May 12, 1953 C. L. BEAUDROT, JR 2,638,280

ROLLER FILE

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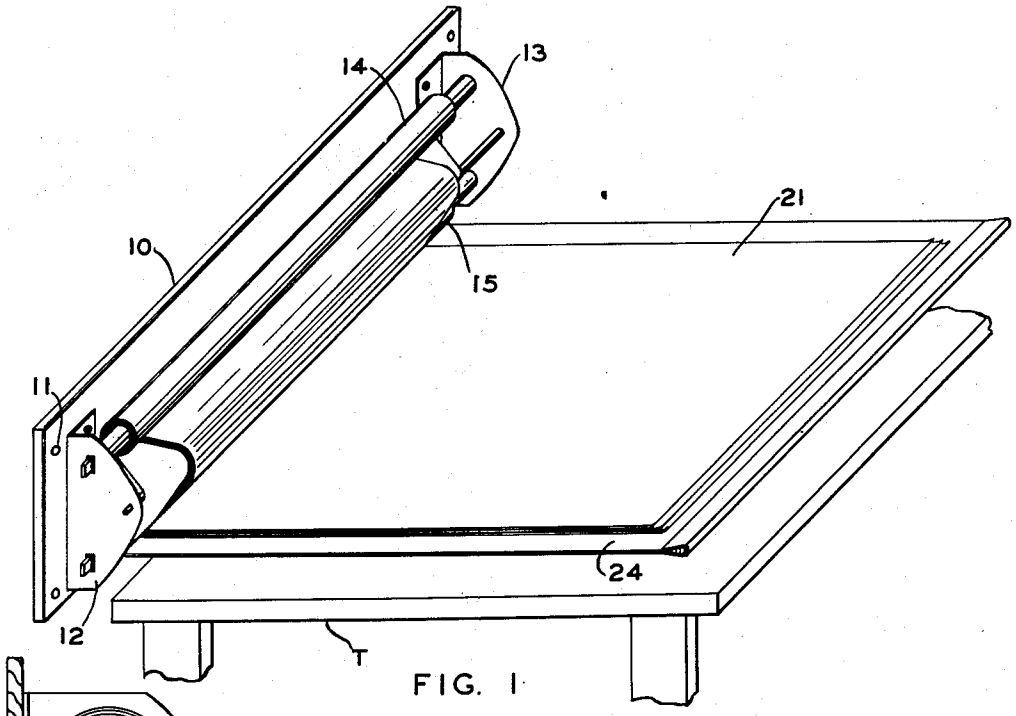


FIG. 1

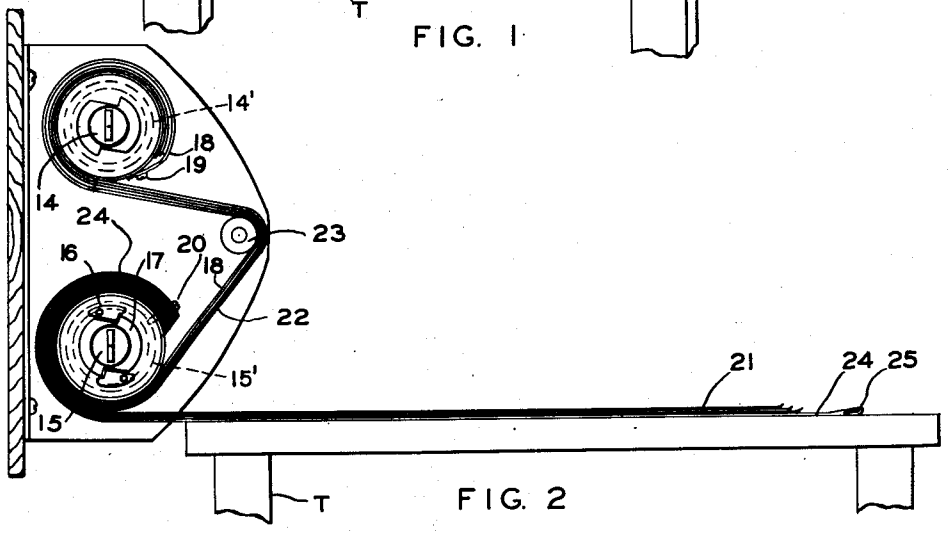


FIG. 2

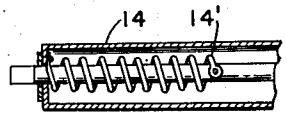


FIG. 3

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ROLLER FILE

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2 Claims. (Cl. 242—55)

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My invention relates to a roller file or rack for the support of maps, drawings or other sheet material whereby the same may be compactly arranged for storage on the rack yet may be readily withdrawn and separated for inspection or reference.

