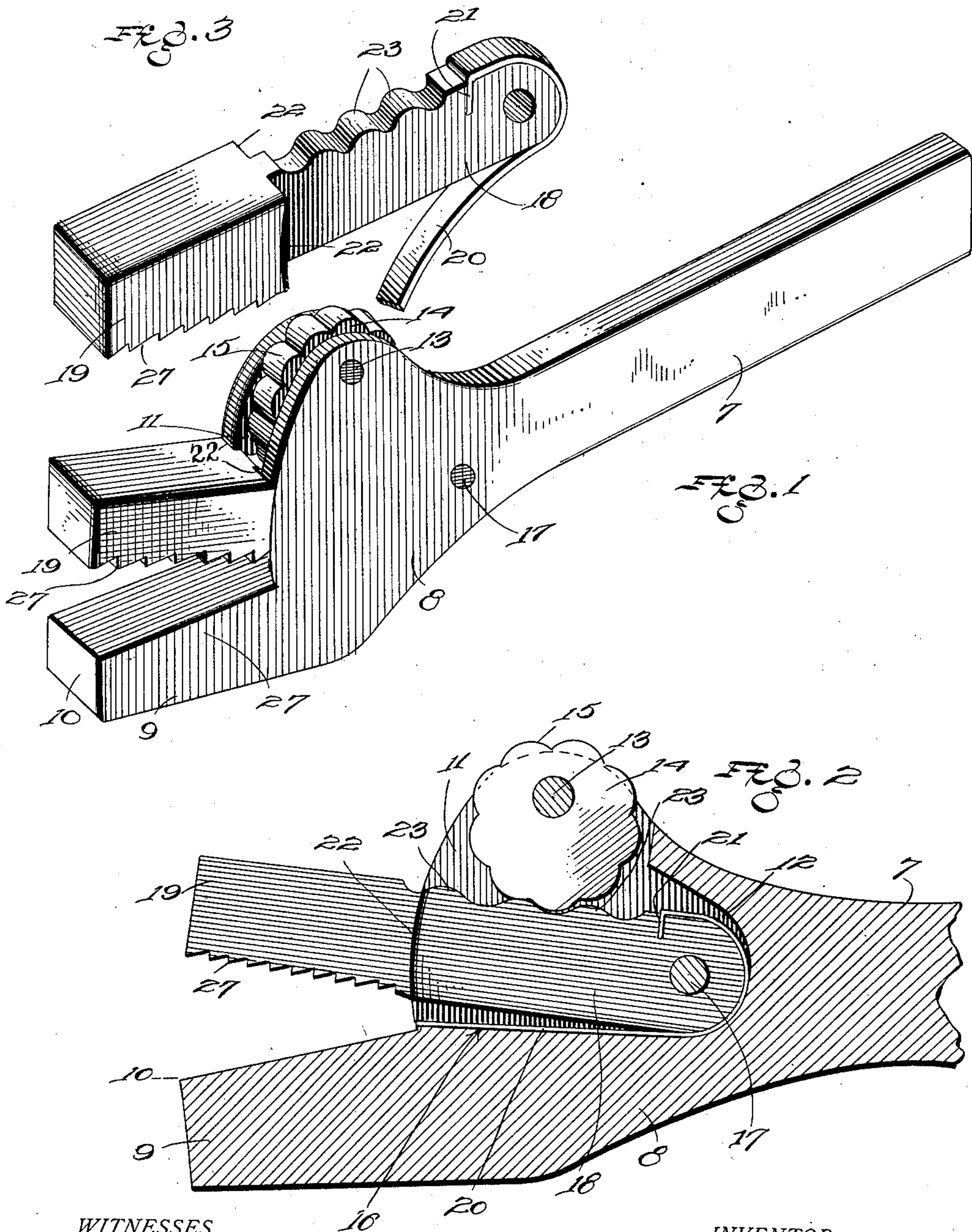


E. H. SMITH.  
ADJUSTABLE ALLIGATOR WRENCH.  
APPLICATION FILED JAN. 12, 1911.

997,156.

Patented July 4, 1911.

