(No Model.) 4 Sheets—Sheet 1.

A. A. LOW.

LEAD AND RULE HOLDER.

No. 383,962. Patented June 5, 1888.

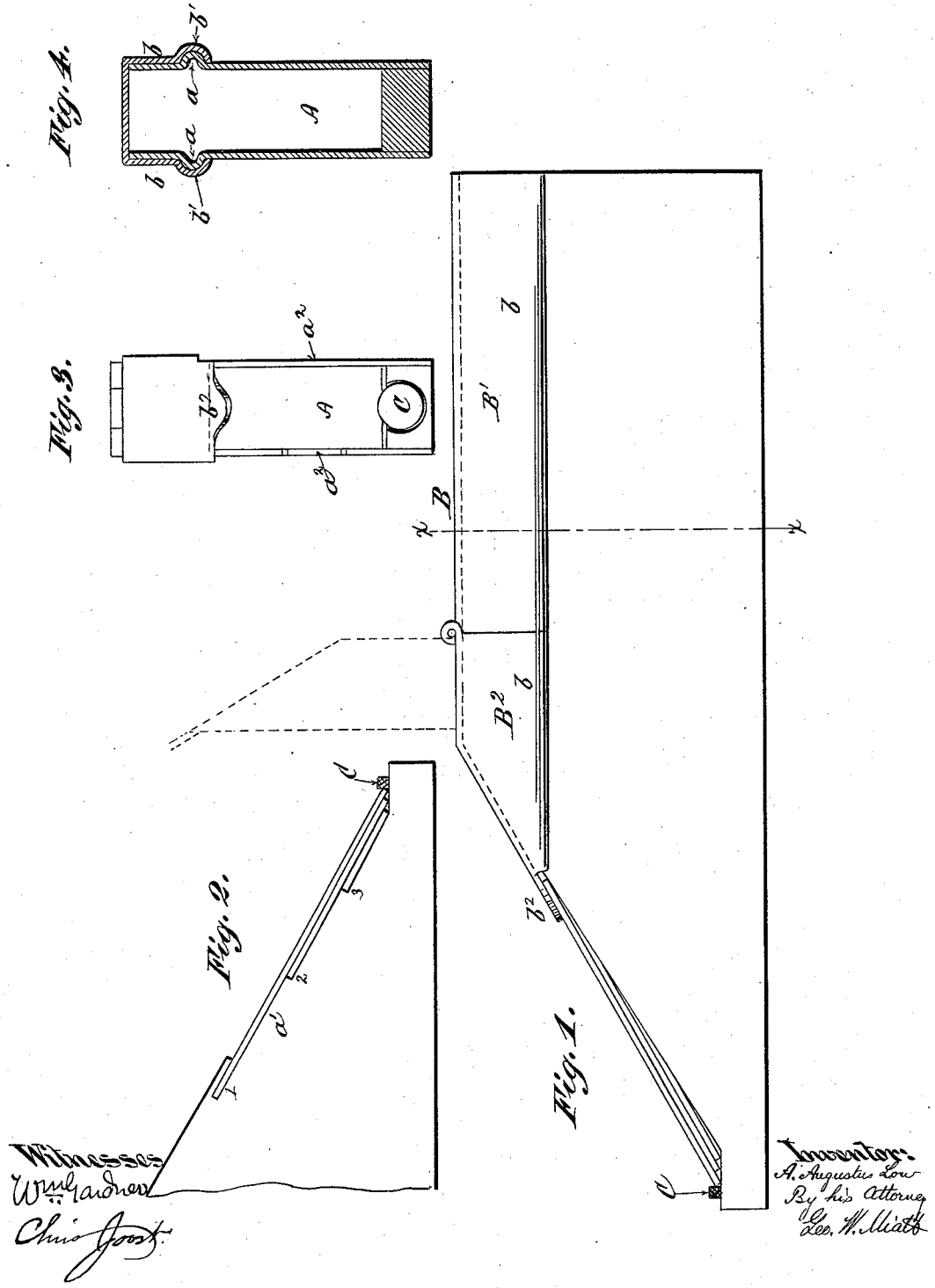

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Fig. 5.

