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MAGAZINE STORAGE RACK

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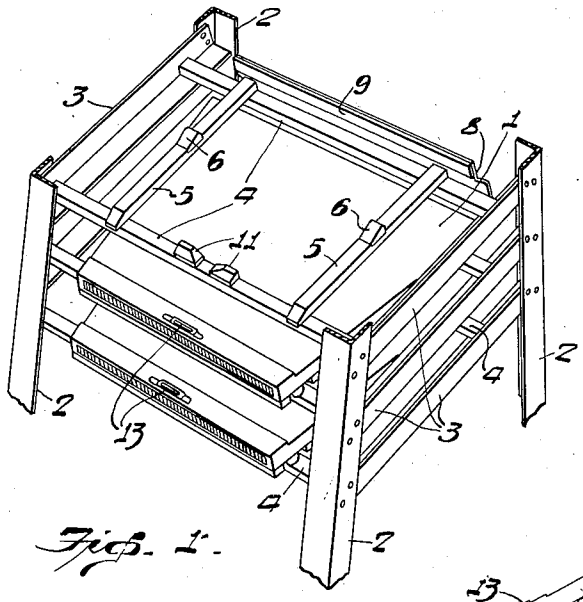


Fig. 1.

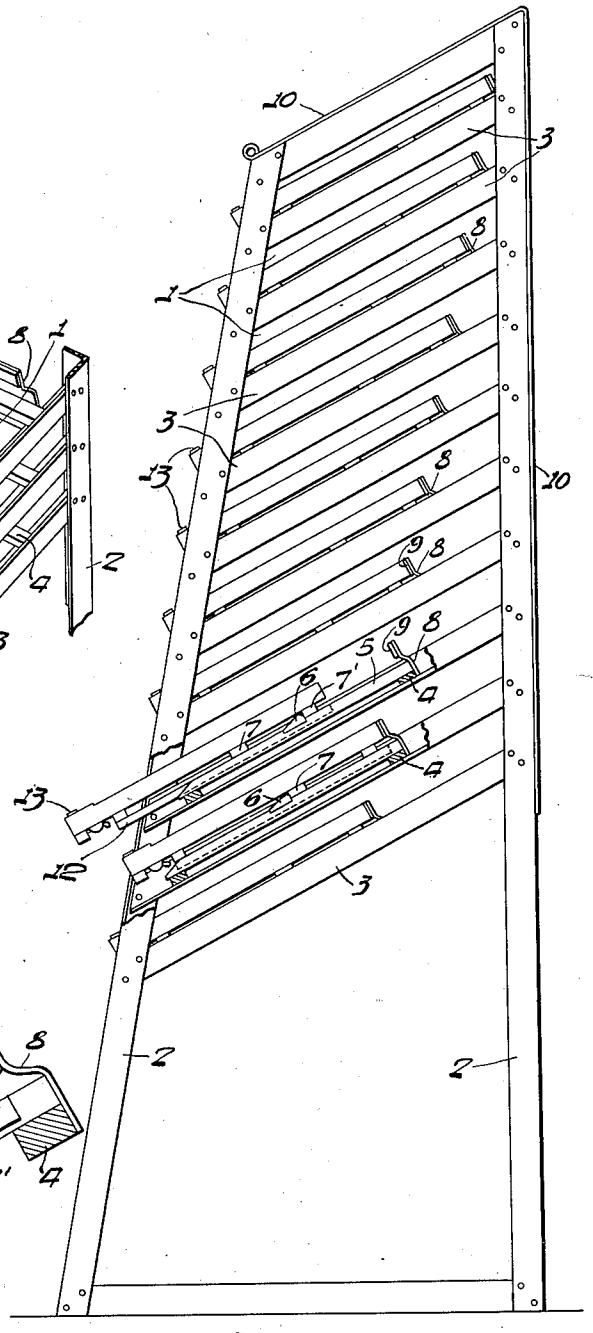


Fig. 2.

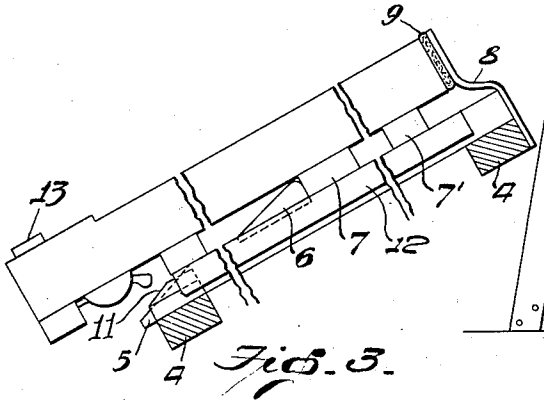


Fig. 3.