It is well known in engineering offices and drafting rooms of every type that the storage of a set of prints or maps has long been a major problem. Various cabinets and displaying devices have been constructed together with elaborate filing systems whereby a given set of prints may be reached and opened for reference with a minimum of effort and time. These cabinets have usually consisted of expensive steel cases having drawers which permit the drawings to lie flat; each drawer being indexed in a master reference book. When a drawing or set of drawings is desired, the master index is consulted giving the proper reference to the cabinet and drawer. Such a system is necessarily expensive and has further disadvantages in that the drawings are usually placed loosely in the drawer and if removed are quite likely to be misplaced or become confused with other drawings. Furthermore, the drawing is likely to be re-filed in the wrong cabinet and drawer. Such a system necessitates a special block or reference on the drawing itself indicating the proper file in which the drawing is to be placed, all of which adds to the time and expense against the draftsman. If several drawings must be cross checked against each other, or if dimensions must be noted on several views or sheets, the order of the file is immediately disrupted and requires additional time in replacing of the set. Should several sheets be withdrawn which are not needed, care must be exercised in replacing them in proper order back in the file.

Plans for buildings, dwellings, machines, surveys and the like usually require several drawings to make up a set. The majority of draftsmen and engineers commonly make the sizes of the finished sheets to conform to the largest scale possible yet small enough to be carried and stored with ease. The several drawings are usually bound into more or less book form with the several sheets numbered in some manner to form the complete set. The most commonly used method of storing and carrying a set of these drawings is to make a roll of the several sheets so that they will occupy the least space possible.

It is an object of the present invention to provide a rack or file for the support of drawings and the like which is inexpensive to manufacture

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and which permits the drawings to be withdrawn from the rack either in a vertical or horizontal position for their inspection.

It is another object of the invention to provide such a rack using a pair of shade or curtain rollers, one roller being used to support the entire set of drawings and the other roller being used to roll the several sheets not being used onto the rack and out of the way of the other sheets.

Another object of the invention is to provide a rack for the support of drawings and the like wherein each of the winding rollers is provided with actuating means which simultaneously tend to operate both rollers in opposite directions of rotation.

A further object of the invention is to provide a rack for the support of drawings and the like wherein the drawings, wound upon one roller, may be unrolled from the same for inspection on a table or the like, the sheets not desired for reference being automatically wound reversely upon a second roller.

Further objects and advantages of the invention will become apparent in the course of the following detailed description when viewed together with the following drawing in which:

Fig. 1 is an isometric view of an embodiment of my invention in a rack or file for the support of drawings or other sheet material.

Fig. 2 is a cross sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is a cross-sectional view of a detail.

In the drawings, numeral 10 designates a rectangular supporting plate which may be made of wood, metal or any other material. At each end of the plate are, in this instance, holes 11 through which screws or nails may be placed for the support of the same on a wall.

Upon the face of the plate are opposed brackets 12 and 13 made preferably of sheet metal and bent in the shape shown. These brackets carry, respectively, a top and bottom roller 14 and 15. The rollers are the common shade roller type and are provided with inner torsion springs 14', 15', respectively, held at various degrees of torsion by means of a pawl 16 and ratchet 17. It will be noted here that the pawl has been removed from the upper roller 14, allowing complete freedom of rotation according to the torsion of the inner spring.

The upper and lower rollers are connected by a single sheet of fabric or other material serving as an actuating sheet 18 for the simultaneous operation of both rollers. This sheet 18 may be

fixed to the periphery of the top roller by screws 19 or otherwise. The other end of the sheet 18 is affixed to the bottom roller 15 by positioning the same over a series of binder posts 20.

In the present instance, the set of stored drawings consists of six sheets, one group of 3 sheets 21 being outside the rack and the other group of three sheets 22 being shown as wound up in the rack.

Between the upper and lower rollers 14 and 15, I have placed an idler roller 23, the ends of which are also journaled in the end plates 12 and 13. By thus positioning the idler roll 23, I have made a substantially flat shelf when the actuating sheet 18 passes over the idler roll and onto the top roller 14.

