G. F. NORTON.

VALVE GRINDING TOOL.

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1,167,312.

Patented Jan. 4, 1916.

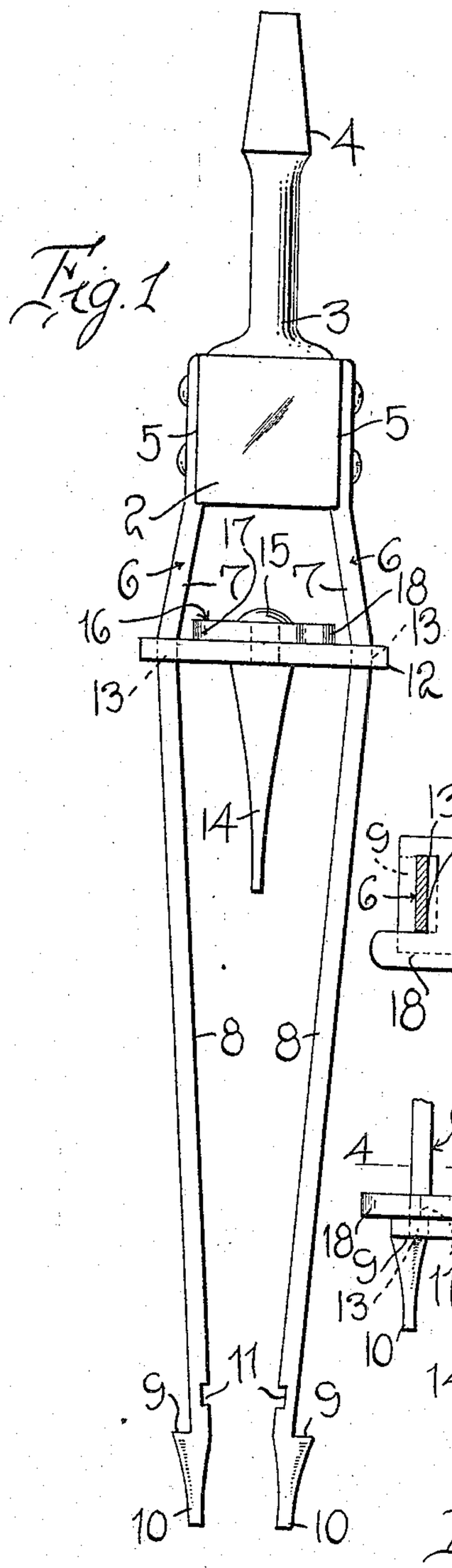

Fig. 1

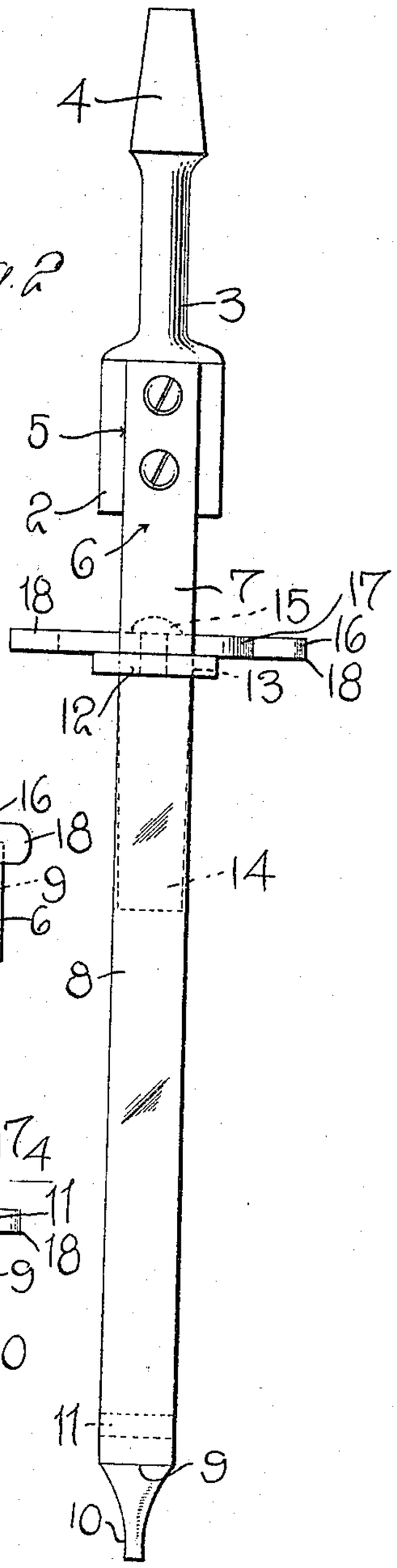

Fig. 2

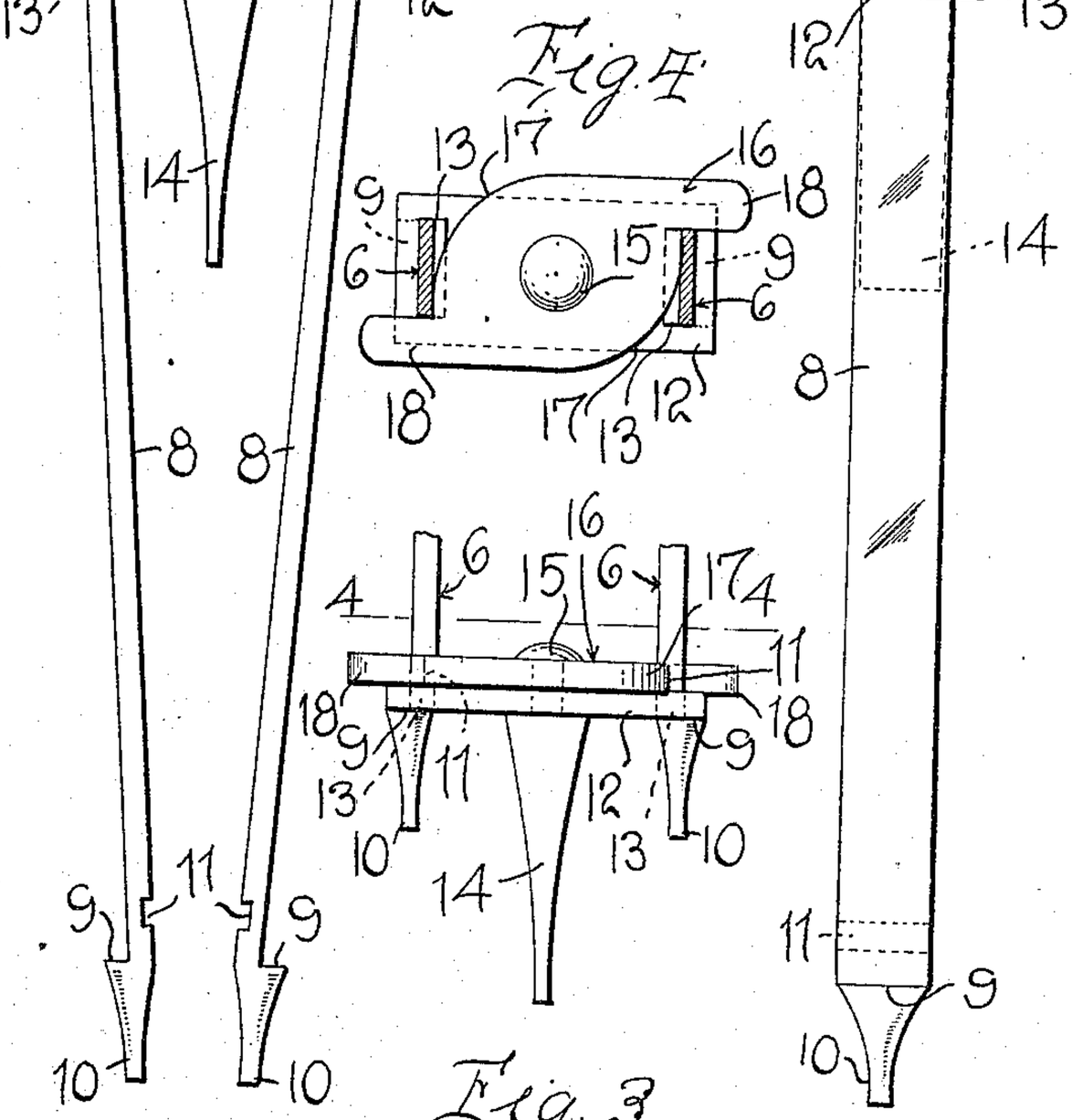

Fig. 3

Fig. 4

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VALVE-GRINDING TOOL.

1,167,312. Specification of Letters Patent. Patented Jan. 4, 1916.

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To all whom it may concern:

Be it known that I, GEORGE FRANKLIN NORTON, a citizen of the United States, residing at Fargo, in the county of Cass and State of North Dakota, have invented certain new and useful Improvements in Valve-Grinding Tools, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to tools for grinding valves, especially gas engine valves, and particularly to a tool designed to engage with either "dolly hole" or slotted valves.

The general object of my invention is the provision of a very simple tool for this purpose which is adjustable to any sized valve and can be operated by any ordinary brace.

A further object of my invention is the provision of a valve grinding device of the character described, including a pair of adjustable legs and a screw driver blade mounted upon said legs for movement either into an operative or an inoperative position, and a further object in this connection is to mount the screw driver blade upon a plate which shall control by its movement the adjustment of the legs and which when the blade is in its active or operative position shall be locked in engagement with the legs.

A further object is to provide a very simple locking means for the plate upon which the screw driver blade is mounted.

