

May 3, 1932.

J. W. SHIELDS ET AL

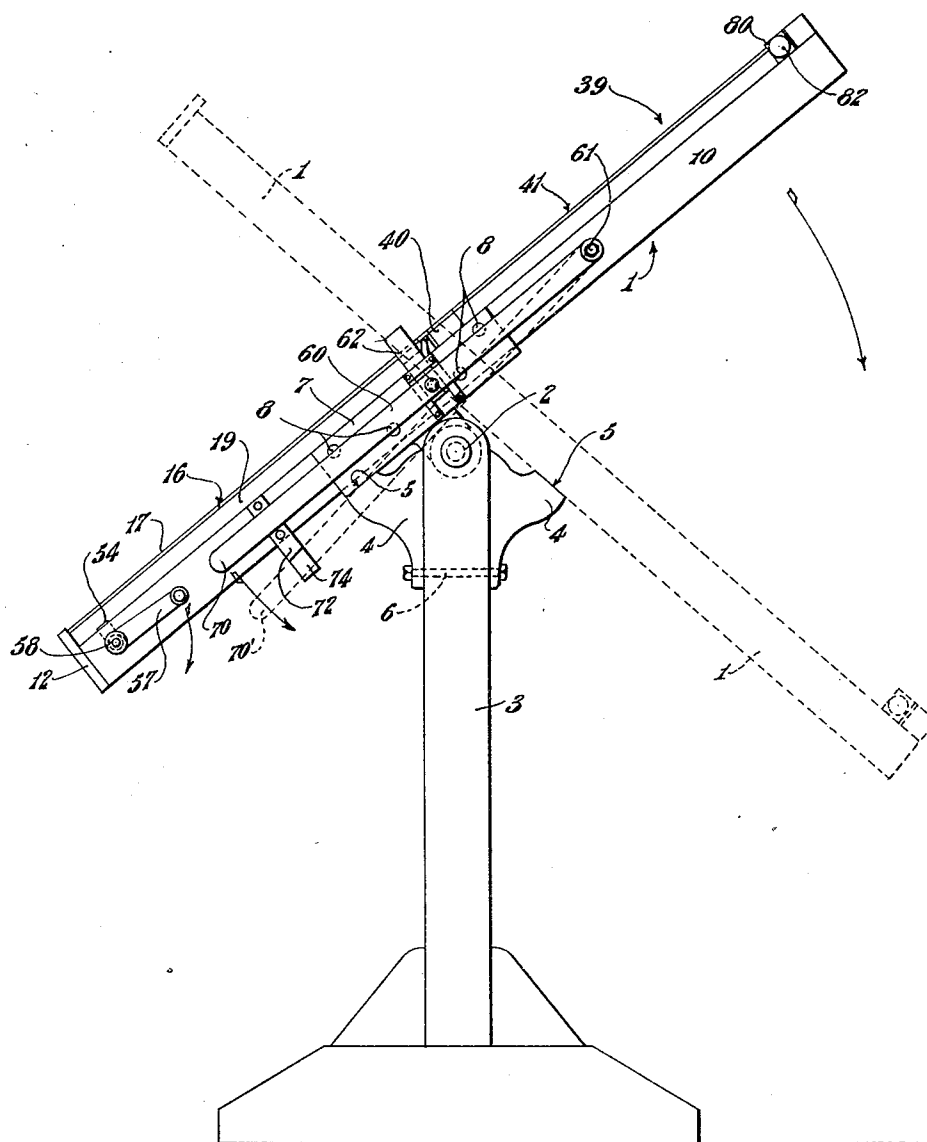
1,856,515

TYPOGRAPHICAL MAGAZINE

Filed July 19, 1930

4 Sheets-Sheet 1

Fig. 1.



