No. 814,193. PATENTED MAR. 6, 1906.

G. M. DURELL.

GAGE ATTACHMENT FOR LEAD CUTTERS, &c.

APPLICATION FILED MAR. 1, 1905.

2 SHEETS—SHEET 1.

Fig. 2.

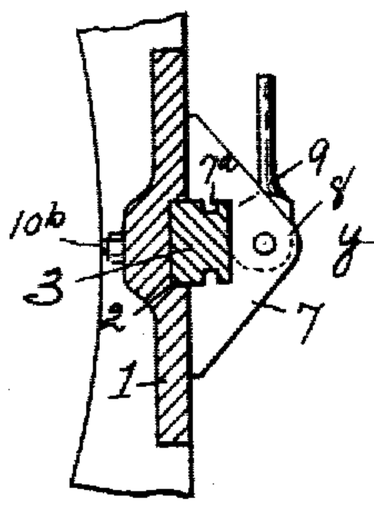


Fig. 1.

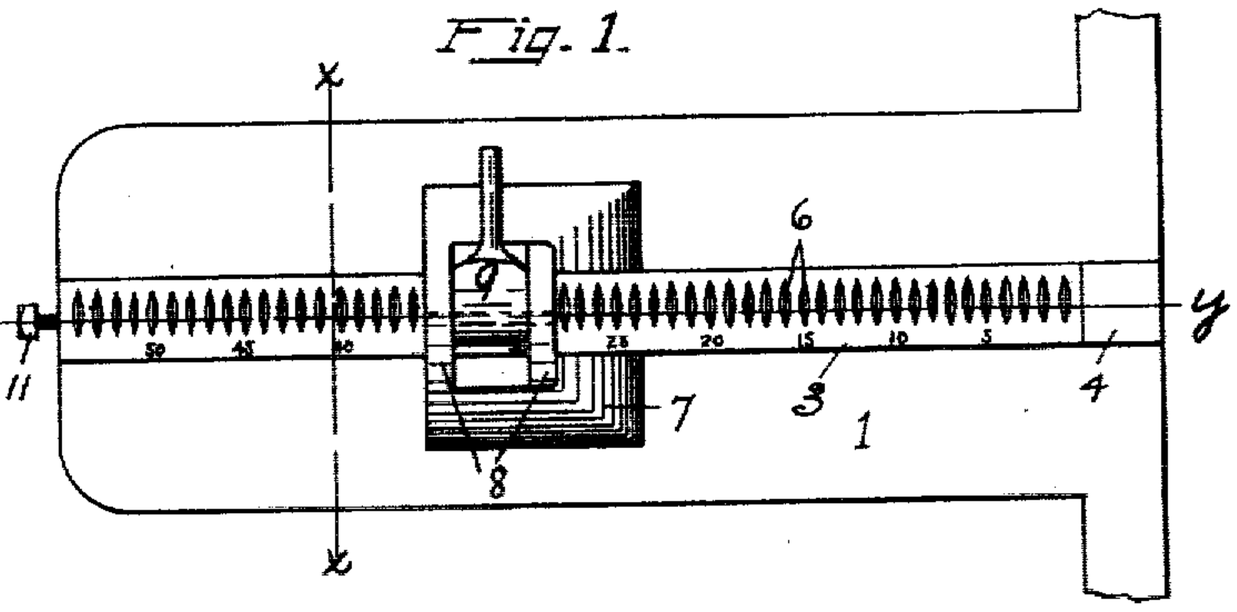


Fig. 4.

Fig. 3.

