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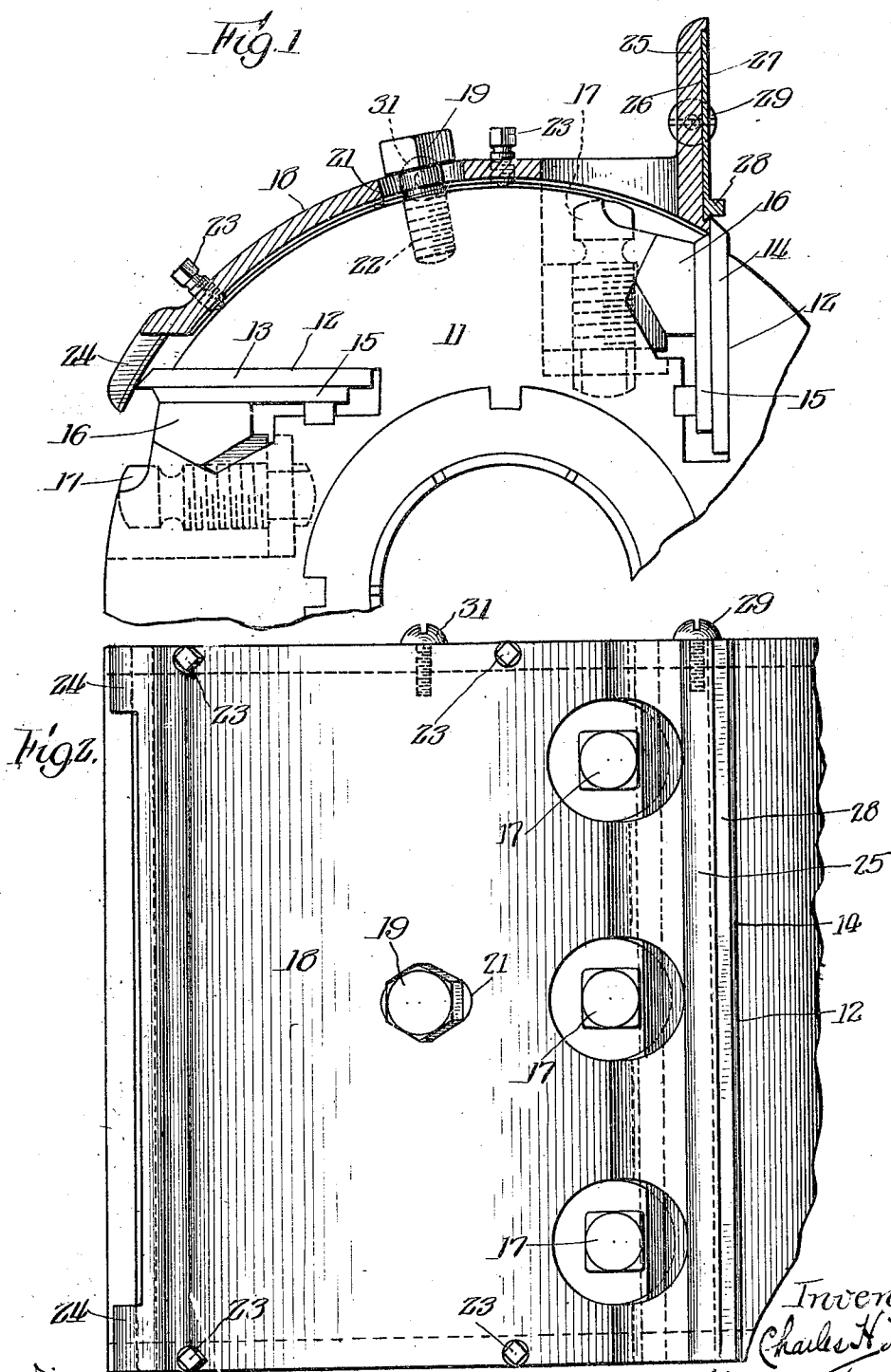
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PLANER CUTTER GAUGE AND SCALE LAYOUT