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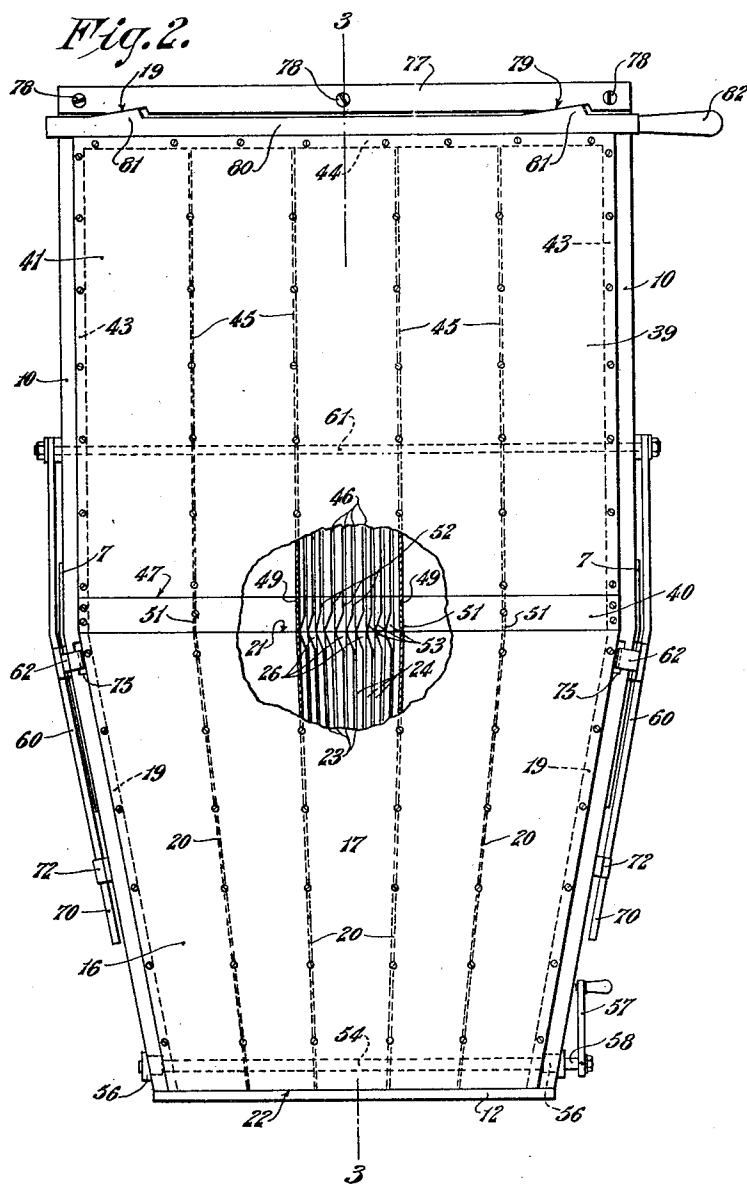
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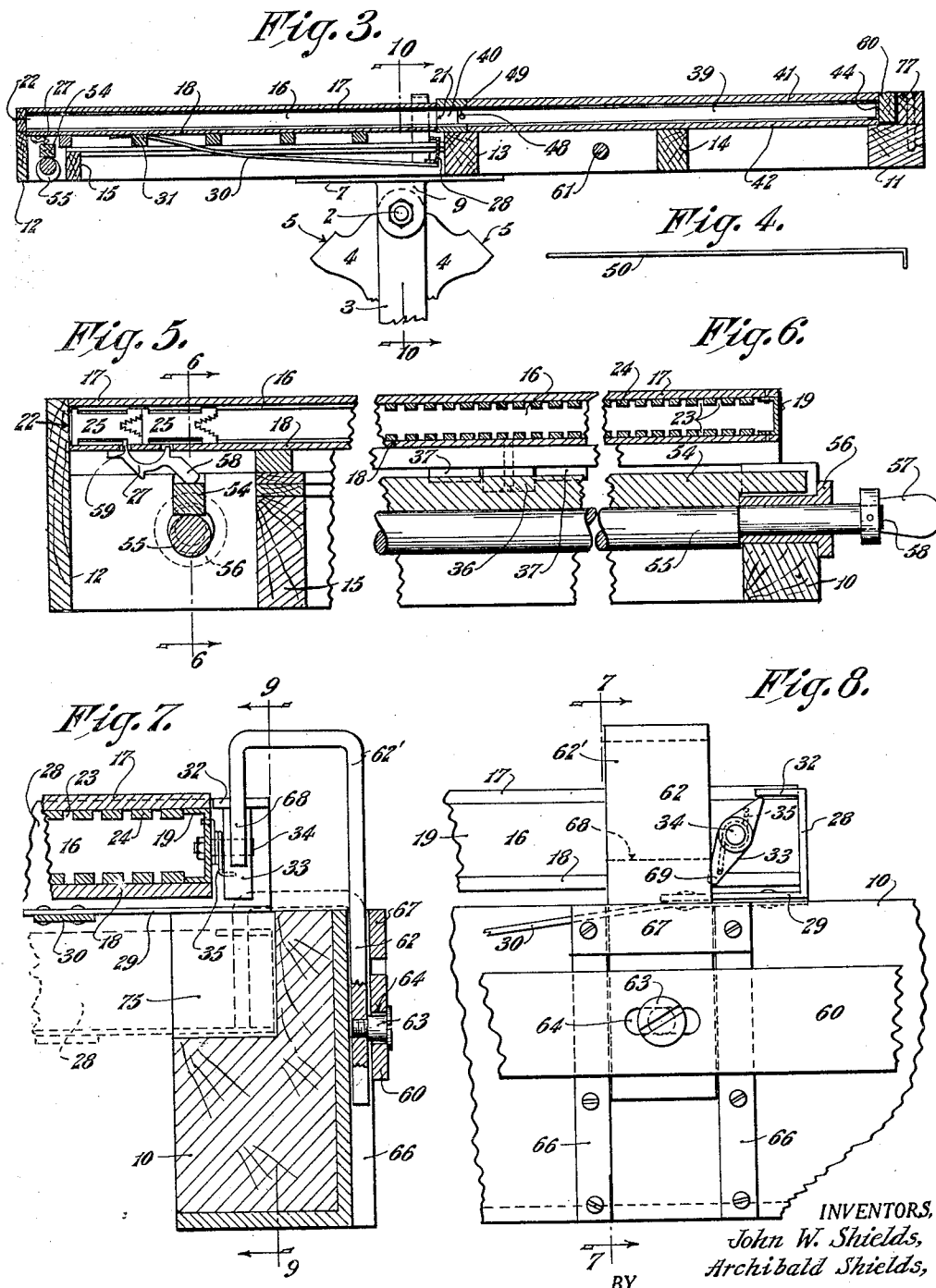
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Fig. 9.

