

L. K. JOHNSON.

TYPE CONTAINING CHANNEL.

No. 369,720.

Patented Sept. 13, 1887.

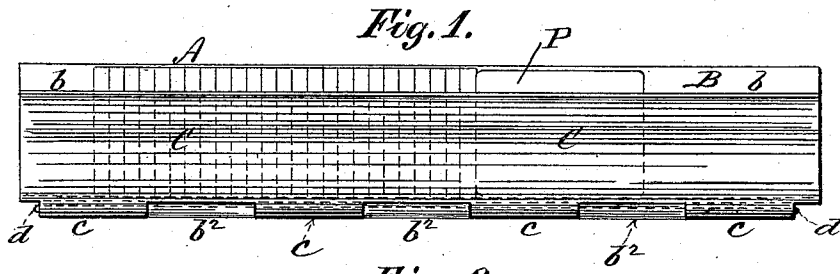


Fig. 2.

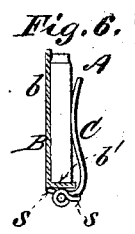
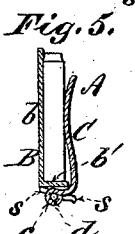
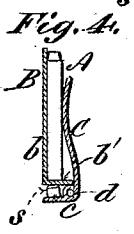
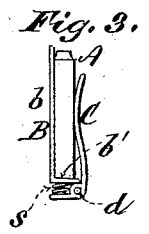
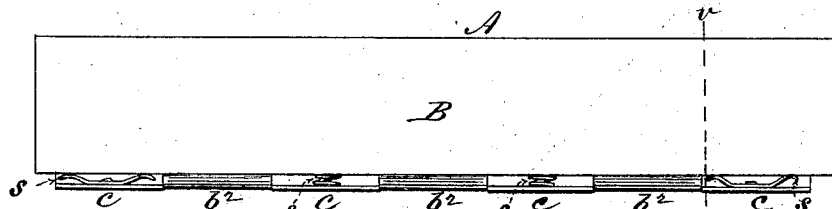


Fig. 7.

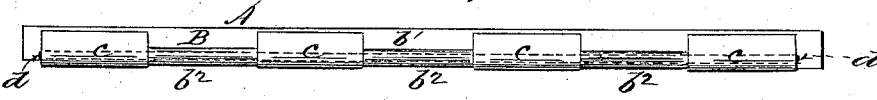


Fig. 8.

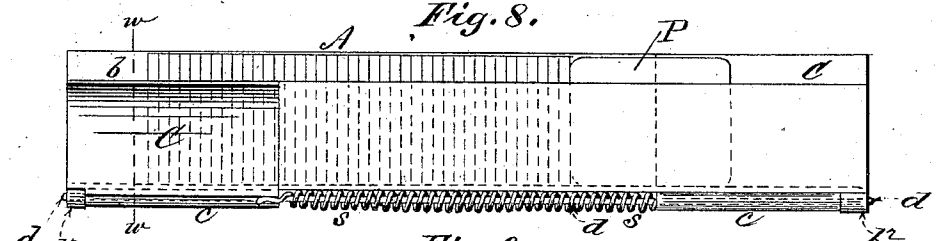
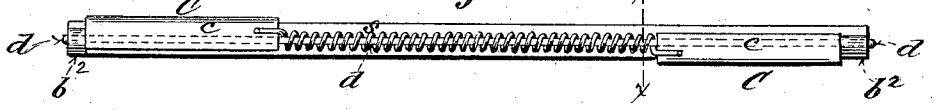


Fig. 9.



Witnesses:  
 Wm Gardner.  
 Paul H. Bate

Inventor:  
 Louis K. Johnson  
 By his Attorney  
 Leo H. Hunt

(No Model.)

