

Dec. 19, 1939.

A. B. BELL

2,184,111

PRINTER'S TYPE CABINET

Filed Oct. 15, 1938

5 Sheets-Sheet 1

FIG. I.

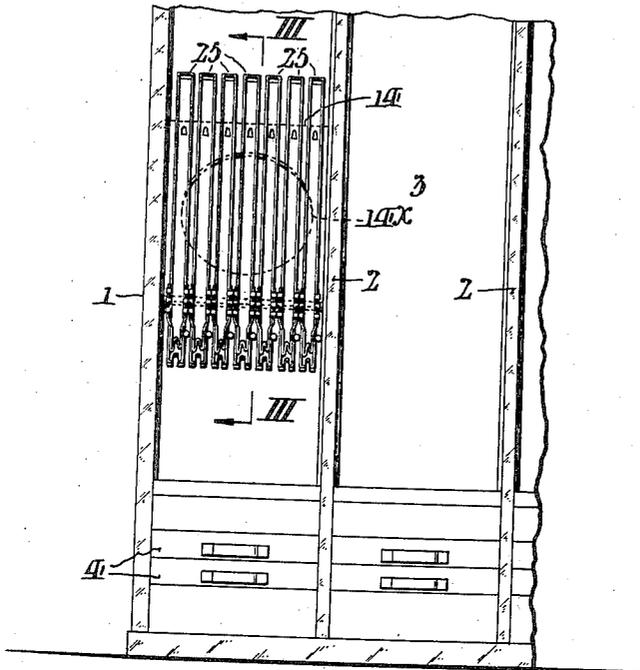
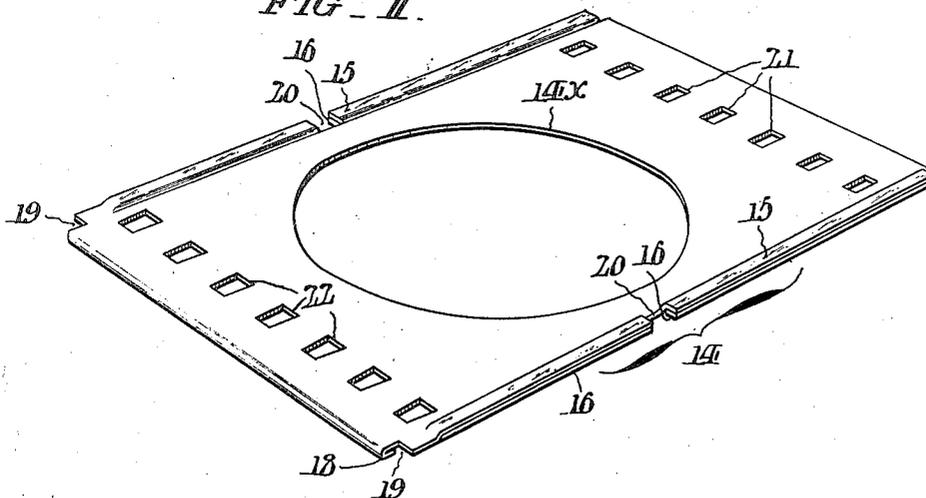


FIG. II.



WITNESSES:

Thomas W. Kerr, Jr.
Woodrow Thomas

INVENTOR:

Alfred B. Bell,
Paul Paul

BY

ATTORNEYS.

Dec. 19, 1939.

A. B. BELL

2,184,111

PRINTER'S TYPE CABINET

Filed Oct. 15, 1938

5 Sheets-Sheet 2

FIG. III.

