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PATENTED OCT. 15, 1907.

A. KRIEGER.
DETACHABLE TOOTH SAW.
APPLICATION FILED JUNE 20, 1907.

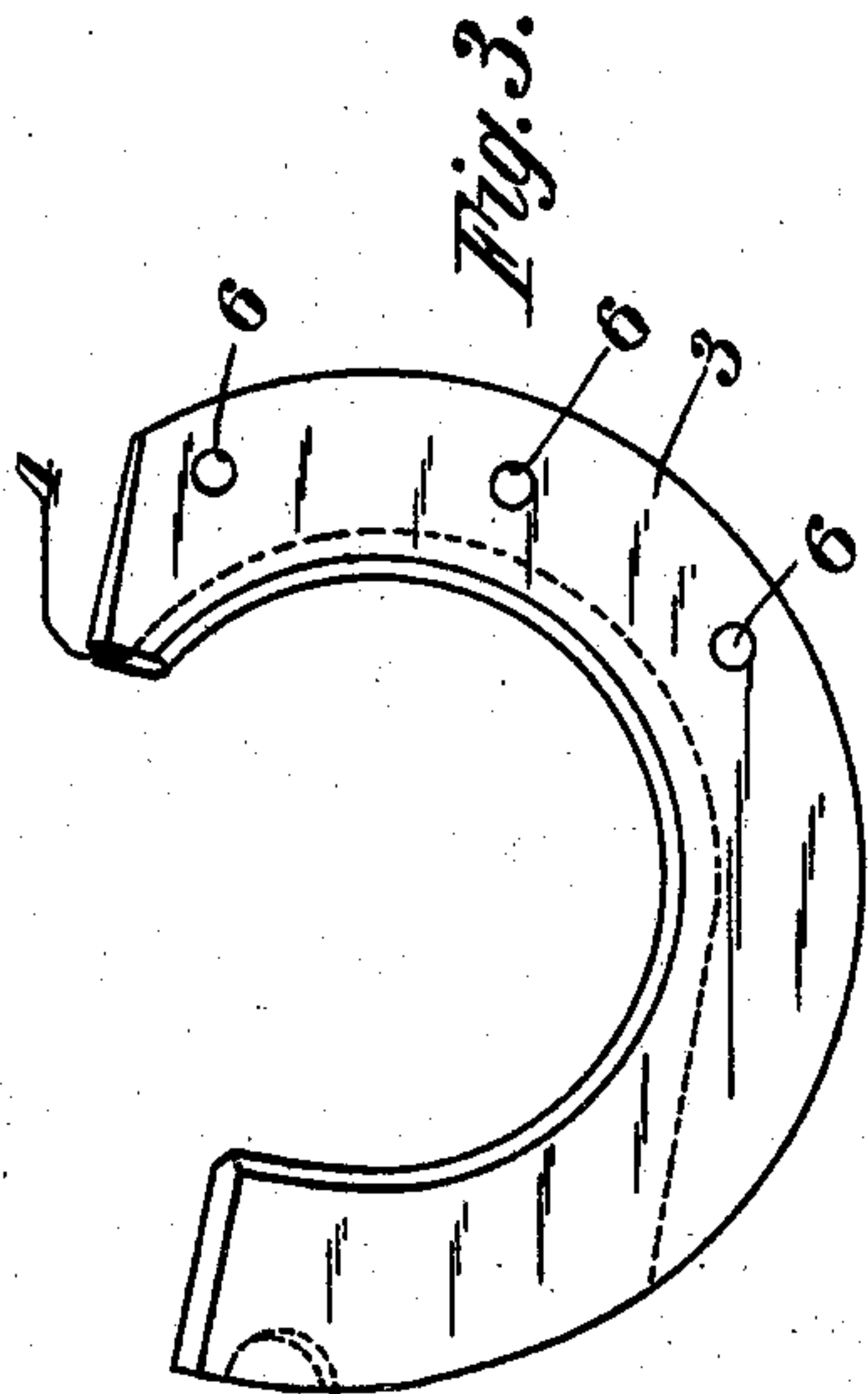


Fig. 3.

