

L. K. JOHNSON.
Type and Space Holder.

No. 230,784.

Patented Aug. 3, 1880.

Figure 1.

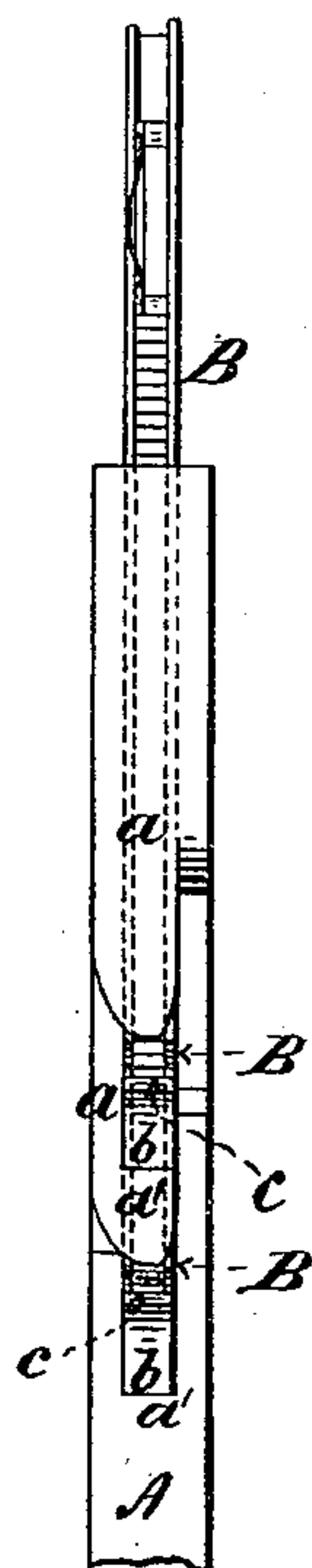


Figure 2.