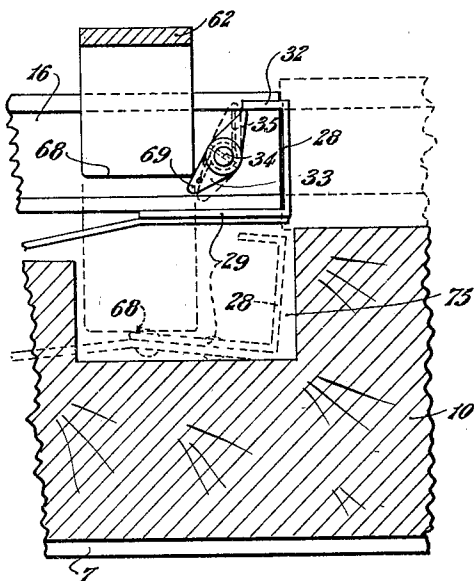


Fig. 10.

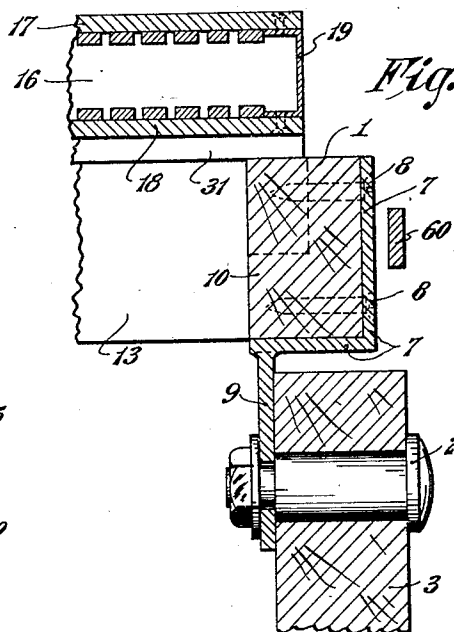


Fig. 11.

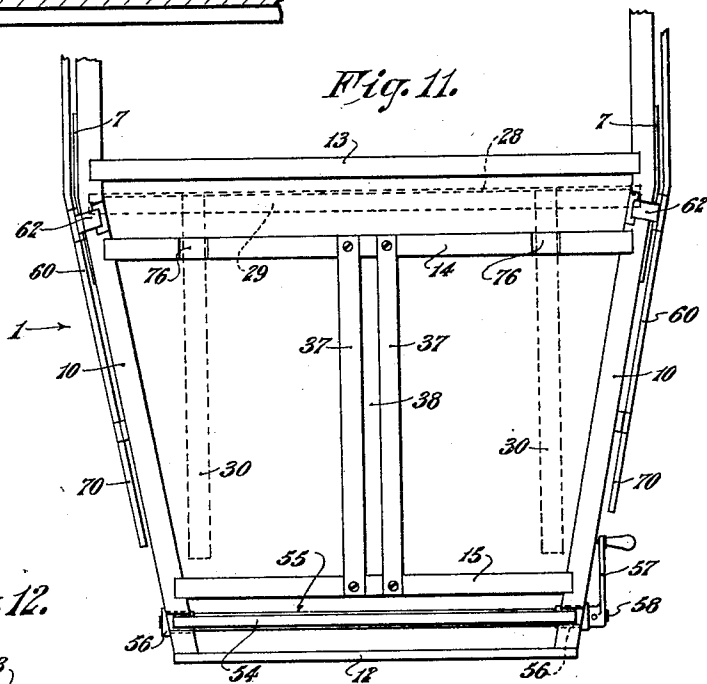
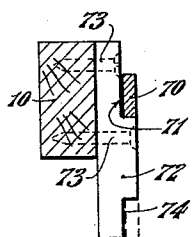


