(No Model.) 2 Sheets—Sheet 1.

A. A. LOW.

LEAD AND RULE HOLDER.

No. 383,959. Patented June 5, 1888.

Fig. 1.

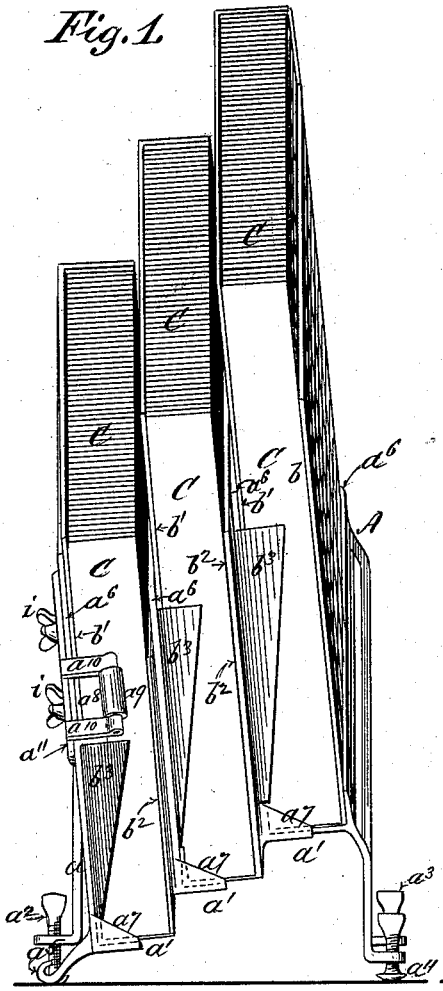
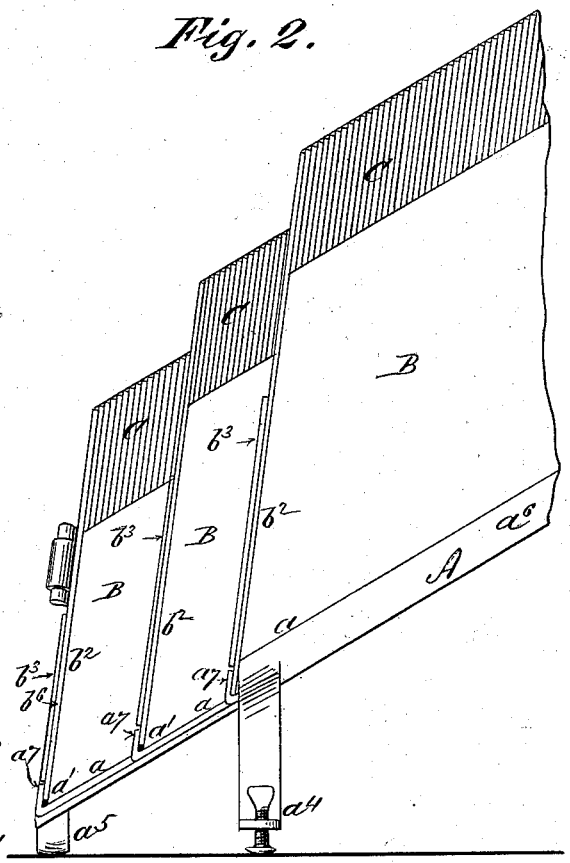


Fig. 2.



Witnesses:
Wm. Gardner
Paul H. Bate

Inventor:
A. Augustus Low,
By his Attorney,
Geo. H. Strong

(No Model.) 2 Sheets—Sheet 2.

A. A. LOW.

LEAD AND RULE HOLDER.

No. 383,959. Patented June 5, 1888.

Fig. 5.

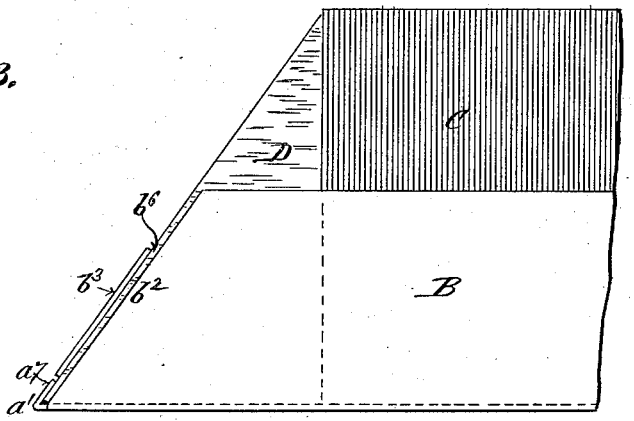


Fig. 3.