Filed Oct. 1, 1925

2 Sheets-Sheet 1



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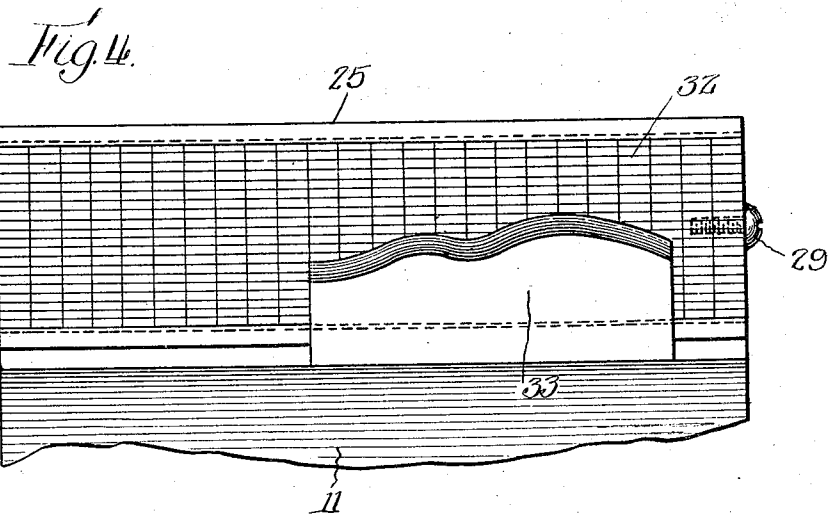
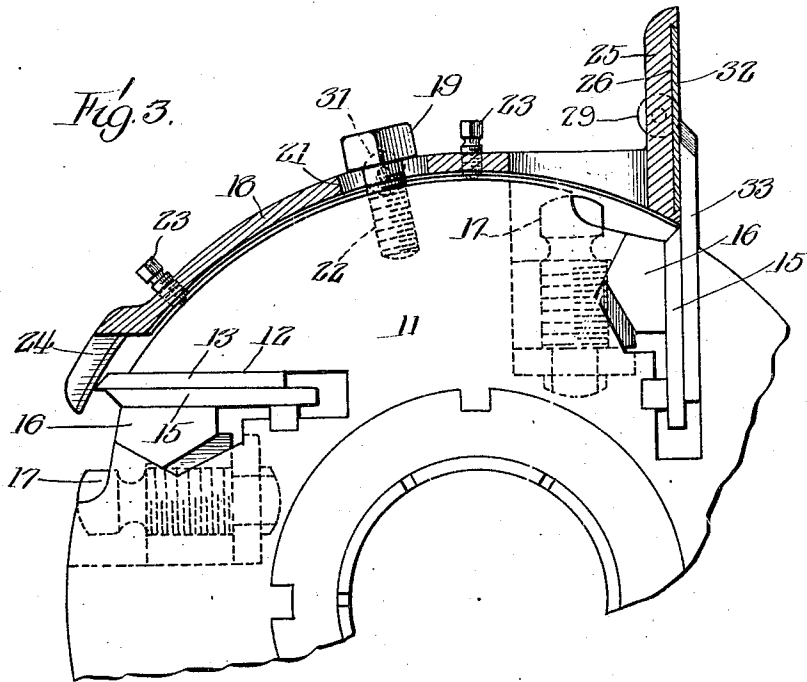
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## PLANER CUTTER GAUGE AND SCALE LAYOUT

Filed Oct. 1, 1925

2 Sheets-Sheet 2



# UNITED STATES PATENT OFFICE.

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## PLANER CUTTER GAUGE AND SCALE LAYOUT.

Application filed October 1, 1925. Serial No. 59,789.

My invention relates to novel means for facilitating the proper production and quick and accurate positioning of the cutting blades or knives for the heads of planing or moulding machines and concerns more particularly, but not restrictedly, structures or gauges of this general type adapted for satisfactory employment in woodworking machines equipped with round heads and using thin knives of high-speed steel which can be ground and fitted for the work without affecting their temper and which naturally hold their sharp cutting edges longer, as distinguished from square-heads employing relatively-thick, milled-to-pattern cutters.