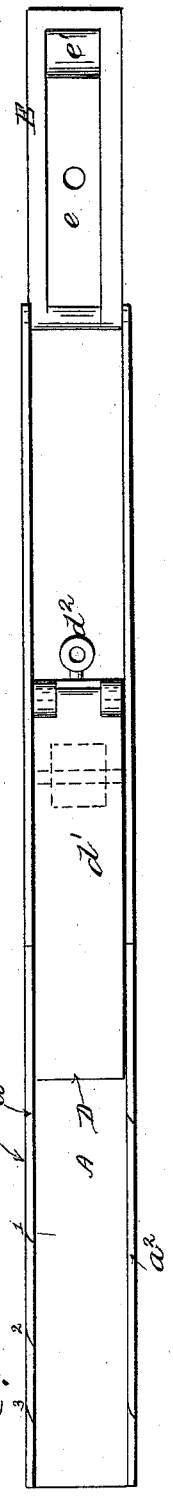
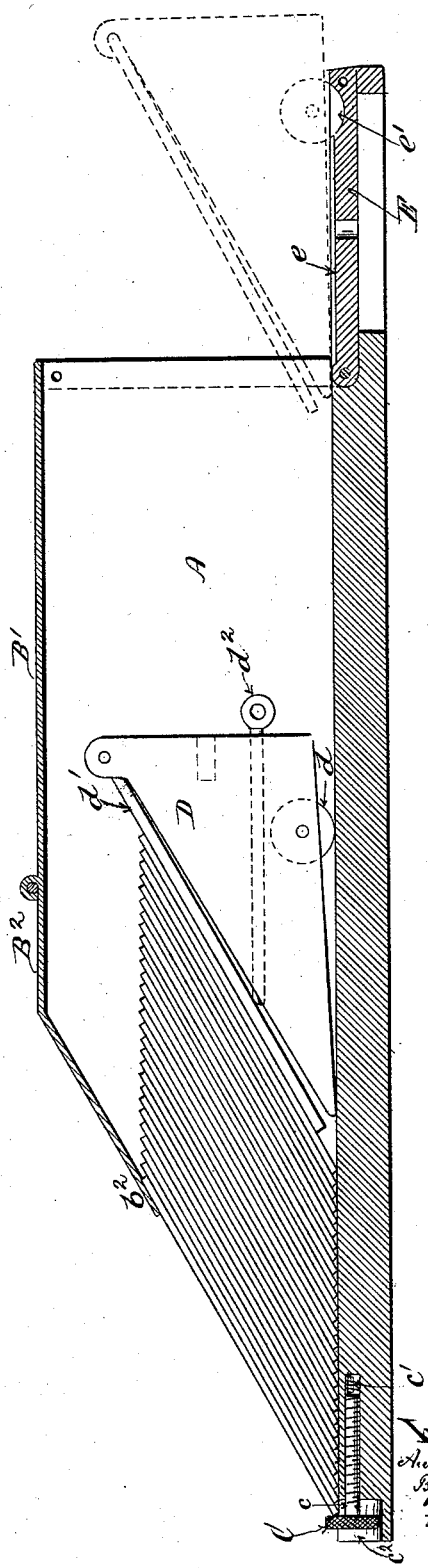


Fig. 6.



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LEAD AND RULE HOLDER.

No. 383,962. Patented June 5, 1888.

Fig. 7.

