July 16, 1946. E. J. KUMP, JR 2,404,182

FURNITURE

Filed Jan. 25, 1944

Fig. 1.

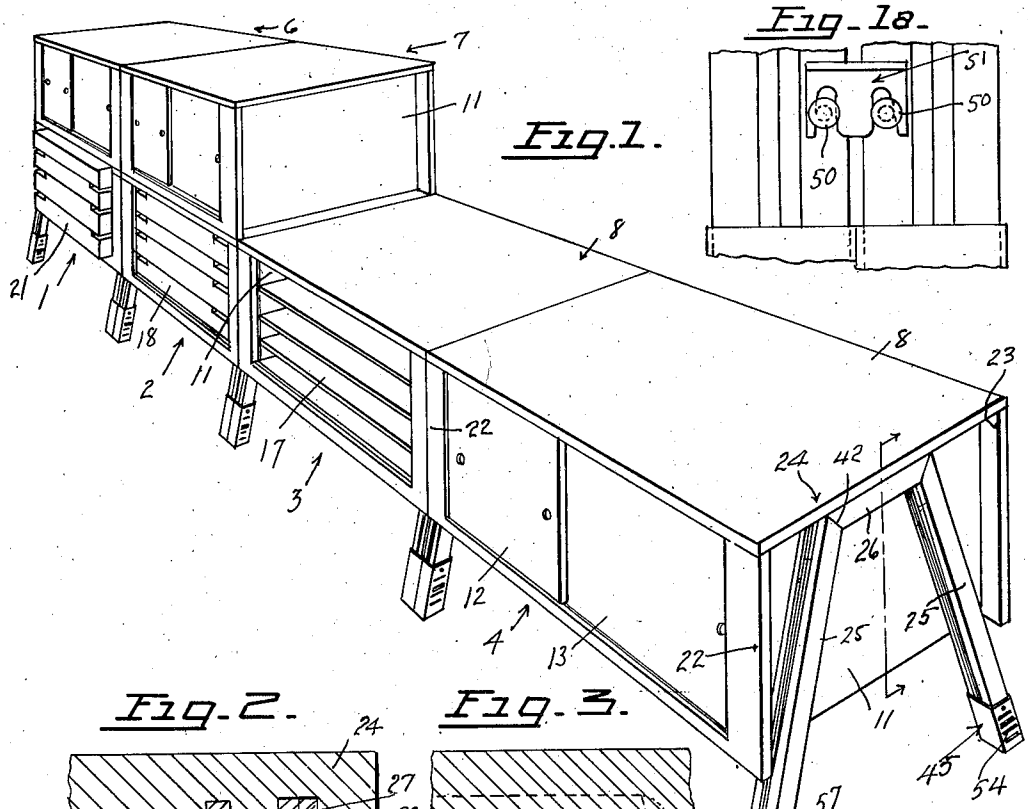


Fig. 1a.

Fig. 2.

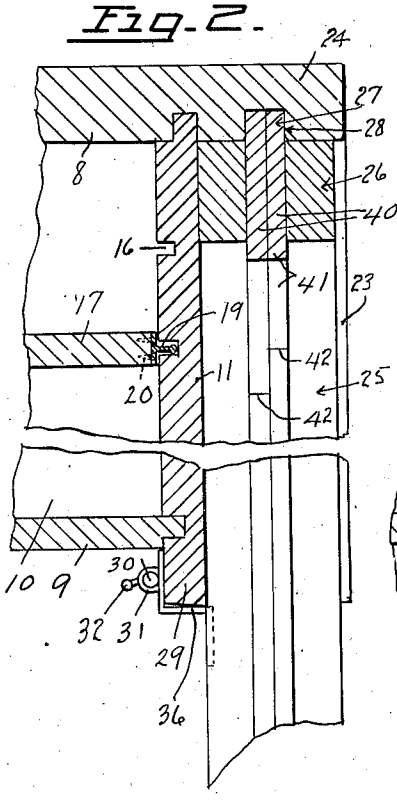


Fig. 3.