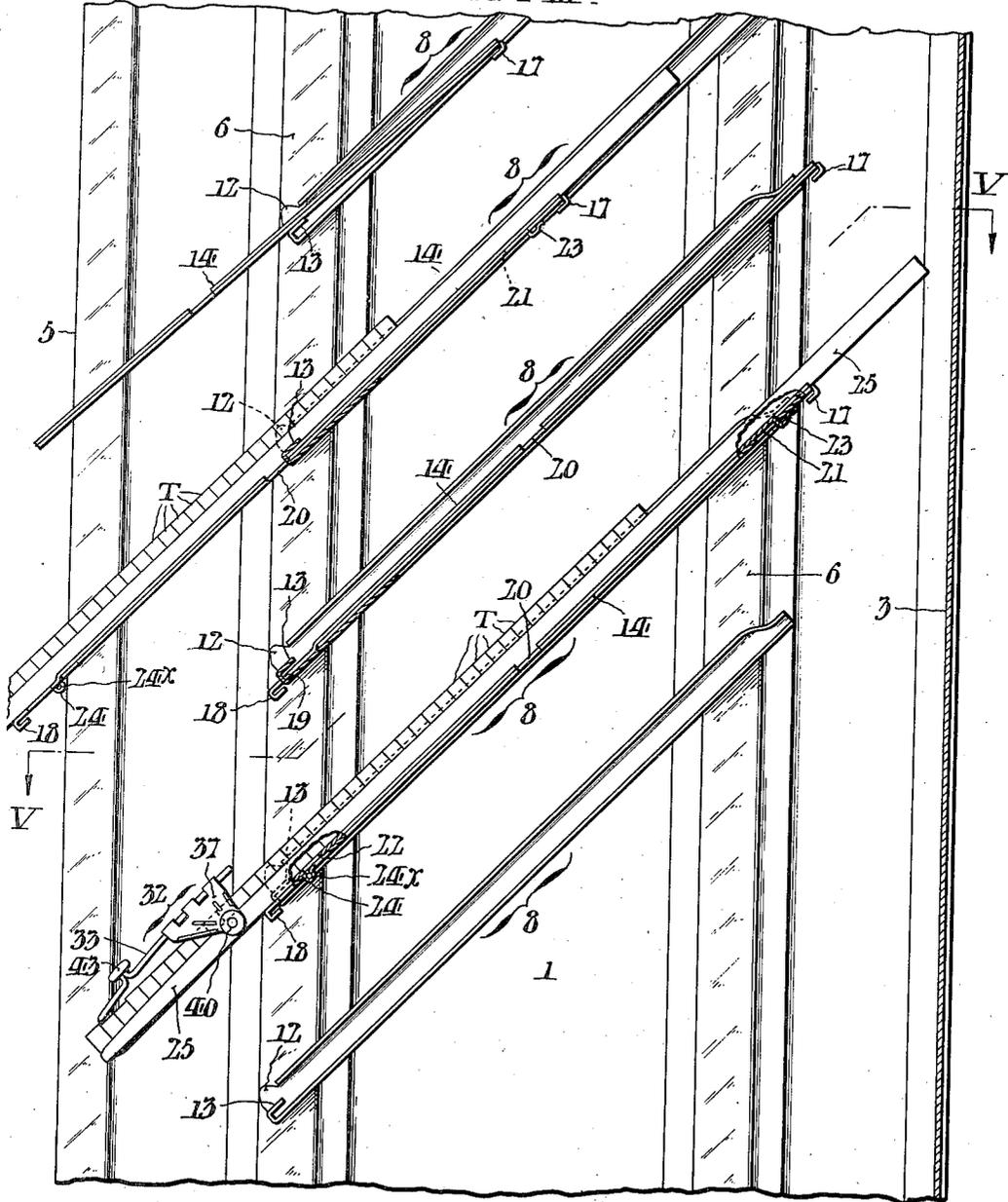
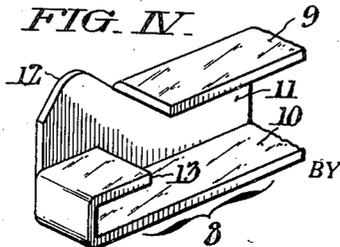


FIG. IV.



WITNESSES:
Thomas W. Kerr, Jr.
Andrew Stormans

INVENTOR:
Alfred B. Bell,
 BY *Paul Paul*
 ATTORNEYS.

Dec. 19, 1939.