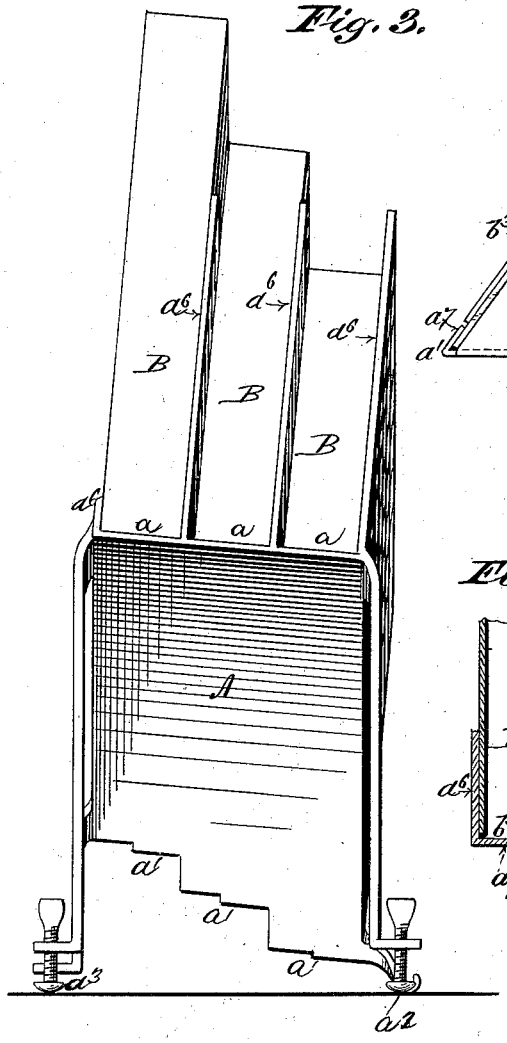


Fig. 6.

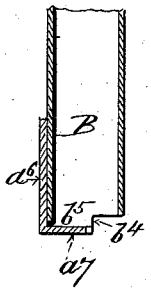
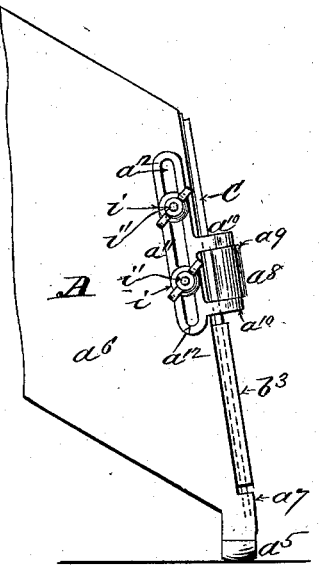


Fig. 4.



Witnesses:
Wm. Gardner.
Paul H. Bate.

Inventor:
A. Augustus Low.
By his Attorney.
Leo. H. Miller

UNITED STATES PATENT OFFICE.

A. AUGUSTUS LOW, OF BROOKLYN, ASSIGNOR TO THE ALDEN TYPE MACHINE COMPANY, OF NEW YORK, N. Y.

LEAD AND RULE HOLDER.

SPECIFICATION forming part of Letters Patent No. 383,959, dated June 5, 1888.

Application filed November 26, 1886. Serial No. 219,985. (No model.)

To all whom it may concern:

Be it known that I, A. AUGUSTUS LOW, 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 Lead and Rule Holders for Compositors, of which the following is a description sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My improvements relate to the class of lead and rule holders for compositors' use heretofore invented by me and set forth in Letters-Patent No. 356,845, dated February 1, 1887, the essential characteristic of this style of lead and rule holder being the support of the types or leads in an upright or nearly-upright position with relation to their length within the holder, and their removal therefrom laterally through suitable transverse openings at or near the bottom of each compartment. I have heretofore arranged and incorporated several separate lead or rule holding compartments within a single device, the compartments being arranged in line successively one behind the other, the smaller compartments in front.

A feature of my present invention consists in the arrangement of a series of two or more separate lead or rule holding compartments in adjoining parallel lines, with the delivery ends of smaller compartments upon the left-hand side and extending sufficiently in advance of the delivery end of the next largest to afford convenient access to any or all the compartments, for the purpose of removing the respective sizes of the leads or rules independently. In this connection my invention also includes the combination, with an independently-formed lead or rule channel or channels, of a suitable frame or support provided with one or more seats for the reception and support of the said removable and transferable channels, each of which latter is complete in itself and adapted to hold and store the leads or rules when not in use. For the double purpose of preventing the accidental spilling or displacement of the leads or rules from the front or delivery end of each channel, and to afford a means of locking the leads or rules within the channel when not in use, I form the front end of each channel with a safety-guard or lateral projection from the left-hand side wall. The outer or right-hand edge of this guard extends obliquely downward from right to left to afford a rapid cut-off or clearance to the type or lead being removed laterally toward the right hand, the foot or lower edge of the said last lead or rule when in position in the channel resting against a comparatively small stop or shoulder, forming a portion of the seat or support upon the frame. The floor of the channel at this point is also decreased in width, so that its right-hand edge may act as a fulcrum or turning-point upon which to swing the lead or rule laterally and downward to the right during removal, and the upper edge of the foot-rest or stop, above referred to as forming part of the seat, is inclined downward from left to right, so that when the lead or rule has reached a certain inclination to the right, corresponding to the inclination of the right-hand edge of the line-retainer above, which extends from the left-hand side wall of the channel, the lower edge or heel of the lead or rule will be free.

