

Jan. 3, 1950

S. S. KARNS

2,493,538

CARD FILING SYSTEM

Filed April 16, 1945

2 Sheets-Sheet 1

FIG. 1.

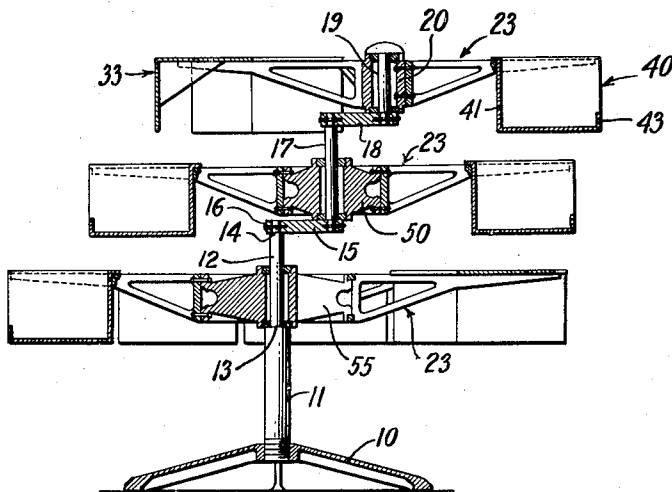
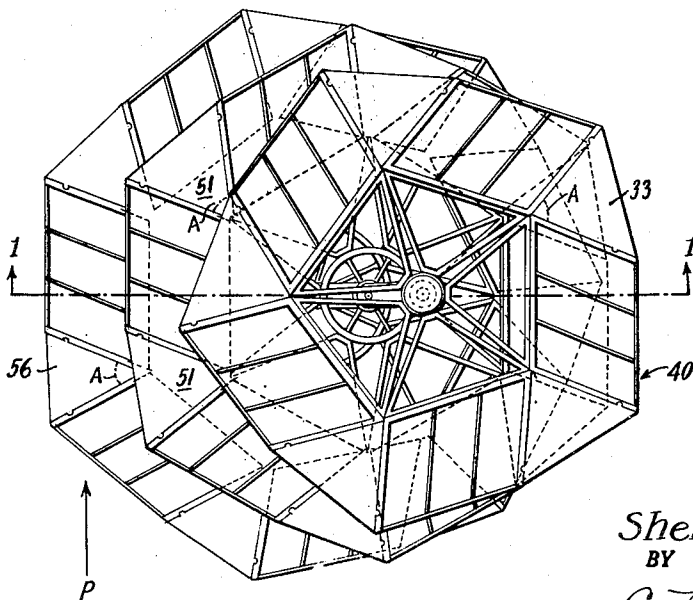


FIG. 2.



INVENTOR
Sherman S. Karns
BY
C. Lauren Mathey
ATTORNEY

Jan. 3, 1950

S. S. KARNS

2,493,538

CARD FILING SYSTEM

Filed April 16, 1945

2 Sheets-Sheet 2

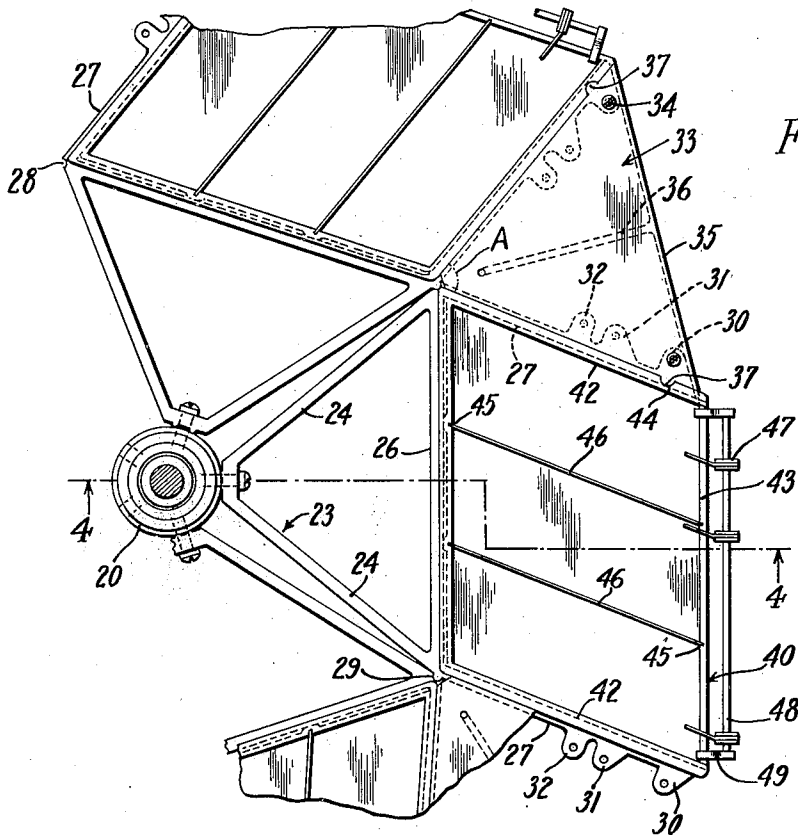
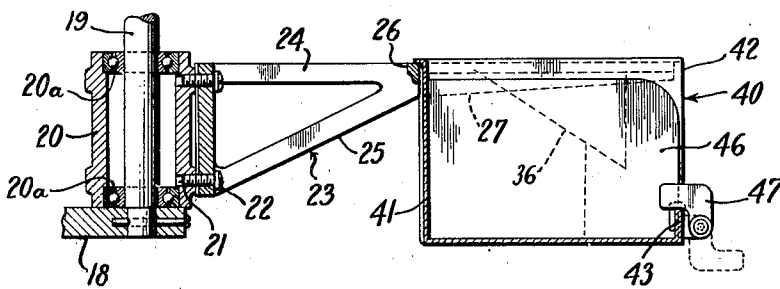