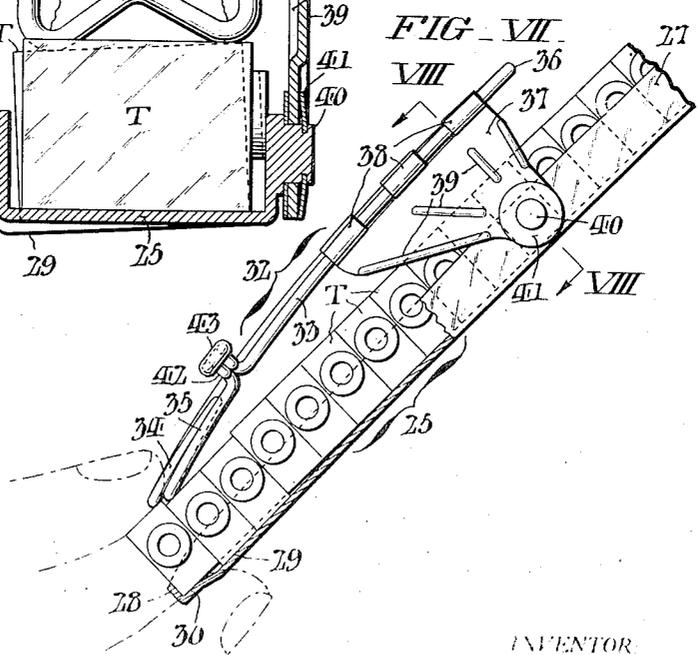
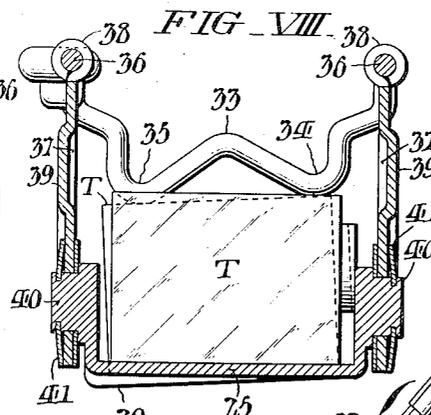
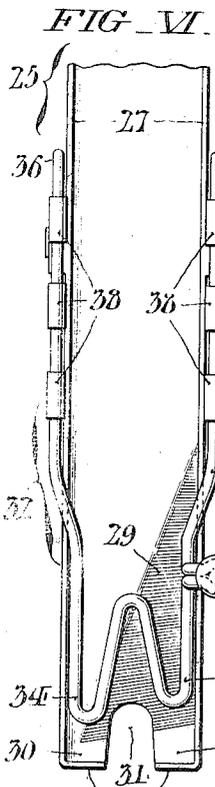
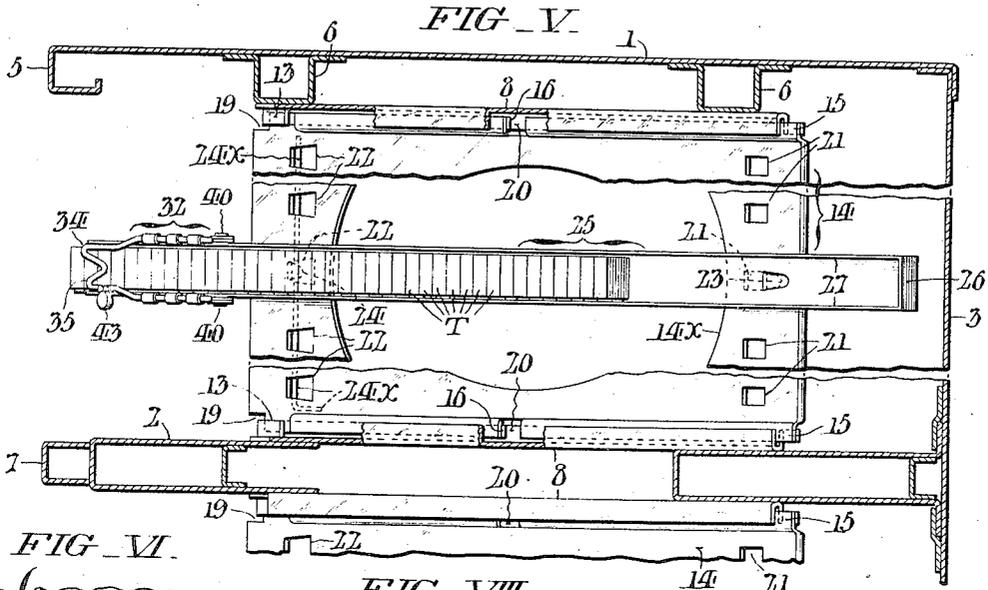
A. B. BELL

2,184,111

PRINTER'S TYPE CABINET

Filed Oct. 15, 1938

5 Sheets-Sheet 3



WITNESSES:
Thomas W. Kerr, Jr.
Andrew Thomson

INVENTOR
Alfred B. Bell,
 BY *Paul Paul*
 ATTORNEYS.

Dec. 19, 1939.

A. B. BELL

2,184,111

PRINTER'S TYPE CABINET

Filed Oct. 15, 1938

5 Sheets-Sheet 4

FIG. IX.

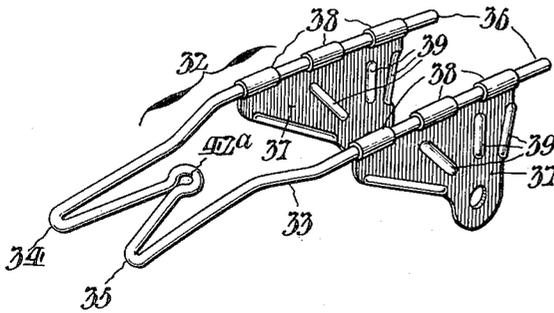


FIG. X.

