

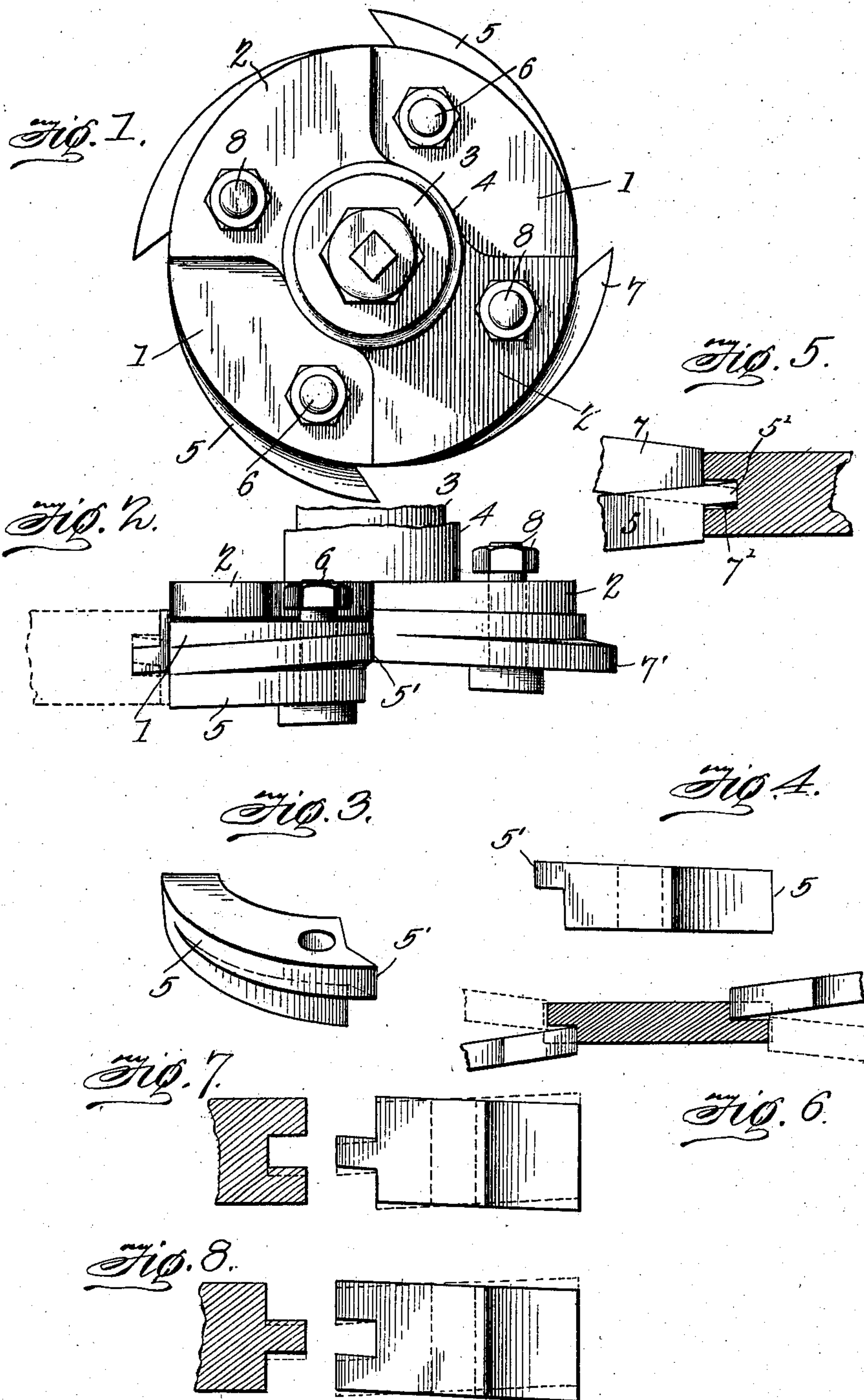
No. 742,242.

PATENTED OCT. 27, 1903.

C. SEEWALD.  
CUTTER HEAD.

APPLICATION FILED JAN. 16, 1903.

NO MODE.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHRISTIAN SEEWALD, OF WILLIAMSPORT, PENNSYLVANIA.

## CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 742,242, dated October 27, 1903.

Application filed January 16, 1903. Serial No. 139,306. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN SEEWALD, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Cutter-Head, of which the following is a specification.

My invention relates to cutter-heads, more particularly to rotary cutter-heads for making flooring, ceiling, and ship-lap, in which the cutters are supported on inclines in order to give latter clearance and are adjustable for the purpose of cutting tongues and grooves of different widths.

The object of my invention is to produce a cutter-head of the class above mentioned which is susceptible of use in cutting tongues or grooves or in making the rabbets used in making ship-lap joints. In attaining this end I make use of the construction and combination of parts hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a plan view, and Fig. 2 is a side elevation, of my improved cutter-head. Fig. 3 is a view in perspective, and Fig. 4 a view in elevation, of one of the cutters 5 5. Fig. 5 is a diagrammatic view showing the operation of a pair of grooving-cutters such as are employed with my improved cutter-head. Fig. 6 is a diagrammatic view showing the arrangement of cutters employed in making ship-lap. Figs. 7 and 8 are views showing modified forms of cutters, Fig. 7 showing a grooving-cutter and Fig. 8 a tongue-cutter.