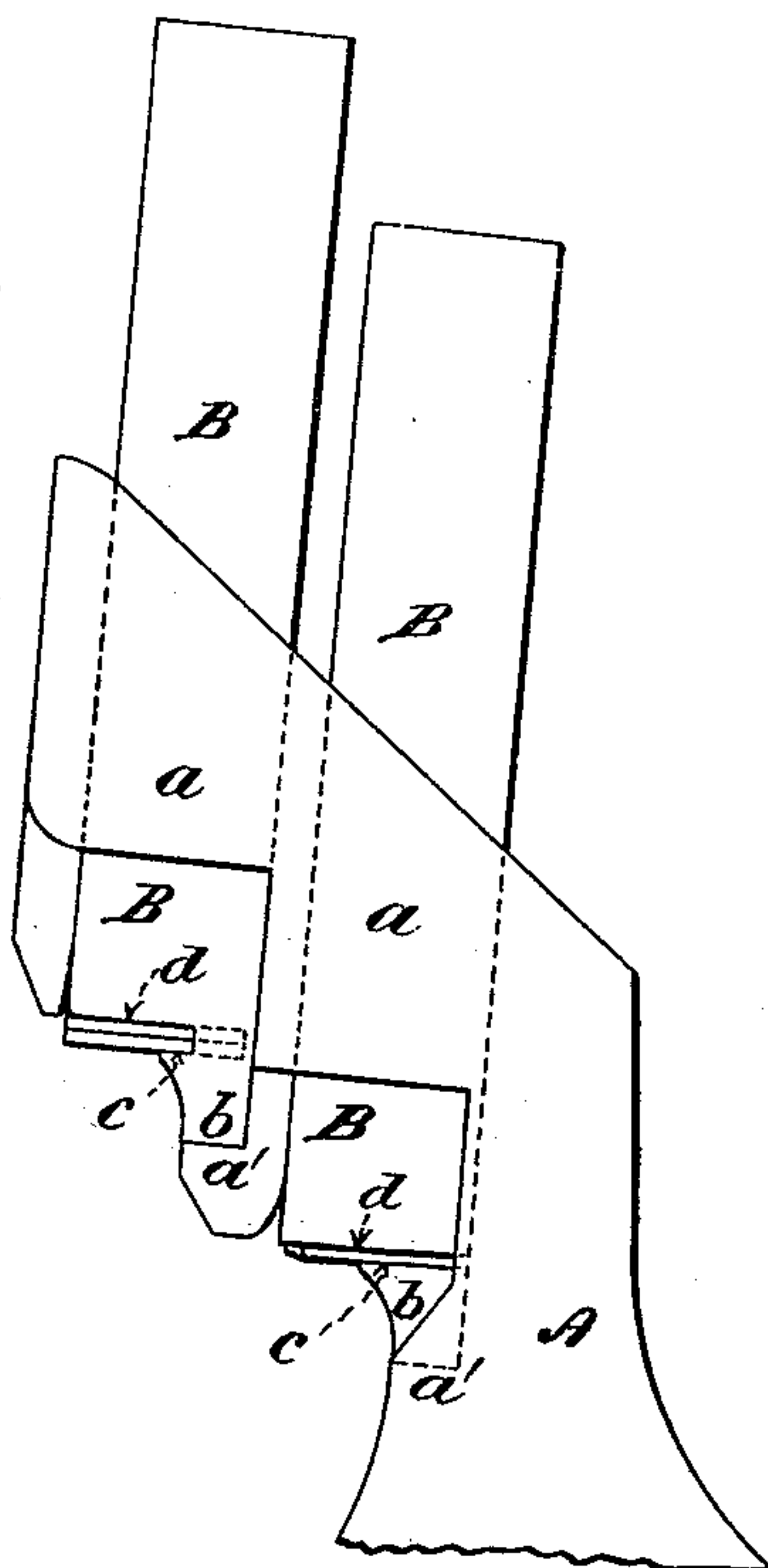


Figure 3.