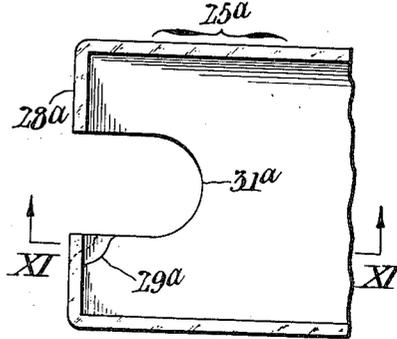


FIG. XII.

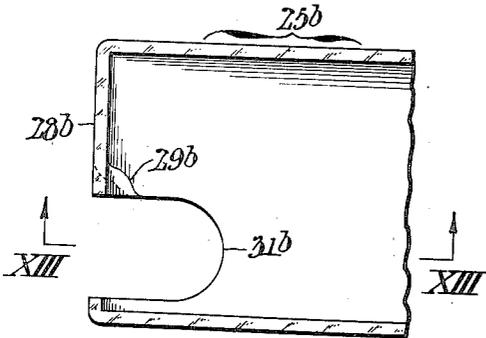


FIG. XI.

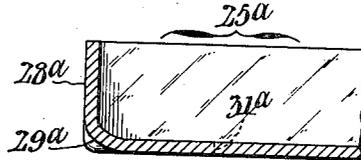


FIG. XIV.

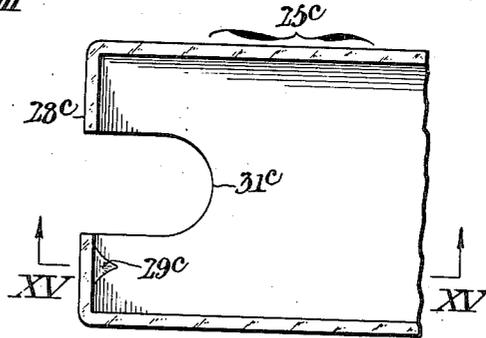


FIG. XIII.

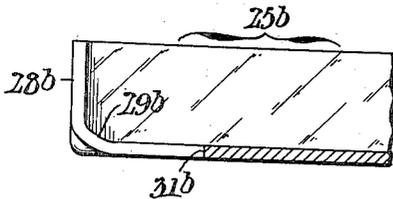


FIG. XV.

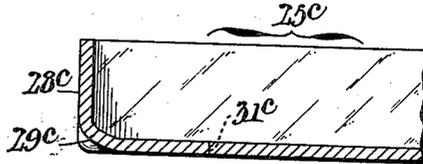
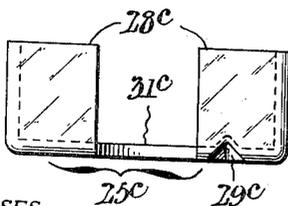


FIG. XVI.



WITNESSES:
Thomas W. Lee, Jr.
Woodrow Sturmon

INVENTOR:
Alfred B. Bell,
 BY *Paul Paul*
 ATTORNEYS.

Dec. 19, 1939.

A. B. BELL

2,184,111

PRINTER'S TYPE CABINET

Filed Oct. 15, 1938

5 Sheets-Sheet 5

FIG. XVII.

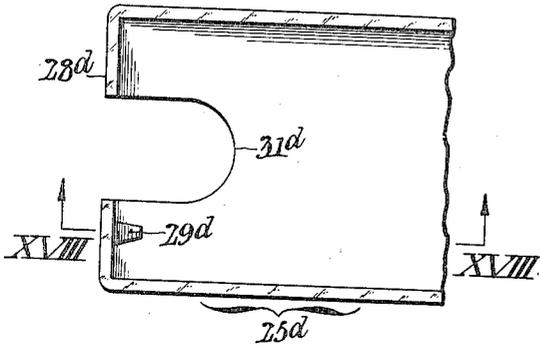


FIG. XIX.

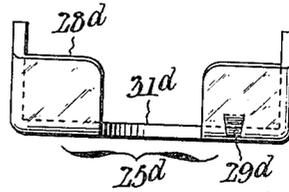


FIG. XVIII.

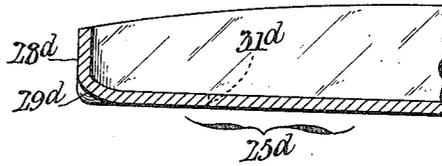


FIG. XX.