Such thin knives can be easily canted or tilted in the head to secure their correct locations, the use of knives of this style avoiding a large amount of grinding and rendering possible a single knife for a plurality of different patterns or designs, hence effecting a substantial saving in cost.

The improved gauge may be satisfactorily used for positioning straight or pattern or moulding knives or both.

To permit those skilled in this art to understand the structural and functional advantages accruing from the use of appliances incorporating the valuable features of this invention, in the accompanying drawings, forming a part of this specification, and to which reference should be had in connection with the following detailed description, and throughout the several views of which like reference numerals have been employed to designate the same elements, a present desirable and preferred embodiment of the invention has been depicted, but, of course, it is to be understood that the invention is susceptible of a variety of embodiments differing from one another more or less radically in structural details, but all incorporating the fundamental principles involved, as defined by the constructions presented in the appended claims.

In these drawings:

Figure 1 shows a fragment of a round head to which the new gauge has been applied, the latter being illustrated in section; Figure 2 is a plan view of the structure presented in Figure 1;

Figure 3 is a view similar to that of Fig-

ure 1 showing the gauge as used in a somewhat different way; and

Figure 4 is an elevation of the right-hand end of the construction illustrated in Figure 3.

For setting or adjusting a plurality of straight-edge knives in the head without moving the gauge, which is sometimes desirable, a structure such as is shown in Figures 1 and 2 is employed.

The round head 11 has any appropriate or suitable number of slots 12 for the accommodation of a corresponding number of thin knives or blades 13 and 14 with straight cutting edges, non-skid gibs 15 and associated holding means 16 and their adjustment or tightening screws 17 of known commercial structure.

The gauge proper 18 is of curved or arcuate style conforming in general to the exterior curvature of the head, being held detachably or demountably thereto in any convenient or appropriate manner, as by a screw 19 extended through an aperture 21 in the gauge and taking into a threaded hole 22 in the head provided for that purpose.

To afford clearance between the gauge and head, so that foreign matter adhering to either part will not interfere with the proper performance of the required functions, the gauge has a number, in the present instance four, set-screws 23 extended therethrough with their ends in contact with the cylindrical surface of the head, whereby the two members are maintained spaced apart a slight distance.

At one end, the gauge has a pair of spaced, elevated parts 24, 24, which, in some forms of the structure may be much nearer together than shown, or may be formed as a single part, located over or above one knife groove 12 and forming an abutment or stop or gauge-means against which the sharp edge of the knife-blade may be brought to position it correctly, whereupon the corresponding screws 17, 17 are tightened to fixedly and firmly maintain or hold the knife in its proper location thus correctly ascertained.

The other or opposite end of the gauge has an outstanding part 25 equipped on its outer face with a dovetail groove 26 extended lengthwise the head and adapted to removably accommodate a gauge-member 27 slid-

ingly fitted therein and provided with a projecting gauge element or section 28 overlying the adjacent knife-groove 12, whereby the companion, straight knife 14 may be correctly located in such groove by being first brought into contact with the member 28, the under face of which is at the same distance from the axis of the head as the corresponding surface or surfaces of the part or parts 24, thus assuring that the two knives will be positioned alike in the two grooves, although the latter are a substantial distance apart as shown.

By this simple means the several straight-edge knives or cutting blades of the head or cylinder may be quickly and accurately located and fastened or secured in place, the gauge being moved along and held in new locations, as will be readily understood, to coact with the knives of all of the grooves or recesses with which the head may be equipped.

The part 25 is desirably and conveniently supplied at one end with a stop-screw 29 overlapping the end of the dovetail groove to act as an abutment or limiting member against which the corresponding end of the element 27 is designed to bear.

Also, the gauge 18 conveniently has a stop-screw 31 at one end overlapping the end of the head to assist in the correct and exact application of the demountable gauge to such member 11.

In the setting up of a head for the manufacture of moulding, in most cases, there is a straight cut which, in the terminology of the trade, is known by the moulder operators as the base line cut.