2 SHEETS—SHEET 1.



WITNESSES

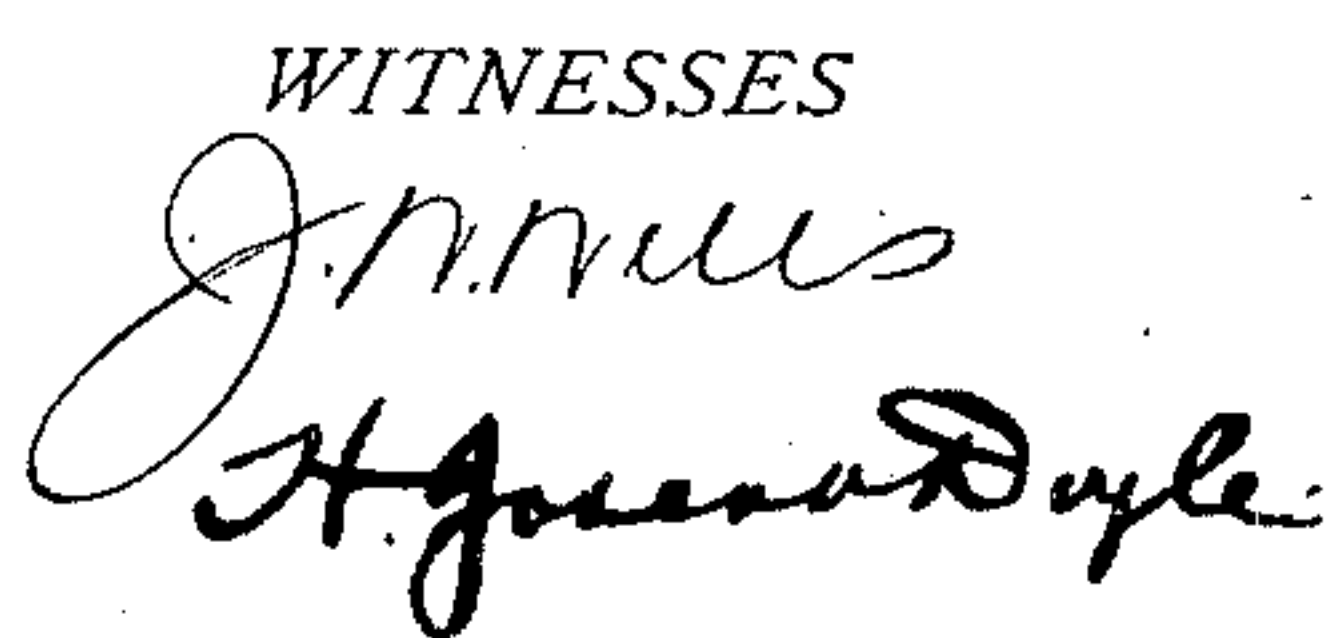
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997,156.

2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE ALLIGATOR-WRENCH.

997,156.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed January 12, 1911. Serial No. 602,253.

*To all whom it may concern:*

Be it known that I, EDWARD H. SMITH, a citizen of the United States, residing at Aberdeen, in the county of Chehalis and State of Washington, have invented certain new and useful Improvements in Adjustable Alligator-Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wrenches of the alligator jaw type, and the principal object of the same is to provide a wrench which includes a stationary and a movable jaw with means for locking the movable jaw in an adjusted position relative to the stationary jaw, and also to provide means that will force said movable jaw away from the stationary jaw when the locking means is released.

In carrying out the objects of the invention generally stated above, it will be understood, of course, that the essential features of the same are susceptible of changes in details and structural arrangements, preferred and practical embodiments of which are shown in the accompanying drawings, wherein:—

Figure 1 is a perspective view of one form of the improved wrench. Fig. 2 is a fragmentary longitudinal sectional view thereof. Fig. 3 is a detail perspective view of the movable jaw of the wrench. Fig. 4 is a view similar to Fig. 1, but showing another form of the invention. Fig. 5 is a fragmentary vertical longitudinal sectional view of the wrench shown in Fig. 4. Fig. 6 is a fragmentary transverse sectional view taken on the line 6—6, Fig. 5.