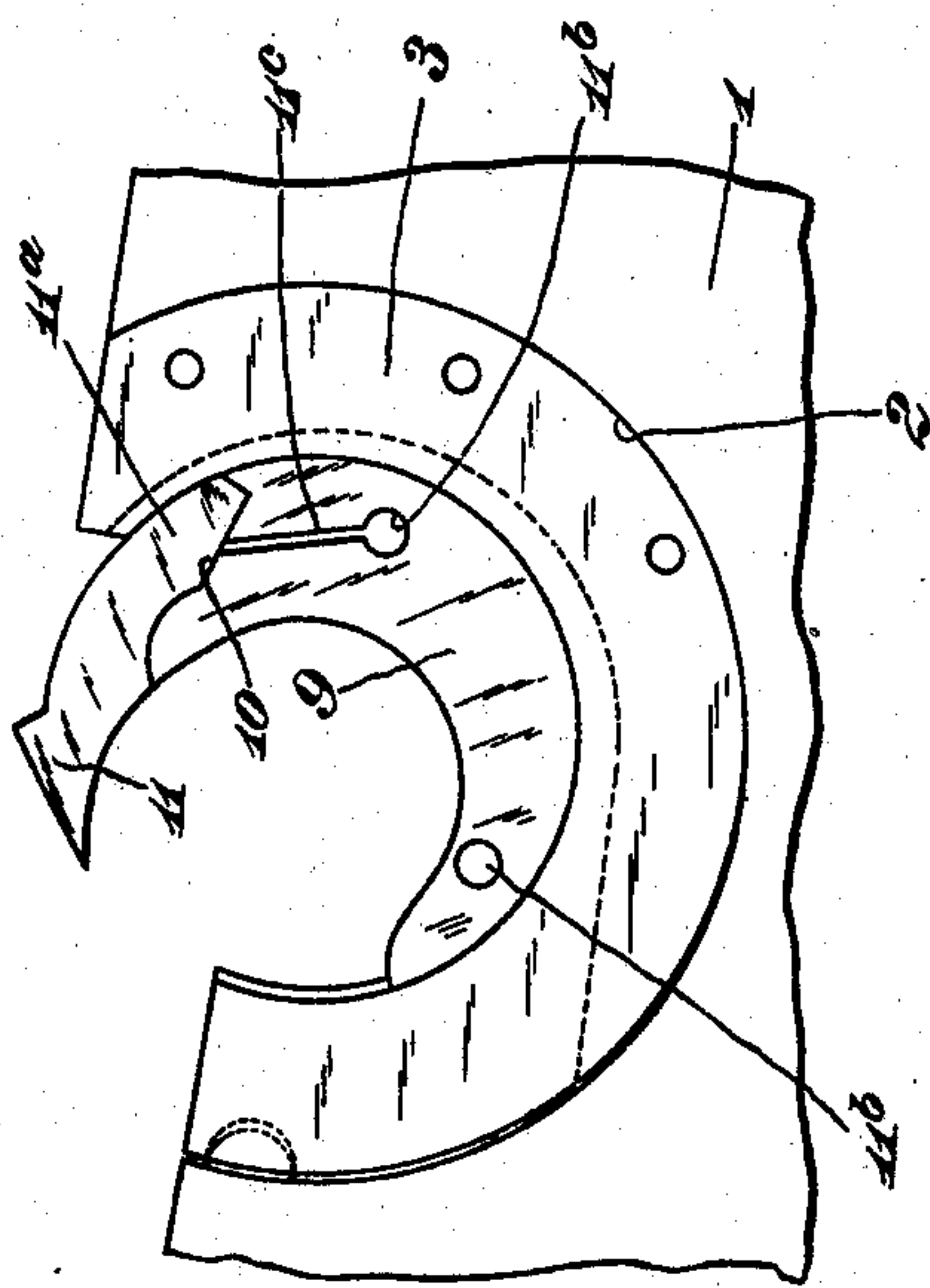


Fig. 2.