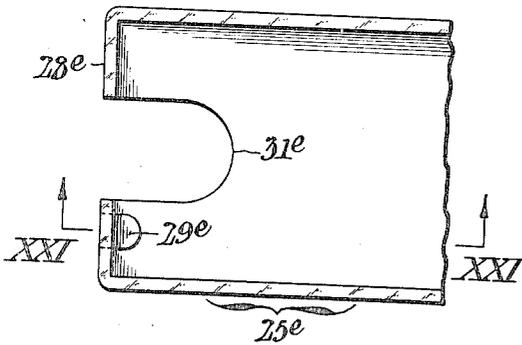


FIG. XXII.

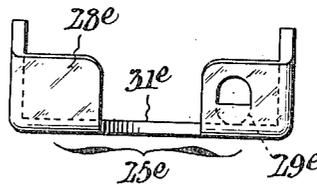


FIG. XXIII.

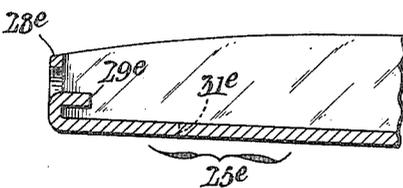
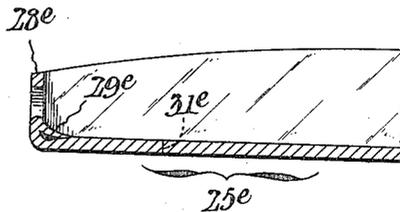


FIG. XXI.



WITNESSES:

Thomas W. Kerr, Jr.
Woodrow Starnes

INVENTOR:

Alfred B. Bell,

BY

Paul Paul

ATTORNEYS.

UNITED STATES PATENT OFFICE

2,184,111

PRINTER'S TYPE CABINET

Alfred B. Bell, Gardner, Mass.

Application October 15, 1938, Serial No. 235,194

9 Claims. (Cl. 276-45)

The invention relates to printer's type cabinets. More especially it has reference to printer's cabinets of sheet metal construction such as shown and described in U. S. Patent No. 2,106,163, granted to me on January 25, 1938 in which gravity feed type chutes are supported on inclined shelves, and in which there is associated with each chute a keeper allowing removal of but one type block at a time.

In connection with type cabinets of the kind specifically referred to, I aim to minimize manufacturing costs through improved and simplified construction of various of its parts, particularly the type chutes and the associated keepers; and to enable, through provision of means for the purpose, adjustment of the chute supporting shelves so that any of them may be projected beyond others in the cabinet for greater convenience of the compositor in selecting type as needed, as well as for convenience in loading the type chutes from the front of the cabinet, and interchanging the chutes without necessitating complete removal of the shelves.

Other objects and attendant advantages will appear from the following detailed description of the attached drawings, wherein

Fig. I is a fragmentary view in front elevation, of a printer's type cabinet embodying the present improvements.

Fig. II is a perspective view of one of the shelves of the cabinet.

Fig. III is a fragmentary view of the cabinet in vertical section taken as indicated by the arrows III—III in Fig. I.

Fig. IV is a perspective view of the lower end of one of the guides for the shelves of the cabinet.

Fig. V is a fragmentary view in horizontal section taken as indicated by the arrows V—V in Fig. III.

Fig. VI is a fragmentary view in plan of the lower or delivery end of one of the gravity type chutes.

Fig. VII shows the chute of Fig. VI in side elevation with a portion of the lower end thereof broken out and shown in section.

Fig. VIII is a cross section of the chute taken as indicated by the arrows VIII—VIII in Fig. VII.

Fig. IX is a perspective view of the keeper associated with the chute.

Fig. X shows in plan the delivery end of the modified form of the type chute.

Fig. XI is a sectional view taken as indicated by arrows XI—XI in Fig. X.

Figs. XII and XIII are views corresponding to

Figs. X and XI showing another alternative form of the type chute.

Figs. XIV and XV are in turn views like Figs. X and XI showing still another alternative form of type chute.

Fig. XVI shows the chute of Figs. XIV and XV in end elevation.

Figs. XVII, XVIII and XIX are views like Figs. XIV, XV and XVI of still another alternative form of type chute.

Figs. XX, XXI, and XXII are in turn like Figs. XVII, XVIII, and XIX of still another modified form of type chute; and

Fig. XXIII is a view like Fig. XXI showing an intermediate step in the formation of the modified chute of Fig. XX.