FIG. 3.

FIG. 4.



INVENTOR
Sherman S. Karns

BY

C. Lauren Matley

ATTORNEY

UNITED STATES PATENT OFFICE

2,493,538

CARD FILING SYSTEM

Sherman S. Karns, Fresno, Calif.

Application April 16, 1945, Serial No. 588,592

4 Claims. (Cl. 45—3)

1

This invention relates to card filing systems, and more especially to a rotatable card filing tray rack.

An object of the invention is to provide a simple, practical and efficient apparatus for filing a large number of filing cards in a manner to make all of the cards quickly available.

Another object of the invention is to provide an improved card filing rack or cabinet structure in which a large number of card filing trays or boxes may be supported on rotatable structures so as to make instantly available the cards in any of the boxes or trays.

A further object of the invention is to provide a card filing rack or cabinet structure having novel features of inter-changeability with respect to the card filing boxes or trays.

Another object of the invention is to provide a card filing rack or cabinet structure having a plurality of tiers or card filing boxes or trays arranged in a manner which is economical of the total space required and which makes readily available all of the card filing boxes.

An additional object is to provide a card filing structure of the character described having structural parts which provide support for individual card filing boxes or trays and adapted for building up into groups having a larger or smaller number of trays or box units as may be desired.

Other objects and advantages will appear and be brought out more fully from the following specification, reference being had to the accompanying drawings, wherein:

Fig. 1 is a sectional elevation view of a card filing structure embodying my invention, the section being taken along the line 1—1 of Fig. 2.

Fig. 2 is a plan view of the card filing structure shown in Fig. 1.

Fig. 3 is an enlarged, partial plan view of the upper tier of filing boxes and supporting structure shown in Figs. 1 and 2.

Fig. 4 is a sectional view taken along the line 4—4 of Fig. 3.

Referring more particularly to the drawings, I show a card filing structure comprising a base member or plate 10 adapted to support a vertically extending pedestal or cylinder member 11 having a reduced upper end portion 12 forming a pivot bearing having a thrust bearing portion 13 and a further reduced upper end portion 14 on which is secured a laterally extending bracket arm 15 which is secured to end 14 by a suitable locking pin 16.

A bearing shaft 17 extends upwardly from the

2

outer end of arm 15 and is secured to the arm by a pin similar to pin 16. A bracket arm 18 is supported on the upper end of shaft 17 and in turn supports an upwardly extending shaft 19 on which is rotatably mounted a hub 20. Hub 20 is provided with roller bearings 20a or other suitable bearings and is supported on bracket arm 18. Hub 20 also is formed with a plurality of bores 21 arranged in vertical pairs and disposed circumferentially, there being five such pairs of threaded bores, screws 22 being inter-fitting therein with the bores to provide mounting for a plurality of supporting arms 23.

Each arm 23 is formed with a pair of angularly diverging horizontal members 24, and inclined brace members 25, and a cross member 26 extending between the outer ends of members 24 and 25. A pair of parallel extension members 27 extend outwardly from the ends of member 26 at an angle other than a right angle forming three sides of a substantially trapezoidal box supporting frame structure. Each supporting arm 23 is provided with a vertical groove 28 at one meeting edge portion of members 24 and 26, and a complementary bead 29 at the meeting edge formed by member 26 and the other member 24. Thus, the arms 23, when assembled and secured to the hub 20, will have inter-fitting engagement between the grooves 28 of each arm 23 and the beads 29 of the next adjacent arm 23, thereby making a more rigid and firm rotary wheel structure. Extension members 27 are provided with pairs of laterally extending ears 30, 31 and 32, and a triangularly spaced plate 33 is supported on the adjacent members 27 of adjoining arms 23 and secured thereto as by counter-sunk screws 34 engaging threaded bores in ears 30. Plates 33 have a downwardly extending apron 35 along the outer edge and a stiffener web portion 36 which provides additional strength to the plate members 33. Plates 33 are seen to form an inner angle A, which is 72° inasmuch as there are five supporting arms 23 comprising the circular arc of the wheel. Plates 33 have a pair of lugs 37 extending laterally near the outer edge portions, as shown in Fig. 3.

