

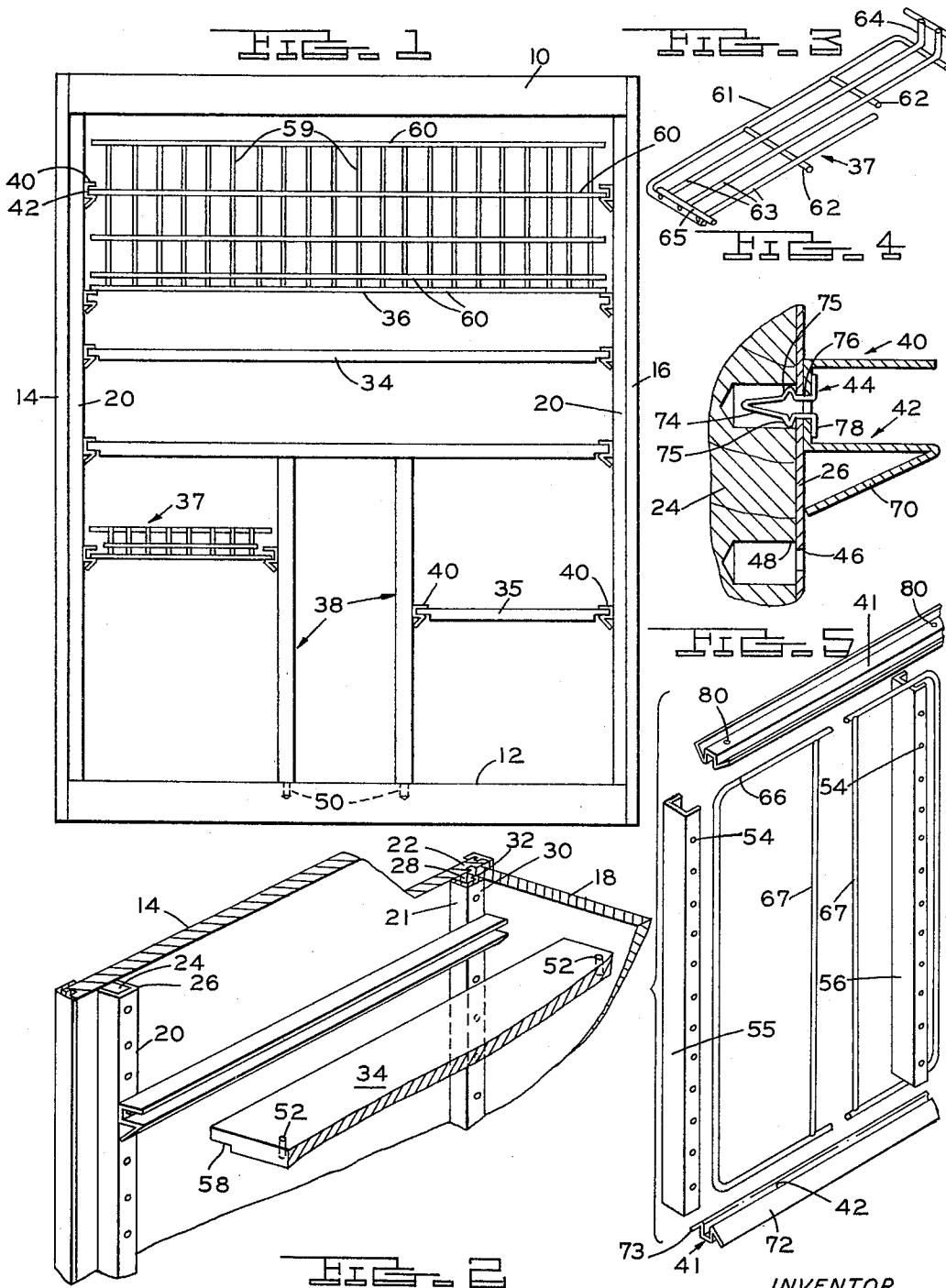
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STORAGE CABINET CONSTRUCTION

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STORAGE CABINET CONSTRUCTION

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This invention relates to improvements in the construction of storage cabinets for use primarily in taking care of the storage problems encountered in schools.

