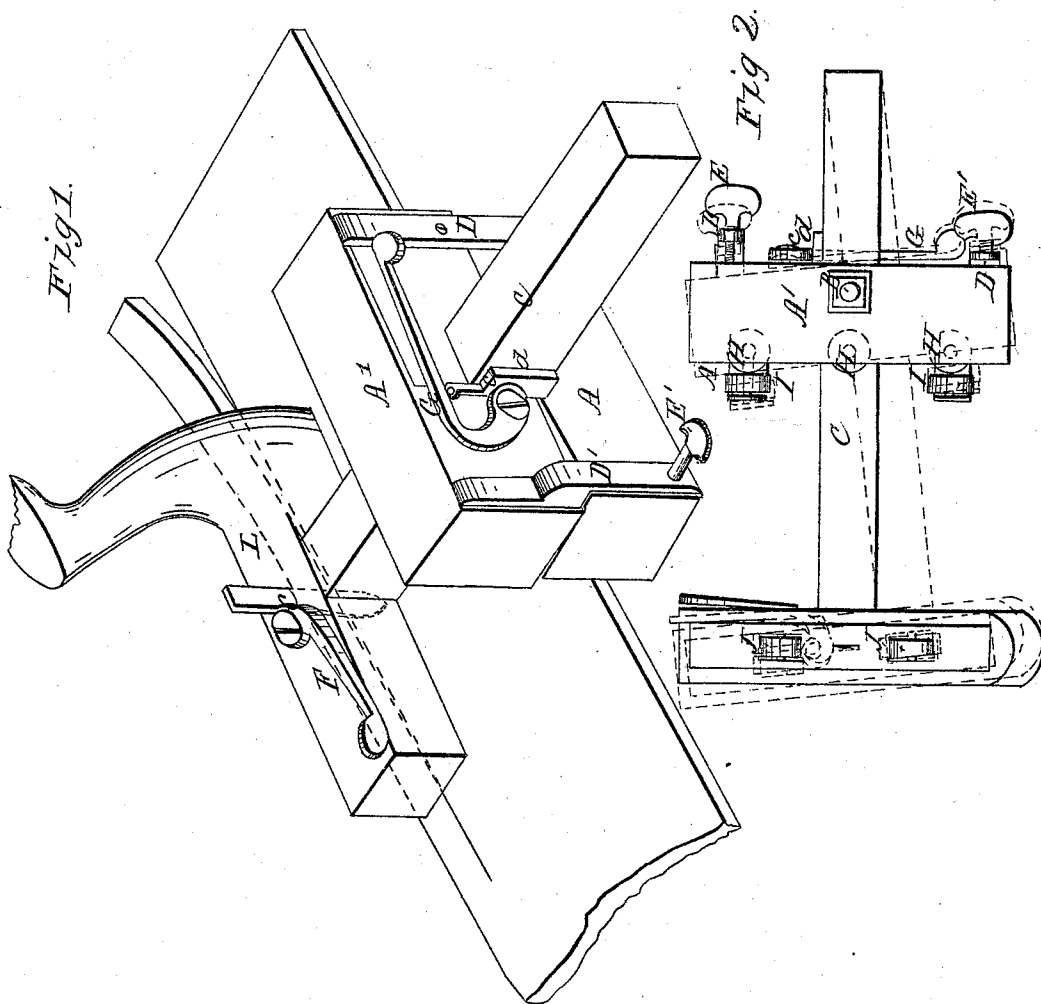


J. Ballard,

Carpenter's Gage.

N^o 10,799.

Patented Apr. 18, 1854.



UNITED STATES PATENT OFFICE.

JAMES BALLARD, OF ASHTABULA, OHIO.

SLITTING-GAGE.

Specification of Letters Patent No. 10,799, dated April 18, 1854.

To all whom it may concern:

Be it known that I, JAMES BALLARD, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented a new and useful Improvement in Slitting-Gages, Used by Carpenters, Cabinet-Makers, and others; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1, is a perspective view of a slitting gage, having my improvements applied to it, and in operation, the manner in which it is caused to adjust itself, so as to cut against the grain of the wood, being shown. Fig. 2, is an inverted plan of the same, showing the arrangement of the rollers, and the two positions which the gage is capable of assuming—the red lines showing the position it assumes when the knife is caused to have a drawing cut so as to cut against the grain of the wood, and the black lines, the position it assumes when the knife is set to cut with the grain of the wood.

Similar letters of reference in each of the two figures refer to corresponding parts.