Referring to the accompanying drawings by numerals, and particularly to Figs. 1, 2 and 3 thereof, it will be seen that the improved wrench comprises a handle 7 having an enlarged head 8 at one end, the ends of said head projecting well beyond the longitudinal edges of the handle and merging into said edges on easy curves. One end of said head 8 has a rigid and preferably integral jaw 9 projecting therefrom, the grasping surface 10 of which is on an incline. The head 8 is provided with a recess 11 that is open at the front and at the end opposite the jaw 9, the rear portion 12 of said recess being reduced. At the open end of said recess 11, the side walls carry a transverse pivot shaft 13 upon which a

disk 14 is eccentrically mounted, said disk having its periphery provided with transverse corrugations 15. The base of the recess 11 is flat and elongated to provide a spring seat 16.

A pivot shaft 17 extends transversely across the reduced rear portion 12 of recess 11 and has the reduced shank 18 of a movable jaw 19 mounted thereon. The rear end of the shank 18 is shaped to conform to the contour of the end wall of the rear portion 12 of recess 11, and a spring 20 is fitted over the said rear end of the shank 18 and has its upper end 21 bent at right angles and forced into the upper longitudinal edge of said shank. The elongated free portion of the spring 20 lies on the spring seat 16. At the junction of the jaw 19 and its shank 18, guiding shoulders 22 are formed and are shaped to conform to the contour of the rounded front edges of the head 8. The shank 18 has its upper edge provided with transverse corrugations 23 complementary to the corrugations of the disk 14.

It will be clear from the foregoing that the spring 20 tends to force the jaw 19 away from jaw 9, and that said jaw 19 is forced into clamping position relative to said jaw 19 by rotating disk 14 so that its corrugations will mesh with the corrugations of the shank 18. By this arrangement, when disk 14 is rotated in one direction, jaw 19 is moved toward jaw 9 against the tension of spring 20, and when rotated in an opposite direction, the disk is disengaged from the shank and the tension of said spring 20 moves jaw 19 away from jaw 9.

In the form of the invention shown in Figs. 4, 5 and 6, the end of the recessed head 8 opposite the rigid jaw 9 is closed by a flat wall 24 and a threaded opening 25 is formed transversely through said wall 24 for the reception of a set screw 26 that adjusts the movable jaw 19 toward the rigid jaw 9 against the tension of the spring 20. In this form of the invention it is obviously not necessary to provide the shank 18 with corrugations.

In both forms of the invention it will be clear that the movable jaw is moved toward the rigid jaw by manually operated means, and away from said jaw by the automatic action of the spring 20 when said manually operated means are released.

One or both of the jaws 9 and 19 may have



their grasping surface provided with teeth 27 so that they will firmly grasp the article to be rotated.

What I claim as my invention is:—

5 1. A wrench comprising a handle provided with a head, said head being provided with a recess having one end and the front open and the rear reduced, a rigid jaw projecting from the said head at the base of said recess, a 10 pivot shaft extending across the reduced portion of said recess, a movable jaw having a shank mounted on said shaft, a spring carried by said shank and having a free portion in contact with the base of said recess for 15 normally holding the movable jaw away from the rigid jaw, a pivot shaft extending across the open end of said recess, and an eccentric thereon for adjusting the movable jaw toward the rigid jaw against the tension 20 of said spring.

2. A wrench comprising a handle provided with a recessed head, a rigid jaw carried by said head, a movable jaw having a shank 25 pivotally mounted in said head, said shank provided with corrugations, tension means for forcing said movable jaw away from said rigid jaw, and an eccentric pivotally mounted in said recess and having a corru-

gated periphery for engaging the corruga- tions of the shank to adjust the movable jaw 30 toward the rigid jaw.

3. A wrench comprising a handle provided with a head, said head being provided with a recess having an enlarged open front and a reduced rear, the front edges of said recess 35 being rounded, a rigid jaw projecting from the head at the base of the recess, a pivot shaft extending across the reduced portion of said recess, a movable jaw having a shank mounted on said shaft and provided with 40 guiding shoulders that are curved to conform to the contour of and slidably engage the front edges of said recess, a spring carried by said shank and having a free por- 45 tion in contact with the base of said recess for normally holding the movable jaw away from the rigid jaw, and means for adjusting the movable jaw toward the rigid jaw against the tension of said spring.

In testimony whereof I hereunto affix my 50 signature in presence of two witnesses.

EDWARD H. SMITH.

Witnesses:

SCOTT MORRIS,  
HIRAM C. ADAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."