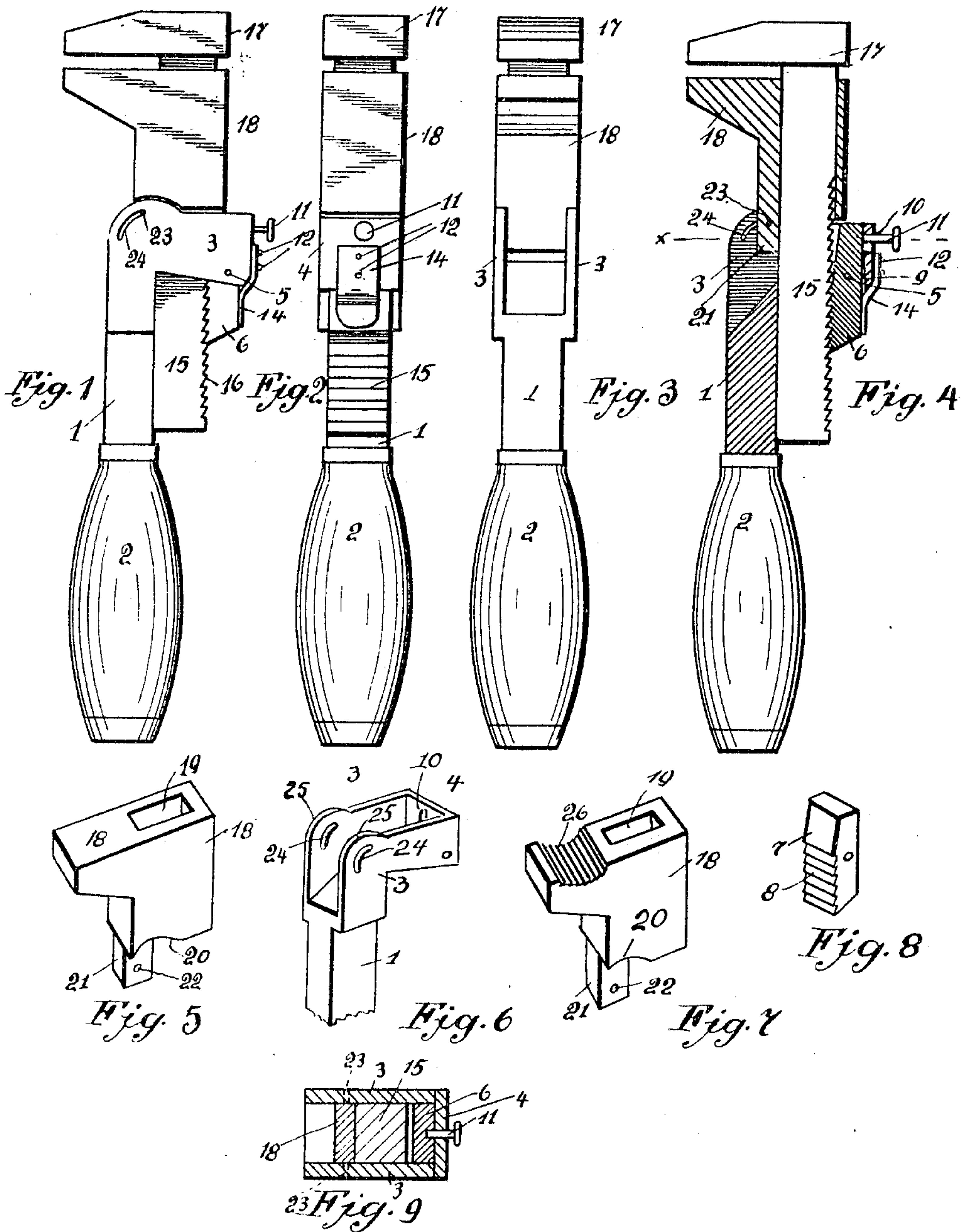


No. 798,955.

PATENTED SEPT. 5, 1905.

W. FRAZER.
WRENCH.

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Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM FRAZER, OF SHERRETT, PENNSYLVANIA.

WRENCH.

No. 798,955.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM FRAZER, a citizen of the United States of America, residing at Sherrett, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in wrenches, and more particularly to that type of wrench commonly known as a "monkey-wrench."

15 This invention has for its object to provide a novel form of wrench that can be easily and quickly adjusted to grip objects of various sizes.

20 Another object of this invention is to provide a wrench which will be extremely simple in construction, strong and durable, comparatively inexpensive to manufacture, and highly efficient for the purposes for which it is to be used.

25 With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described and then specifically pointed out in the claims, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

30 Figure 1 is a side elevation of my improved wrench. Fig. 2 is a rear edge view of the same. Fig. 3 is a front view of the wrench. Fig. 4 is a vertical sectional view of the wrench, partly in side elevation. Fig. 5 is a perspective view of a movable jaw used in connection with my improved wrench. Fig. 6 is a perspective view of one end of the shank of my improved wrench. Fig. 7 is a perspective view of a modified form of movable jaw that may be employed in connection with my improved wrench. Fig. 8 is a perspective view of a locking member, and Fig. 9 is a transverse sectional view taken on the line *x x* of Fig. 4.