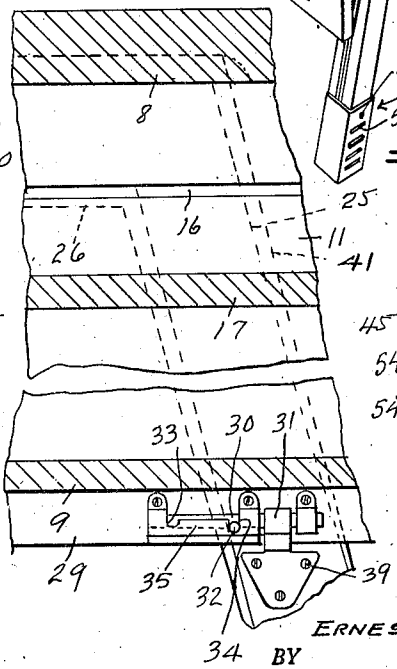
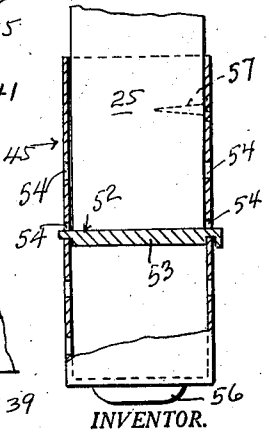


Fig. 4.



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FURNITURE

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5 Claims. (Cl. 312—107)

1

This invention relates to furniture in general, and more specifically to furniture, such as unit storage cabinets, lockers, desks, and the like, for use in schools, offices, etc.

One of the objects of the invention is the provision of a structure whereby parts of the furniture, such as the legs, are quickly detachable from the main body of the piece and whereby the latter may be used independently of the legs and are so constructed that the leg attaching means is invisible and either tiers or stacks of cabinets, desks, lockers, etc., may be formed free from objectionable cracks or openings at the junctures between the pieces of furniture.

Another object of the invention is the provision of improved body and leg structure in furniture in which the legs are in integrally formed pairs and in which the main body of the piece of furniture is formed at two opposite lateral sides for receiving portions of such legs in positions extending across such sides and enclosed between end portions of two remaining opposite sides and below end portions of the top of such body.

Heretofore school furniture has been either portable or built-in. Several objections to the latter type have been the impossibility of rearranging it as conditions or needs change or arise, and also any dismantling or wrecking of the building requires destruction of the furniture.

In the case of the portable furniture there is little, if any, provision made to facilitate combining various pieces, if desired, to obtain greater capacity within a limited space, or for spreading out the pieces into workable units, as in a tier rather than in a stack, or for forming tiers and stacks. Nor is the usual school furniture, such as cabinets with shelves, drawers, and doors, so constructed as to permit the exchanging of drawers from one cabinet for shelves of another, or for combining shelves and drawers as desired in a single cabinet, or for changing or eliminating doors.

With my construction the provision of a unit composed of tiers and stacks of connected cabinets may be formed, which cabinets are detachable from each other and may be substituted for any other cabinet in the unit as desired and each of which cabinets is also so constructed as to be independently supported on legs such as support the cabinets of the lower tier in a unit.

Also, provision is made for increasing the capacity of any one of the cabinets of my invention, as by larger drawers, without changing the form of the cabinet, and which drawers are

2

adapted to protect the contents thereof as fully as though made to be fully enclosed in the cabinet.

The invention herein is not to be confused with sectional bookcases or filing cases inasmuch as in my structure the top and the sides of the body of each piece of furniture are constructed with the particular view to coacting with specially formed pairs of integrally joined legs without interfering with the forming of a horizontal row of leg supported pieces having their tops and such sides respectively co-planar and in adjoining relation, while other such pieces, free from legs, may also constitute tiers on such row or may have legs attached thereto for forming another row.

Other objects and advantages will appear in the description and drawing.

In the drawing

Fig. 1 is a perspective view of a unit in which different cabinet elements are in rows and tiers.

Fig. 1*a* is a fragmentary enlarged elevational view of one means for detachably securing adjacent cabinets of Fig. 1 together.

Fig. 2 is an enlarged sectional view taken along line 2—2 of Fig. 1.