Fig. 12.



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UNITED STATES PATENT OFFICE

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TYPOGRAPHICAL MAGAZINE

Application filed July 19, 1930. Serial No. 469,008.

Our invention relates to improvements in typographical magazines, used for the storage of the matrices which are used in a machine of this type in the casting of type in lines. At the present time, a magazine, containing the matrices, is removably attached to a linotype, intertype, or similar machine, holding the matrices for a certain kind of type, and, when it becomes necessary to make a change in the type face cast by the machine, the magazine must be removed, and another one put on the machine, or the matrices removed from the magazine and other matrices substituted.

15 An object of our invention is to provide a series of storage magazines, in which the various types of matrices may be stored, and means for quickly and easily transferring the matrices from the regular magazine used on the machine, to and from the storage magazines.

20 We accomplish this object by the use of a specially constructed table or frame, equipped with mechanism to operate various devices on the standard magazines, and adapted to both support and align the standard magazine and storage magazine in such a way that, when the table or frame is tipped forward or backward, the matrices will slide freely from one magazine into the other.

25 In the drawings, the standard magazine of the intertype machine is illustrated, but it will be readily understood that our invention is adaptable to any type of magazine now in use.

30 A preferred form of our invention is illustrated in the accompanying drawings, in which:

35 Fig. 1 is a side elevational view of the tiltable table or frame, with the magazines supported thereon.

40 Fig. 2 is a plan view of the table tipped showing the magazines in place.

45 Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a detail side elevational view of the lock bar used with the storage magazine.

Fig. 5 is a detail view of the matrix releasing mechanism employed with the matrix lock on the standard magazine.

Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 5.

Fig. 7 is a sectional detail view of the releasing mechanism employed with the cover on the back of the standard magazine, taken on line 7—7 of Fig. 8.

Fig. 8 is an elevational view of the mechanism shown in Fig. 7 looking from the right.

Fig. 9 is a sectional view on the line 9—9 of Fig. 7.

Fig. 10 is a detail sectional view of the pivotal support for the table top.

Fig. 11 is a plan view of the lower part of the table top, showing means for centering the standard magazine thereon, and

Fig. 12 is a detail view of the positioning brackets for the cover releasing levers.

Referring to the drawings in detail, in which like numerals refer to like parts throughout:

The table top, or frame 1, is pivotally supported by means of the studs 2 on standards or legs 3, only one of which is shown. 4 indicates stop members having inclined faces 5 corresponding to the angle at which the standard magazine is mounted in the type casting machine and secured to the legs 3 with the bolts 6. Angle-shaped cradles 7, or irons, are screwed to the opposite side of the frame 1, as indicated with the screws 8, and having depending lugs or extensions 9, which receive the pins 2, on the standards 3 for connecting the frame 1 and legs 3. The frame 1 comprises the side stiles 10, top cross bar or stile 11, bottom rail 12, and intermediate cross braces, rails, or bars 13, 14 and 15.

A matrix magazine, used on a type casting machine, is supported on the lower half of the frame 1. The magazine shown in the drawings is that used with the intertype