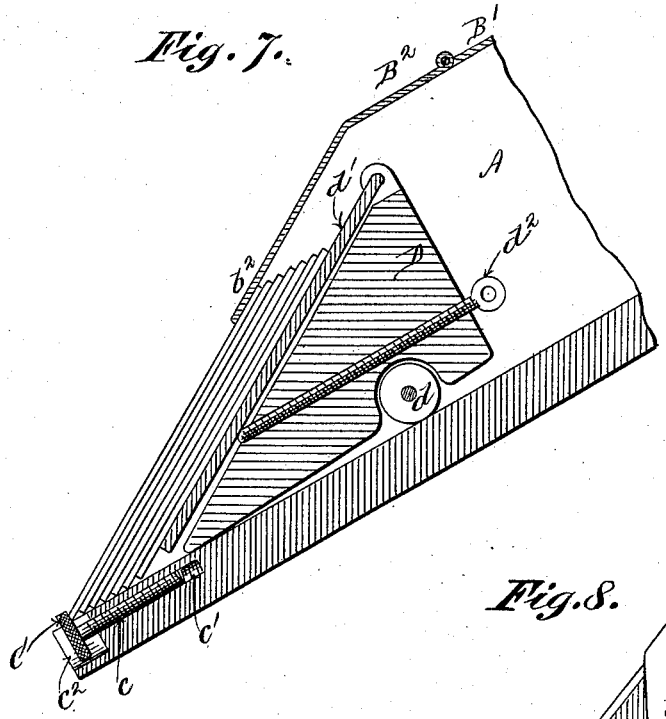


Fig. 8.

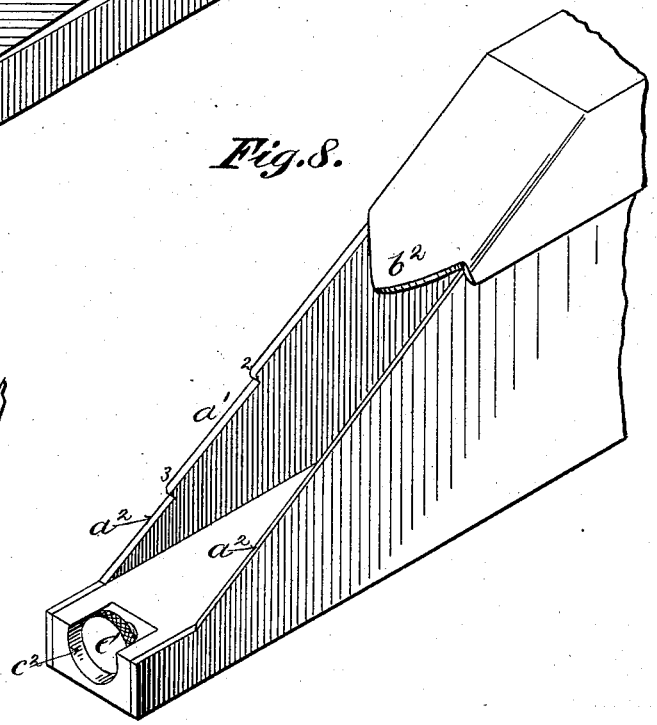
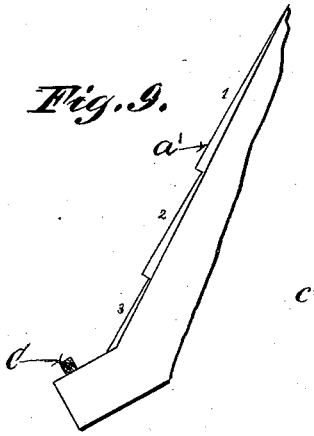


Fig. 9.



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LEAD AND RULE HOLDER.

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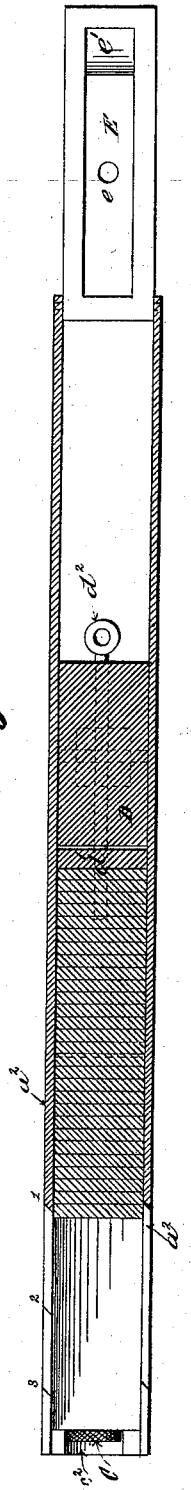
Fig. 10.