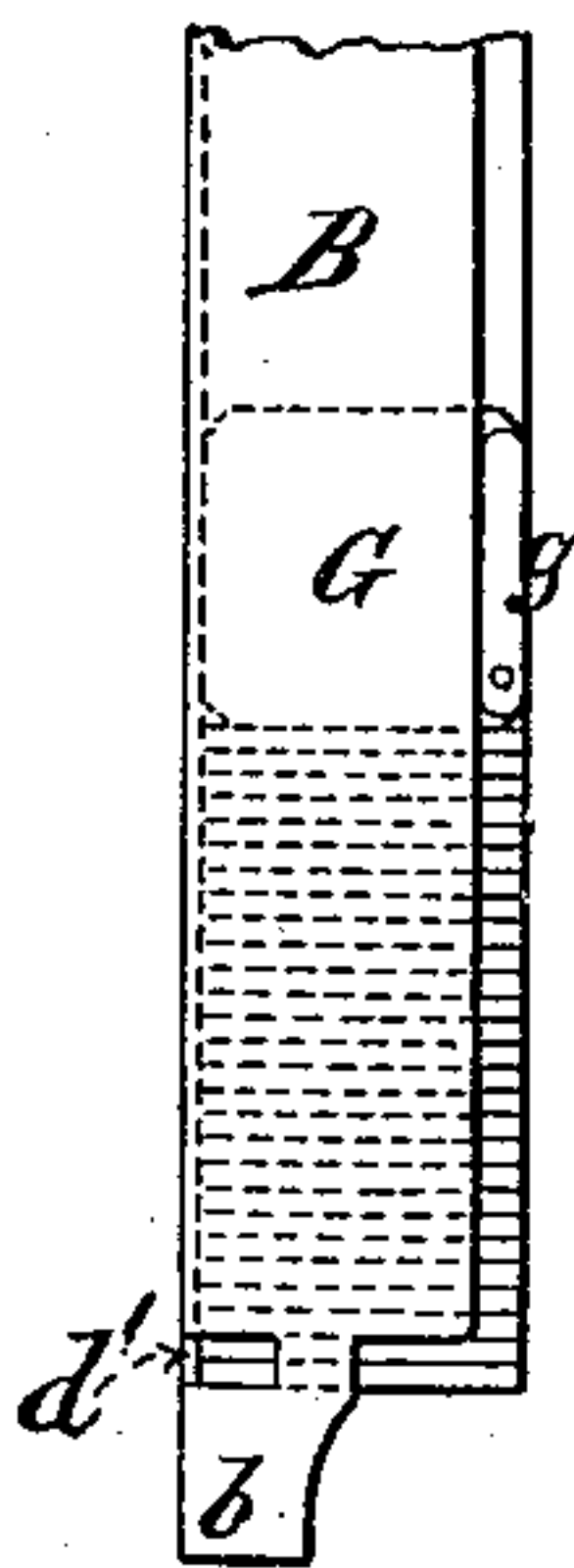


Figure 4.

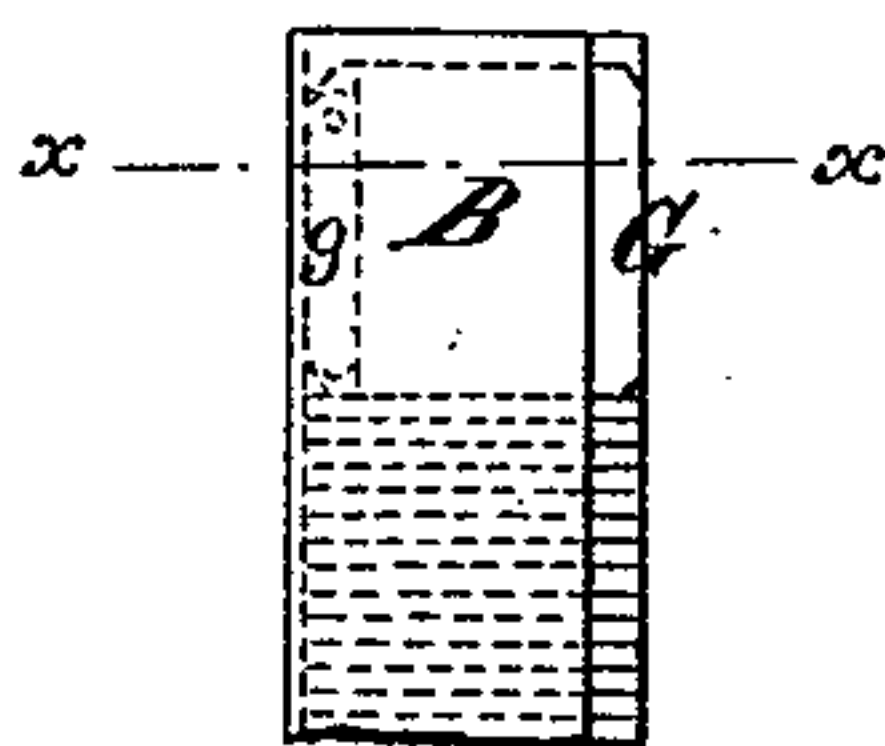
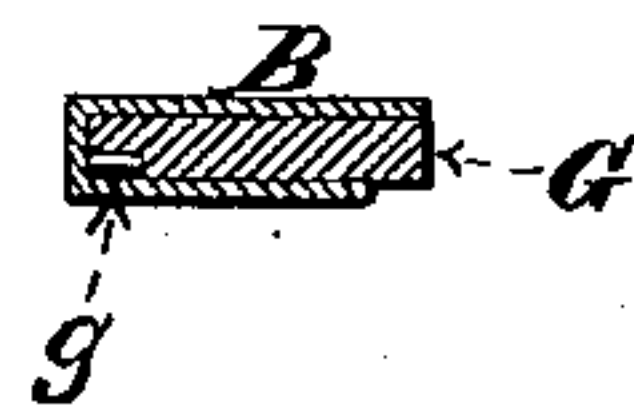


Figure 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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TYPE AND SPACE HOLDER.