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MAGAZINE STORAGE RACK

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9 Claims. (Cl. 276—44)

The present invention relates to storage racks for channeled magazines of the kind commonly used for holding matrices employed in line composing machines of the general class disclosed in U. S. Letters Patent No. 436,532 granted September 16, 1890, and it relates particularly to magazine storage racks which are separate from or independent of the line composing machines.

Such magazine storage racks, as heretofore constructed, have been arranged either with narrow vertically disposed brackets in which the magazines stand upright on one edge, or with suitable arms on a floor standard on which the magazines are hung vertically. Both of these types of racks, however, have certain disadvantages which impair the efficiency of operations in the composing room attendant to exchanging the magazines. These disadvantages are especially pronounced in present day practice which requires the use of a great variety of type faces and therefore more frequent exchanging of magazines than heretofore. Any improvement in magazine storage facilities that will render the reserve magazines more conveniently and expeditiously available is, therefore, an important consideration.

Those skilled in the typographical art will appreciate that the exchanging of matrix magazines is a laborious task, due to the weight of the magazines and the contained matrices. The exchanging of matrix magazines, with storage racks now in use, places a great burden and strain upon the attendant who is required to not only lift the heavy magazines from the machine in their normal flatwise inclined position, but after carrying a magazine to the storage rack, must swing the cumbersome load to a vertical edgewise position, and while holding it in this awkward off-balance state, enter and feed the magazine into or upon the rack. Thus the design of the present types of racks presents inherent defects which add to the difficulty and effort involved in exchanging magazines, and this is true even with magazines of the short or split type, wherein the matrix containing portion of the magazine is about one-half the length of the usual or standard full length magazine.

The present invention overcomes the above objections by providing a magazine rack of improved construction, wherein the matrix magazines are stored columnwise in flat inclined positions corresponding substantially to the position they normally occupy in the composing machine.

The present invention also provides for the easy accessibility and immediate identification of any magazine in the rack, by arranging the rack at a suitable incline forwardly from top to bottom. Other improvements comprise means for retaining the magazines on inclined supports in the rack, means for facilitating the registry and guidance of the magazines to and from the rack, and means for shielding the exposed open end of magazines in the rack against the entrance of dust.

To these and other ends the invention consists in certain improvements and combinations and arrangements of parts all as will be hereinafter more fully described, the features of novelty being pointed out particularly in the claims at the end of this specification.

In the accompanying drawing:

Figure 1 is a perspective view of a portion of a magazine rack embodying the present invention, this view showing details of construction and assembly of the rack;

Figure 2 is a side elevation, partially in section, of the improved magazine rack; and

Figure 3 is a fragmentary view in vertical section and on an enlarged scale, showing one of the magazine supporting frames of the rack and a magazine placed thereon.

Similar parts are designated by the same reference characters in the different figures.

Referring to the drawing, which shows an illustrative form which the improved magazine storage rack may conveniently assume in practice, the storage rack comprises a plurality of magazine receiving sections indicated generally at 1, arranged columnwise in downwardly and forwardly inclined positions, as shown. Four uprights 2 are provided, the front and rear uprights being connected by a plurality of angularly disposed side pieces 3 which, in turn, support cross bars 4, the side pieces 3 and the bars 4 forming the floor or base of each of the magazine receiving sections 1 in the rack, and constituting a series of magazine supporting members.

As shown in Figure 1, each pair of cross bars 4 carries a pair of forwardly and downwardly inclined magazine supporting bars or members 5 each beveled at its forward end to facilitate entrance of the magazine, and each of the bars or members 5 is provided intermediately of its ends, with a beveled or wedge-shaped block 6 adapted to engage the usual central transverse bar or member 7 on the under side of the matrix magazine to retain the latter in place on the rack. The blocks 6 may be let into a recess in the upper surface of the members 5, as shown in Figure 3, or they may be otherwise fastened to the members but preferably in such manner that they provide

smooth or unobstructed trackways for sliding the magazine upwardly into position. Each block 6 may have its upward projecting corner rounded as shown in Figure 3, to facilitate movement of the matrix magazine thereover and provide a cushioning effect to prevent undue jarring of the magazine as its cross bar or member 7 rides off the blocks 6 and becomes seated against their near edges.

