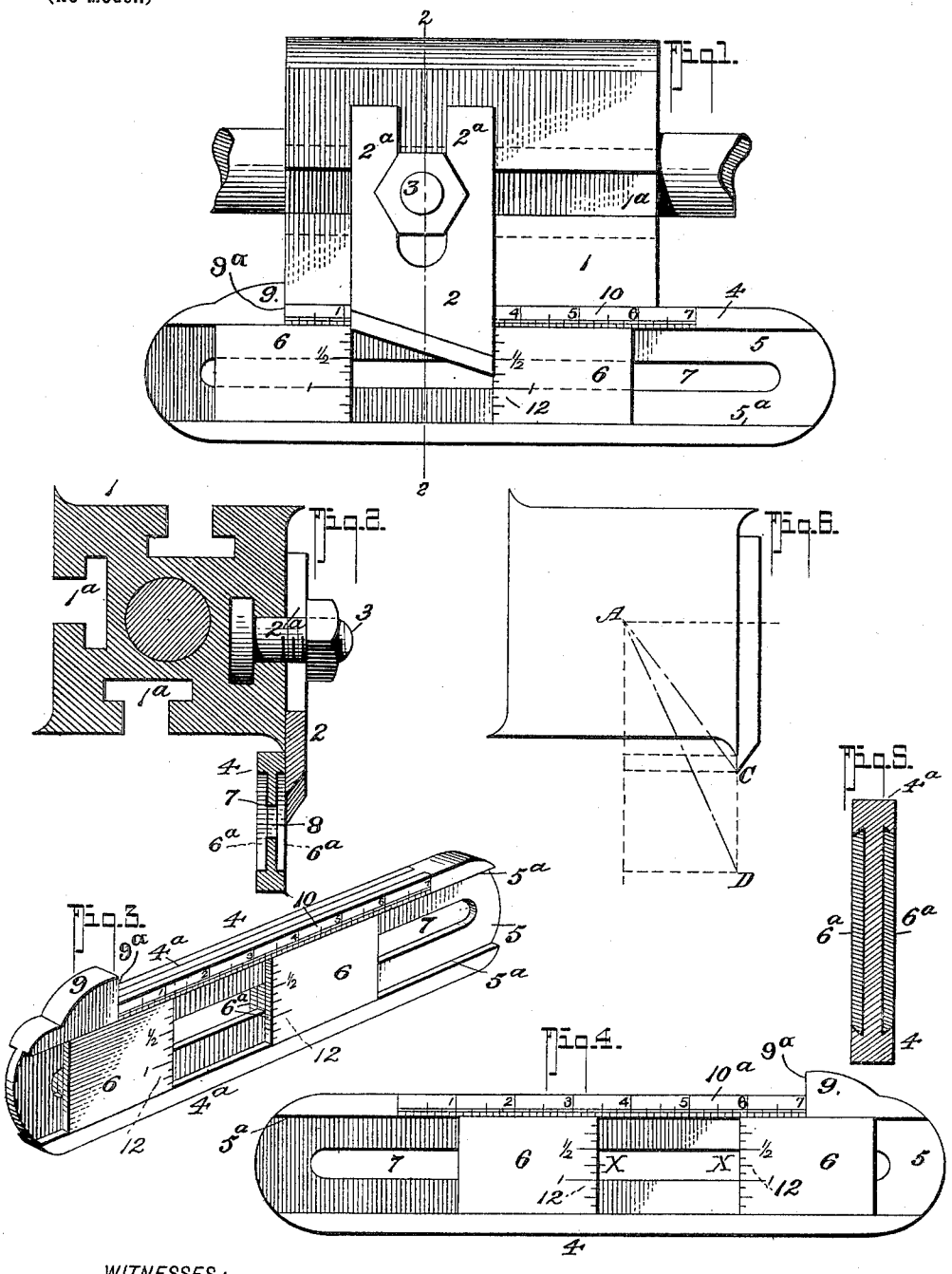
No. 660,005. Patented Oct. 16, 1900.

W. E. DAVIS & J. L. SAMSON.

CUTTER SETTING GAGE.

(No Model.) (Application filed Feb. 8, 1900.)



WITNESSES:
Louis Dieterich
E. McCormic

INVENTORS
W. E. Davis
J. L. Samson
BY
Fred G. Dieterich & Co.
ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER E. DAVIS AND JAMES LESLIE SAMSON, OF ELIZABETH, NEW JERSEY.

CUTTER-SETTING GAGE.

SPECIFICATION forming part of Letters Patent No. 660,005, dated October 16, 1900.

Application filed February 8, 1900. Serial No. 4,480. (No model.)

To all whom it may concern:

Be it known that we, WALTER E. DAVIS and JAMES LESLIE SAMSON, residing at Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Cutter-Setting Gage, of which the following is a specification.