machine, and is indicated at 16. This magazine, 16, is provided with the top or cover plate 17, and bottom plate 18, which are connected together by means of the side channel irons 19 and longitudinal partitions 20, as shown in Fig. 2. The ends 21 and 22 of the magazine 16 are open and divided into five sections by the partitions 20, each of which is equipped with grooves 23, formed by the strips 24, in which the matrices 25 are slidably mounted and guided. These grooves, as shown, are tapered at the end, 26, to facilitate the filling of the same, with matrices. In order to prevent the matrices from sliding out of the magazine, while it is being handled, it is equipped with an escapement mechanism at or near its lower end 22, consisting of a series of escapement levers 27, one for each groove, which engage the first row of matrices and thereby prevent them from sliding out. The upper open end 22 of the magazine 16 is protected by the gate or cover 28, which is formed with a bottom flange 29, (see Fig. 8), to which there is secured two flat springs 30, which are in turn secured at their opposite ends to the cross bar 31 of the magazine 16. The gate, or cover 28, is also formed with two ears or top flanges 32, which are engaged by the safety latches 33, pivotally secured to the side channels 19 of the magazine 16 of the pins 34. The latches 33 are held in engagement with the flanges or ears 32 with the springs 35, thereby maintaining the gate or cover 28 in a closed position over the open end 21 of the magazine 16.

The standard magazine is equipped with a centering bar 36, (see Fig. 6), used to center the magazine on the type-making machine. Two centering bars 37, (see Fig. 11) are secured to the cross rails 14 and 15, and the bar 36 fits in the space 38 between them, thereby centering the magazine on the frame 1.

When it is desired to either fill or empty a standard magazine with matrices, it is placed on the frame 1. A storage magazine, 39, is placed on the upper part of the frame 1, and a short, connecting cover or bridging plate member 40 is secured to the frame between the standard magazine 16 and the storage magazine 39. This magazine is formed with top plate 41, bottom plate 42, side channels 43, end channel 44, partitions 45, and grooves 46, the grooves 46 registering in spacing and widths with the grooves 23 of the standard magazine 16, (see Fig. 2). The partitions 45 extend beyond the end 47 of the storage magazine 39, and are formed with holes 48 in the extensions 49. A rod, 50 (see Fig. 4) is inserted in the holes 48 to prevent the matrices from sliding out, when the magazine is handled. When the storage magazine 39 is placed on the frame 1, this

rod is pulled out, leaving the matrices free to slide out at the end 47.

The bridging member, or transfer entrance member 40 is formed with top and bottom plates and side channels similar to those of the magazines. It is also formed with partitions 51 and grooves 52, the grooves 52 registering in spacing and width with the grooves 46 of the storage magazine, and being tapered at the ends 53 to register with the tapered grooves 23 of the standard magazine 16. The member 40 is made of metal to avoid fast wearing in the tapered grooves, and acts as a transfer entrance or bridge between the two magazines.

Before transferring matrices from the standard magazine to the storage magazine, or vice versa, it is necessary to release the escapement or mechanism 27 and the gate or cover 28. The locking mechanism is released by means of a bar 54 which rests on an eccentric shaft 55. This shaft is supported in the bearings 56, and a crank 57 is secured to an end 58 of the shaft 55. When the crank 57 is turned, the eccentric shaft 55 raises the bar 54, which in turn lifts the tails 58 of the pivoted escapement fingers 27, thereby tipping the ends 59 of the escapement fingers 27 downward out of engagement with the end matrices 25. The end row of matrices is then free to slide. The gate or cover 28 is freed from the end 21 of the standard magazine by being pushed downward out of the way, as shown in Fig. 3. A cover plate 60 is pivotally secured to the side rails 10 of the frame 1 by means of the transverse shaft, or rod 61. A U-shaped strap 62 is secured to the cover 60 by the screw 63, movable in the slot 64 in this lever. The longer end 62' of the U-shaped strap 62 is guided in an upward and downward direction by the guide strips 66 and 67.

In the normal, or raised position, the shorter end 68 of the U-shaped strap 62 rests against the lower end 69 of the safety latch 33. The handle end 70, (see Fig. 12) of the lever 60 rests in the notch 71 of the block 72, which is secured to the side rails 10 by the screws 73. When it is desired to lower the gate or cover 38, the lever handle 70 is pushed outward slightly, disengaging it from the shoulder, or notch 71, then downwardly, until it is again engaged in the lower notch 74 of the block 72. This downward movement of the lever 70, (see arrow 70', Fig. 1), forces the U-shaped strap 62 downward. The end 68, bearing against the end 69 of the safety latch 33, tips the latter out of engagement with the ear 32 of the gate cover 28.

The end 68 continues downward, impinging on or engaging the lower flange 29 of the cover 28, and pushes it downward into the recess 75 cut in the rail 10 to receive it. In this position, the gate or cover 28 is free of the end 21 of the standard magazine, and the matrices

25 are free to slide, either into or out of the standard magazine 16, thru the bridging member 40, from or into the storage magazine 39. The cross rail 14 is notched at 76 to allow for the downward movement of the springs 30.

