

UNITED STATES PATENT OFFICE.

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GAGE FOR PAPER-CUTTERS, &c.

SPECIFICATION forming part of Letters Patent No. 745,531, dated December 1, 1903.

Application filed April 7, 1902. Serial No. 101,670. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SHOLES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gages for Paper-Cutters, &c., of which the following is a full, clear, and exact specification.

My invention relates to gages for truing up the edges of sheets of paper and feeding the same to the knives of paper-cutters or for performing a similar office on other machines where a gage of this character is necessary or desired; and my invention has for its primary object to provide means whereby the gage may be turned and adjusted on its own axis with great nicety with relation to the knife or other device in conjunction with which it is used.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a vertical sectional view of the table, showing the gage in transverse section. Fig. 2 is a fragmentary plan view thereof. Fig. 3 is an enlarged detail sectional view of the adjusting-nut or eccentric, its taper seat, and holding-bolt; and Fig. 4 is a view of the lower or inner end of such adjusting-nut.

For the purpose of illustrating the usefulness of my invention I have shown it as applied to the table and other mechanism of a paper-cutting machine; but it will nevertheless be understood that it is equally applicable to any other apparatus employing a gage for adjusting material to be cut or operated upon.

1 is the table, and 2 represents the standards in which the knife (not shown) rises and falls, 3 being the shaft, having crank-wheel 4 and screw 5, whereby the nut 6, which actuates the slide 7, is carried back and forth along groove 8, in which slide 7 runs, all as usual in the ordinary paper-cutter.

9 represents the gage-bar, which rests flat upon table 1 across slot 8 and which is usually

secured to the upper face of slide 7. The bar itself may be of the usual or any suitable form and construction. This bar being of considerable length and its fastening devices being located at its mid-length and secured to the slide 7 at a great distance from the ends of the bar, it will be understood that the least lost motion in such fastening devices will be very materially multiplied at the ends of the bar and consequently throw the paper a considerable degree out of true. To these fastening devices my invention principally relates. 10 is a taper bolt which is seated in a suitable taper seat or bore 11 in the gage-bar 9 and is threaded at its lower end in the slide 7, the purpose of the taper being to take up wear and lost motion while giving the gage-bar pivotal connection with the slide when not otherwise restrained. In order that the gage-bar may be set with great nicety at the desired angle with relation to the slot 8 or to the knife and then locked rigidly against lost motion, a second taper bolt 12 is employed, which passes upwardly through the slide 7 and has a suitable taper socket or seat 13 formed in the slide, so as to compensate for lost motion and wear, and the upper end of this bolt is threaded in the lower end of a taper nut 14, which is seated in a taper seat or socket 15 in the slide. Hence by turning the bolt 12 and nut 14 relatively the gage-bar may be rigidly locked with relation to the slide 7 or loosened, as desired. In order, however, that the ends of the gage-bar may be shifted with great nicety, and thereby adjust it with relation to the knife, the taper nut 14 constitutes an eccentric, the threaded hole 16 for the reception of the taper bolt 12 being arranged to one side of the center, as clearly shown in Fig. 4, so that by rotating the nut 14 in the proper direction the ends of the gage-bar may be shifted forwardly or backwardly, as desired, and when properly adjusted may be locked in place by tightening the taper bolts 10 12.

It is of course apparent that if the eccentric and pivot fitted their sockets with absolute accuracy and there was absolutely no give or lost motion between these parts the rotation of the eccentric would be impossible; but it is found in practice to be unnecessary to make special provision for the independent rotation of the eccentric, inasmuch as the mere

lost motion and the straining of the parts, which inevitably occurs between the faces of the pivot and the eccentric at their sockets, however nicely they be fitted, is sufficient to allow for the fine adjustment of the extremities of the gage-bar by the rotation of the eccentric after the bar has been adjusted as accurately as possible by hand, it being understood that a movement which is so slight at the eccentric as to be incapable of measurement produces a considerable variation at the distant ends of the gage-bar.

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

1. In a device for the purpose described, the combination with a gage-bar, a support therefor to which said bar has pivotal connection at one point, and a rotatable clamping means connecting said bar to said support at another point and having an eccentric operatively related to said bar for shifting the ends of the latter, substantially as set forth.

2. In a device for the purpose described the combination of a gage-bar, a support therefor to which said bar has pivotal connection at one point, an eccentric seated in said bar at another point and clamping means connecting said eccentric with said support, substantially as set forth.

3. In a device for the purpose described the combination of a gage-bar, a support therefor

to which said bar has pivotal connection at one point, a tapered eccentric seated in said bar at another point and clamping means connecting said eccentric with said support, substantially as set forth.

4. In a device for the purpose described the combination of a gage-bar, a support therefor, a taper bolt seated in said bar and pivoting the latter to said support, and clamping means comprising an eccentric operatively related to said bar and connecting the bar to said support at another point, substantially as set forth.

5. In a device for the purpose described the combination of a gage-bar, a support therefor to which said bar is pivotally connected, an eccentric seated in said bar and a taper bolt passing through said support and engaging with said eccentric, substantially as set forth.

6. In a device for the purpose described the combination of a gage-bar, a support therefor to which said bar is pivotally connected at one point, a taper nut seated in said bar at another point and a taper bolt passing through said support and engaging in said nut to one side of the center thereof, substantially as set forth.

FREDERICK SHOLES.

Witnesses:

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