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G. M. DURELL.
GAGE ATTACHMENT FOR LEAD CUTTERS.
APPLICATION FILED JULY 25, 1908.

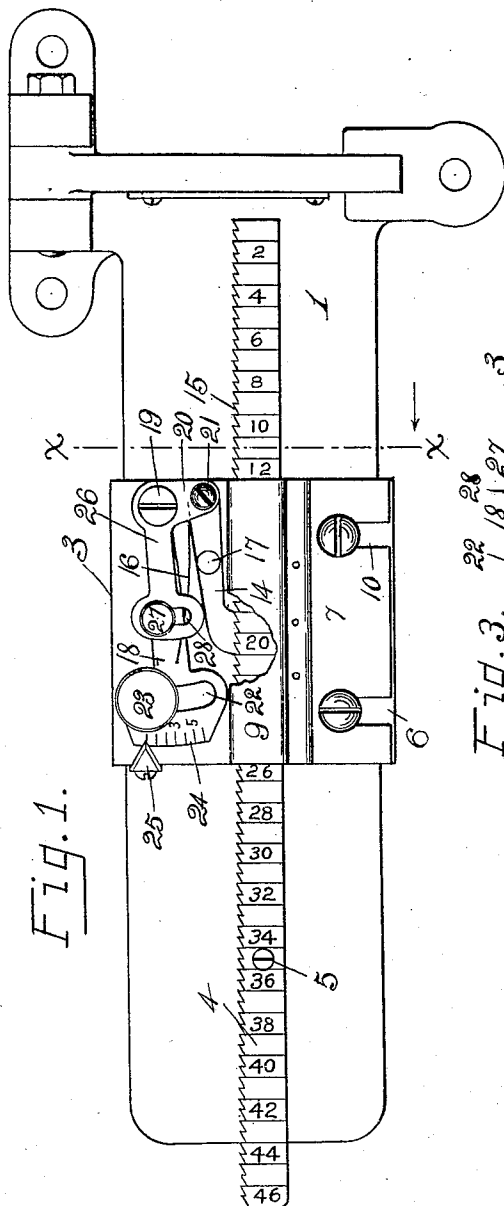


Fig. 1.

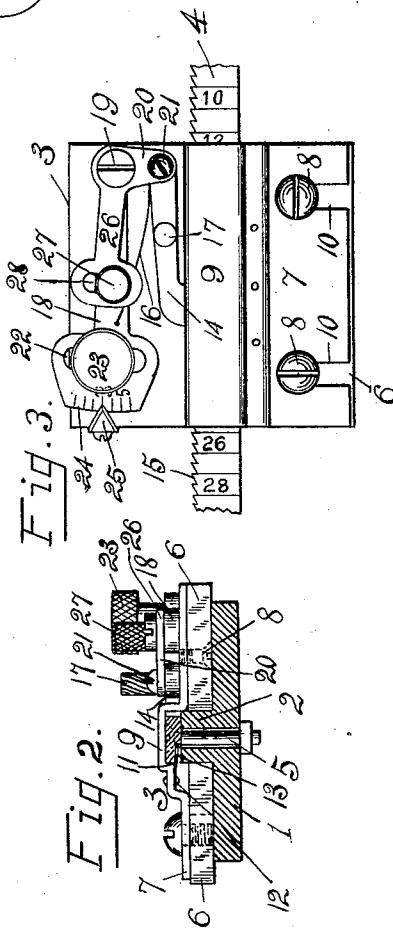


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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GAGE ATTACHMENT FOR LEAD-CUTTERS.

No. 860,739.

Specification of Letters Patent.

Patented July 23, 1907.

Application filed July 25, 1906. Serial No. 327,666.

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 a certain new and useful Improved Gage Attachment 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 figures of reference marked thereon, which form a part of this specification.

My invention relates to printers' appliances and particularly to gage attachments for use on lead-cutters, trimmers, rotary saws, or the like by means of which the cutting or trimming of leads, cuts, rules, or other similar article is effected.

The primary object of my invention is the provision of a gage-block of the class described, which is of simple and economical construction, and capable of easy and accurate adjustment relative to its guide-strip, whereby the block may be set to points and also adjusted to compensate for a wearing or springing of the cutting parts.