The front portion of the storage rack as illustrated in the drawing, inclines forwardly from its upper to its lower end to provide for the stepwise superimposed relation of the magazines, and, to attain this object, each pair of blocks 6 is arranged correspondingly in stepwise relation. Each magazine receiving section is preferably provided with a transverse back plate 8 which is fixed to the respective upper cross bar 4 and may be provided with a cushion strip 9 of any suitable material, such as felt or soft rubber, such cushion strip 9 being adapted to abut against the upper rear end of the respective magazine when in position within the rack. The back plate 8, and the cushion strip 9, if such be provided, serves both as a dust cover for the open rear end of the magazine and as a stop piece for limiting the upward and inward thrust of the magazine into the rack.

Preferably, a sheet metal shield 10 is applied over the top and a portion of the rear of the rack in order to make it more rigid and to present a finished appearance.

Each magazine receiving section of the rack may be provided advantageously with suitable magazine guiding means, for example, guide blocks 11 on the forward cross bars 4 to engage the usual longitudinal center bar 12 on the underside of the magazine. With this arrangement, the magazines will be guided into the rack centrally of its sides. Obviously, the guides 11 may be extended from the front cross bar 4 to the rear bar 4 in each section if desired.

It will be apparent from the foregoing that the transfer of a magazine from the composing machine to the improved magazine storage rack can be effected with the minimum of effort since it is unnecessary for the attendant to alter his natural grip on the magazine, as removed from the machine, while inserting the same within the rack. The burdensome change of load and balance, causing undue strain upon the attendant, when up-ending the magazine as heretofore required, is obviated entirely. The storing of a magazine involves simply resting the rear end of its center bar 12 between the guides 11 and sliding the magazine up into the respective magazine receiving section until the rear transverse member 7' on the magazine engages the rear edge of the wedge shaped blocks 6. The magazine will then be retained in a partially projected position from which it can be slid back by pushing on its forward end until it abuts against the stop strip 8 whereupon the central transverse bar 7 will lodge behind the wedge blocks 6. When it is desired to remove a magazine from the rack, it is simply necessary to raise the forward projecting end of the magazine sufficiently to disengage the cross member 7 on the under side of the magazine from the blocks 6, whereupon the magazine will slide forwardly under its own weight until the upper transverse bar 7' engages the rear edge of the wedge blocks. At this partially projected position of the magazine as clearly shown in Fig. 2, where the magazine stands temporarily at rest, the attendant can conveniently grip the magazine at the sides somewhat above its forward end and slide it out of the rack. This balanced flatwise position of holding and carrying the magazine corresponds to the flatwise position in which it is placed upon and supported in the composing machine so that the only effort involved in exchanging magazines is that expended in transporting their weight.

It will be apparent also that the stepwise arrangement of the magazines, due to the forwardly inclined relation of the storage sections of the rack, provides easy access to each magazine and direct visibility of the identification markings, in the form of labels 13, designating the style and size of the matrix font in the magazine, on the top face at the forward end of each magazine.

In the embodiment of the invention shown in the accompanying drawing, it will be noted that the rack is shown as constructed particularly for the reception and storage of short or "split" magazines of the well-known trapezoidal form, since it is believed that the invention is particularly advantageous in connection with such magazines, due to the increased use of large numbers of such magazines in head letter and display composition requiring many magazine changes. The invention, however, is not limited to matrix magazines of this particular size or kind but may also be adapted for the reception and storage of other forms of magazines, including the usual full length trapezoidal magazines.

I claim as my invention:

1. A rack for storing matrix magazines having transverse members on their under sides near the upper end thereof and longitudinal guide bars extending below said transverse members, comprising a frame having a plurality of supports for supporting the magazines in flat inclined positions, each of said supports having retaining pieces positioned thereon to engage the upper transverse member on the respective magazine to support the latter when partially withdrawn from the rack and guide means below the level of said retaining pieces to cooperate with the longitudinal guide bar on the respective magazine.

2. A rack for storing matrix magazines each having transverse members on its under side near the center and the upper end thereof, respectively, comprising a frame having a plurality of forwardly inclined supports on which the magazines may lie in flat inclined positions, and retaining pieces on each support having beveled forward sides over which the transverse members on a magazine may ride, said retaining pieces being engageable with the central transverse member of the respective magazine to retain it in position in the rack and engageable with the upper transverse member of such magazine to support the latter when partially withdrawn from the rack.

