LIBRARY SHELVING WITH REVERSIBLE COMPRESSOR

Frank Conley, Cincinnati, Ohio, assignor to The Globe-Wernicke Co., Cincinnati, Ohio, a corporation of Ohio Filed Oct. 19, 1959, Ser. No. 847,122

1 Claim. (Cl. 211—43)

This invention relates to library shelving with a reversible compressor. In modern library construction the trend has been toward metal shelving and away from wood shelving. Metal shelving lends itself nicely to the use of sheet metal for the fabrication thereof and such shelving can be made quite inexpensively in standard lengths for attachment to vertical frame members at selected elevations. In this way of course the spacing between shelves may be adjusted to suit the requirements of the user.

The use of metal shelving makes it particularly convenient for the provision of a so-called compressor in association with each shelf. A compressor is an element in the nature of a bookend with is slidably secured to the shelf so that it may be moved up against a number of books on a shelf and which then, under the pressure or weight of books, may be locked against sliding movement on said shelf so as to hold said books in upright position.

It sometimes occurs that books of considerable height have to be placed on a shelf and in such case the compressor may be too low or too short to support the books adequately. If the books are quite tall and relatively heavy they can readily topple over a compressor of the nature outlined above.

It is an object of the present invention, therefore, to provide a compressor for library shelving which in general is somewhat similar to a follower in a file drawer, but to provide such a compressor which can be removed from the shelf and reapplied to the shelf in a position to depend therefrom rather than extend upwardly therefrom. In this way if books of considerable height are to be supported or compressed, the compressor may be caused to depend from the shelf above the shelf on which the books are resting and it will function in its upper side down position just as efficiently and in exactly the same manner in which it performs in its normal position.

It is a further object of the invention to make a device as claimed above which will be very simple and very inexpensive in construction and foolproof in operation.

These and other objects of the invention which I shall describe in more detail hereinafter or which will become apparent to one skilled in the art upon reading the specification I accomplish by that certain construction and arrangement of parts of which I shall now disclose an exemplary embodiment.

Reference is made to the drawings forming a part hereof, and in which FIGURE 1 is a perspective view of a library shelf with a compressor according to the invention showing the manner of its fastening to upright frame elements.

FIGURE 2 is a detailed cross-sectional view taken on the line 2—2 of FIGURE 1 on a greatly enlarged scale showing the compressor itself.

FIGURE 3 is a fragmentary cross-sectional view taken on the line 3—3 of FIGURE 1 showing how the compressor cooperates with the shelf in its upright position.

FIGURE 4 is a view similar to FIGURE 3 showing how the compressor cooperates with the shelf in its depending position.

FIGURE 5 is an elevational view with a portion of the shelf broken away showing two compressors, one in erect position and one in depending position and showing their relation to the shelf, and

FIGURE 6 is an elevational view showing how the compressor in its depending position supports tall books.

Briefly, in the practice of the invention I provide a shelf of sheet metal. This shelf is provided with longitudinal edge flanges forming box-like reinforcements along the front and rear edges. Centrally and longitudinally the shelf is provided with a recess formed by opposed flanges depending downwardly from the surface of the shelf and terminating in mutually opposed flanges or tracks lying in a plane parallel to that of the surface of the shelf, and which are spaced below the surface of the shelf but above the bottom of the box-like reinforcing elements. These flanges or tracks are unobstructed at their ends and terminate short of the ends of the longitudinal central slot or aperture.

The compressor comprises a piece of sheet metal from which two locking elements depend in spaced relation. Each of these has a portion to enter into the aperture in the shelf and each of these is provided with opposed pairs of notches adapted to engage the tracks above mentioned. The notches are of a width to engage the tracks with play so that when the compressor is held in a vertical position it can be manually slid along the shelf. However if slight lateral pressure is applied to the compressor to tilt it a small amount, then the notches engage the tracks to lock the compressor against sliding movement with respect to the shelf. By virtue of the construction of the depending flanges and the slot in the shelf the compressor may easily be removed from the shelf inverted, and reapplied to the shelf from beneath in the same relationship to the depending flanges. In its inverted position the compressor operates in exactly the same manner as in its erect position.

Referring now in more detail to the drawing, the shelf proper is indicated generally at 19 and is provided with the flanges extending downwardly at 11, inwardly as at 12 and upwardly as at 13 to provide the box-like stiffening or reinforcing elements along the front and rear edges of the shelf which box-like reinforcing elements are indicated generally at 14.