As shown in Figs. I, III and IV, my improved printer's type cabinet is constructed from sheet metal with side walls whereof one is shown at 1, intermediate the partition walls 2 and a rear wall 3, the cabinet being open at the front except at the lower part thereof which is provided with a number of utility drawers 4. Each side wall 1 is finished off at the front with a columnar box bead 5 for the sake of greater stiffness, and to each of them is secured a pair of vertical battens 6 of hollow rectangular cross section. The partition walls 2 are formed hollow as shown in Fig. V, with the front bead strips 7 corresponding in width to the box beads 5 on the side walls. Attached in suitably-spaced relation and at corresponding levels to the battens 6 on the side walls 1 and to the partitions 2 are shelf guides 8 which incline downwardly toward the open front of the cabinet as best seen in Fig. III. Each of these shelf guides 8 is fashioned to channel configuration from sheet metal with top and bottom flanges 9 and 10 and a connecting web 11. As best seen in Fig. IV, the top flange 9 terminates somewhat short of the bottom flange 10 at the lower end of each shelf guide 8 with the web 11 extended upwardly as at 12 forwardly of said top flange. Also as shown, the end of the bottom flange 10 of the shelf guide is turned upwardly and rearwardly with resultant formation of a hook stop 13 for a purpose later on explained. Slidably engaged in corresponding guide channels 8 are shelves 14 of which one is illustrated in perspective in Fig. II, said shelves being formed with central openings 14x for the purpose of decreasing their weight. The side edges of each shelf are marginally offset upwardly as at 15, and to the bottoms of these margins are secured, by welding or otherwise, reinforcing strips 16 of like width. Transverse stiffening is

had through downward and inward retroversion of the edge margins at the top and bottom ends of the shelf as at 17, 18 the bottom edge being notched at the corners as at 19. As far as described, the construction of the shelf is identical with that of the shelves in my patent hereinbefore referred to; but in accordance with my present invention each shelf is provided at correspondingly allocated points at the side edges with additional notches 20 of a width equal substantially to that of the stops 13 on the guide channels 8. The purpose of this provision will be explained later on. Adjacent its upper and lower ends, each shelf 14 is provided (as in the patent supra) with transverse lines of apertures 21, 22 adapted to be engaged respectively by upwardly projecting punched out tongues 23 and pendant loops or eyes 24 (Figs. III and V) on the bottoms of sheet metal gravity feed chutes 25 of channel cross section, each of which is adapted to contain a series of type blocks T. Rods 24x extending continuously through the eyes 24 of the several chutes 25 on each shelf lock said chutes against displacement. Each chute 25 is closed at its upper end as instanced at 26 in Fig. V, and at its lower or delivery end, its side flanges 27 are reduced in height and there connected by a transverse stop lip 28 by which the column of type blocks T is arrested. From Figs. VI-VIII it will be observed that in accordance with my present invention, the bottom of the type chute 25 is indented adjacent its lower end, the indentation in this instance having the form of an angular depression 29 which slopes downward on a bias toward one bottom corner of the chute, and which terminates short of the stop lip 28 so that a narrow bottom portion 30 is left at said corner on the same level as the main portion of the chute bottom. Thus, as the type blocks T slide down the chute, the lowermost one of the series will be positioned at the normal level in the chute, while the next adjacent type block and a few others behind it will be tilted at an angle relative to said lowermost block as shown in Figs. VII and VIII. The lower end of the chute 25 is moreover provided with a notch 31 which extends downward centrally of the stop lip 28 and rearwardly of the chute bottom to a distance somewhat in excess of the width of one of the type blocks.

Associated with each type chute 25 is a keeper 32 comprising a component 33 which is fashioned from a single length of spring wire with a pair of forwardly projecting fingers 34, 35 of slightly differing lengths, and with a pair of rearwardly-extending parallel shanks 36; and side components 37 with bosses 38 along their top edges in which the shanks of the wire component are frictionally engaged. The side components 37 of the keeper are in the form of sheet metal stampings of sectoral configuration with pressed out stiffening ribs 39 and with curls along their top edges constituting the bosses 38 in which the shanks 36 of the wire component 33 are frictionally engaged. As shown in Figs. VII-IX, the side components 37 of the keeper are apertured to engage outwardly projecting pivot lugs 40 welded to or otherwise permanently attached to the sides of the chute 25. By means of spring washers 41 incorporated in the pivotal connections just described, the keeper 32 is held against accidental displacement in positions of vertical adjustment relative to its chute 25. With the keeper properly positioned as in Fig. VII, the longer finger 34 slightly overlaps the rear cor-