The general object of the invention is to provide a storage cabinet construction consisting of a basic outer shell and a number of partition members in the form of horizontal shelves or trays and vertical dividers which can readily be detachably and interchangeably mounted within the cabinet shell to divide the interior into a desired arrangement of storage spaces. Related to this basic object is the further object of providing a storage cabinet construction which is flexible in the sense it can be constructed, proportioned and arranged to function as a wall divider, as a teaching aid, as a study carrel, as a counter unit, or as a special instructional unit. These additional functions result principally from the fact that the improved cabinet construction of the invention makes it possible to provide desired interior arrangements of a cabinet not only for storage purposes but also for mounting special teaching aids and equipment therein.

A storage cabinet of the invention includes four-sided top and bottom members, a vertical stanchion extending between the top and bottom members at each of the four corners thereof, a pair of end walls and a rear wall secured to said stanchions; horizontal partition members and vertical partition members for dividing the interior of the cabinet into a desired arrangement of storage spaces; and means for detachably mounting selected partition members within the cabinet comprising a row of sockets in each stanchion forming pairs of front and rear sockets adjacent each end wall; other pairs of front and rear sockets provided in a vertical partition member, in the top and bottom members and in a horizontal partition member with a spacing between front and rear sockets of a pair corresponding to the spacing between a pair of said front and rear sockets in the stanchions; pairs of guides, each guide having a channel portion adapted to slidably receive one edge of a partition member; and fastening means detachably engageable with a guide and with one of said pairs of front and rear sockets.

Other features and advantages of the invention will appear from the following description of the representative and presently preferred cabinet construction illustrated in the accompanying drawings in which:

FIGURE 1 is a front elevation of a storage cabinet provided with a representative interior arrangement;

FIGURE 2 is a perspective view showing portions of an end and rear wall of the cabinet;

FIGURE 3 is a perspective view of a portion of a horizontal partition member or tray;

FIGURE 4 is an enlarged sectional detail showing the connection of a partition supporting member or guide to a stanchion; and

FIGURE 5 is an exploded perspective view of the construction of a vertical partition member.

The cabinet shown in FIGS. 1 and 2 includes four-sided top and bottom members 10 and 12, a pair of end walls 14 and 16, and a rear wall 18. As best shown in FIG. 2 a pair of stanchions 20 and 21 extend between the top and bottom members 10 and 12 adjacent the front and rear corners thereof, the end wall panel 14 being connected to the front and rear stanchions 20 and 21, the rear wall panel 18 being connected to the rear vertical

stanchion 21 and having a tongue and groove connection 22 with the end wall panel 14. This construction is duplicated at the other end wall panel 16 so that the cabinet includes four vertical stanchions 20, 21 located adjacent the four corners with the wall panels 14, 16, 18 being connected to these vertical stanchions and to each other.

Each of the front stanchions 20 consists of a core or filler 24 of wood or suitable material, partially encased by a U-shaped sheet metal casing 26. Each of the rear stanchions 21 is similar in construction having a filler member 28 partially encased by an L-shaped sheet metal member 30 leaving a portion 32 of the surface of the filler member 28 exposed adjacent the rear wall 18 for connection therewith.

The foregoing construction provides a sturdy basic cabinet shell which of course can be proportioned as desired, but for school use is preferably made in a number of sizes—for example in a counter height, in a tall height and in an intermediate height—all preferably having the same dimensions for width and depth.

The present invention provides a simple, extremely flexible construction which permits the interior of any of these basic shells to be made up into almost any arrangement of storage spaces desired. This construction includes horizontal partition members in the form of shelves 34 or trays 36 available in different widths as illustrated by the shelf 35 and tray 37, and vertical partition members 38 which also can be made in any height desired. These horizontal and vertical partition members can be detachably mounted within the cabinet between the structural members of the basic shell, between one of these members and a partition member of between a pair of partition members, thus making it possible to sub-divide the cabinet interior into any desired number and arrangement of spaces.

The means for detachably mounting the horizontal and vertical partition members within the cabinet consists of the combination of rows of sockets formed in the vertical stanchions 20 and 21, in the vertical partition members 38, in the top and bottom members 10 and 12, and in the horizontal partition members 34; pairs of guides 40 or 41 (FIG. 5) each having a U-shaped channel portion 42 adapted to slidably receive one edge of a partition member; and fastening devices 44 (FIG. 4).