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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. 383,962, dated June 5, 1888.

Application filed January 28, 1887. Serial No. 225,780. (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' Use, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to the class of rule and lead holding and presenting compartments heretofore originated by me, and for which I have obtained Letters Patent No. 356,845, dated February 1, 1887, in which the lowest leads or rules in a line or column are successively removed through lateral openings at the front or delivery ends of the compartments, the descent of the line or column of leads or rules being rendered automatic by reason of the inclination imparted thereto by various means heretofore set forth in said prior applications.

My present improvements relate, generally, to the features of special construction of parts herein shown and described, among the more important of which is the peculiar formation of the front edges of both the right and left hand side walls of the compartment, whereby, without resort to any preparatory adjustment, as has been necessary heretofore, the operator may readily remove one, two, or three leads or rules, as he may elect. This is an advantage of considerable importance, especially in connection with the composition of job or other matter of a mixed nature, where variable numbers of leads or rules are required from time to time. This result is effected, essentially, by forming the front edge of the right-hand side at an inclination which is steeper than the inclination imparted to the leads or rules, so that at the lower end of the line the lower portions of several leads or rules will be exposed, while only the upper portion of a single lead or rule will project beyond the upper front edge of the said right-hand-side wall. Thus by pressing laterally from left to right upon the extreme lower portion of the line the heels of three leads or rules may be projected outward beyond the right-hand-side wall, to be followed readily by their upper portions, whereas if pressure be applied in like manner at or near the middle of the length of the leads or rules only two leads or rules will be started, and if the pressure is applied at the upper end only a single lead or rule will be severed from the line.

In order to gage and render definite the respective positions at which the prescribed number of leads or rules may be removed, the front edge of the left-hand-side wall is formed upon the same general angle as that of the corresponding edge of the right-hand-side wall, but with offsets respectively corresponding to the thickness of one, two, and three leads or rules. Thus upon the left-hand side only the edge of the upper portion of one lead or rule is exposed, while the middle portions of two are exposed midway, and the lower portions of three are exposed below. Substantially the same result may be attained by making the front edge of the left-hand side wall parallel with that of the right; but I prefer the use of the offsets mentioned as affording a means of more readily locating the required position either to sight or touch.

The front edges of the side walls are beveled to facilitate the removal of the lowest leads or rules, as hereinafter described. For instance, the distance between the front end rests and the inner side of the right-hand wall is thus rendered slightly greater than the distance between the said front end rests and the extreme edge of the outer surface of the said wall, so that any slight variation in the thickness or inclination of the lowest leads or rules will be compensated for by such interior bevel.

Another notable feature of my invention consists in providing for the regulation or adjustment of the inclination of the leads or rules within the compartment by means of a movable end line-bearing-surface hinged to the upper part of the slug or follower, and resting against an adjustable screw passing longitudinally through the body of the slug. By this means the inclination of the leads or rules may be adjusted with accuracy with relation to the fixed front edges of the side walls and variations in size or thicknesses thereby be compensated for.

In this connection my invention also includes the forming of the lower front end line-support of a screw countersunk or inclosed in the forward part of the floor of the com-

partment, the head of which screw projects sufficiently above the upper surface of the floor to act as an adjustable stop or rest for the heel of the lowest lead or rule in a line.

In my present construction the front end of the cover, which acts as the upper end line-support, is hinged to a rear portion, which latter overlaps the side walls upon either side. The rear wall of the compartment is also hinged so as to swing backward and constitute an extension of the floor of the compartment upon which the end line support or follower may be run out, when desired, in order to give access to the compartment from the rear, as for purposes of filling, &c. This back or extension is formed with a shallow groove corresponding in width to that of the anti-friction roller in the follower, and with a depression into which the lower part of the periphery of said roller drops when the slug is withdrawn to the proper extent, both the groove and the recess being employed for the purpose of steadying and retaining the said follower in position.