This invention is in the nature of an improved gage or device designed for use on molding-machines, (woodworking) and it primarily has for its object to provide a simple, effective, and easily-manipulated means whereby the operator can accurately set all of the cutters or knives upon the cylinder to bring the cutting edges thereof an equal or uniform distance from the cylinder and also render the adjustments of the several knives such that they will effect a like cutting action and avoid the danger of having but one knife or cutter doing all the work.

This invention also comprehends in a gage or device for the purpose stated a certain construction of parts whereby the cutters can be adjusted laterally for different work in less than one-half the time it now usually takes to set them.

This invention also has for its purpose to provide a simple construction of gage capable of being reversibly used, whereby it can be conveniently applied to the different heads of the machine.

In its subordinate features this invention consists in certain details of construction and peculiar combination of parts, all of which will be first described, and then pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the cutter-head with our improvement applied. Fig. 2 is a cross-section of the same on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the gage. Fig. 4 is a face view of the side opposite that shown in Fig. 3. Fig. 5 is a cross-section of a modified form hereinafter referred to, and Fig. 6 is a diagrammatic view hereinafter specifically referred to.

Referring now to the accompanying drawings, in which like characters indicate like parts in all the figures, 1 indicates the cutter-head, and 2 the planers or cutters, which have the usual bifurcated ends 2^a, whereby they can be adjusted longitudinally on the head-clamps 3, which clamps are adjustably mounted in the T-slots 1^a of the head 1, which provides for a lateral adjustment of the cutters, such arrangement of parts being that of the common form of cutter-heads, and they therefore, *per se*, form no part of this invention.

Our improved gage comprises a body portion 4, made of a single piece and having an elongated shape. One or both of the outer portions 4^a of the body 4 form ruler edges, whereby the gage may be fitted squarely against the cutter-head, as shown in Fig. 1. The opposite faces of the body 4 are rabbeted or recessed their full length, as indicated by 5, the opposite edges 5^a of the recesses forming guides for the slides 6 6, said edges 5^a running parallel with the ruler or squaring edge 4^a. The body 4 is also provided with an elongated slot 7, that runs parallel with the edges 4^a 5^a, the purpose of which will presently appear.

6 6 indicate two slides, each of which consists of a pair of flat pieces 6^a 6^a, having a thickness equal that of the recesses in the faces of the body 4, whereby their outer surfaces will lie flush with the outer faces of the said ruler-body 4, as clearly shown in Fig. 2. In the preferred form the two pieces 6^a, that constitute the slides, are joined by an intervening block 8, that fits and slides within the slot 7, such construction providing for securing the parts of the slide and making the same as one member, which also, by reason of the slot 7, facilitates the moving of the slides on the ruler-body by finger-pressure, as the end of the finger can partly enter the slot 7. We desire it understood, however, that the slot 7 may be omitted, and instead of joining the two slide members 6^a said members may be independently held, one in each side of the body 4, and slid into the recesses of the said body, and when thus formed they can be readily held in place by dovetailing the edges 5^a and the coöperating edges of the slides 6, as indicated in Fig. 5. The upper or gage edge of the body 4 has a projection 9 at one end, formed with an abutment-face 9^a projecting up at right angles from the said squaring edge, the purpose of which is to provide for conveniently and accurately holding the

gage on the cutter-head surfaces, and especially to bring the scale 10, (having the usual inch measure,) that is used for adjusting the set of the cutters laterally, in proper position, as will presently more fully appear. The scale 10 is disposed on one face of the body 4 adjacent its squaring edge and stepped off to rear from the projection 9 toward the right, a similar scale 10^a being provided on the opposite face of the body 4, which is stepped off to read from the left or outer edge toward the projection, as shown, the advantage of which will presently appear. The outer surface of the slide 6 has graduations 12, disposed in a horizontal plane—*i. e.*, parallel with the squaring edge of the gage—and the said graduations 12 are on the contiguous edges of the slides, whereby the two sets of graduations form, as it were, continuous lines. The graduations on the slides serve to give the correct distance the cutter must be set from the edge of the head to give a given depth.

By referring now more particularly to Fig. 6 it will be observed the point or edge of the cutter is shown at the base of a line A C, which in the setting shown is the line giving the direct depth of the cut. To increase the depth of the cut say one-sixth of an inch, the cutter must be moved in the direction of the line A D about .077 of an inch, (more or less, as the size of the head and cutters may make necessary,) it being understood that by reason of the tangential adjustment of the cutter the distance that the cutter can be moved to effect the depth of cut desired increases proportionately with each movement of the cutter toward the line A D, or the last graduation on the slide, at which point the distance the cutter must be moved to effect, say, one-sixteenth of an inch of depth of cut is about .068 of an inch.

