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SORTS MATRIX RACK FOR TYPOGRAPHICAL MACHINES

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This invention relates to novel and improved means for the identification and handling of the so-called "sorts" matrices employed in connection with the composition of type matter on typographical machines of the general organization represented in U. S. Letters Patent 436,532 wherein character-bearing matrices of different fonts stored in channeled magazines are released therefrom one-by-one in response to manipulation of a keyboard and led to a common point of assembly into composed lines, the lines then being presented before a suitable mold for producing a type-bearing slug and the matrices subsequently being delivered to distributing devices on the machine which return them to their respective channels in the magazine from which they were drawn.

The invention relates more particularly to machines of this class equipped with a plurality of magazines whether constituted by a single set of superposed main magazines of the usual trap-zoidal shape or such set of magazines and in addition thereto another set of superposed auxiliary or side magazines of the usual rectangular form, either or both sets of magazines being shiftable as a unit in the machine frame whereby different matrices may be moved into position for cooperation with the keyboard and associated matrix assembling and distributing devices of the machine.

As well known to those familiar with these machines and with the composition of matter for different classes of printing, special or extra characters such as advertising figures, fractions, logotypes and ligatures, and many other odd characters and symbols are needed beyond those which normally comprise the regular matrix fonts as contained in the standard main and auxiliary magazines which are under control of the keyboard. Such special or so-called "sorts" matrices are inserted in the matrix line by hand as needed during the course of composition and are subsequently delivered by the distributor to a suitable sorts stacker or equivalent receptacle usually disposed somewhat to the right of the main keyboard at the front of the machine.

The sorts matrices usually correspond or harmonize in general with the design or style of the type face represented by the matrix fonts with which they are used, there being a group of such sorts for each font in the different magazines among the stock thereof in the composing room. Therefore, for convenience and maximum efficiency in the operation of the composing room it is desirable that the various groups of sorts matrices be kept segregated and be so stored as readily to be identified with the particular fonts which they supplement. Moreover, and of equal importance, each group of sorts should be readily available for transport to and from the machine when magazine changes are made, and when in use on the machine each group should be identifiable with certainty as to which font of matrices it corresponds among the several fonts in the magazines on the machine and should be so accessible as to avoid hesitation or delay on the part of the operator in selecting them for use.

Now it has already been proposed to provide multiple sorts stackers or receptacles for the purpose of segregating the different groups of sorts matrices by distributing them directly to different stackers or receptacles. Quite apart from segregation by distribution or any particular means therefor, the present invention has for its object the provision of a multiple tier sorts rack for increasing efficiency as to identification, accessibility and handling of sorts matrices in general both on and off the machine. To these ends the invention provides a sorts rack mounted on the machine within easy reach of the operator and arranged to hold a plurality of removable and thus transportable trays containing different groups of sorts matrices, the rack provided for being devised, moreover, to dispose the matrix trays on superposed separately rotatable horizontal frames or platforms in orderly relation, that is, each platform contains as many trays as there are magazines or matrix fonts in the magazine unit to which such platform corresponds and the trays are arranged end-to-end around their respective platforms in the order of the superposed magazines in the corresponding unit thereof. For accommodating still other special groups of sorts beyond those most usually associated with fonts in the different magazine units on a machine or extra sorts characters which cannot be accommodated on the upper platforms, an additional platform may be provided.

In the accompanying drawings, one embodiment of the invention is shown, by way of example, and obviously many changes and variations may be made in the arrangement and combination of parts whereby to attain the advantages accruing from the specific arrangement herein disclosed. It is to be understood, therefore, that the invention is not limited to any specific form or embodiment except insofar as such limitations are specified in the claims:
In the drawings:
Fig. 1 is a perspective view from the front showing diagrammatically the right hand portion of a conventional type of machine having main and side magazine units, and showing also the multiple platform sorts rack of the invention applied thereto.

Fig. 2 is a partial plan view on an enlarged scale of one of the sorts tray supporting frames or platforms of the rack shown in Fig. 1.

Fig. 3 is an elevation showing on an enlarged scale the supporting frames of the rack shown in Fig. 1, one entire frame being shown in section through the axis of the vertical shaft which supports the several frames, and two frames having the removable matrix trays supported thereon.