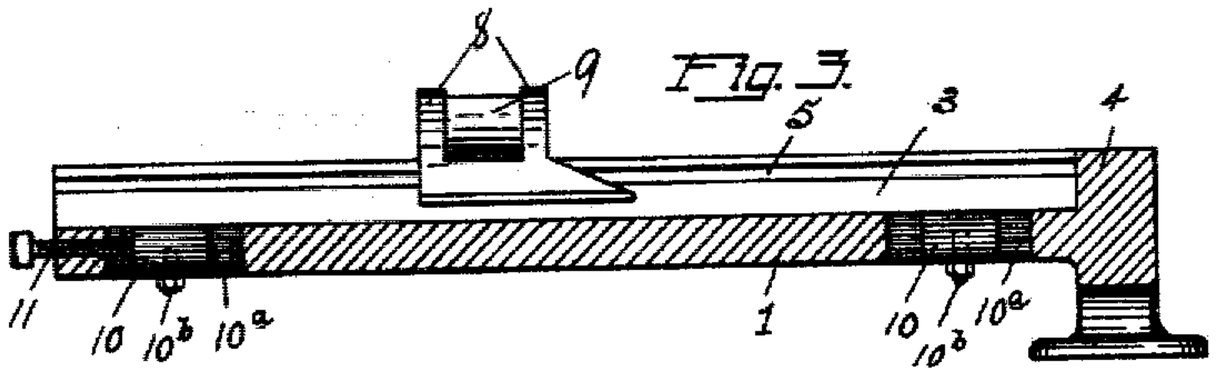


Fig. 5.

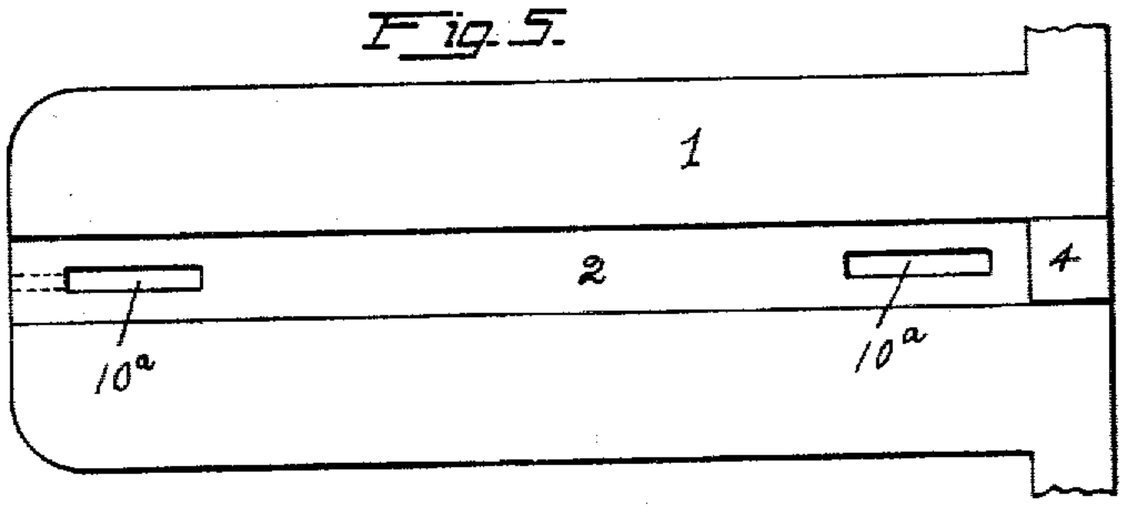


Fig. 6.

Fig. 7.

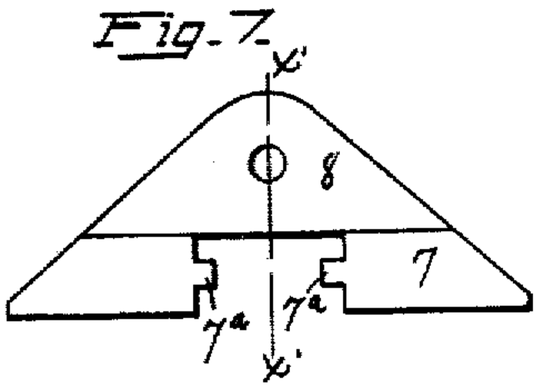


Fig. 8.