35 In the accompanying drawings the reference-numeral 1 designates a shank carrying a suitable handle 2. The upper end of the shank 1 is bifurcated to form transverse walls 3 3. Carried by the edges of said side walls is a strap 4, which is preferably formed integral with said walls. In the strap 4 is pivotally mounted by 40 a pin 5 a member 6, one side of which is beveled, as indicated at 7, and serrated, as indi-

cated at 8. The rear wall of the strap 4 is beveled or tapered, as indicated at 9, and is provided with a vertically-disposed slot 10, through which protrudes a headed pin 11, carried by the upper end of the member 6. To the front face of the strap 4 is secured, as indicated at 12, a spring 14, adapted to bear against the front or plane surface of the member 6.

65 In the strap 4 is adapted to be mounted an auxiliary shank 15, which is serrated upon its front edge, as indicated at 16. The auxiliary shank carries a fixed head or jaw 17, and upon the shank 15 is mounted a movable jaw 18. This jaw is provided with a vertically-disposed aperture 19, adapted to receive the shank 15, and the lower edge of the jaw is cut away, forming a curved surface, as indicated at 20. The jaw 18 is provided with a depending lug 21, having an aperture 22 formed therein. When the jaw 18 is mounted upon the auxiliary shank 15 and the shank 15 is placed within the strap 4, the depending lug 21 is adapted to rest between the walls 3 3 of the main shank 1, and said lug is retained therein by a pin 23, extending through the substantially segment-shaped slots 24, formed in the walls 3 3 and the aperture 22 of the lug 21.

85 The operation of my improved wrench is as follows: When it is desired to adjust the movable jaw 18 of the wrench, the pin 11 is pressed, which will cause the serrated portion of the member 6 to move out of engagement with the serrated edge 16 of the auxiliary shank 15, at which time the movable jaw 18 and the shank 1 can be adjusted upon the auxiliary shank 15. When the movable jaw has been so adjusted and the pin 11 released, the spring 14 returns the member 6 to its normal position in engagement with the serrated edge 16 of the auxiliary shank 15, and the shanks 1 and 15 will be locked in engagement with one another. After the movable jaw 18 has been moved into as close proximity to the object as possible a still further engagement of the movable jaw with the object is accomplished by moving the shank 1 outwardly from the auxiliary shank 15, the curved edges 25 25 of the walls 3 engaging the curved surface 20 of the movable jaw and moving it into further engagement with the object being gripped. This movement is permitted through the movement of the beveled or tapering face 9 of the strap 4 and the slot 10 of said strap, the spring 14 at all times re-

taining the member 6 in engagement with the auxiliary shank 15 during this minute adjustment.

In Fig. 7 of the drawings I have illustrated
5 a movable jaw that may be used in lieu of the jaw 18 previously described, the only difference being that I provide the gripping-surface of said jaw with a serrated concavity or recess 26, and this jaw is preferably employed when it is desired to use my improved
10 wrench for gripping curved surfaces and such articles as pipes and rods.

A wrench constructed in accordance with my invention can be easily and quickly manipulated and a positive and effectual gripping of an object accomplished. I have entirely dispensed with the use of screw-threads, commonly employed in connection with
15 wrenches, and have employed a construction not readily injured by rough handling or apt to break when considerable leverage is used in connection with the rotation of an object or article by my improved wrench.

While I have herein shown and described
25 the preferred manner of constructing my improved wrench, it is obvious that various changes may be made in the details of construction without departing from the general spirit and scope of the invention.

30 What I claim, and desire to secure by Letters Patent, is—

1. In a wrench of the character described, the combination with a shank having a handle and a bifurcated upper end, of a strap carried
35 by said shank, an auxiliary serrated shank mounted in said strap and carrying a fixed jaw, a serrated member pivotally mounted within said strap, a pin carried by said mem-

ber and protruding through said strap, a movable jaw mounted upon said auxiliary 40 shank, said movable jaw being formed with a depending lug adapted to rest in the bifurcated upper end of the main shank, said main shank being provided with curved slots in its walls, and a pin passing through said slots 45 and through the depending lug of the movable jaw.

2. In a wrench of the character described, the combination with a main shank having a handle, a rearwardly-projecting stirrup and 50 curved slots in the side walls of the stirrup, of a toothed auxiliary shank having a fixed jaw, said auxiliary shank being slidably mounted in said stirrup, a toothed member pivotally mounted in said stirrup and having 55 its inner and outer surfaces oppositely beveled, a pin carried by said member and projecting through said stirrup, a spring carried by said stirrup and bearing on said member, a movable jaw mounted on said auxiliary 60 shank, and having a lug on its lower end projecting through the walls of the stirrup and a pin passing through the curved slot in the stirrup and passing through said lug, said stirrup being formed with a curved surface 65 adapted to bear against the lower edge of the movable jaw and move the latter on the auxiliary shank when the main shank is moved to an angular position with relation to the auxiliary shank. 70

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

WILLIAM FRAZER.

Witnesses:

SAMUEL GROVES,
CALVIN JOHNS.