

No. 897,163.

PATENTED AUG. 25, 1908.

T. T. SHAW.  
GRAPPLING TONGS.  
APPLICATION FILED MAR. 27, 1908.

Fig. 1.

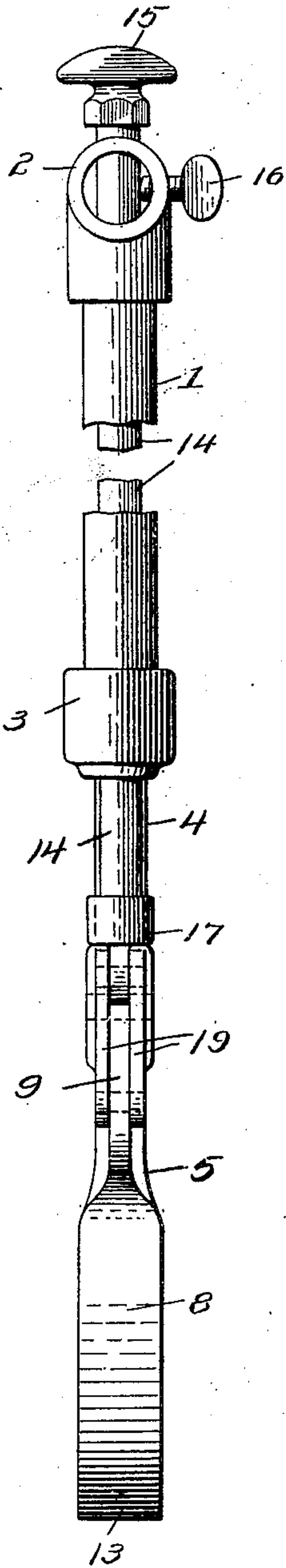


Fig. 3.

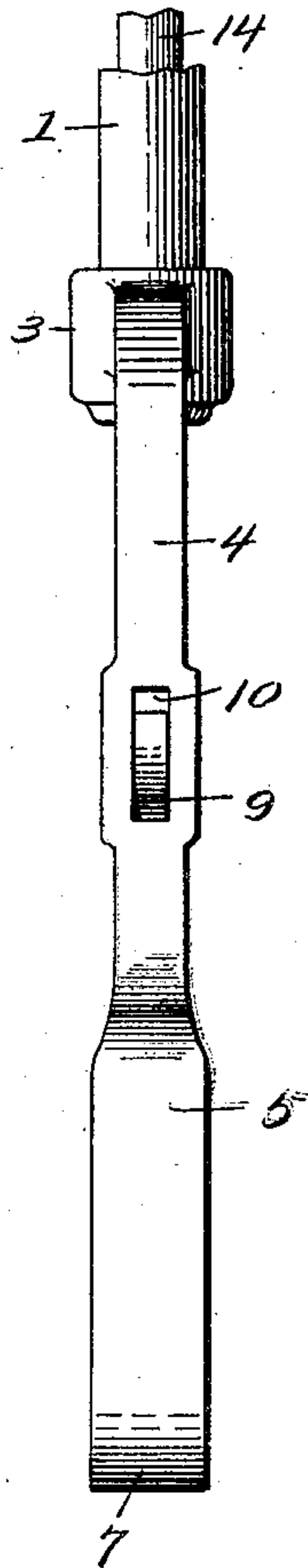
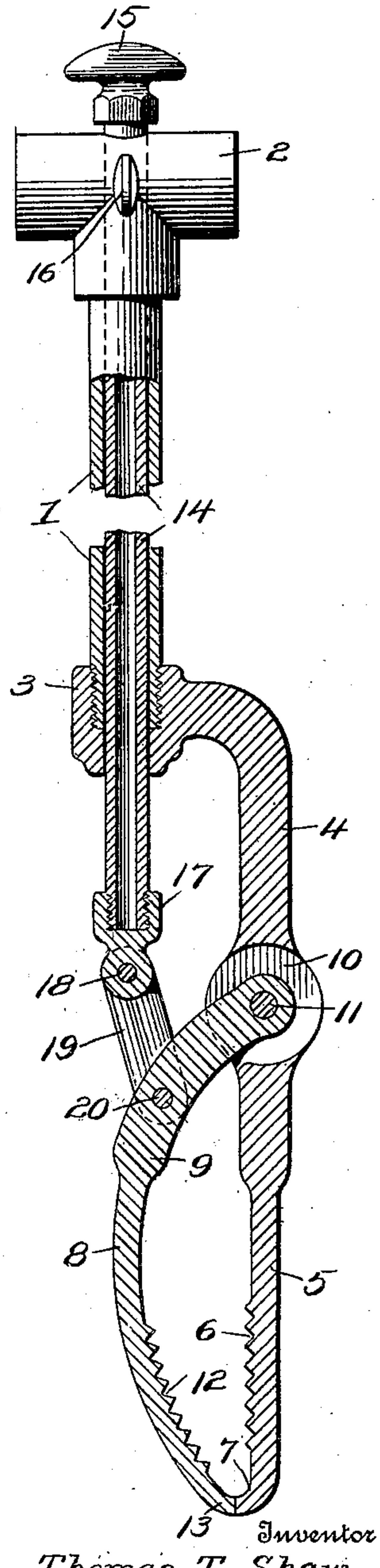


Fig. 2.