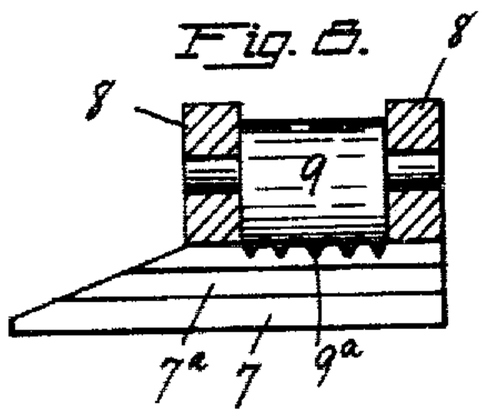
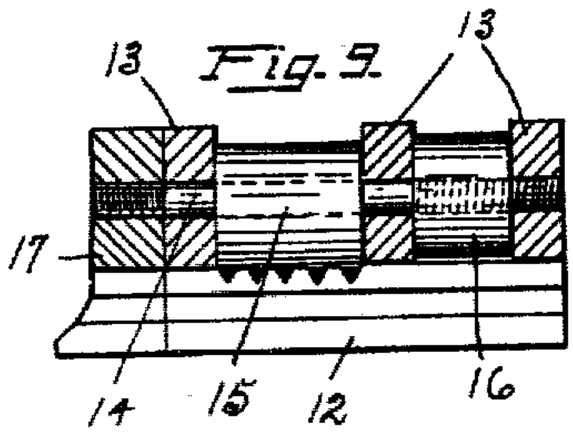


Fig. 9.



WITNESSES:
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D. C. Walker

INVENTOR:
Geo. M. Durell,
By Brown & Owen
His attorneys

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2 SHEETS—SHEET 2.

Fig. 10.

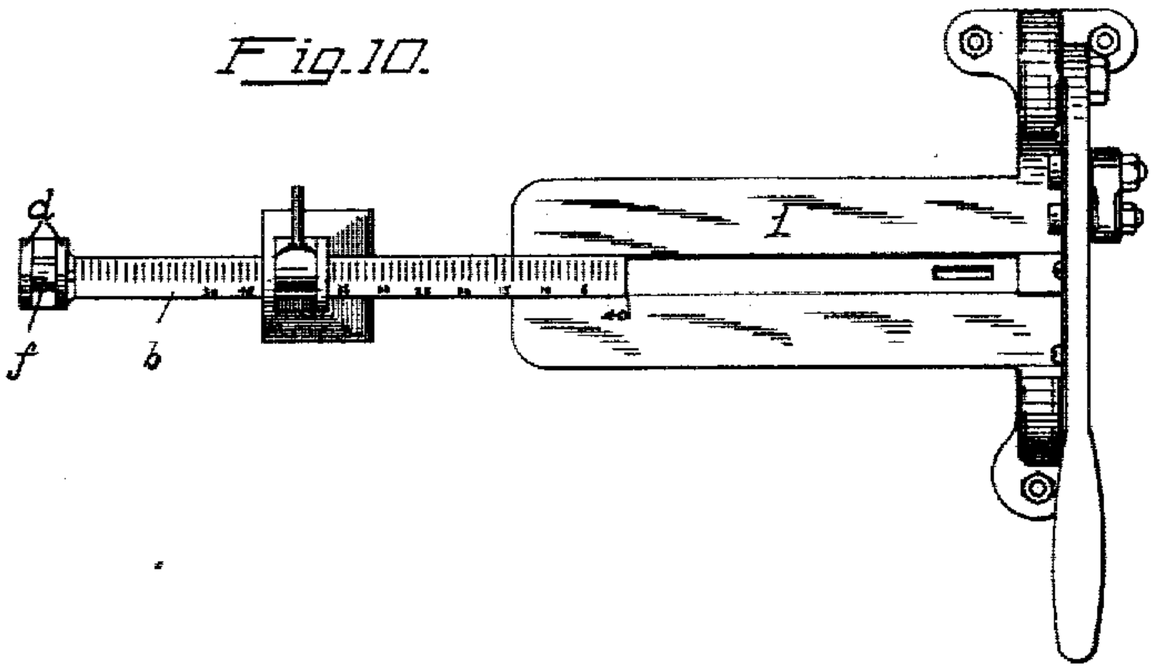


Fig. 11.

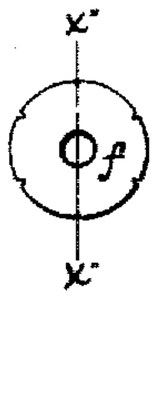


Fig. 12.

