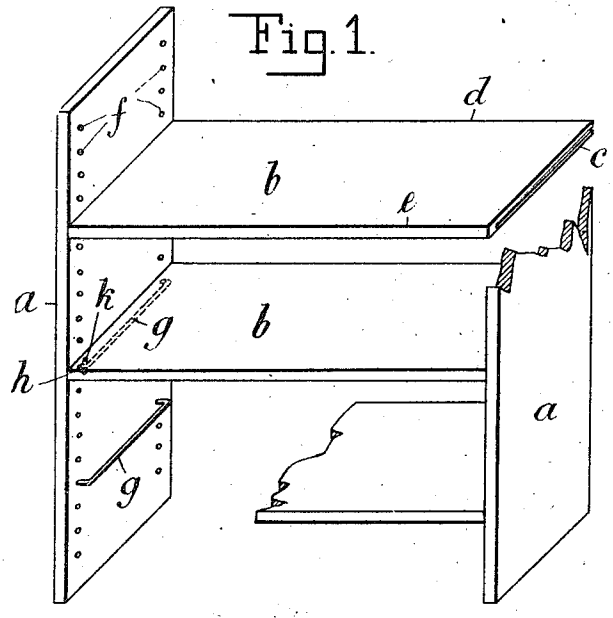
S. RINGER.

MEANS FOR ADJUSTABLY SUPPORTING SHELVES, PARTITIONS, AND THE LIKE.

APPLICATION FILED JUNE 1, 1910.

1,052,516. Patented Feb. 11, 1913.

Fig. 1.



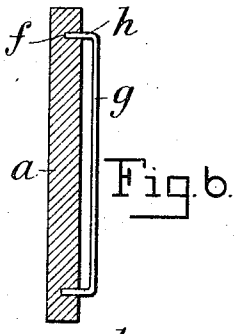


Fig. 6.

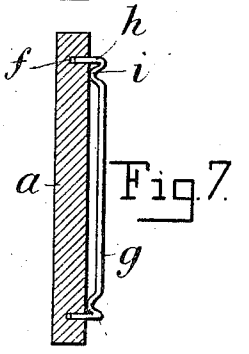


Fig. 7.

Fig. 2.

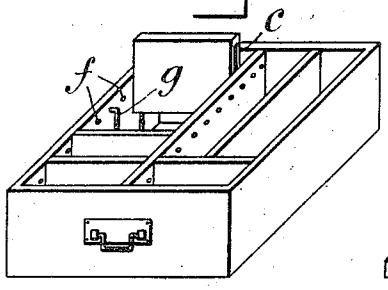


Fig. 3.

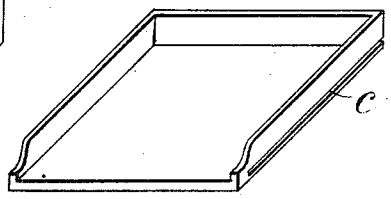


Fig. 4.

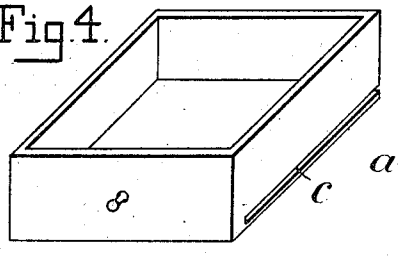
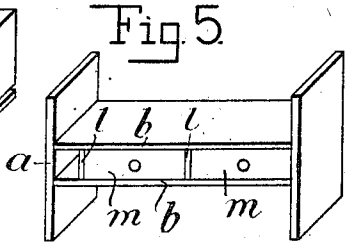


Fig. 5.



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MEANS FOR ADJUSTABLY SUPPORTING SHELVES, PARTITIONS, AND THE LIKE.

1,052,516. Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed June 1, 1910. Serial No. 564,482.

To all whom it may concern:

Be it known that I, SÖREN RINGER, a subject of the King of Denmark, residing at Copenhagen, Denmark, have invented new and useful Improvements in Means for Adjustably Supporting Shelves, Partitions, and the Like, of which the following is a specification.

The present invention relates to book-stands, cabinets and bureaus, as well as desks, drawers and other kinds of furniture, wherein the shelves, partitions and the like are adjustable.

According to this invention a groove is formed in the end-faces of the shelf-board or partition, this groove serving to contain the adjustable supporting member fastened to the inside of the piece of furniture wherein the boards are to be placed. After the supporting members are adjusted, the boards grooved at their ends are pushed in position, so that the supporting members entering the grooves will be perfectly hidden.

In the accompanying drawing, several embodiments of the invention are illustrated, and Figure 1 is a perspective view, partly broken away, of a book-stand, according to the present invention, fitted with three shelves; Fig. 2 illustrates the invention as applied to a drawer; Fig. 3 applied to a sliding shelf or tray; and Fig. 4 applied to a drawer; Fig. 5 shows a shelf-stand where several shelf-boards with intermediate partitions, forming spaces for drawers, are joined so as to be adjusted as a unit; Figs. 6 and 7 represent two different embodiments of the supporting members for the grooved shelf-boards or partitions according to this invention.