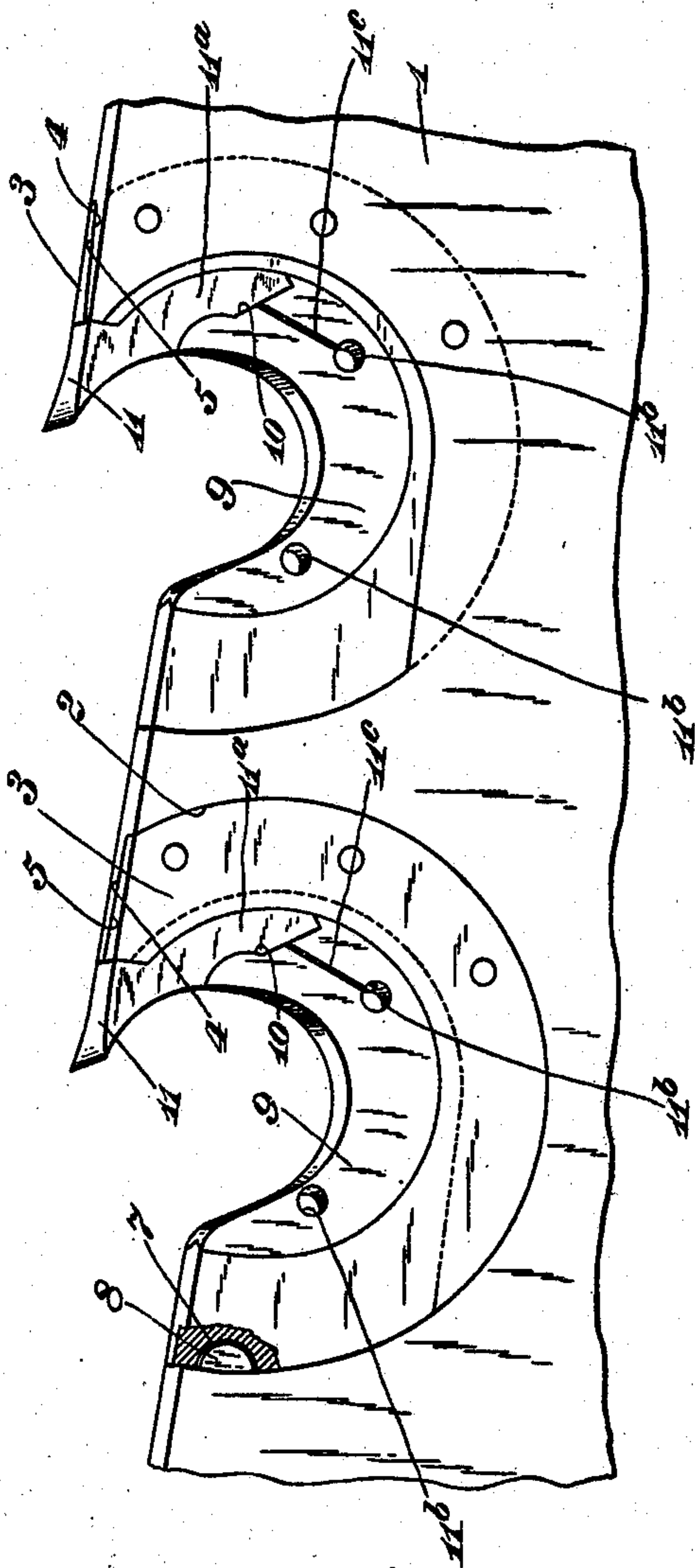


Fig. 1.

Witnesses
Benz Finckel
Alice B. Cook.

Inventor
Andrew Krieger
by *Finckel & Finckel*
his Attorneys.

UNITED STATES PATENT OFFICE.

ANDREW KRIEGER, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO AMBOS M. HARRIS,
OF COLUMBUS, OHIO.

DETACHABLE-TOOTH SAW.

No. 867,980.

Specification of Letters Patent.

Patented Oct. 15, 1907.

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To all whom it may concern:

Be it known that I, ANDREW KRIEGER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain
5 new and useful Improvement in Detachable-Tooth Saws, of which the following is a specification.

The invention relates particularly to the class of inserted tooth saws in which the teeth-retaining parts are removably secured in recesses provided in the saw-
10 blade.

Heretofore much difficulty has been experienced in providing means for properly securing the teeth without straining the saw-blade and causing buckling thereof or expansion and distortion of the edge of the blade.

15 In my prior patent No. 544,438, issued August 13, 1895, I have shown and described a device designed primarily to overcome the difficulty referred to, and the object of the present invention is to provide an improvement on the device shown in that patent.

20 The improvement resides mainly in the construction of the bridge-piece or tooth-containing member that directly engages and is bound to the saw-blade, said member having a greater and more evenly distributed flexibility than in the patented device referred to
25 whereby a wider range of variation in the size of the shanks of saw-teeth is provided for. Furthermore, the improved construction provides a larger binding surface between said flexible member and the seat on the saw-blade.

30 An embodiment of the invention is shown in the accompanying drawings but the invention is not limited to the precise details of construction shown.

