

G. WATKINS & S. M. TAYLOR.
GAGE FOR CUTTER HEADS.
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1,026,136.

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Fig. 1

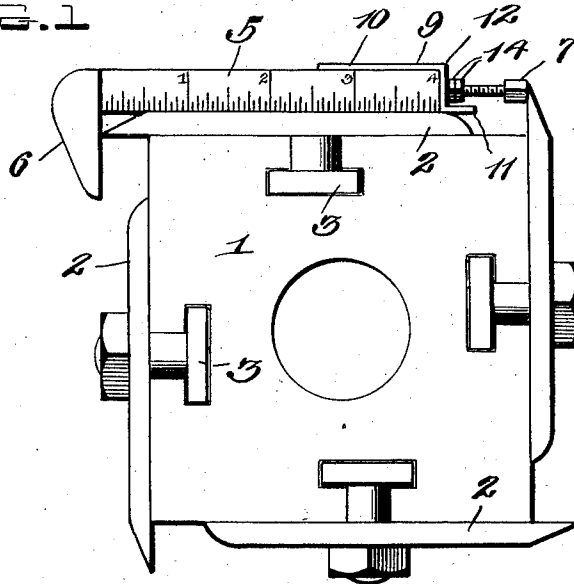


Fig. 2

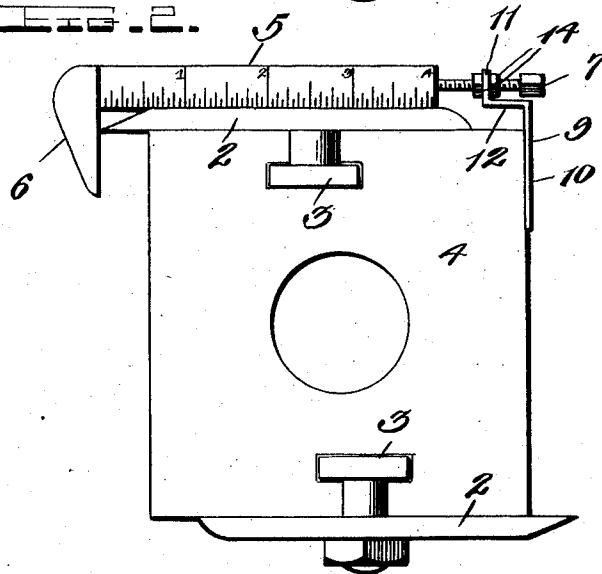
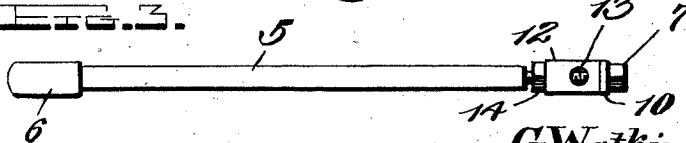


Fig. 3



Witnesses

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GAGE FOR CUTTER-HEADS.

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To all whom it may concern:

Be it known that we, GRANT WATKINS and SAMUEL M. TAYLOR, citizens of the United States, residing at Truckee, in the county of Nevada and State of California, have invented certain new and useful Improvements in Gages for Cutter-Heads, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in gages for setting the knives of cutter-heads such as are used on woodworking machines.

This invention has for its object a simple and efficient device of this nature for quickly and accurately setting the knives in all the common forms of cutter-heads and also aims to generally improve this class of devices and to render them more useful and commercially desirable.

With this and other objects in view as will be more fully explained as the description proceeds, the invention consists in certain constructions and arrangements of parts that we shall hereinafter more fully describe and claim.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a bottom view of a cutter-head with four knives and our improved gage applied to set one of them. Fig. 2 is a view of our gage applied to a cutter-head with two knives. Fig. 3 is a bottom view of our gage showing it set for use with a cutter-head carrying two knives.

When cutter-heads are employed it is essential to good work to have the knives project equal distances beyond the lips of the head. The ordinary way of adjusting these knives is to use a rule. This method is only approximately accurate and not at all satisfactory for fine work. By using our improved gage the inaccuracies coincident with the common method of adjustment are avoided and a quick accurate setting of the knives is secured.

Corresponding and like parts are referred to in the following description and designated in the accompanying drawings by like reference characters.

Referring to the drawings the numeral 1 designates the cutter-head having the knives 2 which are secured in position by bolts 3. In Fig. 2 a slightly different type of cutter-

head designated 4, having only one pair of knives is shown.