ner of the lowermost type block in the chute while the shorter finger 35 rests on the next adjacent block slightly rearwardly of the top corner of the latter. Accordingly, the endmost type block can be readily removed by first grasping it between the fingers as shown in Fig. VII, and then turning it forwardly about the edge of the stop lip, the latter operation being facilitated by reason of the possibility of finger access to the bottom of the block through the notch 31 in the lower end of the chute. Upon removal of a type block in the manner explained, the other blocks in the series will slide downward until the then lowermost one occupies the position vacated by the one just removed. The keeper 32 thus allows removal of but a single type block from the chute at a time. The formation of the keepers from wire results in an open construction through which the type blocks at the delivery ends of the chutes can be seen at all times. This is of great practical advantage in that it dispenses with the need for warning slugs as heretofore, and moreover in that it makes possible the loading of the chutes without the necessity for lifting the keepers and disturbing their adjustment as was the case with the construction shown in my Patent #2,106,163.

In Figs. VI and VII, one of the shanks of the keeper is laterally offset as at 42 with attendant provision of a flat rounded projection over which is slipped a removable marker cap or button 43 bearing the letter corresponding to that of the type blocks in the chute. As an alternative, a projection for a similar purpose may be formed at the crotch between the fingers 34, 35 of the keeper 32 as at 42a in Fig. IX. The last described feature is new to my present invention, and is of great convenience to the printer or compositor in that it facilitates identification of the various chutes for quick selection of the type.

When the shelves 14 are in their normal positions in the cabinet, the frontal edges of their corner notches 19 are engaged and locked within the hook stops 13 on the bottom flanges 10 of the channel guides 8. Through provision of the additional notches 20 in the side edges of the shelves 14, it is possible to project any desired shelf outward beyond as shown in connection with the shelf second from the top of Fig. III, the others for convenience of type selection, for convenience of filling the chutes on such shelf from the front with a loader such as shown and described in my patent supra. The procedure in extending the shelves is as follows: The selected shelf is first pushed inward until the transverse edges of its corner notches 19 are out of the stop hooks 13 on the guides 8, then lifted slightly at its lower or front ends until the notches clear the hooks, then moved outward until the side notches 20 register with the hook stops, then lowered onto the bottom flanges of the guides and finally moved further outward to engage and lock the transverse upper edges of the side notches in said stop hooks. With the shelf so projected it is obviously easier for the printer or compositor to select type from the chutes thereon, or to fill the chutes from the front of the cabinet as already pointed out hereinbefore. It will moreover be noted from Fig. III, that when a shelf is partly projected and so held by coaction of the notches 20 and the stop hooks 13, the locking rod 24x is beyond the front of the cabinet so that it can be withdrawn for convenience of interchanging type chutes without necessitating complete removal of the shelf as was heretofore nec-

essary. This is of great advantage in crowded composing rooms with restricted space for maneuvering. Complete removal of a shelf may be effected when required simply by sliding it outward of the channel guides after release of the corner notches from the stop hooks as illustrated at the top of Fig. III.

Figs. X and XI show a modified form of type chute, in which endmost type displacing means is in the form of an upward spot indentation 29a of small area, at the juncture between the lip 28a and the chute bottom at one side of the finger clearance notch 31a.

Figs. XII and XIII show another modification in which the clearance notch 31b is disposed to one side of the center of the chute and the type lifting indentation 29b is located at the opposite side of said notch.

In the modification of Figs. XIV, XV and XVI, the type lifting indentation 29c is in the form of a V indentation into the lower corner of the chute adjacent one side thereof.

In Figs. XVII, XVIII and XIX, type lifting indentation 29d is in the form of a corner depression with cut sides.

In the modification of Figs. XX-XXII, the type lifting element 29e is in the form of a tongue or tab cut out of the stop lip 28e and depressed through the position shown in Fig. XXIII to the position shown in Fig. XXI so that its top surface becomes flush with the top surface of the chute 25e.

Since in each one of the modifications the construction is the same except for the formation of the type lifting means, the same reference numerals have been employed to designate the corresponding parts with addition, however, in each instance of different letters for convenience of distinction.

Having thus described my invention, I claim:

1. A printer's type cabinet having spaced side walls and an open front; guide channels attached to the side walls and inclining downwardly toward the front of the cabinet, each channel having a crosswise stop at the lower end of its bottom flange; shelves engaging corresponding guide channels on the respective side walls, each shelf having correspondingly allocated spaced notches in its side edges capable of being selectively engaged over the end stops on the bottom flanges of the corresponding guide channels; and a plurality of type chutes mounted on each of the said shelves.