SPECIFICATION forming part of Letters Patent No. 230,784, dated August 3, 1880.

Application filed December 29, 1879.

To all whom it may concern:

Be it known that I, LOUIS K. JOHNSON, of the city, county, and State of New York, have invented certain new and useful Improvements in Type and Space Holders, of which the following is a specification.

My improvements relate to devices which are intended to hold type, spaces, &c., and present the same for withdrawal in a prescribed position.

The main object of my invention is to simplify and cheapen the construction of such devices, and at the same time render them more convenient and effective in use.

In one form of apparatus heretofore used, in order to secure a type or space, it is necessary to press the thumb and finger respectively against two keys, thereby actuating a system of levers, &c., which finally cause a type or space to be projected between the thumb and finger in position to be seized thereby. This system of construction is complicated and costly, since the mechanism has to be repeated for each denomination of type and space used; and it also necessitates a considerable expenditure of muscular energy, as well as a slight loss of time (necessary for the action of the mechanism) in the operation of securing any desired type or space. I avoid these objectionable features in my improved arrangement, since a suitable portion of one or more of each denomination of type or space is always presented in the requisite position for immediate and direct contact with the thumb and finger, and may be quickly and easily withdrawn by them, the only resistance to be overcome being that offered by the weight of the column of type above, which is comparatively slight.

I am also aware of a device in which spaces are arranged on edge in channels, from the lower ends of which they may be removed, one at a time, by direct contact; but in this case they must be accurately withdrawn in a direct plane with the center of the channel. This is an objectionable feature which renders the operation of procuring a space delicate and comparatively slow, and this difficulty is materially increased in proportion as the desired space happens to be toward the left of the compositor.

In the arrangement here referred to the operation of withdrawing one space is also relied upon to draw forward the next above into proper position to be in turn grasped by the fingers after the preceding space has been removed.

It is one of the objects of my invention to obviate these difficulties by providing for the withdrawal of any type or space from the lower end of its particular channel at any angle in a plane approximately at right angles to the perpendicular plane of the column of type above which may be most convenient and natural under the circumstance of its position with relation to the compositor. Every type or space, also, is brought in succession into the proper position for withdrawal by gravity alone.

All this I accomplish by, and the first feature of my invention consists in, slotting the lower end of each channel transversely, and in so shaping the lower front portions of the channels as to allow the fingers to readily and conveniently grasp the types or spaces as they fall successively and automatically into position, and to admit of their extraction from the bottoms of the channels at any convenient angle.

As a case or bank for containing the least possible number of types and spaces of different denominations that would be required in type-setting would necessarily involve the use of about one hundred channels, preferably arranged in parallel rows, said channels would occupy considerable space horizontally in order to bring all within convenient reach (vertically) of the compositor.

Since the thumb and fingers of the right hand are used in securing the types or spaces, there is naturally a tendency to withdraw the hand more or less obliquely toward the right during the action of removing a type or space. If no provision were made for allowing the type or space to conform to this lateral movement of the hand, the compositor would have to move bodily to the left and place himself opposite the channel containing the particular type or space he desired if the latter happened to be situated at that extremity of the case or bank.

It is obvious that the more natural and con-

venient the movement necessary to secure a particular type or space is rendered the quicker it can be performed; and since, by my improved arrangement and construction, the compositor may procure any desired space or type with equal facility, no matter what its situation may be in the case or bank, without moving either to the right or left, the operations of type-setting may not only be performed more rapidly than heretofore, but also with less physical exertion.