Fig. 3 is an enlarged sectional fragmentary view illustrating one means for detachably securing the legs to each cabinet.

Fig. 4 is an enlarged part sectional view taken through one of the devices for lengthening and shortening the legs.

In the unit of Fig. 1 is a lower row of cabinets generally designated 1, 2, 3, 4 and an upper tier of two cabinets 6, 7 supported on cabinets 1, 2.

Each of the cabinets 1 to 7 is rectangular and has a top 8, bottom 9, rear wall 10, and end walls 11. These walls form the bodies of the cabinets, and each such body is of the same shape and size.

The front side of each cabinet may be open or they may be provided with sliding doors 12, 13 that are slidably fitted in horizontal opposed grooves respectively formed in the opposed sides of the top 8 and bottom 9. The grooves 14 in top 8 (Fig. 8) may be sufficiently deep to permit lifting doors 12, 13 out of the lower grooves 15 that are in bottom 9. Thus when the doors are removed there are no projections on the top and bottom wall to interfere with drawers or to prevent free sliding of material from bottom 9 out of the open side of the cabinet.

Opposed pairs of horizontal grooves 16 may be formed in the opposedly facing sides of the end walls 11 for slidably supporting therein slide strips 19 secured to the ends of shelves 17 or drawers 18 and projecting from the ends of the latter.

These slide strips may be T strips having their heads secured to the ends of the shelves or drawers and with the legs in the grooves 16. The outer ends of said legs may be slightly enlarged (Fig. 2) to provide a bead or ridge extending longitudinally thereof and in sliding contact with the lower side of each groove 16. Screws 20 may secure the heads of the T strips to the ends of the shelves or drawers.

The grooves 16 in each cabinet are so arranged that either the shelves or the drawers may be used in the same cabinet, or combinations of both may be used. Thus in the unit disclosed in Fig. 1 one or more drawers 21 may be substituted for one or more drawers 18 in the body of cabinet 2 or for one or more shelves 17 in the body of cabinet 3, and the drawers 18 or shelves 17 for which the substitution is effected may be placed in the body of cabinet 1. The doors 12, 13 of cabinets 4, 6 or 7 may be removed, if desired, or placed in cabinets 2, 3. In other words, the elements of the cabinets forming the unit of Fig. 1 are interchangeable, thus making any arrangement of shelves, drawers, etc., possible without moving the body of a single cabinet.

The body of each cabinet 1 to 7 is formed at its ends next to end walls 11 to provide outwardly opening recesses with the bottom of each recess being an end wall 11 and two opposed sides thereof being panels 22 at the ends of the front opening in each cabinet and extensions 23 of the rear wall 10. The top 8 of each cabinet is extended as at 24 to provide the third and upper side of each recess while the fourth and lower side is open.

The legs adapted to support each cabinet on the floor comprise inverted, generally U-shaped members, the legs 25 of which extend convergently upwardly relative to each other from the floor, and the connecting portion 26, or connector, that extends between the upper ends of legs 25 is integral with the latter.

The connector 26 is formed with an upwardly projecting tongue 27 that is adapted to removably fit in a complementarily formed downwardly opening recess 28 in the under side of each extension 24 of top 8. When said tongue is in said recess, the legs 25 and their connector 26 are coplanar and substantially against end 11. Also the connector 26 and the portions of legs 25 that extend into the recess at each end of each cabinet are within the confines of said recesses with their outer sides almost flush with the free edges of projections 24, 23, and panel 22.

Each end 11 has a downward extension 29 projecting below the ends of bottom 9. Each such extension carries one or more horizontally elongated axially slidable bolts 30 respectively adapted to extend into or through an eye 31 carried by one of the legs 25 upon such axial sliding in one direction, (Figs. 2, 3). These bolts are in substantial axial alignment with eyes 31 when legs 25 are against each end 11, and when tongue 27 of each connector 26 is in a recess 28. Said bolts may each have an operating handle 32 that is adapted to automatically fall by gravity into one or the other of a pair of recesses 33, 34 formed in each bolt carrying member 35 for holding the bolt either in engagement in an eye 31 or out of such eye, as desired.