At the top of the frame 1, a cross piece 77 is secured to the top rail 11 by the screws 78. Wedge-shaped notches 79 are formed in this cross piece. A bar 80, formed with the wedge-shaped extensions 81 and handle 82, is slidably mounted on the top rail 11, with the extensions 81 engaging in the notches 79. When the magazines are placed on the table, and the gate or cover 28 moved downward, and the rod 50 removed, the bar 80 is pulled against the notches 79 with the handle 82, thereby forcing the storage magazine 39, bridging member 40, and standard magazine 16 into close engagement with each other. At the same time, the frame 16 is moved against the end bar 12. In operation, if it is desired to fill a standard magazine from a storage magazine, they are placed on the frame; the locking mechanism and the gate or cover 28 released; the rod 50 removed from the storage magazine; the wedge bar 80 pulled into place; and the frame is tipped into the position shown in full lines in Fig. 1. The matrices slide from the storage magazine, thru the bridge or transfer, into the standard magazine. The locking mechanism and cover are returned to normal position, the wedge bar released, and the standard magazine with its load of matrices removed from the frame.

If it is desired to empty a standard magazine into a storage magazine, the same program is followed, except the frame is tipped into the position shown by dotted lines in Fig. 1. The matrices then slide from the standard magazine, thru the transfer member, into the storage magazine; the wedge bar is released; the rod 50 inserted in the holes 49; and the storage magazine is removed from the frame.

What we claim is:

1. In an apparatus for the purpose described, in combination, a main frame member, a support therefor, means for pivotally supporting the main frame member on the support to permit it to tilt in opposite directions, means for limiting the tilting movement, the frame member being designed to receive two matrix receiving frames having grooves to receive the matrices in an aligned relation to each other, the matrices being normally retained against movement in one matrix frame by a latch device, an eccentrically mounted shaft for actuating the latch device, for releasing the matrices, when the main frame is tilted, a second latch or cover device located at the opposite end of a matrix frame, means for operating the second latch, whereby the matrices will be transferred from one aligned frame to the other.

2. In an apparatus for the purpose described, a main supporting frame, means for pivotally supporting the main frame, two matrix receiving frames mounted on the main frame, each of the matrix receiving frames having aligned grooves to receive the matrices, means for retaining said frames on the main frame, comprising a slidable bar formed with projections, a fixed bar on the main frame formed with recesses for receiving the said projections, whereby, when the slidable bar is operated, the two matrix frames will be forced toward each other, a transfer or bridge piece adjacent the ends of the two frames, a gate member normally closing the discharge end of one frame, means for actuating the discharge member, when matrices are to be transferred from one frame to another comprising a rotatable latch, a vertically slidable member having a depending end for operating the latch to release the gate member, means for operating the vertically movable member comprising a lever having an elongated slot therein to receive a pin on the vertically movable member, the lever member being pivotally attached to the main frame, whereby, when the main frame is tilted, the matrices will be transferred from one matrix member to the other.

3. In an apparatus for the purpose described, a tiltably supported main frame, means for limiting the tilting movement in opposite directions, a magazine frame and a storage frame for matrices supported on the main frame, means for moving the frames into close relation, so that the grooves in the two frames are in alignment, a latch for normally retaining the matrices against release in one frame, an eccentrically mounted shaft for operating the latch, the main frame having a recess formed therein, a gate or cover for closing the end of one of the matrix frames, means for moving the gate into the recess of the main frame comprising a U-shaped member slidably mounted on the main frame, a latch which normally retains the gate in closed position, one end of the U-shaped member being normally in contact with the latch to move the same against the latch apparatus, and to open the gate member, and means for operating the U-shaped member comprising a lever pivoted to the main frame and means for retaining the lever in either its operative or inoperative position.

4. In an apparatus for transferring matrices from one frame to another, as a storage magazine, comprising a main supporting frame, means for tiltably mounting said frame on a support, said matrix receiving frames being mounted on the main tiltable frame, the adjacent ends of the said frames being in alignment, means for normally closing the passageway from one frame to another, means for operating the closing means comprising a pivotally mounted latch mount-

ed on the closing means, a slidable member
normally engaging the latch means for actuat-
ing the slidable member to rotate the latch
out of its engagement with the gate member
and for moving the gate member clear of the
5 passageway, means for retaining the gate
member in this open position comprising a
lever attached to the main frame, a notched
member secured to the main frame and hav-
ing oppositely disposed notches for retaining
10 the gate member, either in its open or closed
position.

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