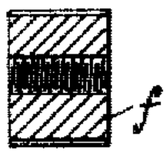


Fig. 13.

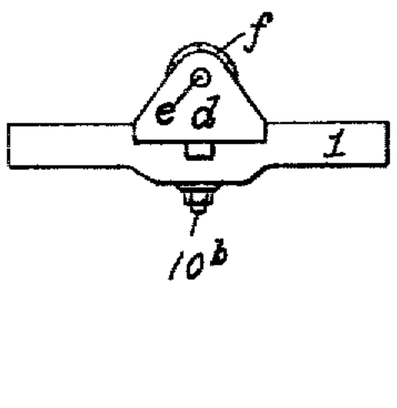


Fig. 14.

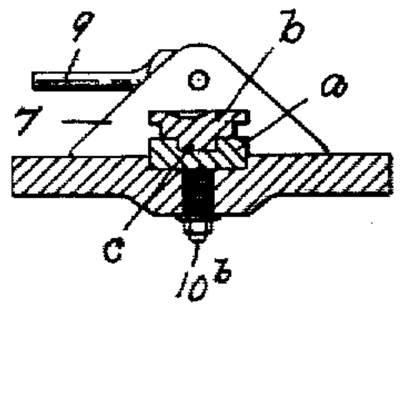


Fig. 15.

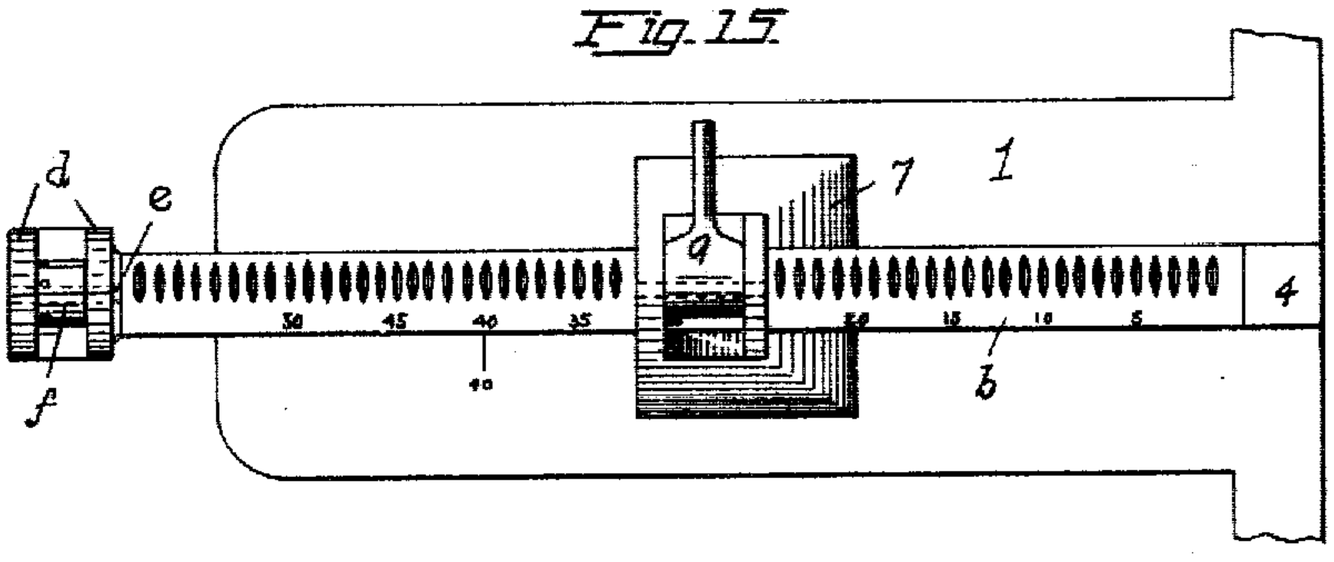
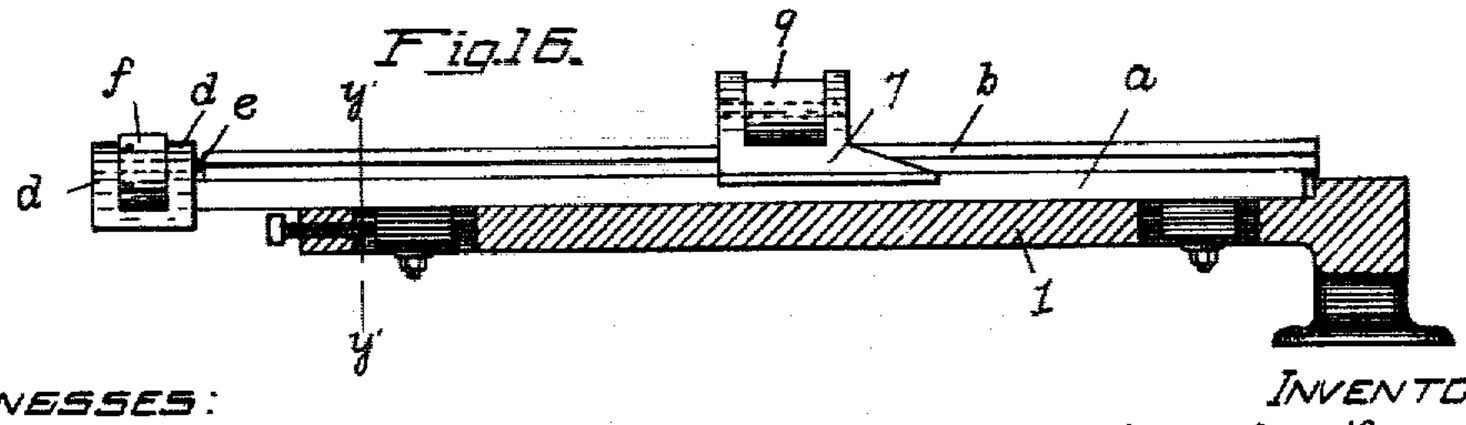