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Witnesses

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# UNITED STATES PATENT OFFICE.

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## GRAPPLING-TONGS.

No. 897,163.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed March 27, 1908. Serial No. 423,732.

*To all whom it may concern:*

Be it known that I, THOMAS T. SHAW, a citizen of the United States, residing at Germantown, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Grappling-Tongs, of which the following is a specification.

This invention relates to certain new and useful improvements in grappling tongs, the object of the invention being to provide a novel construction of tongs for removing obstructions from water closet bowls, drain traps, stop boxes, pipes, etc., which tongs may be easily applied and removed and manipulated to grasp the obstruction and hooked into engagement with obstructions which cannot be readily grasped.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a front elevation of a pair of grappling tongs embodying my invention. Fig. 2 is a vertical longitudinal section through the tongs. Fig. 3 is a rear elevation of the lower portion thereof.

Referring to the drawing, 1 designates a hollow shank, which may be of any desired length, and is threaded at its outer or upper end for the reception of a handle or grip 2, shown in the present instance in the form of a hollow T-piece. The opposite end of the shank is threaded to fit within a socket piece 3 upon the upper or rear end of an arm 4 carrying a straight fixed or stationary jaw 5 provided with a series of serrations or gripping teeth 6 and a forwardly projecting point or end portion 7. The rear end of the arm 4 is curved at its point of connection with the socket piece 3 to project the jaw 5 rearwardly of and in a plane parallel with the shank 1.

A longitudinally curved swinging jaw 8 is provided for cooperation with the jaw 5 and is provided with an arm or shank 9 pivoted at its free end in a slot 10 formed upon the arm 4 at its point of junction with the fixed jaw upon a pin 11 extending across said slot, and the free end of said jaw is formed with a toothed or serrated gripping surface 12 and an inwardly or rearwardly turned pointed end 13 adapted to abut against the pointed end 7 of fixed jaw when the jaws are closed.

An operating rod 14, which may be hollow

or tubular, is fitted to slide through the hollow shank 1 and through the grip 2 and socket piece 3, and is provided at its upper end with a knob or finger piece 15 by which it may be manipulated. A set screw 16 is mounted on the grip 2 to engage and hold this rod in adjusted position. The lower end of the rod is threaded to fit within the threaded portion or socket of a knuckle 17, which is connected by a pin 18 with the upper or rear ends of a pair of links 19, which are pivoted at their forward ends to the arm 9 by a pin 20.

It will be understood from the foregoing description that by means of the knob or finger piece 15 the rod 14 may be moved longitudinally within the hollow shank 4 to communicate motion to the jaw 8 through the links 19 to swing said jaw to any position of adjustment, and that the parts may be secured in adjusted position by the set screw 16.

In the use of the device in removing obstructions from a pipe, trap, bowl or stop box, it will be understood that it may be thrust downwardly into the same with the jaw 8 partially open until the jaws come in contact with the obstructing object, when by opening the jaw 8 to the desired extent, thrusting the device forwardly to inclose the object between the jaws and then adjusting the jaw 8 into gripping position the object may be grasped and readily and conveniently removed, the adjusting means described permitting the movable jaw to be operated conveniently from the exterior of the pipe. By reason of the fact that the fixed jaw throughout is straight and parallel with the shank, such portion of the tool may ride in contact with one of the walls of the pipe or trap to guide the device in its movement and to occupy but comparatively little space so as to give an increased range of space or movement for the swinging jaw. The arc of movement of the swinging jaw and arrangement of its toothed surface 12 relative to the toothed surface 6 of the fixed jaw insures the gradual bringing of the surface 12 on the outward movement of the swinging jaw into a position more or less parallel with the surface 6, so that when the swinging jaw is opened objects of comparatively large size may be firmly grasped between the toothed surfaces. Small objects may be gripped between the pointed ends 7 and 13 of the two jaws, either one of which may be thrust through or hooked



into engagement with objects, such as cans, boxes and the like which cannot be easily engaged or gripped otherwise.

Having thus fully described the invention,  
5 what is claimed as new is:—

1. Grappling tongs comprising a hollow shank, an arm secured at one end to one of the ends of the shank and extending forwardly therefrom, said arm being provided at its forward end with a fixed jaw having gripping teeth and a forwardly projecting point, the rear end of the arm being curved or offset to project said arm and jaw in rear of the shank and in a plane parallel therewith, a longitudinally curved movable jaw having gripping teeth and a pointed end for coöperation with the corresponding portions of the fixed jaw, and provided with a curved arm pivotally connected with the arm of the fixed jaw at a point in advance of the forward end of the shank, a rod longitudinally slidable in the hollow shank, and a link connection between

the forward end of said rod and the curved arm of the movable jaw.

2. Grappling tongs comprising a hollow shank, a fixed jaw carried by the shank, said jaw being disposed on a line at one side of and parallel with the shank and having a toothed surface and an outwardly or forwardly projecting point, a longitudinally curved swinging jaw having a correspondingly curved arm pivoted at its rear end to the fixed jaw and provided with a coöperating toothed surface and an inwardly projecting point, an operating rod slidably mounted in the shank, and a link connecting said rod with the arm of the swinging jaw.

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

THOMAS T. SHAW.

Witnesses:

WINFIELD S. H. KNOFF,  
ANNIE E. CONNELL.