In the accompanying drawings, Figure 1 is an elevation of the right-hand side of my improved lead-and-rule-holding compartment; Fig. 2, an elevation of the left-hand-side front end of the same; Fig. 3, a front end elevation; Fig. 4, a transverse section upon plane of line *x x*, Fig. 1; Fig. 5, a top view of the compartment, the cover being removed and the back lowered; Fig. 6, a longitudinal section of the compartment, showing the back lowered and the position of the rear end line-support thereon in dotted lines. Fig. 7 is a longitudinal section of the front end of the compartment and the rear end line-support, the parts being inclined as in use; Fig. 8, an isometrical perspective of the front end of the compartment, and Fig. 9 a diagram showing the relative shapes of the front edges of the right and left hand side walls. Fig. 10 is a longitudinal section through the holder upon a plane parallel to the floor.

The holder consists of the usual elongated compartment, A, which in use is inclined at a suitable angle by being placed upon an inclined rest or seat, as in my last application, or by resort to any of the means heretofore described by me. The cover is formed with the flaps *b b*, which overlap the upper side walls of the compartment; and it is made in two sections, the main portion B′ being retained upon the compartment by the engagement of its interior of the grooves *b′ b′* with the exterior of the beads *a a* upon the side walls, while the front section, B^2, is hinged to the rear section, B′, in such manner that it may be swung upward and back, so as to give access to the forward end of the compartment when required. The front section of the cover B^2 is represented as raised by the dotted lines in Fig. 1. Its lower front edge, b^2, when lowered, rests against the upper end of the last lead or rule in the line, and is shaped substantially as shown in Figs. 3 and 8.

The lower front end line-rest, C, consists of the perimeter of the head of the screw *c*, which engages with a female screw-thread, *c′*, formed in the end of the channel floor or spine, the extreme front end of the latter being formed with the recess c^2, within which the main portion of the screw-head C is inclosed. It will be seen that the floor of the channel is continued upon both sides of the slot or recess c^2, so as to afford support to the heels of the lowest types when the screw is adjusted outward. By thus inclosing the screw it is also protected against accidental interference when adjusted in a prescribed manner. The rear end of the line of leads or rules is supported within the compartment, as heretofore, by a follower, D, which is provided with an anti-friction roller, *d*, similar to the manner provided for in my last application for patent; but instead of the front line end bearing-surface, *d′*, being permanent in inclination, as heretofore, I in the present case make it in the form of a plate, *d′*, which is hinged at the top of the follower D, and extends downward in front thereof. The inclination of the bearing-plate *d′* is increased or diminished as required by means of a screw, d^2, passing longitudinally through the body of the follower and impinging against its under side, as will be readily understood by reference to Fig. 7.

The degree of inclination to be imparted to the leads or rules may thus be regulated with accuracy, and this feature is of especial importance in view of the method herein employed by me in effecting the simultaneous removal of two or three leads or rules, as may be required. To render possible the latter result without resorting to special adjustments of the lower side walls or bearings, as heretofore, I form the front edge of the right-hand-side wall at a steeper inclination than that at which the leads or rules are to be controlled. The result of this, as illustrated in Fig. 1, is that when the lower end line-rest, C, is properly adjusted the lowest lead or rule will be entirely exposed upon the right-hand side, while the greater portion of the one next succeeding and only the lower portion of the third will extend beyond the front edge of the said right-hand-side wall.

It is obvious that if the thumb or finger be pressed against the left-hand edges of the lowest rules at or near their upper ends only the first or lowest lead or rule will be started toward the right, since the upper front edge of the right-hand-side wall at that point will hold back the next succeeding leads or rules. In like manner, if the pressure be applied to the left-hand edges of the leads or rules midway of their length, the difference in inclination between the front edge of the right-hand-side wall and that of the leads or rules will permit of the starting forward of the lower portions of the two lowest leads or rules in the line, but will restrain the third. By applying a like pressure at or near the heels or the lower portions of the leads or rules the three lowest may be removed simultaneously.

In the case of the leads or rules thus started at or below the middle the heels thus first projecting beyond the front edge of the right-hand wall insures the withdrawal of the middle and upper portions.