The sockets in the stanchion members are constructed as shown in FIG. 4 and includes an aperture 46 formed in the sheet metal reinforcing members 26 and 30 of the stanchions 20 and 21, and a socket 48 of enlarged diameter formed in the filler members 24 and 28; the sockets in the vertical partition members are holes 54 formed in the side flanges of channel members 55 and 56 which are part of the structure of a vertical partition 38 as shown in FIG. 5, with the front-to-back spacing between a horizontally aligned pair of these holes 54 being the same as the center-to-center distance between a similar pair of sockets in a pair of stanchions 20 and 21; the sockets in the top and bottom members 10 and 12 consist of holes 50 formed therein in rows preferably with the same front-to-back spacing as the sockets in a pair of stanchions 20 and 21; and the sockets in the horizontal partition members 34 consist of holes 52 formed therein as shown in FIG. 2, also in rows with the same front-to-back spacing as the sockets in the top and bottom members 10 and 12.

Horizontal partitions 34 and 35 are simply shelves having notched edges 58 (FIG. 2) for sliding engagement in the U-shaped portion 42 of a guide member 40. The tray type of horizontal partition members 36 and 37 are constructed of wire rod, the tray 36 having front-to-back rods 59 with upturned front ends and transverse

rods 60 connected to the ends and intermediate portions of the rods 59 as shown. The ends of the rods 60 are engageable on the guides 40 or in the U-shaped portion thereof so that the tray may be mounted on four guides in an inclined position to serve as a display rack, if desired. The tray 37 is constructed as shown in FIG. 3 with co-planar edge and transverse members 61 and 62, front-to-back members 63 preferably including a vertical or upturned lip 64 superimposed on the members 61 and 62 and interconnected thereto, and a front transverse member 65 which is superimposed on the front-to-back members 63 and connected thereto. The edge member 60 is slidably engageable in the portion 42 of a guide member 40.

Each vertical partition member may be constructed either as a solid panel similar to a shelf 34 or 35 or as an open divider such as shown in FIG. 5 having a marginal frame 66 of wire rod and a suitable number of vertical co-planar rods 67. Channel members 55 and 56 are connected to the front and rear edges of the frame 66, the channel member 55 corresponding in length to the dimension between the outside edges of the frames 66 and the channel member 56 having a dimension corresponding to that between the inside edges of the frame 66. Channel members 55 and 56 serve to reinforce the wire rod frame, to provide a location for the socket 54, and the front channel member 55 also serves to overlap and mask the pair of guides 41 which the upper and lower edges of the frame 66 slidably engage.

Each of the horizontal guides 40 includes a stabilizing flange 70 extending along one side of the U-shaped channel portion 42 and projecting laterally and downwardly of the base of the U-shaped portion as shown in FIG. 4. Each of the vertical partition guides 41 is similar in construction but includes a pair of such stabilizing flanges 72 and 73.

The fastening devices 44 each consist of a strip of resilient material bent to form a tapered nose portion 74 (FIG. 4), a pair of laterally projecting ribs 75, a shank portion 76 and an outwardly turned head portion 78. Each guide 40 or 41 has a pair of holes 80 formed therein with a front-to-back spacing corresponding to that of the sockets. When a fastening device 44 is inserted through the holes 80 of a guide into the socket of a stanchion or a channel 55 or 56 of a vertical partition member, the ribs 75 of the fastener move into overlapping engagement with the innersurface of any such member as shown in FIG. 4 where the ribs 75 of the fastener 44 overlap the innersurface of the sheet metal member 26. When a fastener 44 is inserted into a plain hole such as provided in a shelf 34, the ribs 75 on the fastener frictionally engage the interior surface of the hole which is of smaller diameter than the socket 48 shown in FIG. 4. A fastener 44 may be inserted by hand pressure and removed with a suitable prying tool.

Mounting a guide 40 or 41 by inserting a pair of fasteners 44 through the guide apertures and into a pair of sockets is obviously an easy task. When a pair of guides 40 or 41 have been mounted on the structure of the basic cabinet shell, or on this structure and a partition member, or on a pair of partition members, in horizontal or vertical alignment for supporting a horizontal or vertical partition member in a desired location, the partition involved is then simply slid into position within the cabinet. The sliding engagement of the edges of a partition member in the channel portion 42 of a pair of guides permits the partition member to be partially moved in and out of the cabinet like a drawer to facilitate the placing of articles in the cabinet or removing them from the cabinet; and also permits a partition member to be easily removed temporarily or removed and repositioned by changing the location of the pair of guides which support it. Partition members can be furnished in kits or separately to permit a user to equip a cabinet with any

storage arrangement desired. Other optional cabinet equipment, not illustrated, would include doors, casters, chalk or tack board outer surfaces for the rear panel 18 and specialized equipment for teaching and study uses.

