C. A. HERLE.

VALVE GRINDING TOOL.

APPLICATION FILED OCT. 1, 1909.

995,002

Patented June 13, 1911.

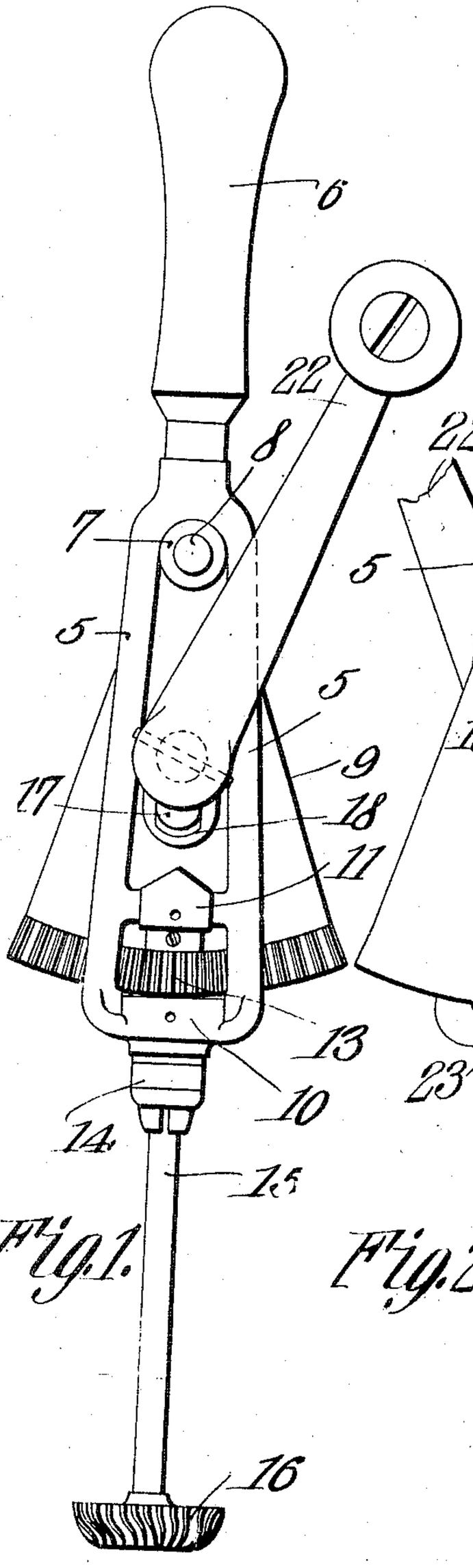

Fig. 1.

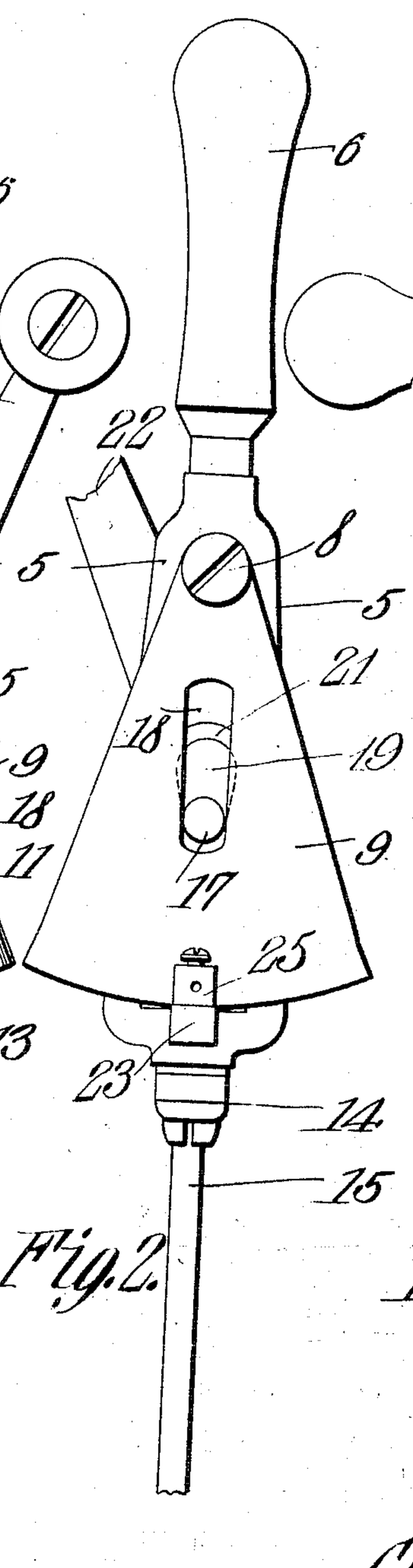

Fig. 2.