3. A rack for storing matrix magazines each having an open upper end and a plurality of transverse members on its under side, comprising a frame having a plurality of forwardly inclined supports on which the magazines may lie in flat inclined positions, retaining pieces on each support having bevelled forward sides over which the transverse member on a magazine may ride, said retaining pieces being engageable with one of the transverse members of the respective magazine to retain it in position when stored in the rack and engageable with another of the transverse members of a magazine to retain the latter against forward displacement while riding into and out of the rack on the inclined supports, and a cover member for each support mounted in

the rack in position to engage and close the upper open end of a magazine when the latter is inserted in the rack with one of its transverse members in retaining engagement with the retaining pieces on the respective support.

4. A rack for storing matrix magazines each having an open upper end, and having a transverse member on its under side, comprising a frame having a plurality of forwardly inclined supports on which the magazines may lie in flat inclined positions, retaining pieces on each support having bevelled forward sides over which the transverse member on a magazine may ride, said retaining pieces being engageable with the transverse member of the respective magazine to retain it in position in the rack, and a yieldable cushion and closure member for each support mounted in the rack adjacent to the upper end of such support in position to engage and close the upper end of a magazine when the latter is inserted in the rack and yieldable to permit the transverse member on the magazine to move into retaining engagement with the retaining pieces on the respective support and thereby cushion and limit the rearward movement of such magazine.

5. A rack for storing matrix magazines each having transverse members on its under side near the center and the upper end thereof, respectively, comprising a frame structure having a plurality of magazine receiving sections each provided with rails running fore and aft thereof on both sides of the center of the several sections and located at a level to receive the transverse members on the magazines to support the latter in flat forwardly inclined positions, said rails having retaining pieces engageable with the front edge of the central transverse member of the respective magazine to retain it in position in the rack and engageable with the front edge of the upper transverse member of such magazine to retain the latter in a position partially withdrawn from the rack.

6. A storage rack for matrix magazines each having upper and lower transverse members on its under side, comprising a frame having a plurality of forwardly inclined supports for holding such magazines in flatwise inclined position thereon, said supports having their front edges arranged in forward stepwise relation from the top to the bottom of the frame, magazine retaining means correspondingly arranged in forward stepwire relation on each support and engageable with the upper and lower transverse members on the magazines respectively to retain the latter when partially and when fully within the rack, and stops arranged in like forward stepwise relation toward the rear of each support and cooperable with the rear ends of the magazines when the lower transverse member of a magazine is engaged by said retaining means.

7. A rack for storing channeled matrix magazines each having a guide bar centrally thereof on its under side and extending substantially in the direction of the channels in the magazine and upper and lower transverse members above the level of the guide bar, said rack comprising a plurality of sections each provided with rails for slidably receiving the transverse members at each side of the central guide bar when said magazines are presented in flatwise position on said rails, said sections having grooves therein to receive the central guide bars on the magazines to locate the latter centrally of the sections while sliding the magazines on the rails, and means on the rails for engaging the front edges of the upper and lower transverse members on the magazines successively when the magazines are slid into and out of the rack to retain the magazines in stable flatwise position against forward displacement respectively while within and when partially withdrawn from the rack.

8. A rack for storing matrix magazines having transverse members on their undersides near the center and the upper end thereof, respectively, comprising a frame having a plurality of forwardly inclined magazine receiving sections with their front edges disposed at an incline forwardly from the top to the bottom of the rack, supporting means in each section comprising rails for slidably receiving the transverse members on the magazines and providing guides for flatwise rearward movement of a magazine thereon under pressure exerted on said magazine, and retaining pieces on the rails engageable with the front edges of the transverse members near the center and the upper ends of the magazines for holding the magazines against forward displacement on the supporting means when the magazines are respectively within and partially withdrawn from the rack and for positioning the magazines on said supporting means with their forward ends exposed beyond the front of the sections both when said magazines are within and partially withdrawn from the rack.

9. A rack for storing channeled matrix magazines each having a guide bar centrally thereof on its under side and extending substantially in the direction of the channels in the magazine and upper and lower transverse members above the level of the guide bar, said rack comprising a plurality of sections each provided with rails for slidably receiving the transverse members at each side of the central guide bar when said magazines are presented in flatwise position on said rails, said sections having grooves therein to receive the central guide bars on the magazines to locate the latter centrally of the sections while sliding the magazines on the rails, and means on the rails for permitting the upper and lower transverse members of a magazine successively to slide under pressure exerted on the magazine into the rack and engageable with said upper and lower transverse members to retain the magazine against forward displacement when it is respectively partially within and fully within the rack.

HERMAN R. FREUND.