2 Sheets—Sheet 2.

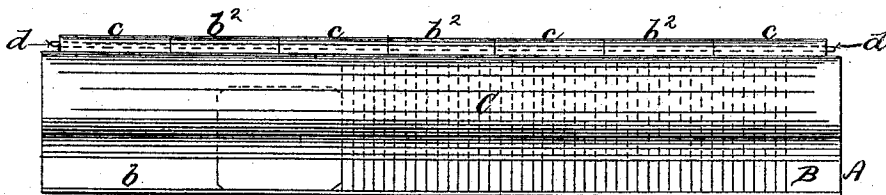
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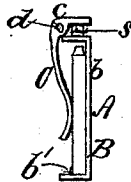
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*Fig. 10.*



*Fig. 11.*



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# UNITED STATES PATENT OFFICE.

LOUIS K. JOHNSON, OF BROOKLYN, ASSIGNOR TO THE ALDEN TYPE MACHINE COMPANY, OF NEW YORK, N. Y.

## TYPE-CONTAINING CHANNEL.

SPECIFICATION forming part of Letters Patent No. 369,720, dated September 13, 1887.

Application filed June 3, 1886. Serial No. 204,089. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS K. JOHNSON, a citizen of the United States, residing in the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Containing Channels, of which the following is a full, clear, and exact description, sufficient to enable others skilled in the art to which it pertains to make and use the same.

My improvements, although applicable generally to type-containing channels of various kinds, relate more especially to type-containing channels used in conjunction with the means of setting and distributing type set forth in Patents Nos. 230,784, 254,019, 271,711, 336,719, 264,085, 282,988, 336,645, 337,406, 340,124, and subsequent applications for patents. The type-containing channels of this class are transferable or interchangeable in and between both setter and distributor. When in the distributor, the receiving ends of the containing-channels connect with permanent type-conduits, by which the types are deposited in the channels in prescribed positions, the types being successively forwarded in the containing-channels by a reciprocating pusher the pusher-fingers of which, when advanced, carry the last types deposited beyond the path of the heels of the succeeding types, so that the "throats" or type-receiving areas are left free and unobstructed. Practically in distribution this feature of maintaining an open free throat or receiving-space in each containing-channel is of importance, and to this end various means have been devised for preventing or counteracting the "backlash" or retractile movement of the types into the throat after the receding type-pusher.

My present invention is designed to effectually prevent all tendency to backlash whatsoever throughout the entire length of line or column of type within a channel by supporting and holding each type individually, and at the same time I obtain a type-containing channel which is adapted equally to all sizes of types, so that a single series of type-channels will be sufficient for all the requirements of setting and distribution.

My invention consists in a type-containing channel the whole or a portion of one side

wall of which is pivotally connected to the rest of the channel, and is continuously pressed inward toward the opposed stationary side wall automatically by suitable means, as by springs or equivalents, in such manner as to bear against the adjoining edges of the types, &c., in the channel irrespective of their width, it being of course understood that only one style or size of type is to be accommodated in the channel at one time. Thus held individually and collectively in the containing-channels as between spring-jaws, the types can be transferred from distributor to setter, or stored until wanted, with greater facility and safety than heretofore, while the elasticity or resistance ordinarily present in a line or column of types, owing to looseness, imperfections, &c., and which tend to throw the last types back after and during the retractile movement of the pusher during distribution, is entirely avoided, the elastic pressure exerted by the movable side wall, while allowing the forward movement of the types under the forward impulse of the pusher, immediately acting to preserve and lock the types individually in their new positions, so that the last types distributed encounter no more resistance or back-pressure than those occupying any other portion of the line, but are sustained in position with equal firmness.