The gage consists of a graduated shank 5, provided at one end with an arm 6, projecting laterally at right angles thereto and having adjustably positioned in the other end and projecting longitudinally thereto a hexagon headed screw 7. Loosely mounted on the screw is an angular member 9 comprising a long arm 10, a short arm 11 parallel to the long arm and an intermediate portion 12 bent at right angles to the two arms and connecting their inner ends. The arm 11 and intermediate portion 12 are provided with circular openings 13 for the passage of the screw 7. Jam nuts 14 are used to lock the member 9 or the screw 7, as the case may be, in a fixed position.

It will be noted that the length of the intermediate portion 12 of member 9 is equal to the width of shank 5 so that when the gage is used as shown in Fig. 1 the lower faces of shank 5 and arm 11 lie in the same plane.

When the gage is used on cutter-heads having four knives the angular member 9 is not needed so it is positioned on shank 5 as shown in Fig. 1 when the long arm 10 engages the top and the intermediate portion 12 the end of the shank and the screw 7 passes through the opening in the intermediate portion 12. When the gage is to be used on cutter-heads having only two knives the angular member is positioned as shown in Fig. 2. Here the long arm 10 engages the edge of the cutter-head and the screw 7 passes through the opening in short arm 11.

The operation of our gage in setting the knives when four are used is as follows: First secure one of the knives in position so that its edge will project beyond the lip of the cutter-head. Then apply our gage, with the angular member in inoperative position, to the edge of the cutter-head adjacent the knife edge, so that the head of screw 7 abuts against the knife and the shank 5 lies parallel to the bottom of the cutter-head. Now by adjusting screw 7 make the distance between the inner face of arm 6 and the cutter-head, as read on shank 5 equal to the distance which the knives are to project. Fix this adjustment by tightening jam nuts 14. Next the second knife is placed in the cutter-head under the gage and moved forward until its edge contacts with the inner face

of arm 6 of the gage while the head of screw 7 is held against the first mentioned knife. The knife is held in its adjusted position by bolt 3. The remaining knives are adjusted in the same manner using the last adjusted knife as a backing for screw 7 in adjusting the next knife.

To use our gage when only two knives are carried by the cutter-head it is necessary to have the angular member 9 in its operative position as shown in Figs. 2 and 3. This position of said member is obtained by passing screw 7 through the opening in the short arm 11. Having made the gage ready for use apply it to one of the cutter-head faces designed to carry a knife. Then with arm 10 of the angular member held securely against an adjacent face adjust the distance between arm 6 and the cutter-head as before described. Fix this adjustment by tightening the jam nuts 14 against arm 11. Now place a knife in position under the gage and slide it forward until its edge contacts with the inner face of arm 6 and tighten bolt 3. The second knife is set in the same manner using the same gage adjustment. It will also be apparent, that since the arm 6 forms a right angle with the graduated shank 5, the device may be used as a square for straightening the ends of boards and belts, and furthermore makes an efficient rule for measuring molding and finding the thickness of boards with rounded edges.

Having thus described our invention we claim:—

1. A gage of the class described consisting of a graduated shank provided at one end with a laterally projecting arm adapted to engage the knife edge, a screw adjustably positioned in the other end of the shank and projecting longitudinally therefrom, an angular member loosely mounted on

said screw and means for retaining the screw and angular member in a fixed position.

2. A gage for setting cutter-head knives consisting of a graduated shank provided at one end with a laterally projecting arm adapted to engage the edge of the knife, a screw adjustably positioned in the other end of the shank and projecting longitudinally therefrom, an angular member loosely mounted on said screw having a long arm, a short arm parallel thereto and an intermediate portion bent at right angles to the arms and connecting their inner ends, and means for securing said angular member in its adjusted position.

3. A gage for setting cutter-head knives consisting of a graduated shank provided at one end with a laterally projecting arm, a screw adjustably positioned in the other end of the shank and projecting longitudinally therefrom, an angular member positioned on said screw having a long arm, adapted when in operative position to engage the edge of the cutter-head, a short arm parallel to the long arm and an intermediate portion bent at right angles to the arms and connecting their inner ends, said intermediate portion and short arm of the angular member being provided with openings for the passage of said screw, and means for locking the screw and angular member in adjusted position.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

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SAMUEL M. TAYLOR.

Witnesses:

W. M. ENGLEBONT,
GEO. W. HART.