The invention relates to a new and utile method of preventing the slitting gage used by carpenters, cabinet makers, and others, running off the board, or cutting in the direction of the grain of the wood, and thereby spoiling the article being operated upon. It also relates to a new and useful method of securing the cutter in the stock of the gage, and likewise of securing the head to the arm or bar on which it slides, and further to a new arrangement of the friction rollers, for taking off the friction from the face and bottom of the gage, in moving from one end of the board to the other.

My invention consists, 1st, in making the gage head in two sections, and with back stops and set screws, and uniting them together at the center of their length, by a fulcrum pin, so that they may turn freely and independent of each other, and the lower section adjust itself horizontally on said fulcrum to a position in line with the straight edge of the board at the moment the cutter attempts to take a course in line with the cross grain of the wood, and thereby cause the upper section to which the knife stock is connected, to assume a position slightly out of a line at right angles to the board, and the cutter consequently

to be turned slightly, or accordingly as the set screws may be set, and caused to have a slight drawing cut, which prevents it from running off the board, or cutting in line with the grain of the wood, and thereby spoiling the work.

My invention consists, 2d, in so arranging friction rollers, that they will take off the friction from the bar on which the gage slides, and also from the bottom of the cutter stock, and face of the lower section of the gage head.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation more minutely.

A, A', in the accompanying drawing represent the gage head, made in two parts, and united together by the fulcrum pin, B. The upper section, A', has a hole cut horizontally through it, for the bar or arm, C, on which it slides, to pass through, as shown in Fig. 1. The fulcrum pin, B, is secured in the center of the length of the bottom of the upper section, and passed through the lower section, and has a nut screwed on its extremity, which prevents the two sections getting separated: the two sections turn freely and independent of each other, as indicated in the drawing.

D, D', are the back stops attached fast to the upper section—one of these stops—that D, is made of such shape, that it allows of the upper section moving to a considerable extent, out of a line at right angles with the board being slit.

E, E', are the set screws for regulating the set of the upper section—these set screws pass through the lower ends of the stops, D, D', and rest in the same. By the set screw, E', the upper section can be set to the position shown in red, in Fig. 2, and thus the cutter can be turned so as to have a drawing cut, and be prevented from cutting in line with the grain of the wood. The set screws may be set so as to retain the upper section fixed, or they may be unscrewed so that the upper section have freedom to move from the position shown in red, to the position in black, in Fig. 2—during which changes the lower section always retains a position parallel with the edge of the board. Heretofore, gage heads have been made stationary, and in one piece, and when the gage having such a head, is used for slitting boards which leave their fibers

running into one another, a very great loss of time and labor, and stuff, is experienced from the knife cutting off or taking a course in line with the grain of the wood. This
5 difficulty I effectually overcome, as must be evident from the drawing and foregoing description, for I can set my slitting tool, so as to give it any amount of draw, and at the same time always cut the stuff of an equal
10 width its whole length, as the distance from the fulcrum to the cutter is always the same, no matter what draw the knife may have, owing to their being in line with each other.

F, G, are the eccentric levers for locking
15 the slitting cutter, and gage head in their appropriate places—the lever, F, which is attached by its fulcrum to the center stock, L, bears directly on the knife, and by reason of its eccentricity at, *c*, it bites very
20 rigidly upon the same, and holds it effectually in place. The lever, G, bears upon a swinging plate, *d*, which is hung to the upper section, A', and bears against the side of the bar, C, in a similar manner as F,
25 bears against the knife, and locks the said section firmly to the bar, C, as will be evident from the drawing, Fig. 1. By means of these eccentric levers, the cutter, or head, can be adjusted in an instant, and again se-
30 cured.

H, I, J, are the friction rollers—three, lettered, H, are set vertically in the face of the lower section, A, so as to bear against the edge of the board; and two I, are arranged horizontally on shafts projecting
35 from the face of the upper section, A', so as to bear on the top, and near the inner edge of the board, and thereby take off the friction from the bar, C; and two (J) are arranged under the cutter stock, L, so as to
40 bear on the top of the board, and thereby take off the friction of the stock, L. By this arrangement of rollers, every part of the gage is prevented from coming in contact with the board.
45

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

1. The slitting gage head, made in two sections, with or without friction rollers—when said sections are united together at
50 the center of their length, by a pin, B, or its equivalent, substantially as, and for the purpose herein described.

2. I likewise claim the arrangement of the friction rollers, H, I, J, for the purpose
55 herein described.

JAMES BALLARD.

Witnesses:

JNO. W. HAMILTON,
I. W. COOMBS.