A further object of the invention is the provision of a gage-block of this class which can be easily fitted to any of the ordinary styles of cutters or trimmers on the market without changing the construction thereof, thus enabling the gage attachments to be sold separately from or in connection with the cutters or trimmers as desired.

The operation, construction and arrangement of the parts of the invention are fully described in the following specification and illustrated in the accompanying drawings, in which,—

Figure 1 is a plan view of the gage-attachment comprising my invention associated with an ordinary form of lead-cutter. Fig. 2 is a cross-section taken on the dotted line *xx* in Fig. 1, and Fig. 3 is a plan view of the gage attachment with the adjusting parts in slightly different position than that shown in Fig. 1.

Referring to the drawings, 1 indicates the bed of a lead-cutter or trimmer, which is formed longitudinally on its upper surface with the customary guide-rib 2 on which the gage-block of the ordinary cutter is mounted for movement.

The gage-attachment constituting the features of my invention consist of the gage-block 3 and the graduated guide-strip 4 on which the block rides, said strip being adapted to be secured to the top of the guide-rib 2 of the cutter-bed by bolts 5 or in any other suitable manner. The block 3 is shown as comprising the two base plates 6, which are disposed on opposite sides of the rib 2 of the bed in sliding contact therewith, and the top-plate 7,

which connects the plates 6, being secured thereto by screws 8 or in any other suitable manner, and has the portion thereof disposed over the rib 2 raised, as at 9, to receive the guide-strip 4 as shown. In order to adapt the block 3 to fit the varying sizes of ribs 2 of different cutters one base-plate 6 is made adjustable relative to the top-plate 7 due to the screws 8 passing through laterally-disposed slots 10 in the plate 7. A flat spring 11 is secured to the plate 7 of the block, as at 12, and has its thrust against the underside of a milled-out portion 13 of the guide-strip 4, thus retaining the block in yielding contact with the cutter-bed.

The block 3 is locked in adjusted position against movement outwardly from the shearing parts of the cutter by a dog 14, which is carried by the block 3 at one side of the raised portion 9 thereof and has its free end working through a slot (not shown) in the side of said raised portion and provided with teeth for coacting with the notched or toothed edge 15 of the guide-strip. This dog is actuated by a spring 16 to normally engage the guide-strip 4, and is provided on its upper surface with a stud or finger-piece 17 by means of which the dog may be held out of engagement with the guide-strip during a movement of the block longitudinally thereof to find a proper adjustment.

A simple and efficient point adjustment of the gage-block 3 relative to the guide-strip 4 is accomplished by pivoting, what may be termed, a point-bar 18 to the block, as at 19, and providing the fulcrum end of this bar with a relatively fixed angle arm 20, which carries at its outer end the pivot 21 upon which the dog 14 operates, thus causing an oscillation of the bar 18 to effect a change of the fulcrum point of the dog relative to the gage-block and a consequent movement of the block provided the dog is in engagement with the guide-strip, as illustrated by the relative positions of like parts in Figs. 1 and 3. The bar 18 has its outer end enlarged and provided with a transverse slot 22 through which the binding post 23 operates and its outer edge graduated, as at 24, to designate points or other desired scale, which cooperate with a finger fixed to the block to determine the correct position of adjustment of the block.

In addition to the adjustment of the dog 14 effected by a movement of the point-bar 18, an independent adjustment thereof is also effected by the provision on the bar 18 of the relatively movable bell-crank lever 26, which is fulcrumed to the pin or screw 19 carrying the bar 18 and has its short arm forming the arm 20 of the point-bar which connects with the dog. This lever is adjustably fixed to the bar 18 by a screw or binding post 27 passing through a transverse slot 28 therein and threading to the point-bar. The binding-post 27 is preferably provided with a knurled head, as is also the

binding-post 23, and it serves as a finger-hold for moving the point-bar when the post 23 is loosened. The purpose of the independent adjustment rendered possible by the bell-lever 26 is to effect an adjustment of the dog 14 relative to the gage-block whereby to compensate for wear or a springing of the shearing parts of the cutter or trimmer, which would cause an inaccuracy in the cutting. This is a very important feature of my invention as all cutters become more or less inaccurate according to the length or nature of their use, and are therefore impractical to use.