35 In said drawings—Figure 1 is a perspective view of a section of a saw-blade with bridge-pieces, teeth, and clamps in assembled position for operation. Fig. 2 is a side elevation showing bridge-piece, tooth, and clamp with the tooth and clamp in partially inserted position of the tooth, and Fig. 3 is a perspective view of the bridge alone.

40 In the several views 1 designates a section of saw-blade provided with substantially circular recesses cut thereinto to form seats 2 for the bridge-piece or teeth-containing members 3. The bridge-piece 3 is also substantially circular in form and of approximately uniform
45 width but the seat-engaging edge of the bridge-piece is formed on an arc of slightly less radius than that of the seat 2 on the saw-blade so that when not under tension of the clamp and tooth the bridge-piece does not closely fit the seat 2 throughout its length, but
50 a narrow space gradually increasing towards the free end of the bridge-piece is left between said piece and the seat on the saw-blade to provide for flexing of the bridge-piece. At one side the bridge-piece is provided with a scarf or lap 4 to engage a corresponding scarf 5 on

the saw-blade so that the bridge-piece lies flush with
55 the surface of the saw-blade. Perforations 6 are provided through the bridge-piece and blade to receive rivets for binding the parts securely together at one side. At its opposite or free end the bridge-piece is provided
60 with a recess 7 to receive a tongue or projection 8 on the saw-blade whereby the bridge-piece is held at said end from lateral displacement. 9 designates a clamping member circular in form on its outer edge to snugly engage and slide on the inner edge of the bridge-piece 3. The clamping member 9 is cut away at 10 to form with
65 the inner edge of the bridge-piece a recess to receive the shank 11^a of the cutting tooth 11. The bridge-engaging edge of the clamping member and tooth are provided with a groove as usual to engage a corresponding tongue formed on the edge of said bridge-piece. The clamp is
70 perforated at 11^b, 11^c to receive a suitable wrench for sliding the clamp around on its seat to properly position the tooth and clamp the same in place. The clamp is also slitted at 11^e to provide for flexibility in
75 that member.

In order that the teeth may be manufactured and sold cheaply they are not made with great precision as to the size of shank, but the shanks are made slightly thicker than the recess between the clamp and bridge-piece so that when the clamp and tooth are forced
80 around on their seat in setting the teeth there is a wedging action between the clamp and bridge whereby the stress is transmitted to the free portion of the bridge and the same flexed until bound closely on its seat through a greater or less extent. It is thus seen that the construction provides for a wide range of variation in the
85 size of the shanks of teeth and furthermore, because of the circular shape of the bridge-piece and its uniform width, the flexing strain is distributed over a larger area than has heretofore been accomplished and a more
90 extensive binding surface is secured. It will also be noted that the slot and tongue construction at the free end of the bridge-piece tends to prevent the entry of saw-dust between the parts whereby they are caused to spread.
95

What I claim and desire to secure by Letters Patent is:

1. In an inserted tooth saw, the combination with the saw-blade provided with a substantially circular seat, of a flexible bridge-piece of substantially circular form and of approximately uniform width, said bridge-piece having its
100 blade-engaging edge of slightly less radius than the seat on the blade, means for securing the bridge-piece at one side to said seat, a clamping member to engage and slide on the inner edge of said bridge-piece and provided with a seat for a saw-tooth, said seat adapted to cooperate with the inner edge of the bridge-piece to clamp and wedge a
105 tooth, whereby the free end of the bridge-piece is flexed towards the seat in the blade when the clamp and tooth are moved to set position of the tooth.

2. In an inserted tooth-saw, the combination with the saw-blade provided with a recess forming a seat for a tooth-retaining bridge-piece, a flexible bridge-piece secured at one side in said recess and normally engaging a portion
5 only of said seat, a tongue-and-groove connection for the bridge-piece and blade at the opposite side of said recess, and a tooth-retaining clamp for coöperation with said bridge-piece to clamp and hold a tooth, said bridge-piece adapted to be pressed towards said seat under pressure of
10 the clamp.

3. In an inserted tooth saw, the combination with the saw-blade provided with a recess forming a substantially

circular seat for a tooth-retaining bridge-piece, a substantially circular flexible bridge-piece secured at one side in said recess and normally engaging a portion only of
15 said seat, a tooth-retaining clamp for coöperation with said bridge-piece to clamp and hold a tooth, the free portion of said bridge-piece adapted to be pressed towards said seat under pressure of the clamp.

ANDREW KRIEGER.

Witnesses:

BENJ. FINCKEL,
ALICE B. COOK.