Heretofore cutter-heads of the class to which my improvement particularly relates have been made in pairs, one member of each pair being adapted for use in cutting grooves and the other for cutting tongues. This has been necessary on account of the relation of the inclines of the plates in the cutter-head upon which the cutting-bits were supported and the construction of the said cutting-bits. In my improved cutter-head the direction of the inclines of the supporting-plates is reversed and the relation of the parts changed, as will afterward appear, so that I am enabled to use the same cutter-head in cutting tongues or grooves at will, thus obviating the necessity of purchasing a pair of cutters in

order to cut flooring, ceiling, or other tongue-and-grooved lumber.

Referring to the drawings, 1 and 2 designate the two cutter-supporting plates in my improved cutter-head. Plate 1 is integral with a shaft 3 and plate 2 with a sleeve slidably mounted thereon and rendered adjustable by any suitable adjusting means. As the nature of the adjusting means forms no part of my invention, it is not shown in the drawings. Plate 1, upon which the lower cutters 5 5 are secured by means of suitable clamping-screws 6 6, has the surfaces against which the cutters are clamped inclined upward and forwardly, while the surfaces on plate 2, to which the upper cutters 7 7 are secured by means of clamping-screws 8 8, are inclined forwardly and downwardly. The cutters 5 5 are so constructed that the upper cutter portions 5' serve to cut the upper part of a groove when the cutters are arranged as shown in elevation in Fig. 2, while the lower portions dress the lower edge of the groove. The cutters 7 7 are constructed so as to form an exact reverse of the cutters 5 5, their lower portions 7' cutting the lower part of a groove and the upper portions dressing the upper edge of the groove when the cutters are arranged as shown in Fig. 2.

The arrangement of the cutters and inclines above explained differs from the ordinary arrangement in the following respects: First, the incline of the surfaces against which the cutters are clamped on plate 1 is upward and the corresponding surfaces of plate 2 downward, while in cutter-heads of this type previously used the inclines were the exact reverse of those described above. The cutters in the old form of cutter-head were also different. The lower cutter served to cut the lower portion of a groove and also to dress the lower edge, while the upper cutter cut the upper portion of the groove and dressed the upper edge.

The advantages obtained by using the construction which I employ is that the cutter-head may be used to cut tongues as well as grooves by merely changing cutters carried by the head, owing to the fact that the upper cutter-supporting plate has an inclination downward, while the lower cutter-supporting



plate has an inclination upward. It will be seen that if the upper cutter, which in the construction shown in Fig. 2 has its grooving portion below and dressing portion upward, 5 be removed and a cutter substituted in which the relations of the cutting and dressing portions are reversed the substituted cutter will be adapted for cutting the upper portion of the tongue and dressing the upper portion of 10 the edge of a tongue, while by a similar substitution for the lower cutter it will be adapted for cutting and dressing the lower portions of the tongue. This is only possible in a cutter-head in which the inclines of the cutter-sup- 15 porting plates are arranged as above described. In the old form of cutter-head employed in grooving the lower cutter-supporting plate had an inclination downward, as stated, and the upper cutter-supporting plate 20 had an inclination upward. This arrangement of the incline gave the lateral clearance required when the lower cutter cut the lower portion of the groove and the upper cutter cut the upper portion of the groove; but if 25 tonguing-cutters were substituted for the grooving-cutters the cutter-head at once became inoperative, for the reason that no lateral clearance was provided for the cutters. Therefore in order to cut tongues another 30 cutter-head was provided, with the inclines of the cutter-supporting plates reversed, and hence adapted for use in cutting tongues.

Either the tonguing or grooving cutter of the old type could be employed in cutting 35 ship-lap when suitable cutting-bits had been mounted in the cutter-head and the cutter-supporting plates properly adjusted. Hence no advantage is claimed for my improved cutter-head on the ground that it may be 40 used, as will be readily seen from an inspection of the drawings, for cutting ship-lap.

If it be desired to have each of the cutting-bits act in dressing both edges of a groove or in dressing the edge of a tongue, cutting-bits

of the form shown in Figs. 7 and 8 may be 45 employed instead of those illustrated in the preceding figures.

The operation of my improved cutter-head having been incidentally explained in connection with the description of its construction, it is thought that no further and more 50 detailed account of the operation is necessary at this point, but that its operation will have been fully understood from the foregoing description. 55

Having now fully described the construction and operation of my improved cutter-head and pointed out the advantages thereof, what I claim as my invention, and desire to 60 secure by Letters Patent, is—

1. The combination in a cutter-head of an upper cutter-supporting plate, a lower cutter-supporting plate, said plates being adapted to interlock and both being provided with cutter-seats, and cutters adapted to be supported 65 upon said plates, said cutters being formed on circular arcs of ninety degrees and forming, when in position upon said plates, a complete ring in which each cutter is secured in position in part by contact with the end of the cut- 70 ter behind it.

2. The combination in a cutter-head, of an upper cutter-supporting plate having downwardly and forwardly inclined cutter-seats, a lower cutter-supporting plate having upwardly and forwardly inclined cutter-sup- 75 porting seats, and cutters formed on circular arcs adapted to be secured upon said cutter-seats and each being adapted to be held in position in part by contact with the ends of the 80 adjacent cutters.

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

CHRISTIAN SEEWALD.

Witnesses:

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