

No. 815,944.

PATENTED MAR. 27, 1906.

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RULE OR GAGE.

APPLICATION FILED APR. 13, 1905.

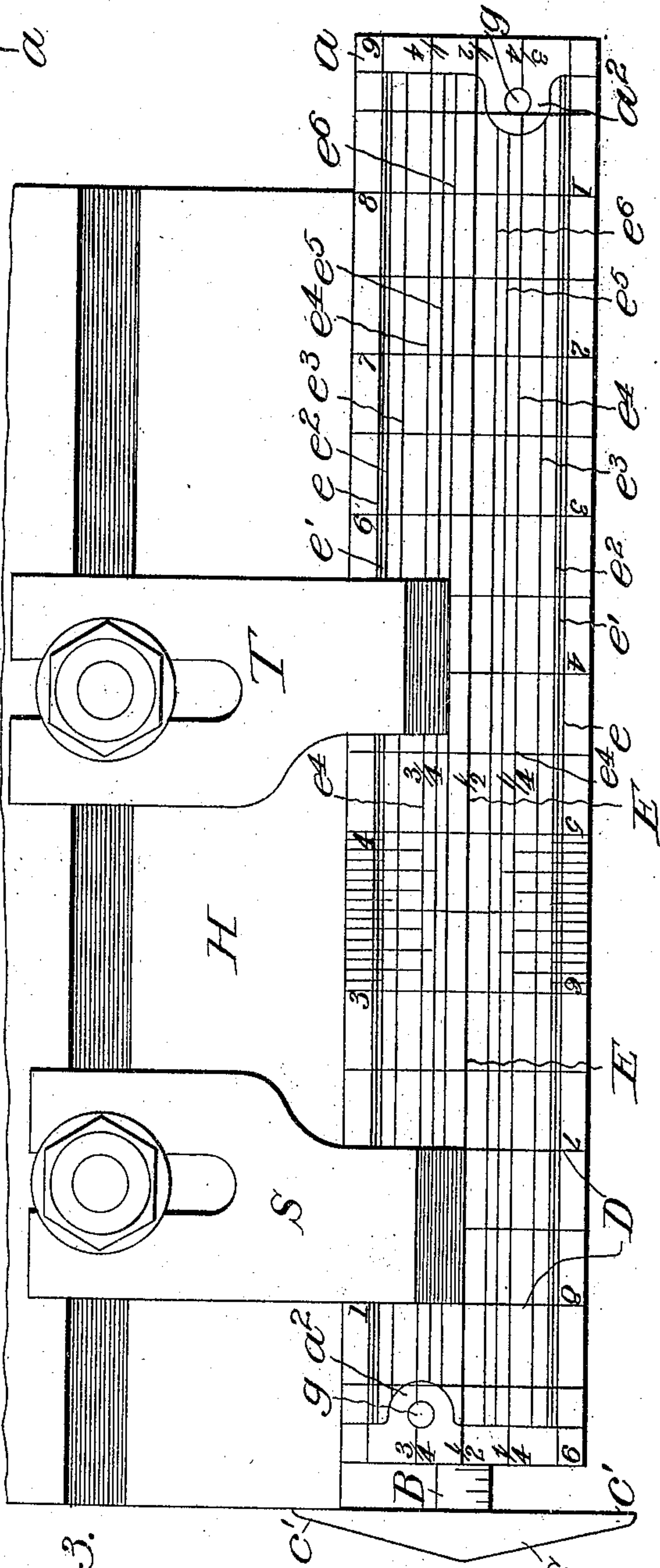
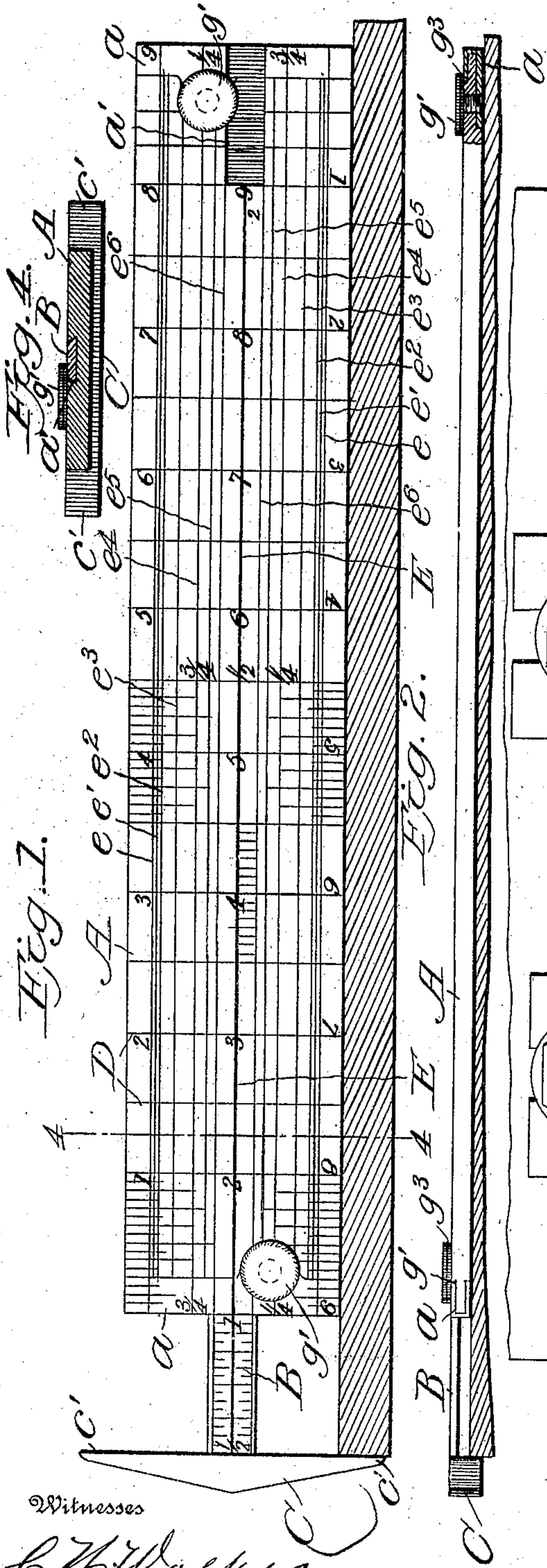