It will be noted that the set of drawings is supplied with an outside cover 24 which completely encircles the set when the drawings are rolled for storage on the bottom roller 15 of the rack. The inner end of this cover 24, together with each sheet of the set of drawings is provided with punched holes to match the spacing of the binder posts 20 to permit the ready withdrawal or exchange of any of the sheets of the set. The outer end of the cover 24 is provided with a pull tab 25 by which the same may be pulled from its wound position on the bottom roller 15.

It is preferred that each sheet of a set of drawings being used with the present invention be made consecutively shorter than the other beginning with the bottom sheet so that when laid out upon a table or desk the sheets will overlap in the manner shown in the drawing. In this overlapping space which is seen upon all drawings when viewed from the top, is a reference character identifying the drawing; or the sheets may be affixed to the roller 15 in a staggered manner to accomplish the same purpose.

In an example of operation of the device, let it be assumed that reference is needed on a dimension to a particular part of a machine, the drawings of which are mounted as a set upon a rack made according to the teachings of the present invention. Having noted the set number and the reference character identifying the sheet in that set, an operator pulls the tab 25 on the outer end of the cover 24, drawing the entire set of drawings from their wound position on the bottom roller 15 of the rack. When the sheets of the set are partially drawn out upon a table T or the like, the operator is able to note from the overlapped ends of the sheets the identifying character of the particular drawing he is seeking. Assuming that the drawing is in the middle of the set, it is readily apparent that all sheets above this are not needed for this reference and would ordinarily be in the way of the other sheets.

With the set only partially unrolled, the operator takes the ends of the top sheets and places them upon the shelf made by the actuating sheet passing over the idler roller 23 and forces these ends between the actuating sheet and the top roller. By pulling the rest of the set outwardly on the table T, the operator not only brings the desired drawing into full view, but automatically winds the undesired sheets of the set onto the top roller 14. Since the spring of the top roller tends to wind it in the direction of travel, the undesired drawings are held firmly upon the roller 14 by the actuating sheet 18.

To re-wind the entire set back upon the bottom roller 15, the operator simply unlatches the bottom roller pawls 16 and the spring of the bottom roller not only pulls the drawings from the table T but also is sufficient to overcome the torsion of the top roller spring to pull the undesired sheets from their position on the top roll back to the bottom roller 15.

It will be remembered that the actuating sheet 18, between the two rollers is held taut at all times since the two rollers are provided with inner torsion springs tending to wind them in opposite directions.

The device is compact and may carry a set of drawings of considerable thickness or number of sheets. While not shown in the drawings, the supporting plate 10 might be provided with clamps or brackets whereby the same might be clamped to the edge of a drawing board or table.

While the above description is made using a set of engineering drawings, it is to be understood that any type drawings, maps or displays may be used with equal advantage without departing from the scope of the invention as defined by the following claims.

I claim:

1. In a device of the class described, a storage roller spring-pressed to wind upon it a plurality of sheets of sheet material to be stored, means to hold said roller in certain fixed positions, a temporary-storage roller connected to said storage roller by flexible strip material, said temporary-storage roller being spring-pressed to wind said strip material thereonto whenever it is unwound from said storage roller, the spring pressure on said temporary-storage roller being less than that on said storage roller, guide means positioned in cooperative relation to said temporary-storage roller and over which said flexible strip material passes to form a shelf, whereby any desired sheet of said plurality of sheets may be unwound from said storage roller for examination and the undesired sheets overlying said desired sheet may be temporarily wound upon said temporary-storage roller by placing the free ends thereof upon said shelf when said desired sheet is unwound.

2. In a device of the class described, a storage roller spring-pressed to wind upon it a plurality of sheets of sheet material to be stored, pawls arranged to hold said roller in certain fixed positions, a temporary-storage roller permanently connected to said storage roller by flexible strip material, said temporary-storage roller being spring-pressed to wind said strip material thereonto whenever it is unwound from said storage roller, the spring pressure on said temporary-storage roller being less than that on said storage roller, a guide roller positioned in cooperative relation to said temporary-storage roller and over which said flexible strip material passes to form a shelf, whereby any desired sheet of said plurality of sheets may be unwound from said storage roller for examination and the undesired sheets overlying said desired sheet may be temporarily wound upon said temporary-storage roller by placing the free ends thereof upon said shelf when said desired sheet is unwound.

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