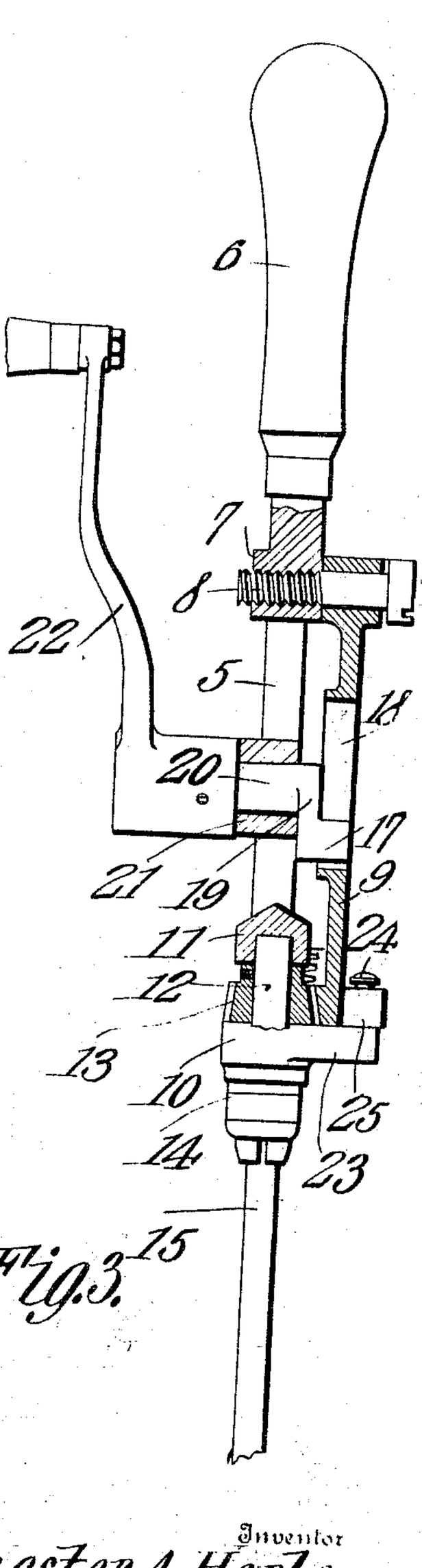

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

CHESTER A. HERLE, OF ROCHESTER, NEW YORK.

VALVE-GRINDING TOOL.

995,002. Specification of Letters Patent. Patented June 13, 1911.

Application filed October 1, 1909. Serial No. 520,465.

To all whom it may concern:

Be it known that I, CHESTER A. HERLE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Valve-Grinding Tool, of which the following is a specification.

This invention relates to valve grinding tools which are hand-operated, and it is the object of the present invention to provide a tool of this kind which is simple in structure, and which can be easily operated.

The invention also has for its object to provide an improved mechanism for imparting an alternating rotary movement to the grinding disk.

With the foregoing objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawing hereto annexed forming a part of this specification, in which drawing—

Figure 1 is a front elevation of the tool. Fig. 2 is a rear elevation. Fig. 3 is an edge view partly in section.

Referring to the drawing, the supporting frame of the tool comprises spaced bars 5 which are connected at one end, and fitted with a handle 6. This end of the frame is also formed with a boss 7 into which a pivot pin 8 screws, said pin extending transversely of the frame, and supporting for oscillating movement, a bevel gear segment 9. At the opposite end of the frame are bearings 10 and 11 in which is mounted a spindle 12 carrying a bevel pinion 13, the latter being keyed or otherwise fastened to the spindle and located between the bearings. The pinion meshes with the gear 9. The spindle 12 is fitted with a chuck 14 which clamps the shank 15 of the grinding disk 16, the bearing 11 is arranged to take the end thrust on the spindle.

By the hereindescribed gearing, an alternating rotary movement will be imparted to the grinding disk when the gear 9 is oscillated. The spindle 12 and shank 15 are in alinement with the longitudinal axis of the supporting frame and the handle, in view of which the tool can be easily grasped and held pressed against the work.

The gear 9 is operated by means of a crank pin 17 working in a slot 18 made in said gear. If desired the pin may carry an anti-friction roller or sleeve. The pin is carried by a crank 19 on a shaft 20 mounted in a bearing boss 21 formed between the bars 5 intermediate their ends. Rotation of the crank handle oscillates the gear 9, and through the pinion 13 imparts an alternating rotary movement to the grinding disk 16.

From the bearing 10 extends laterally an arm 23 which carries at its outer end a stud 24 on which is rotatably mounted a roller 25 which engages the back of the gear 9 adjacent to its periphery, and which serves to guide the same, and to reduce friction.

The tool herein described is simple in construction, and can be easily operated. The grinding disk 16 is held against the valve seat by means of the handle 6, and the disk is operated by turning the crank handle 22. The handle 6 is grasped with one hand, leaving the other hand free to operate the crank handle.

The tool may also be employed as a drill or screw-driver, the grinding disk 16 in this case being removed and replaced by a drill or screw-driver.

What is claimed is:

A tool of the class described comprising a supporting frame provided with a handle, a spindle carried by the frame, a chuck and a bevel pinion on the spindle, a bevel gear mounted on the frame, and meshing with the pinion, means for operating the gear, an arm projecting laterally from the frame, a stud carried by the arm, and a roller mounted on the stud behind the pinion, and engaging the back of the gear adjacent to its periphery.

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

CHESTER A. HERLE.

Witnesses:

S. S. HORTON,

W. J. WOEMER.