Fig. 3.

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RULE OR GAGE.

No. 815,944.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed April 13, 1905. Serial No. 255,287.

To all whom it may concern:

Be it known that I, RAIFORD W. DOUGLAS, of Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Rules or Gages; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in rules and gages especially designed and adapted for use in setting the cutter-blades on rotary cutter-heads of molding and planing machines, and for this purpose the gage is provided with transverse lines by which the cutters can be set any desired distance from the edge of the head and with longitudinal scores, marks, or lines which are properly numbered and by which the blades can be at once adjusted to cut any desired depth.

The device is also adapted for use as a longitudinal measure or rule.

The device is provided with a T-head which projects over both edges and over one side of the main body of the gage to the projecting portions of said head, forming stops by which the gage can be instantly positioned relative to the cutter-head on which the blades are to be adjusted or to the object to be measured. The said head is adjustable longitudinally of the body of the gage, and for this purpose it is connected with a slide which is scored correspondingly with the transverse scores of the gage-body and is also provided with central longitudinal scores which form the inner limit score for the cutter-blades. By means of this adjustable head and slide the gage can be elongated so that it can be used on cutter-heads of different lengths up to the maximum of the gage, and it is also adapted to be used as a small T-square and as an ordinary measuring-rule.

The invention consists in the novel construction of the gage as hereinafter described and claimed, and as illustrated in the accompanying drawings.

In said drawings, Figure 1 is an obverse view of the gage, showing the T-head slightly extended. Fig. 2 is an edge view thereof. Fig. 3 is a plan view of the reverse side. Fig. 4 is a transverse section on lines 4-4, Fig. 1.

The body A of the gage is preferably made of a flat strip of boxwood, the ends of which may be reinforced by metal caps *a*, as shown. This body is provided with a central longitu-

dinal preferably dovetailed groove *a'*, in which is fitted a slide B, preferably of brass, to the outer end of which is attached the T-head C, which head is flush on its upper surface with the upper or obverse face of the body A, but is much thicker than the body and projects below the same, as shown in Fig. 2, so as to form a stop or abutment practically like a T-square, so that when this head C is placed against the edge of a body the side edges of the gage-body will be at right angles to the said edge, as is obvious. The head C, moreover, is longer than the body A is wide, so that the ends of the head project beyond the edges of the body, as shown at *c'*, and form stops or abutments by which the edges of the gage can be trued, if placed edgewise against the object, as indicated in Figs. 1 and 3.

The body of the gage is divided by transverse scores D into inches and half-inches, and the slide C is similarly scored, so that when the slide is entirely closed the scores D appear to extend continuously across the face of the gage. The body may be further scored between the scores D into quarters, eighths, and thirty-seconds of an inch by suitable scores, as indicated in the drawings. In said drawings only the scores D are shown throughout the length of the body, the smaller subdivisions being only indicated on part of the body; but it is obvious that they may extend and I preferably will extend them along the entire body of the gage. By means of these marks, of course, the length in inches or fractions of inches of any object can be readily measured by the gage, and by extending the slide B objects up to approximately twice the length of the body A can be measured.