By my method of removing a type or space obliquely from the end of a channel all danger of partially withdrawing or disturbing those above is avoided, because the walls of the channel render any lateral movement impossible except where the slot occurs. This method is especially desirable in the case of small thin types or spaces, which it would be difficult, if not impossible, to grasp and pull out by their narrow edges, since by using the thumb to turn such types or spaces laterally, and thereby causing their outer ends to project from the right side of the channel, they may be seized by placing the thumb and finger respectively upon their broadest sides.

A second feature of my invention consists in arranging the channels in a bank or case so that their lower ends are exposed consecutively in advance of and above each other, so as to bring them all, from the lowest to the highest, within uniform and convenient distance during the operation of type-setting. This is a feature that enables me to provide for and include a large quantity and number of styles of type in a single bank or case without inconvenience to the compositor.

As a further means of accomplishing this result, I also design in some cases, where sufficient numbers or varieties of type are required to render it desirable, to arrange the channels in a convex curve with relation to the position of the compositor while using the bank or case.

Another feature of my invention consists in the peculiar construction, as hereinafter described, of the channels and of the slugs used therein with relation to each other, by means of which a single slug may be used, not only as a friction-slug to close the outer end of the channel when the latter is filled with type, to prevent the escape or displacement of the type longitudinally during the handling and transfer of the channel, but also afterward to act as a loose slug or follower to insure the descent and proper position of the pieces constituting the upper end of the column of type.

Heretofore it has been the custom to use two separate pieces to perform these offices—i. e., a friction stop or slug to close the outer extremity of the channel and a loosely-fitting slug or follower. As it is the practice, as a matter of convenience, to place both these pieces on top of the column of type in the channel (the follower between the type and the friction-slug) before transferring the latter to its position in the frame or standard in the

case or bank, said column of type must necessarily be shorter than it would be possible to make it if a single slug were made to answer both purposes, as in my arrangement. In addition to this practical gain of space in the channel, I also reduce the danger of the loss or displacement of the follower when not in use, since by turning it in the channel it is again converted into a friction-slug.

The accompanying drawings, which, for the sake of simplicity, only show the arrangement and construction for two channels, nevertheless fully illustrate the essential features of my invention, irrespective of the number of channels that may be incorporated and combined in a single case or bank.

In said drawings, Figure 1 is a front elevation of the upper portion of one of the standards of a bank or case, shown as supporting two channels, respectively containing a column of type and a column of spaces. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of one of the channels removed from its seat in the standard. Fig. 4 is a side elevation of the upper end of one of the channels; and Fig. 5 is a cross-section in plane of line *xx*, Fig. 4.

The supports for the reception of the channels containing the types and spaces are preferably made in the form of standards A, projecting upward from and properly secured to a suitable base. I design to form a case or bank of any desired capacity, according to the number and denominations of the types and spaces required to be used, by simply combining and arranging the requisite number of these standards A with relation to each other in any convenient manner.

The upper portion of each standard A is inclined forward in a vertical plane, and is formed with a suitable number of recesses *a* and seats *a'* for the reception and support of the channels B. Commencing at the bottom of the bank or case, these recesses *a* and seats *a'* are arranged consecutively above and in advance of each other, as shown in Figs. 1 and 2, so as to admit of ready access to the lower end of each channel, and at the same time bring them all, both high and low, within uniform and convenient distance of the compositor.

The recesses *a* are only wide and broad enough to allow the channels to be inserted or withdrawn freely and at the same time to support them steadily on all sides when in place.

The side walls of the recesses *a* end a sufficient distance above the seats *a'* to leave the lower ends of the channels B exposed to or beyond the point at which the types or spaces are removed. The portions of the frame in front of the channels preferably terminate just above said point.

The channels B may be made by bending sheet metal to the required form, or be constructed in any other suitable manner. At its lower extremity each channel is provided with a toe or bearing, *b*, which is formed to rest on the seat *a'* in the standard A. The sides of

the lower end of the channel are cut away in front, so as to expose the outer end of one (or more if desired) of the types or spaces constituting the extreme lower end of the column, which rests upon the floor or shoulder *c* formed for this purpose at the end of the channel.