I am aware that in an application filed by me October 30, 1886, Serial No. 217,616, for patent, I show and claim substantially the same general construction for effecting the rapid clearance or cutting off of the leads or rules, and in the present case I do not seek to cover the features, broadly, confining myself to the special construction of parts herein shown. For instance, in the last application for patent above referred to, both the diagonal end rest and the lower foot-rest are formed upon an extension which is adjustable upon an attachment to a galley. In the present case the diagonal end rest and the reduced floor-support form part of the removable lead and rule compartment itself, and the diagonal end rest also acts as a means for locking the leads or rules within the compartment when not in use, while the lower stop or shoulder forms a portion of the seat or support for the forward end of the compartment, as well as an abutment for the heel of the lowest lead or rule.

The leads or rules are locked in the compartments when full by placing the inclined line support and follower in front of the line,

with its inclined edge resting against the inner surface of the diagonal end guard.

Another feature of my present invention consists in the special means employed for regulating both the vertical and lateral inclination of the lead and rule compartments or their holder or frame.

A distinguishing feature of my present construction, as before intimated, consists in an independently-formed lead or rule compartment formed with an end line-support and reduced floor-surface at delivery end, the front edge of the right-hand side wall ending a sufficient distance back of the plane of the end line-support to permit of the withdrawal laterally of one or more types or leads. In addition to this special construction of the compartments individually, I design to make the right-hand side wall of each compartment of less height than that of the leads or rules when contained therein, so that access may be had to any portion of the line of said leads or rules.

For the purpose of rendering the operation of removing a lead or rule as free and unrestricted as possible, a feature of my invention consists in the use of a friction-roller as a bearing or end rest for the lower end of the line of leads or rules, the axis of the said anti-friction roller being inclined parallel or nearly parallel to the position of the lowest lead or rule in the line.

My invention also includes means for adjusting the position of this anti-friction roller longitudinally with relation to the leads or rules, to adapt it to leads or rules of different length, or to their varying requirements.

In the accompanying drawings I show the essential features of my invention embodied in practical form, although I do not wish to confine myself strictly to the identical construction shown in all respects, since it is obvious that various modifications may be made in minor details without deviating from the spirit and intent of my invention.

Figure 1 represents a front elevation of a triple lead or rule holder; Fig. 2, an elevation of the lower front portion of the same, looking from the right-hand side; Fig. 3, a rear elevation of the triple holder; Fig. 4, an elevation of the lower front end of the holder, looking from the left-hand side. Fig. 5 is an elevation of the lower front portion of a lead or rule compartment, illustrating the locking of the front end of the line of leads or rules therein. Fig. 6 is a sectional view of the lower front portion of a lead or rule compartment and adjoining portion of its seat or holder.

The channel support or frame A may be formed with any suitable number of channel or compartment seats or holders a. Where accommodations are afforded for more than one compartment, B, as shown in the drawings, the lower front portions, a', of the seats a are arranged successively back of each other from left to right, the compartments containing the shorter leads or rules being placed at the extreme left, while the remaining lengths follow successively in the order of their respective lengths. By this means it will be seen that the lower ends of all the several lines of leads or rules will be equally accessible and their removal toward the right hand unobstructed.

The seats or supports a for the compartments B within the support or frame A are inclined in such manner as to impart the necessary degree of inclination to the compartments themselves, such inclination and the method of inclining the leads or rules backward, &c., being substantially the same as in my last application for patent, hereinbefore referred to. It will be noticed that the compartments are inclined both vertically and laterally toward the left-hand side, and in practice it is important to regulate the relative degrees of inclination with accuracy, according to the size or character of the leads or rules to be accommodated. For this reason I support the holder A upon three adjustable rests, a^2 a^3 a^4, and one stationary rest, a^5, by which both the vertical and lateral inclination of the holders may be increased or diminished. It is obvious that other means for accomplishing this may be substituted for the set-screws herein shown without deviating from my invention in this respect, although the construction shown is simple and effective.