By way of example, the invention is shown as applied to a machine having both main and auxiliary magazine units. Referring to the diagrammatic representation of such machine in Fig. 1, the main magazine unit A comprises in the present instance a column of four of the usual ovoidal shaped magazines 1, 2, 3 and 4, and the auxiliary or side unit B comprises a column of four rectangular magazines 5, 6, 7 and 8. The magazine units A and B are each supported for fore and aft shifting movement on suitable brackets C secured to the main frame member D of the machine. Any of the well known constructions for supporting and shifting these units may be employed, such, for example, as the arrangement disclosed in Letters Patent No. 1,680,562 granted November 23, 1927. For present purposes detailed description and illustration of these features are deemed unnecessary since they have no direct concern with the sorts matrix rack of the invention. Suffice it to say that, as well understood, any desired magazine in the main unit A or the side unit B may be selected for use by shifting it into operative relation with the usual associated matrix assembling and distributing devices of the machine, and any magazine may be removed and a different one substituted therefor. The keyboards E and F control the release of matrices respectively from the selected magazines in the corresponding units and thereof. Upon release of the matrices under control of the keyboard they are carried to a common point of assembly into composed lines in well known manner.

According to the instant invention there is provided on the machine a multiple platform sorts rack whereby at least as many different groups of sorts as there are matrix fonts or magazines on the machine will be available to the operator with absolute certainty as to which of the different fonts they supplement and with maximum facility in selecting them for use in the course of the composition. The sorts rack herein provided is auxiliary to and quite independent of the well known sorts stackers G onto which sorts matrices fall by gravity through pilasters H connected to the distributing mechanism at the top of the machine.

As shown, the sorts rack comprises a vertical post 8 secured at the outer end of a plate 10 rigidly mounted for convenience on the frame of the auxiliary keyboard F. The post 9 is fitted in the present instance with three collars having set screws 12 for securing them suitably to the post whereby to support thereon for independent rotation the three individual horizontally disposed frames or sorts tray platforms 13, 14 and 15. These frames are preferably square sided and formed as a one-piece casting as shown although they may be fabricated from separate parts suitably secured together if desired.

On the upper surface and near the edges each frame is provided with inner and outer upstanding flanges or ribs 16 and 17 respectively, as clearly indicated in the section view of the frame 15 in Fig. 3, such ribs forming between them shallow depressed channels for locating and retaining on each platform in end-to-end relation a set of four removable L-shaped matrix trays 18. The outer ribs 17 are preferably made somewhat lower than the inner ribs 16 in order not to obstruct removal by hand of matrices M contained on the trays 18, the matrices standing upright on the floor of the trays between vertical partitions 19 which form between them compartments for the storage of sets of like character matrices. As with the frames 13, 14 and 15, the matrix trays 18 and the partitions 19 thereof may be of one-piece construction as shown or they may be fabricated from separate parts suitably secured together.

The matrix trays 18 may be provided with any desired number of partitions 19, the actual number and their spacing being purely arbitrary although governed to a large extent by the number of sorts matrices of each character which may be found necessary or desirable to have on hand in connection with different ones of the regular fonts.

The arrangement of the separate platforms and of the matrix trays thereon relative to the magazines and matrix fonts therein on the machine will be apparent from the description that follows. Assuming the main and auxiliary magazine units A and B respectively each to comprise four magazines, the top platform 13 corresponds to the main unit A and contains four of the removable matrix trays 18 preferably placed around the platform in an orderly manner corresponding to the order of the magazines 1, 2, 3 and 4. The middle platform 14 corresponds to the auxiliary magazine unit B and contains four of the matrix trays preferable placed around the platform in the order of the magazines 5, 6, 7 and 8. To assist in arranging the matrix trays around the platforms in proper order number plates may be placed on the outside face of each side as indicated by the square plates at the left of each face in Fig. 1, such numbers corresponding to the order of the magazines in the respective units. The bottom platform 15 provides for the storage of extra matrix trays 16 containing additional groups of sorts matrices less frequently employed or else extra sorts characters for which there is insufficient space in the trays on the upper platforms.