In the accompanying drawings, in which a comparatively short channel only is shown for convenience in illustration, Figure 1 is a side elevation of my improved type-containing channel in which one entire side wall is movable; Fig. 2, an elevation of the opposite side of the same channel; Fig. 3, an end view of the channel, showing the use of a spiral spring for pressing the upper part of the movable side wall inward; Fig. 4, a transverse section upon plane of line *v v*, Fig. 2, illustrating the use of a flat spring for a like purpose. Fig. 5 is a similar section upon plane of line *w w*, Fig. 8, showing a means of pivotally connecting the movable side wall when a longitudinal coiled spring is used, as in Figs. 8 and 9. Fig. 6 is a transverse section upon plane of line *x x*, Fig. 9, showing the same construction. Fig. 7 is a bottom view of the construction shown in Figs. 1, 2, 3, and 4. Fig. 8 is a side elevation of a type-containing channel the opposite

ends of which are each provided with a movable section of side wall; Fig. 9, a bottom view of the construction illustrated in Fig. 8. Fig. 10 is a side elevation of a modified form of my improved type-channel in which the movable side wall is pivotally attached above instead of below. Fig. 11 is an end elevation of the same.

In describing the special construction of channel shown in the drawings it is to be understood that I do not confine myself strictly thereto, the essential feature of my invention consisting in forming a type-channel with a side wall (or section thereof) which tends constantly to press inward against the opposed stationary wall and against intervening objects.

The construction shown in Figs. 5, 6, 8, and 9 is for the purpose of adapting the channel for use upon either side of the duplex type-distributing banks shown and described in Patents No. 337,406, Johnson and Low, March 9, 1886, and No. 340,124, Johnson and Low, April 20, 1886, and in subsequent applications, by reference to which it will be seen that since the types are all dropped into the receivers in like position for either side of the bank, opposite ends of the type-containing channels must be used upon opposite sides of the bank in order to bring all the types into relatively the same position within their respective channels. Where, however, the channel is designed for use only in conjunction with a single receiver-bank, or with one side of the duplex bank, the movable side wall may be made continuous the full length of the channel, as shown in Figs. 1, 2, 3, 4, and 7. In like manner the means for imparting the necessary inward inclination or pressure to the movable side wall may be varied without deviation from the spirit of my invention.

In the drawings the channel A is composed of what may be designated as the body or rigid part, B, which includes the side wall, *b*, and the bottom or floor *b'* of the channel, preferably formed from the same piece of sheet metal.

The movable side wall, C, is connected to the body B, preferably underneath the floor *b'*, by any suitable means which will permit of its movement laterally. As shown in the drawings, it is hinged or pivotally connected to the under side of the floor *b'* by the rod *d*, which extends through the rigid knuckles or

bearings *b'' b''* upon the body B and through the knuckles or loops *c* upon the movable side wall, C.

It is obvious that, though the construction would be cumbersome and undesirable, the movable side wall, C, might be pivotally suspended from the upper part of the channel, so as to act upon the types in a similar manner, as shown in Figs. 10 and 11, and I do not, therefore, limit myself to a means of connection at the bottom of the channel.

The inner surface of the movable wall C is preferably curved convexly, so as to bear against the types at or near their middle portions, as shown in Figs. 3, 4, 5, and 6.

The inward pressure of the movable side wall, C, is imparted to it by one or more springs, *s*, preferably arranged underneath the floor *b'* of the channel, as illustrated in the drawings, although counter-weights or other obvious and well-known means may be substituted for the springs, if preferred.

In use, before any types have been received into the channel, the side wall of the latter is held back to the desired distance from the rigid wall *b* either by the type slug or precursor P, which is used during distribution to sustain the first types in the line in an upright position, or by the holder or tongue upon the distributing apparatus, which enters the receiving-channel and may be made to perform the same office. If preferred, slugs or type-precursors, P, before mentioned, if made of a thickness equal to the width of the type to be accommodated, will answer the purpose very well alone.

What I claim as my invention, and desire to secure by Letters Patent, is—

A type-containing channel substantially such as designated, consisting of a rigid side wall and spine or bottom and a parallel movable side wall pivotally secured to the said rigid portion and provided with mechanism, substantially such as described, which causes it to automatically contract the type-passage and bear against the types therein, substantially in the manner and for the purpose described.

LOUIS K. JOHNSON.

Witnesses:

WM. GARDNER,  
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