End elements may be provided for the shelf as at 15 and these may be provided with hook-like elements as at 16 for engagement in slots 17 in the upright frame members 18. Since the end members 15 form no part of the present invention and the method of securing a shelf to the frame elements forms no part of the present invention, these will not be described further.

Longitudinally and centrally the shelf there is provided a recess 19 formed by the downwardly extending flanges 20 and the inwardly extending flanges or tracks 12. The flanges 21 constitute tracks parallel to and below the surface of the shelf 10. It should be noted that the flanges or tracks 21 are disposed above the bottom flange 13 of the box-like reinforcing members 14.

As can be seen in FIGURE 6 a number of shelves 10 may be secured to the upright frame members 18 in spaced relation.

The compressor is indicated generally at 22. It provides a plane portion which is adapted to support a book and a flange 23 which may rest on the shelf 10. From the flange 23 there depend the track engaging members 24 and 25. Each of the members 24 and 25 has a portion entering the aperture 19 and each has the opposed notches for engagement with the shelf 10. The notches on the member 24 are indicated at 24a and the notches in the member 25 are indicated at 25a. It will be seen that the notches 24a and 25a engage the tracks 21 with freedom of play; thus when the member 22 is resting flat on the shelf 10 it may be grasped by the hand and carefully moved back and forth along the shelf. If, however, a slight tilting movement is applied to the mem-
ber 22 the respective notches 24a and 25a exert a binding effort against the tracks 21 and hold the member 22 against sliding movement with respect to the shelf 10.

By virtue of the construction described it is a simple matter to take the member 22 in the hand and slide it along the shelf 10 until the notches 25a clear the tracks 21, for example at the left end of the shelf. The member 22 may then be tilted in a clockwise direction so that the member 25 is withdrawn from the aperture 19. Thereupon the member 22 may be moved further to the left until the notches 24a are disengaged from the ends of the track 21 and thereupon the entire compressor may be lifted off the shelf.

The compressor may then be secured to the shelf in a depending position as shown at the right of FIGURES 5 and 6 and as shown in FIGURE 4 by bringing the notches 24a into engagement with the tracks 21 and thereafter bringing the notches 25a into engagement therewith. By virtue of the construction described the compressor 22 may be applied to the shelf in an upstanding position from either end of the shelf and with the compressor 22 facing either direction. Similarly it may be applied in the depending position from either end of the shelf and facing in either direction as may be desired.

FIGURE 6 illustrates clearly how the compressor in its depending position can support groups of tall, heavy books. Such books, for example, as atlases or bound volumes of magazines of large format are indicated at e to g inclusive. It will be obvious that if it were attempted to support these books with a compressor 22 upstanding from the lower shelf 10 the books could readily topple over. However, if a compressor 22 is independently supported from the next shelf above it will hold the books perfectly in position. It will of course be understood that a lower compressor could be used in addition. The use in the normal supporting of small books is indicated above the upper shelf in FIGURE 6 with the normal size books being indicated at h to m.

It will be clear that numerous modifications may be made without departing from the spirit of the invention and I therefore do not intend to limit myself except as set forth in the claim which follows.

Having now fully described my invention what I claim as new and desire to secure by Letters Patent is:

In combination, a shelf structure having means for attachment to a framework, and a compressor for said shelf structure, said shelf structure being of sheet metal, having longitudinal edge flanges forming box-like reinforcements along the front and rear edges thereof, said shelf having a central longitudinal recess extending substantially from end to end thereof, said recess formed by flanges depending from the top surface of the shelf and terminating in additional flanges parallel to the plane of the shelf and being spaced apart to form a longitudinal slot, and a transverse slot formed near the ends of each recess and in communication with said longitudinal slot, said compressor having spaced elements entering said longitudinal recess and each having a pair of opposed notches freely embracing said additional flanges whereby said notches lockingly engage said additional flanges, said additional flanges occupying a position between the surface of said shelf and the bottom of said box-like reinforcements, and said spaced elements in engagement with said additional flanges terminating short of the bottom of said box-like reinforcements, whereby said compressor may occupy alternatively a position extending upwardly from said shelf structure or depending downwardly from said shelf structure, with said spaced elements in operative engagement with said additional flanges.

References Cited In the file of this patent

UNITED STATES PATENTS

1,010,625 Weis June 25, 1912
1,058,236 Hawkins Apr. 8, 1913
1,459,613 Carrier June 19, 1923
1,853,840 Bailey Apr. 12, 1932
1,898,533 Harriman Feb. 21, 1933
2,346,150 Brown Apr. 11, 1944
2,840,243 Brinker June 24, 1958

FOREIGN PATENTS

848,331 France July 24, 1939