By providing movable slides, as shown, another and advantageous result is obtained in that the edges X of the slides form a movable continuation of the scale-marks that run at right angles to the gradautions 12 upon the slides. As the cutters usually project beyond the rule-scale on the upper edge of the body 1, the said edges X serve to give a long scale-mark or line by which to properly set the edges of the cutters when they are moved laterally. Again, when it is necessary to set the cutters alike on both the right and left heads the reverse side of the cut gives the correct adjustment of the opposite cutters without further alteration.

By providing the body of the gage with slideways in which the slides can be detachably held it is obvious that with the same gage-body a series of slides may be interchangeably used and the different slides graduated to suit the different-sized cutter-heads. It will be also manifest that the length and width of the body of the gage may be changed to suit the requirements desired.

From the foregoing, taken in connection with the accompanying drawings, it is thought the advantages of our improvement will be readily apparent to those skilled in the art to which it appertains.

By providing the ruled scales 10 10^a the slide 6 can be quickly slid laterally to the point desired and the cutters moved correspondingly sidewise to their proper adjustment, the latter operation with the use of our gage being effected in a much less time than it now requires to set the cutters sidewise in the usual way.

Our improved gage can be made entirely of wood or part wood and part metal, and its construction is such as to admit of its being made without the necessity of providing some special arrangement of mechanism to produce it.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A gage for cutter-heads, having an edge adapted to be held squarely against the different faces of the cutter-heads; slide members independently adjustable on the body of the gage, said slide members having graduations running parallel with the squaring edge of the gage-body, as specified.

2. A gage for cutter-heads, comprising a body portion having an edge adapted to be held squarely against the different faces of the cutter-head; slide members independently adjustable upon the body of the gage, said slide members having graduations running parallel with the squaring edge of the said body, one face of the gage-body having a scale running in the direction at right angles to the line of graduations on the slides, substantially as shown and for the purposes described.

3. A gage for cutter-heads, comprising a body portion having an edge adapted to be held squarely against the different faces of the cutter; slide members, independently adjustable upon the body of the gage, having graduations running parallel with the squaring edge of the body portion; the body portion having a stop or abutment projecting upwardly from and at right angles to the squaring edge, one face of the body portion having a scale running from the projection toward the outer end of the body, the reverse face of the said body having a similar scale running from the outer edge toward the projection, and a second set of slide members having their faces in a plane with the back faces of the body all being arranged substantially as shown and for the purposes described.

4. A gage for the purposes described, comprising a body having an edge adapted to bear squarely against the cutter-head and having its face recessed its length to form a slideway, said slideway extending parallel with the bearing edge of the said body; a pair of slides independently movable in the said slideway, said slides having graduations running

parallel with the bearing edge of the body, all being arranged substantially as shown and described.

5. A gage for the purposes described, comprising a body having an edge adapted to bear squarely against the cutter-head and having its opposite faces recessed its length to form independent slideways, extending parallel with the bearing edge, said body having a slot extended lengthwise thereof, parallel with its bearing edge; a pair of slides each slide comprising a pair of graduated members, one for each slideway, such members being connected by a connecting-block slidable within the slot of the gage-body, said gage-body having an abutment member projected vertically from its bearing edge and having a scale on each face running in the direction at right angles to the directions of the graduations on the slides, all being arranged substantially as shown and for the purposes described.

6. The herein-described improved gage for the purposes specified, comprising a single body member, the opposite faces of which are recessed the entire length whereby to form a slideway upon each side; an integrally-formed abutment projecting upwardly from the upper edge of the body, said edge running parallel with the grooves in the side faces; a longitudinally-extending slot running parallel with the upper bearing-surface of the body; a scale on one side beginning at the abutment member and numbered therefrom; a similar scale upon the opposite face of the body and beginning at the outer end and numbered at such end toward the abutment member; a pair of slides adjustably held on the body, each slide consisting of a plate having horizontally-arranged graduations, and a transverse member connecting the two plates of each slide movable within the slot of the body portion, all being arranged substantially as shown and for the purposes described.

7. A gage for cutter-heads comprising a portion having an edge adapted to be held squarely against the different faces of the cutter-head, the gage having a scale running in a direction at right angles to the length of the body; and slide members having graduations running parallel with the squaring edge of the said body, said slide members having their edges running at right angles to the length of the body, whereby said edges when properly adjusted form continuations of the graduations of the scale on the body, all being arranged substantially as shown and for the purposes described.

8. A gage for cutter-heads having an edge adapted to be held squarely against the different faces of the cutter-heads, the body of the gage having a slideway extending parallel with the squaring edge, the end of the slideway being open, and a slide member detachably held within the slideway and adjustable therein, said slideway having graduations running parallel with the squaring edge of the body, all being arranged substantially as shown and for the purposes described.

WALTER E. DAVIS.
J. LESLIE SAMSON.

Witnesses:
ALFRED G. REED,
JOHN R. DAVIS.