A further object is to make a device of this character which may be very cheaply made, readily assembled, and easily adjusted.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a front elevation of my valve grinding implement; Fig. 2 is a side elevation thereof; Fig. 3 is a fragmentary front elevation of the lower ends of the implement showing the blade 14 in its depressed or lowered position; Fig. 4 is a section on the line 4—4 of Fig. 3.

Referring to the drawing, 2 designates the body of my improved implement having a shank 3 terminating in a many-sided pyramidal head 4 adapted to be engaged with the ordinary brace used by carpenters. The opposite side faces of the body 2 are cut away to provide seats 5 for the upper ends of a pair of resilient legs 6. These legs, as illustrated, at their upper ends where they engage with the seats 5 are approximately parallel to the longitudinal axis of the shank 3. The legs are then bent outward slightly or in divergent relation, as at 7, and then extended downward and in a normally convergent relation, as at 8. The lower ends of the legs are formed with the outwardly extending shoulders 9, and below these shoulders the legs are tapered and rounded in cross section as at 10. The shoulders 9 are on the outer faces or sides of the legs 6 and said legs are formed on their inner sides and above the shoulders with notches or recesses 11.

Having sliding engagement with the legs 6 is an adjusting member 12 having the form of a plate provided at opposite ends with the slots 13 which are of such size as to receive and slide upon the legs 6. Riveted or otherwise attached to the under side of the plate 12 and depending from the plate is a blade 14, like the blade of a screw driver, and rotatably mounted upon the upper face of the plate 12 as by means of a rivet 15 is a locking member 16 comprising a plate having rounded opposite ends 17 and having extensions 18 whereby it may be turned. The rounded portions 17 of the plate are adapted to engage the recesses or notches 11 in the lower ends of the legs 8 when the locking member 16 together with the plate 12 is shifted down to the lower ends of the legs 8. When the locking member 16 is in the position shown in Fig. 1, it does not touch or engage with the legs 6, but when it is turned to the position shown in Fig. 4 then it does engage in the notches or slots 11 and locks the plate 12 in its lowered position with the blade 14 depending below the lower ends of the legs.

It will be seen that by adjusting the plate 12 up or down the legs 6 the lower ends of the legs will be forced out or drawn in so as to change the spacing between the ends 10. Thus the legs may be adjusted to suit valves having dolly holes at varying distances apart, or the device may be used for grinding those valves which are provided with slots in place of dolly holes, at which time the blade 14 will be used.

Having thus described my invention, what I claim is:

1. A valve grinding tool including a shank, spring legs attached to the shank and extending therefrom in spaced opposed rela-

tion, the legs being formed at their lower ends to engage in the dolly holes of a valve, and means for adjusting the legs in different spaced relation to each other.

2. A valve grinding tool including a shank, spring legs attached to the shank and extending therefrom in spaced opposed relation, the legs being formed at their lower ends to engage in the dolly holes of a valve, and means for adjusting the legs in different spaced relation to each other, said means including a member longitudinally movable along the legs.

3. An implement for grinding valves including a shank whereby the implement may be operated, oppositely disposed legs attached to the shank and extending therefrom in spaced relation, said legs normally extending upward and away from each other from their lower ends and being of resilient material, and an adjusting slide having sliding engagement with the legs and adjustable therealong to cause the legs to be spaced at different distances from each other.

4. An implement of the character described comprising a body having a shank extending therefrom formed with a head adapted to be engaged by a seat, legs attached to the head and extending downward and outward therefrom and then downward and slightly inward, the lower ends of the legs being formed to engage in the dolly holes of a valve, and means slidable along the legs for varying the distance between the legs.

5. An implement of the character described having a plurality of legs extending in approximately parallel relation and a blade disposed between the legs and movable longitudinally of the legs to dispose the blade with its edge inward of the like ends of the legs or projected beyond the ends of the legs, and means for locking the blade in its projected position, said means including a member rotatably mounted for movement into an operative or inoperative position, the legs being formed with notches with which said member is adapted to engage when in operative position.

6. An implement of the character described including a pair of flat resilient legs converging downward, the ends of the legs being formed to engage the dolly holes of a valve, the inner faces of the legs being transversely grooved above the terminal ends thereof, a sliding member having slots through which said legs pass and by which the legs are spread apart or permitted to contract, a locking member pivotally mounted upon said sliding member, the legs being formed near their lower ends and on their inner sides with notches for engagement by said plate, and a blade carried by said sliding members, for the purpose specified.

7. A tool of the character described including a shank, substantially downwardly extending legs projecting from the shank, a plate having slots through which said legs pass, the plate being adjustable along the legs to adjust the difference between the legs, a tool carried upon said plate, said tool when the plate is disposed adjacent the terminal ends of the legs being projected beyond the legs, and means for locking the plate in the last-named position comprising a cam-shaped locking member rotatably mounted upon the plate, the legs being formed near their lower ends with recesses in which the cam-shaped member is adapted to engage, for the purpose specified.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORGE FRANKLIN NORTON.

Witnesses:

CHAS. W. PFEFFER,

MARIAN MOOREHEAD.