It is obvious that in carrying out this method of removing the leads or rules the front edge of the left-hand side wall, *a'*, may be made parallel to that of the right-hand wall above described; but in order to render more certain the respective operations of removing one, two, or three leads or rules, as required, I form the said front edge of the left-hand-side wall with three parallel edges, 1, 2, and 3, which respectively coincide with the inner side of the first, second, and third lowest leads or rules in the line when the latter are in position.

By reference to Figs. 2 and 9 the relative arrangement of the front edges of the right and left hand side walls will be readily understood, and as the positions of the three lowest leads or rules are indicated, it will be seen how the succeeding offsets 2 and 3 each expose an additional lead or rule to the action of the thumb or fingers upon the left-hand side.

The rear wall, E, of the compartment is hinged to the floor or spine in such manner that it may be swung down so as to constitute a rear extension of the floor, as shown in Figs. 5 and 6.

The inner surface of the wall or extension E is formed with a longitudinal groove, *e*, which is of a width equal to the thickness of the anti-friction roller *d*, mounted in the under side of the follower D. This groove serves to maintain the alignment of the follower when the latter is run out upon the extension E. The extension E is also formed with a recess or depression, *e'*, into which the roller *d* upon the follower D may be dropped in order to hold the follower when withdrawn, as indicated by dotted lines in Fig. 6, against longitudinal movement.

The front edges, a^2 a^2, of the side walls are preferably beveled, as indicated in Fig. 5, to facilitate the withdrawal of the leads or rules.

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

1. In a device substantially such as herein set forth for holding and presenting leads and rules, the combination, with a rear end line-support and a lower front end line-support for imparting a prescribed inclination to the leads or rules, substantially as described, of the right-hand-side wall having its front edge formed at a steeper degree of inclination than that at which the leads or rules are controlled, for the purpose and substantially in the manner described.

2. In a device substantially such as herein set forth for holding and presenting leads and rules, the combination, with the movable rear end line support or follower and the front end line-support for imparting a prescribed inclination to the leads or rules, and with the right-hand-side wall having its front edge formed at a steeper inclination than that at which the leads or rules are controlled, of the left-hand-side wall formed with the series of offsets, substantially in the manner and for the purpose described.

3. In a device substantially such as herein set forth for holding and presenting leads and rules, the combination, with a movable rear end line support or follower, of the lower front end line-support, consisting of the screw G, a portion of the head of which projects above the floor surface to form the lower front end line support or rest, substantially in the manner and for the purpose described.

4. In a device substantially such as described for holding and presenting leads and rules, the combination, with a front end line-support, of a movable rear end line support or follower provided with a line-end bearing-surface plate which is hinged to the top of the follower and is adjustable thereon in inclination by means of a set-screw impinging against the under side of the said bearing-plate, for the purpose and substantially in the manner described.

5. In a device substantially such as described for holding and presenting leads and rules, the cover or top B, provided with the overlapping flaps *b b* and formed in two sections, $B' B^2$, the front section, B^2, being formed with the upper end line-bearing surface, b^2, and being hinged to the rear section, B', substantially in the manner and for the purpose described.

6. In a device substantially such as herein designated for holding and presenting leads and rules, the combination, with a front end line-support and with a movable rear end line-support, of the front edges, a^2 a^2, of the side walls having their inner edges beveled, for the purpose and substantially in the manner described.

7. In a device substantially such as herein designated for holding and presenting leads and rules, the combination, with a movable rear end line-support provided with an anti-friction roller, of the hinged rear end floor-extension, E, formed with the groove *e*, for the reception and retention of the lower perimeter of the said anti-friction roller against lateral displacement, substantially in the manner and for the purpose described.

8. In a device substantially such as herein set forth for holding and presenting leads and rules, the combination, with a movable rear end line-support provided with an anti-friction roller, of the hinged rear floor-extension, E, formed with the recess or depression *e'*, for the reception and retention of the lower perimeter of the said anti-friction roller against longitudinal movement, substantially in the manner and for the purpose described.

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