Each eye 31 is at one end of an angle member that provides a supporting shelf 36 (Fig. 2) for engagement with the lower edge of each end 11. Each angle member is secured to a leg 25 by screws 39. Preferably the lower edge of each end

11 is slightly beveled transversely thereof where it rests on support 36 so as to insure engagement of the said edge with the portion of each support at a point closely adjacent each leg 25. Thus there is no undue strain placed on each angle member. This structure insures that practically all the weight of each cabinet including the contents thereof will be transmitted to legs 25 through ends 11. The top 8 cooperates with the legs to hold them in vertical planes at the ends of the cabinet.

The U-shaped members providing each pair of said legs 25 and their connector 26 may be of plywood having a pair of central plies 40 (Fig. 2) that are extended upwardly at the connector to form tongue 27. Where these plies extend down the legs they may project outwardly of the main body of each leg with their opposite edges extending convergently downwardly from the upper ends of the legs to flush relationship with the edges of the remaining plies at the lower ends of the legs. These U-shaped members may be formed substantially along the principles disclosed in my copending application, Serial No. 495,425, filed July 20, 1943, in that the plies may be of separate lengths of wood with their junctures 42 in each ply offset relative to such junctures between lengths of wood in adjacent plies.

One or both of the legs 25 of each pair thereof may carry a headed pin 50 (Fig. 1a) projecting from its inner side. These pins are preferably at substantially the same distance from the lower end of each leg carrying the same. Thus the pins on the forward legs at the adjacent ends of cabinets 3, 4 or 2, 3 or 1, 2 are at the same level, and may be connected by a slotted clip 51. One of the clips 51 may be slipped over each pair of said adjacent pins, there being a pair of slots in each clip, one for each pin. The outermost edges of the pair of slots may be slightly slanted so that engagement between said edges and said pins will cause the adjacent legs on adjacent cabinets to be tightly drawn together. Also the clips will be tightly, but removably, held in place.

At the lower end of each leg 25 I may provide a sleeve 45 in which each leg is telescopically fitted. Each such sleeve may be formed with parallel opposed slots 54 in two opposite sides thereof for receiving the ends of a leg supporting plate 52 (Fig. 4). Each plate 52 is centrally thickened as at 53, between said ends to preclude accidental displacement of the plate. After the plate 52 is in the desired slot in each sleeve and legs 25 are supported therein, the sleeves may each be secured to the leg therein by a screw 57. The outer end of each sleeve may be closed and formed with a dome 56 to facilitate sliding over the floor or on a rug.

The cabinets of Fig. 1 may be used without leg sleeves and by themselves since any one of the cabinets may be used separately. The cabinet 2 of Fig. 1 is one in which drawers 18 have their forward sides about flush with the edges of the open front side of the cabinet. In Fig. 1 cabinet 1 is entirely filled with the wide drawers 21, while cabinet 2 has the shorter drawers. Any combination of any number of drawers of either kind may be used.

In schools the great majority of paper that comes in large sheets is adapted to fit in drawers 18, but it so happens that a small portion comes in larger sheets that will fit in drawers 21. Heretofore in portable furniture the entire cabinet must be as wide as the largest drawers if the

larger sheets are to be kept in a cabinet, thus materially adding to the cost of the cabinet, although only part of the cabinet might be adequate for the large paper. Also in many instances the place of use for the wide paper might be at a point remote from the place of use of the narrower paper, hence in the past, there has been considerable inconvenience created due to the inability to place the supplies in the most convenient places.

With my structure in which wide drawers 21, narrow drawers 18, shelves 17, doors 12, 13 are interchangeable in the various cabinets 1 to 7, thereby making it possible to set up the battery of cabinets wherever desired without regard to shelves, drawers, etc. and then distributing the drawers, shelves and doors wherever most convenient.