The trapezoidal box supporting frame structure comprising members 26 and 27 are adapted to provide mounting for file boxes 40 which are trapezoidal in shape and have an inner wall 41, end walls 42, and an outer wall 43, the upper ends of walls 41 and 42 being flanged outwardly to rest on members 26 and 27. The flanged portions of walls 42 are provided with notches 44 which register with lugs 37 of plates 33 and serve to retain the file boxes 40 in the frame supporting

3

structure, it being clear that the boxes may be removed by lifting so as to disengage notches 44 from lugs 37. Walls 41 and 43 of the boxes are provided with pairs of vertical slots 45 in which may be placed card spacer guides 46, thereby forming compartments in the boxes for the filing cards. As may be seen in Figs. 1 and 4, outer wall 43 is low, thus leaving the outer edges of the file cards accessible for easy handling and removing and inserting the cards. To facilitate marking the places from which cards have been removed I provide a plurality of markers or flags 47 which are rotatable and slidable along a rod 48 which is secured to a pair of U-shaped resilient clamp members 49 which may be slipped on the top of wall 43, if it is so desired to use the markers, however, the marker devices may be removed from the file boxes.

The file box wheel structure, as thus described, has been specific to the first or upper tier as shown in Figs. 1 and 2. These figures show a second tier of similar boxes 40 mounted on similar supporting arm structures 23 which in turn are secured to a hub 50 which is rotatably mounted on shaft 17. Hub 50 has a somewhat larger radial dimension than hub 20, and there are secured thereto six supporting arms 23 disposed at angles of 60°, and in order to fill out the spaces between the adjacent extension members 27 and file boxes 40 I provide spacer plates 51 which are substantially similar to spacer plates 33, with the exception that the angle A of plates 51 is 60°.

I show further a third tier of file boxes and a supporting wheel structure similar to the foregoing, but in this third or lower tier I provide a hub 55 having seven supporting arms 23 disposed around the circular angle of the wheel, the parts being similar to the first two tiers, with the exception of spacer plates 56, which plates have a central angle A which is one-seventh of a circular arc or substantially 51.43°.

The operation of the invention should be clear from the foregoing description. The trapezoidal form of the file boxes permits the filing therein of the cards in a staggered relation and makes them clearly visible along a line of vision indicated by the arrow marked P in Fig. 2, it being clear that the cards are not facing directly tangent to the curve of the wheels, thus permitting easier handling of the cards. The offset arrangement of pivots 17 and 19 and the smaller sizes of the middle and top tiers makes possible the handling of three rows of file boxes conveniently, and at the same time saves space since the rear portion of the tiers are substantially vertically aligned.

The spacer plates 33 provide shelf portions at about the level of the top of the boxes which can be used in an obvious manner. The card file boxes 40 shown are indicated as adapted for cards having a maximum width, however, it may be desirable to provide substitute boxes for cards which are of less width, and such boxes can be secured to the frame structure comprising members 26 and 27, in which cases the arms 26 can

4

be cut off between ears 30 and 31 or between ears 31 and 32, in which case shallower spacer plates 33 will be provided.

While I have shown and described a preferred form of my invention, it will be understood that changes and modifications may be made without departing from the spirit and scope of the subjoined claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A card filing system as described comprising a base, a vertical pivot thereon, a rotatable hub on said pivot, a frame on said hub, a plurality of spacer plates, and a plurality of interchangeable file boxes having flanges detachably mounted at the edge of said frame between said plates, said plates and said file box flanges having releasable interlocking means.

2. A card filing system as described comprising a base, a vertical pivot thereon, a rotatable hub on said pivot, a frame on said hub and a plurality of file boxes and spacer plates alternately mounted at the edge of said frame, the upper edges of said boxes being substantially coplanar with said spacer plates.

3. A card filing system as described comprising a base, a vertical bearing member thereon, a plurality of hubs on said bearing member, a frame on each said hub having a plurality of peripherally disposed yokes and a plurality of yoke supported file boxes having yoke engaging flanged portions.

4. A card filing system as described comprising a base, a vertical bearing member thereon having a plurality of fixed, successively offset bearings, a hub on each said bearing, a frame on each said hub and a plurality of file boxes mounted at the outer edge portion of each said frame, said frames being of successively differing sizes, whereby a front group of said file boxes are disposed in step formation and a rear group thereof are substantially aligned vertically.

SHERMAN S. KARNS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
610,317	Baker	Sept. 6, 1898
770,788	Williamson	Sept. 27, 1904
997,965	Cobb	July 18, 1911
1,029,231	Ryan	June 11, 1912
1,031,321	Cahn	July 2, 1912
1,032,111	Caverly	July 9, 1912
1,130,597	Hogg	Mar. 2, 1915
1,266,458	Hagans	May 14, 1918
1,347,272	Hogg	July 20, 1920
1,432,277	Cahusac	Oct. 17, 1922
1,485,169	Crystal	Feb. 26, 1924
1,596,225	Andersson	Aug. 17, 1926
2,255,889	Kleinwachter	Sept. 16, 1941
2,340,862	Bruen	Feb. 8, 1944