Thus, the sorts in the trays on the top and middle platforms supplement the matrix fonts in the main and auxiliary units A and B, respectively. According the magazine in either unit that may be shifted into operative position with the corresponding sorts group may be instantly brought within direct view and reach of the operator simply by turning to the front the corresponding side of the corresponding platform 13 or 14 as the case may be, the number plates on each side of the platforms aiding the operator to immediately identify the matrix fonts which supplements the selected magazine. For additional sorts the platform 15 may, of course, also be turned to present the desired tray at the front.
As already stated, the sorts matrices taken from any of the different trays are inserted in the composition line by hand and are returned by the distributing mechanism of the machine through the pl-tubes H to the sorts stackers G in a manner well understood. From these stackers the matrices are lifted by hand and placed in their proper compartments on the sorts trays. Due to the removability of the sorts trays from the platforms on the sorts rack herein described the trays may be transported conveniently to and from the machine when magazines within the two units are exchanged as they frequently are to provide different selections of matrix fonts on the machine.

When the sorts trays are removed from the machine they may be stored away in any convenient manner as in a special cabinet for the purpose or in suitable tills associated with the usual magazine storage racks in the composing room. It will be noted that on the back of each tray there is provided a suitable label holder 20 into which exchangeable labels or cards may be inserted which bear marking indicating the size and style of the type face on the matrices on the tray. Thus the groups of sorts matrices for different matrix fonts may be quickly identified. Likewise there is provided on the face of each of the rotatable platforms 18, 14 and 15 suitable label holders 21 for the insertion of exchangeable labels or cards bearing suitable marking as to the size and style of type faces of the fonts present on the machine or of the supplementary sorts therefor, or otherwise according to what system may best serve in a particular shop. The labels in the holders 20 and 21 may be easily changed from time to time as conditions may require and it will be evident that they, together with the transportable sorts trays and the rotatable platforms, constitute a complete and efficient means for handling sorts matrices with certainty and with facility for identification both on and off the machine.

Moreover, it will be evident that the sorts rack constructed as herein provided and the arrangement thereon of the sorts matrix trays as herein proposed is both convenient and time-saving as regards the operator of the machine, the selected groups of sorts matrices being presented in a common frontal plane and in tiers above and substantially parallel to the usual pl-stackers G from which sorts returned to the latter by the distributing devices of the machine may readily be lifted by hand for replacement back on the proper trays in the rack.

Having thus described my invention, what I claim is:

1. A sorts matrix rack for typographical machines comprising, in combination, a vertical supporting post, a plurality of collars fixed on said post at spaced intervals, horizontally disposed frames rotatably mounted on the post and sustained in superposed spaced relation thereon by said collars, and sorts matrix carrying trays removably supported end-to-end around said frames.

2. A combination as set forth in claim 1, wherein each of the frames specified therein is provided with inner and outer flanges providing between them depressed channels for locating and removably retaining the sorts matrix trays on the frames, and wherein the outer flange is lower than the inner flange whereby to afford access to and removability of the sorts matrices from the different trays.

3. A combination as set forth in claim 1, wherein the removably supported trays specified therein comprise elongated L-shaped members having partitions perpendicular to their L-shaped walls for confining between them groups of like sorts matrices.

4. A combination as set forth in claim 1, wherein the rotatable frames specified therein are square sided and provided each with inner and outer flanges normal to and projecting above the horizontal surface of the frames, the removable sorts matrix trays being removably retained on the frames between said flanges and the latter serving to retain the matrices on said trays against displacement during rotation of the frames.

5. A combination as set forth in claim 1, wherein the rotatable frames specified therein are square sided and on each side bear markings indicative of a type face as to its style or size or as to both, and wherein the frames are rotatable independently of one another whereby to enable the positioning manually one above the other in a common front the sides of said frames which bear markings corresponding to a desired selection of type faces in the sorts matrix trays supported on said frames.

6. A combination as set forth in claim 1, wherein the rotatable frames specified therein are square sided and on each side bear markings which are exchangeable and indicative of one or another type face as to its style or size or as to both, and wherein corresponding markings are carried by each of the removable sorts matrix trays whereby to assure their orderly arrangement in the sorts rack.

7. A combination as set forth in claim 1, wherein each of the rotatable frames specified therein bear as many markings indicative of type faces as there are sorts matrix trays on a frame, and the trays bear corresponding markings whereby to determine their locations respectively on the different frames, and wherein the sorts trays are arranged end-to-end around the frames in a predetermined order corresponding to the order of the matrix fonts in a column of magazines on a machine with which the sorts rack may be associated.

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