Commencing at and immediately above the supporting-shoulder *c*, I form a transverse slot, *d*, in the right side of the channel. This slot is only sufficiently wide to allow a single type or space to be withdrawn through it, excepting in cases in which it is desirable to remove more than one at a time—as, for instance, in the use of spaces or types of certain denominations which are frequently required in duplicate—in which cases the width of the slot is regulated so as to admit of the removal of the requisite number only. This slot *d* may extend backward to the rear of the channel, if desired, so as to leave the edge of the type on that side fully exposed for its entire length, and thus allow the type to be extracted by a transverse movement at any angle. This form of slot is shown in the lower channel in Fig. 2. I prefer to accomplish this result, however, in the method shown in the drawings in Figs. 2 and 3—that is to say, I do not extend the slot in the right side wall of the channel back wholly to the rear; but instead I form an auxiliary slot, *d'*, in the same plane in the left side wall of the channel and at its rear, as shown in Fig. 3. This auxiliary slot *d'* is of a length at least as great as the width of that portion of the right side wall left by the slot *d*, and allows the inner end of the type or space to conform readily to any lateral movement by enabling it to immediately assume any angle that may be imparted to it during the action of seizing or withdrawing it. This arrangement is most desirable when certain small sizes of type—such, for instance, as nonpareil, agate, pearl, and diamond—are used, and especially in the case of some of their smallest spaces, which are less than a sixty-fourth of an inch thick, and which it would be practically impossible to secure at all if they could not first be turned laterally sufficiently to cause their outer ends to project beyond the side of the channel so as to admit of being grasped by their broadest sides.

The width of one side of the channel is slightly less than that of the other side. This difference in width is at least equal to the width of the spring *g*, which is secured on one side of the slug *G* at its extreme edge, so that when said slug is turned with the spring to the front, as shown in Fig. 3, it will be free to act as a follower to the type or spaces underneath.

When not in use as a follower, or when required to hold the column of type or spaces firmly together in position, the slug *G* is turned so that its spring *g* bears against the inner side of one of the walls of the channel, as illustrated in Figs. 4 and 5, and maintains its position by friction.

I claim as my invention—

1. A channel for containing a column of type or spaces, slotted transversely at its lower end and having its lower front edges cut away below the slot sufficiently to allow a prescribed number of types or spaces to be grasped and withdrawn laterally at any oblique angle.

2. In a channel, *B*, for containing a column of types or spaces, formed with the transverse slot *d* in the lower end of its right wall, the auxiliary slot *d'*, formed in the lower rear portion of the left wall, both slots *d* and *d'* being in substantially the same plane, for the purpose set forth.

3. In a device for holding and presenting type and spaces in a prescribed manner, substantially such as herein described, a series of recesses and seats for the reception and support of the several channels for containing the types and spaces, arranged consecutively in advance of and above one another, for the purposes set forth.

4. The standard *A*, having a series of recesses, *a*, and seats *a'* formed in its upper portion in such manner that when the channels *B* are placed in position therein the respective ends of said channels will be supported relatively one above the other and successively in advance of each other, from the lowest to the highest, substantially as and for the purposes herein set forth.

5. A channel, *B*, for holding a column of type or spaces, constructed with one of its sides of less width than that of the slug or follower employed to retain and follow the type or spaces which may be contained within said channel, for the purpose and substantially in the manner herein shown and described.

6. In combination with a channel, *B*, having one of its sides constructed of less width than that of the slug or follower employed within it for the purposes herein designated, the combined slug and follower *G*, having the spring *g* secured to the extreme edge of one of its sides, substantially in the manner and for the purposes described.

LOUIS K. JOHNSON.

Witnesses:

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GEO. W. MIATT.