card support having a pair of rearwardly projecting prongs near its opposite edge portions mounted in aligned openings and carried by said plate and flanges.

6. A card file comprising a container having a rear wall, a bottom, two side walls, and at least one intermediate wall forming a plurality of card supporting compartments which are open at the front, a table on which the container is supported and cooperating means on the container and the table which releasably secure the container on the table, said cooperating means comprising

laterally projecting and aligned flanges on two container walls which are inclined longitudinally and form slideways and a channel member secured to the top of the table which has laterally projecting flanges forming slideways parallel with the container wall flanges, said container being removably mounted on the table by interfitting and relatively moving said slideways longitudinally of the inclines, said slideways being so located and spaced from the table top as to draw the container into firm contact with the table.

7. A card file comprising a cabinet having a top, a bottom, and partitions forming a plurality of compartments, a table rotatively mounted on the cabinet top, pivot means interconnecting said table and top which provides for rotative movement of the table and holds the table horizontal during its rotation, a plurality of separate card files on said table, and separate means slidably mounting and securing said files on the table which provide for separate and rapid removal and replacement of said files, each file having a plurality of vertical partitions forming open front compartments for cards and said table providing for orientation of each file to a card loading position.

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