2. A printer's type cabinet having spaced side walls and an open front; guide channels attached to the side walls and inclining downwardly toward the front of the cabinet, each channel being fashioned from sheet metal with the lower terminal edge of its bottom flange bent upwardly and rearwardly into the form of a hook stop; shelves of sheet metal engaging corresponding guide channels on the respective side walls, each such shelf having correspondingly allocated notches in its side edges capable of being selectively engaged over the end stops on the guide channels with the rear edges of said notches locked into the hooks of said stops; and a plurality of type chutes mounted on each of said shelves.

3. A printer's type cabinet having spaced side walls and an open front; forwardly-declining shelves slidably guided between said side walls; a plurality of type chutes mounted side by side on each shelf, each such chute having inward hook projections on their bottoms to engage apertures

arranged crosswise of the shelf adjacent its upper edge, and loop or eye projections to engage apertures arranged crosswise of the shelf adjacent its lower edge; a removable rod extending through the eyes to lock the several chutes to the shelf; releasable means for holding the shelves in their normal positions in the cabinet; and means for holding any selected shelf in partly extended position with the associated locking rod beyond the confines of the cabinet so that it can be withdrawn and replaced endwise for convenience of interchanging the chutes without necessitating complete removal of such shelf from the cabinet.

4. A gravity feed chute of channel configuration with a stop lip transversely of its delivery end, and a flat bottom which is smooth throughout from end to end except for a small offset spot projecting adjacent its delivery end of an area less than that of the type block, adapted to displace the lowermost type block relative to the others to facilitate grasping it for convenience of removal in which the offset is in the form of an inward indentation in the corner juncture between the stop lip and the chute bottom.

5. In combination, a gravity feed type chute of channel configuration with a stop flange transversely of its delivery end; and a yielding keeper at the delivery end of the chute permitting removal of the lowermost type block while holding the next contiguous block against the possibility of removal at the same time, said keeper including a component fashioned from a single length of spring wire with a pair of rearwardly-extending parallel shanks and with a pair of forward finger projections of different lengths, whereof one is adapted to slightly overlap the topmost type block and the other to bear upon the next adjacent type block, and side components pivoted to the sides of the chute and having apertured bosses at their tops in which the shanks of the first mentioned component are frictionally engaged, whereby said first mentioned component may be adjusted endwise relative to the side components and the keeper as a whole adjusted up and down relative to the chute.

6. In combination, a gravity feed type chute of channel configuration with a stop flange transversely of its delivery end; and a yielding keeper at the delivery end of the chute permitting removal of the lowermost type block while holding the next contiguous block against the possibility of removal at the same time, said keeper including a component fashioned from a single length of spring wire with a pair of rearwardly extending parallel shanks and with a pair of forward finger projections of different lengths whereof one is adapted to slightly overlap the top rear corner of the lowermost type block and the other to bear upon the next adjacent type block, and side components frictionally pivoted to the sides of the chute, said side components being fashioned from sheet metal with curls at their tops in which the shanks of the first mentioned component are frictionally engaged, whereby said first mentioned component can be adjusted endwise relative to the side components and the keeper as a whole adjusted up and down relative to the chute.

7. In combination, a gravity feed type chute of channel configuration with a stop flange transversely of its delivery end; and a yielding keeper at the delivery end of the chute permitting removal of the lowermost type block while holding the next contiguous block against the possibility of removal at the same time, said keeper including a component fashioned from a single length

of spring wire with a pair of rearwardly-extending parallel shanks, a pair of forward finger projections of different lengths whereof one is adapted to slightly overlap the top rear corner of the lowermost type block and the other to bear upon the next adjacent type block, and with a round lateral horizontal projection, and side components frictionally pivoted to the sides of the chute and having apertured bosses at their tops in which the shanks of the first mentioned component are frictionally engaged, whereby said first mentioned component can be adjusted endwise relative to the side components and the keeper as a whole adjusted up and down relative to the chute; and a removable type letter marker button slipped over the lateral projection on the wire component of the keeper.

8. A flat bottomed gravity feed type chute of channel configuration with a stop lip transversely of its delivery end, and a small upward indentation in the corner juncture between the chute bottom and the stop lip forming a spot projection above the floor of the chute for upwardly displacing the lowermost type block relative to the others in the chute.

9. A gravity feed type chute according to claim 5, having a finger access notch extending downwardly of the stop flange and rearwardly of the chute bottom, and in which the spot indentation is located to one side of said notch.

ALFRED B. BELL. 15