The leg structure in which each pair of legs at each end of each cabinet are integrally united provides exceptional strength and also greatly facilitates the handling of the legs. The recesses at the ends of each cabinet in which each pair of legs extends prevents interference between adjacent pairs of legs of adjacent cabinets, such as cabinets 1 to 4, and also enables the legs to support the ends 11 of the cabinets while the ends 24 of top 8 contribute toward holding the legs rigid without the use of complicated structure.

The extensible legs permit raising or lowering the cabinets according to the size of the users and according to the character of use, and also said structure at times provides convenient means for using a cabinet partially on a raised floor and partially off of such floor, a circumstance that frequently exists in certain schoolrooms and buildings.

Having described my invention, I claim:

1. An article of furniture comprising a main body having a top and laterally facing end walls, two separate pairs of legs for supporting said body, means for securing the legs of each of said pairs rigidly together for handling as a unit, and means for detachably securing said pairs of legs to said body in positions outwardly of said two opposite end walls thereof but substantially adjoining the latter and extending from said top to points spaced below said body for supporting said body spaced above a supporting floor, said two opposite end walls being the bottoms of oppositely outwardly opening recesses formed at two opposite ends of said body, means forming the top and two lateral sides of each of such recesses, the lower side only of each of such recesses being open to permit passage of the said legs downwardly to said points, said recesses each being of a depth as great as the thickness of the legs of each pair in a direction transversely of the common plane in which each pair of legs is disposed.

2. An article of furniture comprising a rectangular main body having a top wall, a front side, a rear side wall, and two opposed end walls, said top wall having at its ends extensions projecting oppositely outwardly beyond said end walls, a pair of integral inverted U-shaped members wholly positioned below each of said extensions in respectively vertical planes with their legs extending below said body to provide supporting legs for said body and with the connection between their upper ends substantially in engagement with the lower sides of said extension, means removably securing each of said members to said body, said front side including co-planar wall portions having extensions disposed outwardly of the said end walls, and said rear wall also extending oppositely outwardly of said end walls, the said extensions of said portions and said rear wall terminating the same distances as said top wall from said end walls thereby providing the sides of a recess at the opposite ends of said body in which the upper ends of said members are positioned.

3. An article of furniture comprising a pair of rectangular cabinet bodies of similar size and shape each having top, rear and front walls and two opposite ends each of which ends is formed with a wall providing a laterally outwardly opening recess having top, rear and front sides respectively coplanar with said top, rear and front sides of each cabinet and the lower side of each recess being open, said cabinet bodies being positioned end to end with the free longitudinal edges of the top, rear and front sides of said recesses at the adjacent ends of said cabinets in engaging relationship, legs for supporting said bodies positioned at said opposite ends of said bodies and extending into said recesses through said lower open sides thereof.

4. An article of furniture comprising a pair of similar cabinet bodies each having a pair of opposed end walls, a top wall, a bottom wall, a rear side wall and an open front side, the top wall and rear wall of each body being laterally extended at their opposite ends a similar distance beyond said end walls and a panel at each of the opposite ends of the open front side of each of said bodies similarly extended the same distance beyond said end walls as said top and rear walls, said bodies being in end to end relation with the free adjacent edges of said panels and said rear and top walls in substantial engagement with each other, a pair of legs detachably secured to each end of each cabinet body, the legs of each pair thereof being integrally joined at their upper ends, the upper end portions of the legs at the adjacent ends of said bodies extending from the extended portions of said top wall across said end walls, and means detachably securing the adjacent pairs of said legs together.

5. An article of furniture comprising a pair of rectangular cabinet bodies of similar size and shape each having a rectangular top and a pair of opposed end walls respectively adjacent each end of said top, said top extending at its ends equal distances outwardly of said end walls, front wall portions adjacent said end walls extending oppositely outwardly of said end walls the same distances as said top extends beyond said end walls, said cabinets being positioned end to end with the adjacent laterally directed edges of said top and front wall portions in engaging relationship and with the top surfaces and front surfaces of the top and the adjacent front portions of said pair of cabinets coplanar, legs secured to said cabinets at opposite ends thereof for supporting the said cabinets above the floor at the same height, the legs on the adjacent ends of said cabinets being disposed between the adjacent end walls of the cabinets extending behind the engaging front wall portions.

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