In Figures 3 and 4 of the drawings the new gauge is so arranged that it will facilitate the positive and accurate positioning of the straight-edge knife which makes such base line cut, giving a definite line with relation to which the moulding cutters may be set up, and both types or styles of knives may be correctly located with reference to one another without moving the attachment by which the desired result is accomplished.

In this instance, the parts are as already described, except that the dovetail groove 26 receives a layout and adjustment scale 32 for cooperating with the correlated moulder-knife 33, the part 32 being made of any suitable material for ready and easy insertion in the groove on the face of the gauge and on which a pencil mark can be readily made and retained, the scale, as shown in Figure 4, having equally and closely spaced, horizontal and vertical, or longitudinal and transverse scale lines.

It is a relatively simple matter to lay out a moulding cutter of any particular pattern with exactitude and precision on this scale, and, after the design has been completed and the cutter ground thereto, the scale is

slipped or slid into the gauge groove, assuming that the gauge has been applied to the head, and the cutter is then set to the lay-out on the scale and firmly secured in place with correct relation to the associated straight-edge knife, the position of which is determined by the other end of the gauge.

The advantage of applying the design or shape of the cutter on the scale resides not only in the production of and in the setting of the knife in the head, but the scale can be filed away as a record when the run has been completed, and when it is required again, it can be replaced in the gauge and the set up can be quickly and correctly made as before, or, if the cutter becomes broken or lost, the operator has merely to grind a new one to fit the pattern on the scale and position it by the latter in the head.

If desired, the manufacturer of the moulder may supply suitable scales with the designs already thereon for any type of moulding or may furnish ground cutters for use with previously-prepared scales.

In case it is desired to use more than two cutters for moulding, or, in other words, if one wishes to employ four moulding cutters in a four-knife round head, in applying and adjusting them in the head advantage is taken of the space between the gauge lugs 24, 24, for the accommodation of a knife already set while the next one is undergoing adjustment.

Those acquainted with the requirements of this art will understand that the invention, as defined by the appended claims, is not limited or restricted to the precise and exact details of structure presented and that many minor mechanical changes may be incorporated therein without exceeding the purview of the invention and without the loss or sacrifice of any of its material benefits and advantages.

I claim:

1. A gauge-appliance of the character described, adapted for application to a planing-machine head, having gauge-means designed to cooperate with a straight-edge knife of the head and a grooved section adapted to demountably accommodate a design of a moulding-cutter to coact simultaneously with such a cutter of the head.

2. A curved gauge-appliance of the character described, adapted for application to a planing-machine head, having means to fasten the appliance to the head, means to provide clearance between the appliance and head, gauge-means at one end to cooperate with a straight-edge knife of the head, and a portion equipped with an undercut groove adapted to removably receive a design for a moulding cutter designed to coact with such an adjacent cutter of the head.

3. A gauge-appliance of the character de-

scribed, adapted for application to a planing-machine head, having spaced gauge-lugs designed to be in register with a knife-groove of the head and having another section  
5 adapted to be simultaneously in cooperative relation to another knife-groove of the head and to demountably support an element to display the shape of a moulder-knife for such second groove.

10 4. A gauge-appliance of the character described, adapted for temporary application to a planing-machine head, comprising in combination, a body, means to fixedly but demountably secure said body to such a  
15 head, gauge-means on said body designed while the body is so mounted on the head to overlie and cooperate with the edge of a straight-edge cutter of the head, and a second gauge-means on said body adapted while

the body is so mounted to simultaneously  
20 coact with the edge of an adjacent moulding-cutter of the head.

5. A gauge-appliance of the character described adapted for temporary application  
25 to a planing-machine head, comprising in combination, a body, means to fixedly but demountably fasten said body to such head, gauge-means on said body designed while  
30 the latter is so mounted on the head to overlie and cooperate with the edge of a straight-edge cutter of the head, and means on said body for the detachable accommodation of a scale lay-out design in simultaneous register  
35 with an adjacent moulding-cutter of the head.

In witness whereof I have hereunto set  
my hand.

CHAS. H. KELLY.