Fig. 16.



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INVENTOR:

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UNITED STATES PATENT OFFICE.

GEORGE M. DURELL, OF TOLEDO, OHIO.

GAGE ATTACHMENT FOR LEAD-CUTTERS, &c.

Specification of Letters Patent. Patented March 6, 1906.

Application filed March 1, 1905. Serial No. 247,888.

To all whom it may concern:

Be it known that I, GEORGE M. DURELL, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Gage Attachments for Lead-Cutters, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to adjustable gage attachments for use on lead-cutters or the class of trimmers and rotary saws employed by printers for the accurate trimming or cutting of leads, cuts, rules, or the like.

The object of my invention is to provide an attachment of this class that is simple and efficient in its construction and operation and has its gage adapted for quick adjustment over wide spaces and also adjustable to points.

A further object of my invention is the provision of a gage attachment having its guiding member adjustable longitudinally of the bed of the machine to permit an adjustment of the graduation-scale with respect to the cutting element to compensate for wear or springing of the shearing parts and also to permit the capacity of the machine to be doubled.

The invention is fully described in the following specification and shown in the accompanying drawings, in which—

Figure 1 is a plan view of the bed of a cutter with one form of my attachment mounted thereon. Figs. 2 and 3 are sectional views taken, respectively, on the dotted lines x x and y y in Fig. 1. Fig. 4 is a side elevation of the cam-locking lever. Fig. 5 is a plan view of the cutter-bed with the gage attachment removed. Fig. 6 is an end view of the cam-locking lever. Fig. 7 is a rear end elevation of the gage-block shown in Fig. 1. Fig. 8 is a cross-section taken on the dotted line x' x' in Fig. 7. Fig. 9 is a modification of the gage-block, the same being provided with independent point-adjusting means. Fig. 10 is a plan of a lead-cutter with the guide and gage extended longitudinally of its bed. Figs. 11 and 12 are details of one form of point-adjusting wheel of my invention. Fig. 13 is a rear end view of Figs. 15 and 16. Fig. 14 is a cross-section taken on the dotted line y' y' in Fig. 16; and Fig. 15 is a plan view, and Fig. 16 a central longitudinal section, of a modified form of my invention with point-adjusting attachment.