In order to adapt the device for setting the cutter-blades or cutter-heads, the body is provided with longitudinal scores. The central score or line E on the obverse face of the gage is made upon the slide B, and the next adjacent longitudinal lines correspond with the meeting edges of the outer face of the slide engaged. These longitudinal lines are differently spaced, it will be observed, at each side of the central line E. The outermost lines *e* give the line of adjustment of the blades when they are to be set to merely plane boards. The next lines *e'* are a thirty-second of an inch removed from lines *e* and are also for surface-planing. The next lines (progressing inwardly) *e''* will give one-sixteenth

of-an-inch cut of the blades. The next lines e^3 will give one-eighth-of-an-inch cut. The next lines e^4 will give one-fourth-of-an-inch cut. The next lines e^5 will give five-sixteenths-of-an-inch cut, and the next lines e^6 would give three-eighths-of-an-inch cut, and the central line E will give one-half-of-an-inch cut. These lines e e' e^2 e^3 e^4 e^5 e^6 are arranged on opposite sides of the central line E, so that either edge of the gage can be used in setting the cutter-blades, and if the blades are to cut more than one-half inch the lines in the opposite set are utilized for the purpose of adjusting the blades for deeper cuts. The fractional numerals on the gage indicate the different depths of cuts.

The reverse side of the blade is longitudinally scored or lined similarly to the obverse side, and the central line E is also scored on the reverse side of the blade, as the slide does not show on that side when closed. The reverse side of the slide may also be transversely scored like the obverse side.

Preferably quarter-inch scores extend to the lines e^4 . The eighth-of-an-inch scores extend to the lines e^3 , and the sixteenth-inch scores extend to the lines e^2 , which thus facilitates the reading of the scale in either direction on the body. The inches and fractions of inches that are mostly used are numbered as shown.

In order to prevent the slide slipping when adjusted, screws g , provided with flat milled heads g' , are attached to the body near the ends of and adjacent to the groove a' , so that the heads g' overlap the slide B. The screws g may be tapped into threaded extensions a^2 of caps a , as shown. Preferably washers g^3 are interposed between the heads g' and the slide and body. By means of these clamps the slide can be located in any position in which it is adjusted, and as I have two of these clamps the slide can be secured in or to either end of the body.

The operation of the device will be obvious from the foregoing description and the drawings, Fig. 3 showing one method of using it to adjust or set the cutters on a rotary cutter-head, the cutter S being shown adjusted to make a half-inch cut, and the cutter T being adjusted to cut a three-eighths-of-an-inch cut. It will be noted that the lines E and e^6 are respectively more than a half-inch and three-eighths of an inch from the inner edge of the gage; but they are calculated with reference to the outer line e , the distance between the outer line e and the adjacent edge of the gage-body being the distance the blade must project beyond the edge of the cutter-head H before it will become effective at all. As this distance is provided for on the gage, the workman does not have to calculate the projection of blade and add it to the desired depth of cut and then measure the total dis-

tance between body of cutter-head and edge of blade in order to properly set the latter and instead merely aligns the cutting edge with that longitudinal score which indicates the depth of cut. The gage being double, or marked on each edge and both sides, it can be used at both ends of the head and with horizontal or vertical heads with equal facility, and the head C acts as a square as perfectly when the slide is extended from the body as it does when the slide is closed.

It is needless and unnecessary to describe all the uses of the gage, the foregoing being sufficient, and its utility as a foot or linear measure is apparent.

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

1. In a gage, the combination of a body provided with suitable scores and a longitudinal groove, a slide fitted in said groove and scored correspondingly with the transverse score of the body; a T-head attached to the outer end of said slide and projecting beyond both edges of the slide and also below the lower face thereof, and means for locking the slide, substantially as described.

2. In a gage, the combination of a body having longitudinal scores for gaging the set of cutters and transverse scores indicating inches and fractions thereof, and a longitudinal groove; with a slide fitted in said groove, a head on one end of the slide projecting beyond both edges of the body and also below the under surface thereof, said slide being also scaled, and means whereby the slide may be locked in any adjusted position, substantially as specified.

3. In a gage, the combination of the body provided with scores and having a longitudinal groove, a slide fitted in said groove, a T-head attached to the outer end of said slide and adjustable thereby relative to the body of said head, and projecting beyond both edges of the slide and also below the lower face thereof, and means for locking the slide, substantially as described.

4. A cutter-setting gage provided with a longitudinal groove, a central longitudinal score E, and differently-spaced scores e , e' , e^2 , e^3 , e^4 , e^5 and e^6 , on each side of the central score, and transverse scores indicating linear measure; with a head at one end of the body projecting beyond both edges of the body and also below the under surface thereof, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

RAIFORD W. DOUGLAS.

In presence of—

ARTHUR E. DOWELL,
LILLIAN E. WITHAM.