While preferred embodiments have been described above in detail, it will be understood that numerous modifications might be resorted to without departing from the scope of the invention as defined in the following claims.

I claim:

1. A storage cabinet having four-sided top and bottom members, a vertical stanchion at each of the four corners thereof, a pair of end walls and a rear wall secured to said stanchions; horizontal partition members and vertical partition members for dividing the interior of the storage cabinet into a desired arrangement of storage spaces; means for detachably mounting selected partition members within the cabinet comprising a row of sockets in each stanchion forming pairs of front and rear sockets adjacent each end wall; other pairs of front and rear sockets provided in a vertical partition member, in the top and bottom members and in a horizontal partition member with a spacing between front and rear sockets of a pair corresponding to the spacing between a pair of said front and rear sockets in the stanchion; pairs of guides, each guide having a channel portion adapted to slidably receive one edge of a partition member; and fastening means detachably engageable with a guide and with one of said pairs of front and rear sockets.

2. A storage cabinet according to claim 1 wherein each vertical stanchion includes a sheet metal surface member in which the row of sockets is formed, and a non-metallic filler member covered by the sheet metal member, each socket having a portion of greater cross-sectional area formed in the non-metallic member than in the metal surface member, and each fastener including a laterally projecting rib positionable in the socket portion of greater cross-sectional area in overlapping engagement with the inner surface of the sheet metal member.

3. A storage cabinet according to claim 1 wherein a vertical partition member includes a frame of metal rod having upper and lower horizontal edges slidably engageable with a pair of guides, and front and rear vertical edges, a channel section member extending along each of the vertical edges of the frame, each channel section member having a base portion secured to the frame and extending to either side thereof, and having a pair of legs with a row of sockets formed in each leg.

4. A storage cabinet according to claim 1 wherein each guide includes a stabilizing flange extending along at least one side of the channel portion of the guide and projecting laterally thereof.

5. A storage cabinet according to claim 1 wherein one of the horizontal partition members consists of a tray having a plurality of interconnected front-to-back and transverse rods, the ends of a pair of transverse rods being engageable with two pairs of guides, said pairs of guides being mounted at a vertical spacing less than the distance between said pair of transverse rods whereby the tray may be placed in the cabinet with the front-to-back rods of the tray in a vertically inclined position.

6. A storage cabinet according to claim 1 wherein each guide includes a U-shape channel portion and a stabilizing flange projecting outwardly and downwardly along each side thereof to the plane of the base of the U-shaped portion.

7. A storage cabinet according to claim 1 wherein each vertical stanchion includes a sheet metal surface member in which the row of sockets is formed, each of such sockets including an aperture in the sheet metal member and a portion of the inner surface of the sheet metal member adjacent said aperture, each fastener including a laterally projecting rib positionable in the aper-

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ture in overlapping engagement with the inner surface of the sheet metal member.

8. A storage cabinet including four-sided top and bottom members, a rear member, and a pair of end members;

a pair of rear vertical inner corner stanchions each including a filler member secured to the rear member and to one of the end members and a metal member covering at least a portion of the exposed surface of the filler member;

a pair of front vertical inner stanchions each including a non-metallic filler member secured to one of the end members and a sheet metal member covering at least a portion of the surface of the filler member;

horizontal partition members and vertical partition members for dividing the interior of the cabinet into a desired arrangement of storage spaces; means for detachably mounting selected partition members within the cabinet comprising rear rows of sockets formed in the sheet metal members of the rear vertical stanchions, in the top member, in the bottom member, in a vertical partition member and in a horizontal partition member;

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and front rows of sockets formed in the sheet metal members of the front vertical stanchions, in the top member, in the bottom member, in a vertical partition member and in a horizontal partition member;

pairs of guides, each guide having a channel portion adapted to slidably receive one edge of a partition member;

and fastening means detachably engageable with the first and rear sockets for mounting a guide.

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