Referring to the several figures of the drawings, 1 represents the bed of a cutting or trimming device to which my invention is adapted to be attached, the right-hand edge thereof being the point from which measurement is taken. Provided longitudinally of the bed is a groove or guideway 2 for receiving the guide bar or strip 3 of my invention and in which it is longitudinally adjustable, as hereinafter described. The forward movement of the guide-strip 3 is limited by an endwise-abutting portion 4, which is formed at the extreme forward end of the bed in the path of the groove 2, as shown.

In Figs. 1, 2, and 3 the guide-strip 3 is shown as being provided on each side near its upper edges with a groove 5, extending throughout its length, and on its upper surface with equidistant notches 6, which are preferably spaced one nonpareil apart. Scale-numerals are placed at one side of the notches 6, as shown, to assist in the ready finding of the proper length of adjustment of the gage-block. Mounted to slide longitudinally on the guide-strip 3 is the gage-block 7, which has its under surface grooved or slotted to seat over the guide-strip 3 and the walls of such grooved or slotted portion formed with tongues or ribs 7^a for operating within the grooves 5 of the guide-strip. The gage-block 7 has its base in engagement with the surface of the bed 1 and is formed on its upper surface with the two vertical transversely-disposed bearing-lugs 8, which are positioned directly over the guide-strip 3 and have the cam-lever 9 pivotally mounted therein. The forward bearing-lug acts as the pointer for the gage-block and is formed a distance back from the forward edge of the base of the block 7 equal to the distance of the first graduation-mark from the front or shearing edge of the bed 1, thus adapting the forward edge of said lug to register with the first point on the face of the guide-strip 3 when the forward edge of the base of the gage is placed flush with the edge of the bed. In order to lock the gage-block in adjusted position, the cam-surface of the lever is formed with teeth, as shown at 9^a,

for meshing with the graduation-notches 6 when the lever-handle is pressed down, thus enabling the gage-block 7 to be quickly moved over a wide space on the guide-strip 3 and then locked in adjusted position by a manipulation of the lever 9. The guide-strip 3 is provided on its under surface with the elongated lugs 10, which are adapted to project within the elongated slots 10^a, formed through the bottom of the groove 2 of the bed and to have a limited longitudinal movement therein to permit of a slight longitudinal adjustment of the guide-strip 3 when it is desired to readjust the point of commencement of the graduation-marks on said strip with respect to the shearing edge of the bed, thus compensating for any wear on the parts and springing of the knife and permitting accurate measurement at all times. This adjustment is aided by a bolt 11, which is threaded in the rear of the bed 1 and has its inner end in engagement with the rear lug 10 of the guide-strip. The strip 3 is rigidly retained in adjusted position by means of a stem 10^b, projecting downwardly from each of the lugs 10 and having a flanged nut or a nut and washer threaded to its end for engaging the outer edges of the slot 10^a. If it is desired to use a micrometer-gage on this construction of my invention, the gage-block shown in Fig. 9 may be substituted for the gage-block above described. In this figure, 12 represents the base portion of the gage-block, and 13 three spaced bearing-lugs, which have the spindle or stem 14 mounted therein. Mounted on the spindle or stem 14 between the bearing-lugs 13 are the cam-lever 15 for engaging the guide-strip 3 and locking the gage-block against movement thereon and the micrometer or point-adjusting wheel 16, which is threaded to the stem and adapted to impart a longitudinal movement thereto when turned. At the forward end of the gage-block is disposed the separately-movable piece 17, which is secured in suitable manner to the projecting end of the stem 14 and adapted to receive a movement independent of the block 12 when the point-wheel 16 is turned. The purpose of the micrometer or point-wheel is to permit the gage edge of the block 12 to be adjusted to a fraction of one of the points marked on the guide-strip 3, as the movable piece 17 may be adjusted by a turning of the wheel 16 to register the desired fraction of the space between two of the notches on the guide-strip, thus permitting accurate adjustment of the gage, which is very important in the use of such machines. The surface of the point-wheel may be graduated to indicate the degree of adjustment.