The holder A, when plural, is formed with the partitions a^6, and the lower front ends, a', of the seats a are formed with the upwardly-projecting flanges or shoulders a^7, which act as abutments or stops for both the ends of the compartments B and the lower edge of the lowest leads or rules, C.

The left-hand seat, a', (and the others also, if desired,) in addition to the abutment a^7, is provided with an end line-support, a^8, having an anti-friction roller, a^9, against which the upper portions of the leads or rules rest directly in succession. The axis of the roller a^9 is parallel, or nearly so, to the length of the leads or rules when in the compartment. This end line-support is preferably adjustable longitudinally, substantially as shown, along the left-hand edge of the holder A. This adjustment may be accomplished in any convenient manner. As shown in the drawings, the roller a^9 is mounted between the arms a^{10}, which project laterally from the slotted plate a^{11}, which is secured in the required position to the left-hand side wall by the set-nuts i screwing upon the ends of studs i', which pass through the slots a^{12} in the plate a^{11}.

Each compartment B has the edges of its front end walls, b' b^2, inclined at a suitable angle, and one of its side walls (preferably the right, b^2) is of less height than the height of the leads or rules when within the compartment. This latter feature permits of the regulation of inequalities or defects in the alignment of the leads or rules, and enables the user to readily ascertain the state or length of the line or column.

A type supporter and follower, D, similar

to that shown and described in my last application for patent, is employed to sustain and insure the descent of the rear end of the column of types or leads when in use; or when the latter are not required for immediate use it is transferred to the front of the line, as shown in Fig. 5, and used to lock and inclose the line of types or leads within the compartment, being held against displacement from the channel by the laterally-projecting end guard, b^3, which projects from the left-hand side wall of the compartment.

The right edge of the end guard, b^3, is inclined downward and backward, as shown in Fig. 1, for the purpose of facilitating the removal of the leads or rules, as hereinbefore set forth. Immediately at its front lower extremity the floor b of each compartment is reduced in width, as shown in Fig. 6, for the same reason. The right-hand edge, b^4, of this contracted floor-support b^5 acts as a fulcrum or center point, upon which the lower lead or rule turns during its removal from left to right through the transverse space b^6 between the front edge of the side wall, b^2, and the inner surface of the roller a^8 or lateral guard b^3, and when the lateral inclination attained by the lead or rule is equal to and coincides with that of the right-hand edge of the lateral guard b^3.

By the construction herein set forth I afford ample means for the convenient storage of the different leads or rules when not in use, and concentrate them and facilitate their immediate distribution when required for use, thus practically approximating the desired end—*i. e.*, a place for every lead and rule, and every rule and lead in its place.

I am aware that in my application, No. 217,616, filed December 16, 1886, I show and describe certain features of construction which are also shown herein, and I therefore wish it to be understood that I expressly disclaim here all features specifically claimed in said application, and confine myself to the subject-matter of the claims hereinafter set forth.

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

1. A series of lead or rule holders formed with transverse openings for the removal of the leads or rules, arranged side by side, with their delivery ends successively one in advance of the other, the smaller compartments being advanced beyond the larger ones next adjoining, substantially in the manner and for the purpose described.

2. In combination with a series of lead and rule holding compartments of different sizes, formed with transverse openings for the removal of the leads or rules, substantially as described, a common holder or frame formed with seats or supporting-rests for the channels, the front lower ends of which seats or rests project successively one in advance of the other from left to right, substantially in the manner and for the purpose described.

3. In a lead and rule holder substantially such as described, a lower front line-holder, a^7, having its upper edge inclined obliquely, substantially in the manner and for the purpose described.

4. In combination with one or more lead or rule holders, substantially such as described, the supporting-frame A, formed with the three adjustable rests, a^2, a^3, and a^4, and the stationary rest a^5, for the purpose and substantially in the manner described.

5. A lead or rule holder substantially such as described, formed at its lower front end with a lateral line-retaining guard, the right edge of which is inclined obliquely, substantially in the manner and for the purpose described.

6. A lead or rule holder substantially such as described, formed at its lower front end with a lateral opening, and with a floor of reduced width coinciding with said lateral opening, for the purpose of facilitating the removal of the rules or leads, substantially in the manner and for the purpose described.

7. In combination with a lead and rule holder substantially such as described, provided with lateral openings for the removal of the leads or rules, an end line-support consisting of an anti-friction roller supported substantially in the manner and for the purpose described.

8. In combination with a lead and rule holder substantially such as described, provided with lateral openings for the removal of the leads or rules, an end line-support which is adjustable in position with relation to the length of the leads or rules, substantially in the manner and for the purpose described.

A. AUGUSTUS LOW.

Witnesses:
GEO. W. MIATT,
WM. GARDNER.