Referring to the drawing, *a* are the side-walls of the shelvings represented in Figs. 1 and 5, *b* are the shelf-boards to be fastened between the side-walls and to be adjusted at will in vertical direction. At the shelf-ends facing the side-walls, grooves *c* are worked out, beginning at the rear edge *d*, but extending not quite to the front edge *e* of the shelf-board.

On the inside of both of the side-walls *a*, two vertical and parallel rows of holes *f* are provided, any two corresponding holes thereof being in one and the same horizontal plane. These holes spaced variously in a vertical direction to suit the circumstances serve to hold the supporting members for the shelf-boards *b*. The supporting members consist of clips *g*, suitably made of round metal wire whose bent over parallel legs *h* are adjusted to correspond with the distance between the two rows of holes *f*, in order that they may be inserted in any two holes in the same horizontal plane, as shown in Fig. 6.

In Fig. 7 a modified embodiment of the supporting clip is illustrated. The clip *g* is here provided with two bends *i* in the direction of the legs *h* whereby the clips gain a certain elasticity enabling them to be easily inserted in the holes in the boards even if, in the course of time, owing to shrinkage of the wood, the distance between the rows of holes be somewhat altered. The provision of the bends *i* has further the effect that the entrance of the legs *h* into the holes is thereby limited, so that a tight fit of the wire clips in the grooves cut in the ends of the shelf-boards *b* is attained, and that the clips projecting from the inside of the side-walls *a* are easier to get hold of and to pull out and to insert at the position desired, when the shelf-boards are to be readjusted.

When two wire clips *g* are inserted, at the same height, in the right-hand and left-hand side-walls *a*, the shelf-board *b* with grooves *c* is pushed over them and is then thereby supported against pressure from above and from below, in other words it is entirely immovable vertically. The wire clips *g* firmly hidden in the grooves *c* cannot fall out of the side-walls *a*, even if the shelf-board *b* might shrink, as the clips possess sufficient resiliency to adjust themselves to suit the shrinkage of the shelf-board. This novel manner of fastening the boards *b* has the advantage not in any way to reduce the useful space inside of the piece of furniture, and to make the cost of manufacture smaller than for other fastening devices according to the methods heretofore in use, necessitating the provision on the side-walls of cleats, racks, pins and the like.

Mention must further be made of the circumstance that the stability of the furniture is increased by means of the new fastening device, as the wire clips *g* engaging the grooves *c* provide a stiff connection between the frame-work and the shelf-boards.

If the shelf-boards are to be locked in position, *i. e.* if they are to be secured against transverse motion on the clips *g*, holes are provided in the boards *b* to accommodate fixed locking pins *k* with countersunk heads

which are preferably easily removable and which are inserted between the wire clips *g* and the front leg *h*, as indicated in Fig. 1 upon the intermediate shelf-board *b*. In case of clips of the kind shown in Fig. 7, these pins may be inserted, through properly located holes in the boards *b*, into the space between the legs *h* and the bends *i*. In order to readjust the shelf-boards in this case, the locking pins *k* must first be withdrawn, then the boards *b* must be pulled out, and after the clips *g* are placed in their new position, the boards are again pushed in over these and finally once more locked transversely by means of the pins *k*.

In order to provide adjustable partitions forming a system of subdivision in drawers, boxes and other receptacles, parallel rows of holes *f* are provided horizontally in the sides of the receptacle and, if required, also in the partitions, and after the clips *g* have been inserted, in vertical position, in two holes, the partition-boards fitted with grooves *c* in their vertical edges are pushed over the clips. In Fig. 2 a drawer is represented with partitions formed according to this method.

In book-stands, cabinets and the like, a number of the shelf-boards *b* forming the subdivisions may be rigidly connected, two or more on top of one another, so as to become one unit, and this connection may suitably be effected by means of the partitions *l*, as illustrated in Fig. 5, providing on either side the spaces for the drawers. In this manner it becomes practical to adjust as a unit the interconnected shelves in the side-walls *a* as required. The space between any two consecutive shelves *b* connected to one another by means of the partitions *l* may be occupied by drawers *m*, throughout the entire width or only partially in the spaces on the sides of the partitions *l*.

Instead of the wire clips *g* made in one piece and with legs *h* bridging the space between the two rows of holes *f*, the shelf-boards, respectively the partitions may be supported by means of pins, screw-eyes or the like inserted or screwed into the holes and engaging the grooves *c* of the shelf-boards when pushed in position.

It is further pointed out that many modifications may be made in the construction and in dimensions of the several parts of the device herein illustrated and described without departing from the spirit of the present invention.

What I claim as my invention and desire to secure by Letters Patent, is—

In a device of the character described, the combination with a wall having parallel rows of holes therein, of a partition having a groove in its end, and an adjustably mounted support for said partition attached to said wall and projecting into said groove in the partition, the connection between said partition and support being such as to permit a flush engagement between the end of said partition and said wall, said support comprising a wire rod bent up at its ends to form projections which are adapted to be inserted in said holes in the wall and stops upon said rod to limit the extent to which said projections project into said holes.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

SÖREN RINGER.

Witnesses:
ORR GIERSING,
H. RÉE.