In the remaining figures of the drawings are shown different views of a modification of the point-adjusting means. In this construction the guide-strip for the gage-block, the form of which latter is the same as in Fig. 1, comprises the base-piece *a* and the independently-movable capping-strip *b*. The base-piece is mounted on and made longitudinally adjustable of the bed 1 in the same manner as the guide-strip 3 and is shown as having its upper surface longitudinally grooved for receiving the tongue or rib *c*, formed on the under surface of the strip *b*. The strip *b* is suitably grooved on its sides to receive the tongues or ribs 7^a of the gage-block and has its upper surface graduated in a manner similar to the guide-strip 3. At the rear end of the base-piece *a* is secured or formed the vertical transversely-disposed bearing-lugs *d*, which are suitably apertured to receive the stem *e*, projecting longitudinally from the rear end of the top strip *b*. Threaded to the stem *e* between the lugs *d* is a micrometer or point-wheel *f*, which has its surface provided with six marks or graduations to designate the six points of a nonpariel should a nonpareil graduation be employed on the guide-strip. It will thus be seen that when the gage-block has been adjusted to the desired number of nonpareils or other width of graduations on the guide-strip it may quickly be moved to the desired point of intermediate adjustment by turning the point-wheel *f* to indicate the point desired, thus imparting the required movement to the gage-block, which is locked to the top strip *b*.

In either construction of my invention the capacity of the machine to which it is attached may be doubled by removing the guide-strip from the positions shown in Figs. 1, 3, 15, and 16 and securely fastening the forward lug 10 thereof within the rear slot 10^a of the bed 1, as shown in Fig. 10. When the guide-strip is thus extended, the front end thereof may be made to register with a point—say forty nonpareils—from the forward end of the bed 1, as shown in Fig. 10, and the graduation on the strip continued from such point. It will thus be seen that the gage-block of my invention may be quickly moved over wide spaces and then rigidly locked in adjusted position to the guide-strip, that the micrometer attachment enables it to be accurately adjusted to points intermediate of the graduations on the guide-strip, that the guide-strip is longitudinally movable to permit its position with respect to the cutting element to be changed to compensate for wear on the shearing parts or a springing of the knife, thus permitting accurate work on old cutters, and that the guide-strip and gage-block may be extended longitudinally of the bed of the machine to double or increase the capacity thereof.

It is obvious that such changes in the form, proportion, and minor details of construction of the parts as fairly fall within the scope of my invention may be made without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the class described, the combination with the bed thereof having a slot provided therein, and a cutting element mounted at one end of the bed, of a guide-strip adjustable toward and away from the cutting element and having graduations thereon, means projecting within the slot in the bed for locking it in adjusted position, a gage-block mounted to be moved longitudinally of said guide-strip, means for locking the gage-block in adjusted position, and means for adjusting the gage-block to points intermediate the graduations on the guide-strip.

2. In a machine of the class described, the combination with the bed thereof, of a graduated guide-strip mounted on the bed to be moved longitudinally thereof, a gage-block longitudinally movable on said strip, and means for locking said block in adjusted position.

3. In a machine of the class described, the combination with the bed thereof, of a longitudinally-adjustable guide-strip mounted on said bed and having its surface graduated, a gage-block movable on said guide-strip, means for locking the block to said guide-strip, in adjusted position, and means for adjusting the gage-block to points intermediate of the graduations on the guide-strip.

4. In a machine of the class described, the combination with the bed thereof having elongated slots provided therein, of a longitudinally-adjustable guide-strip having lugs formed on its under surface and projecting within said slots, means for locking the guide-strip in adjusted position, a gage-block adjustably mounted on said guide-strip, and a cam-lever on said block for locking it to said strip in adjusted position.

5. In a machine of the class described, the combination with the bed thereof having slots provided therein, of a longitudinally-adjustable guide-strip having its upper surface graduated and projecting within said slots, means for locking the guide-strip in adjusted position, a gage-block mounted to be moved longitudinally of said guide-strip, a cam-lever on said block for locking it in adjusted position, and means for adjusting the gage-block to points intermediate the graduations on the guide-strip.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

GEORGE M. DURELL.

Witnesses:
C. W. OWEN,
MARY I. SHAY.