The operation of my invention is as follows:—To adjust the gage-block longitudinally of the guide-strip to suit the length in which the lead or other article is to be cut, the operator releases the dog from engagement with the guide-strip by an outward pressure with his thumb on the stud 17 thereon and slides the block to the desired position and then releases the dog to engage the teeth in the guide-strip. If it is now desired to set the block to points the binding-post or set-screw 23 is loosened and the point-bar 18 turned on its fulcrum 19 until the index finger or finder 25 registers with the desired point graduation on the scale 24. The movement of the bar 18 causes a slight movement of the dog 14 longitudinally of the guide-strip, due to the dog being carried at the free end of the arm 20 projecting from the fulcrum end of said bar. Should it become desirable to change the fulcrum point of the dog 14 relative to the point-bar 18 so as to compensate for a wearing or springing of the shearing parts, thus making a positive accuracy possible at all times, the bell-crank lever 26, which has a common fulcrum with the bar 18 and its short arm forming the connection 20 between the dog and bar, is adjusted relative to the point-bar and then fixed in adjusted position thereto by a tightening of the screw 27. It is thus apparent that the gage-block may be easily and quickly adjusted longitudinally of the guide-strip and to points intermediate the stops necessitated by the formation of the teeth thereon, and that an adjustment independent of the point adjustment may also be effected to allow for wear of the shearing parts however slight it may be. It is also apparent that my attachment is not restricted in its use to any particular style or make of cutter or trimmer, but may be substituted for the gage-block of any of the ordinary makes of cutters or trimmers, thus enabling all such machines not equipped with wear compensating or point adjustment devices to be provided with my attachment.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

1. A guide-strip, a gage-block, a member carried by the block for engagement with the strip, an angled lever carried by the block and having connection with said member whereby an oscillation of the lever effects an adjustment of the member relative to the block.

2. A gage-block having associated therewith an oscillatory member, and a dog carried by said member for engagement with a guide-strip and movable relative to the block by a movement of the oscillatory member.

3. A gage-block having associated therewith a point-bar, a member carried thereby for engagement with a guide-strip and movable relative to the block by a movement of the point-bar whereby to effect a predetermined adjustment of the block relative to the guide-strip.

4. A toothed guide-strip, a gage-block associated therewith, a point-bar adjustably carried by the gage-block, a dog having connection with the point-bar to effect a movement of its fulcrum relative to the block when the bar is moved and adapted to normally engage the teeth of the guide-strip.

5. A gage-block, an adjustable point-bar carried thereby, a member adjustably fixed to said bar, and a dog carried by said member for engagement with a guiding element.

6. A gage-block having a bar and a lever member carried by a common pivot thereon, the lever member being adjustable but normally fixed relative to the bar, and the bar being adjustable relative to the block, and a dog pivoted to the lever member and adapted to have engagement with an associated guide-strip.

7. A guide-strip, a gage-block movable thereon, a bar adjustably carried by the block, means for retaining the bar in adjusted position, a member for engaging with the guide-strip and movable by a movement of said bar to effect a predetermined movement of the block relative thereto.

8. A guide-strip, a gage-block movable thereon, a bar adjustably carried by the block, means for locking it in adjusted position, a dog for engagement with the guide-strip adapted to have its fulcrum moved by an adjustment of the bar, and means for effecting an adjustment of the dog independently of the bar.

9. A gage-block provided with a pivoted bar having a slot therein and a graduated part cooperating with a fixed point on the block, a lever member mounted on the pivot with said bar and adjustable relative thereto, means for retaining the bar in adjusted position, means for retaining the bar and member in relative adjustment, and a dog carried by the lever member for coacting with a guiding member with which the block is associated.

10. The combination with a cutter-bed having a guiding-rib thereon, of a guide-strip fixed to said rib and having one side longitudinally milled, a gage-block movable over said guide-strip and rib, and a resilient member carried by the block and cooperating with the milled portion of the guide-strip to retain the block in yielding contact with the bed surface.

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,
HAZEL B. HIETT.