July 7, 1931. F. P. BROCKSCHMIDT 1,813,695

TONGS

Filed Aug. 15, 1930

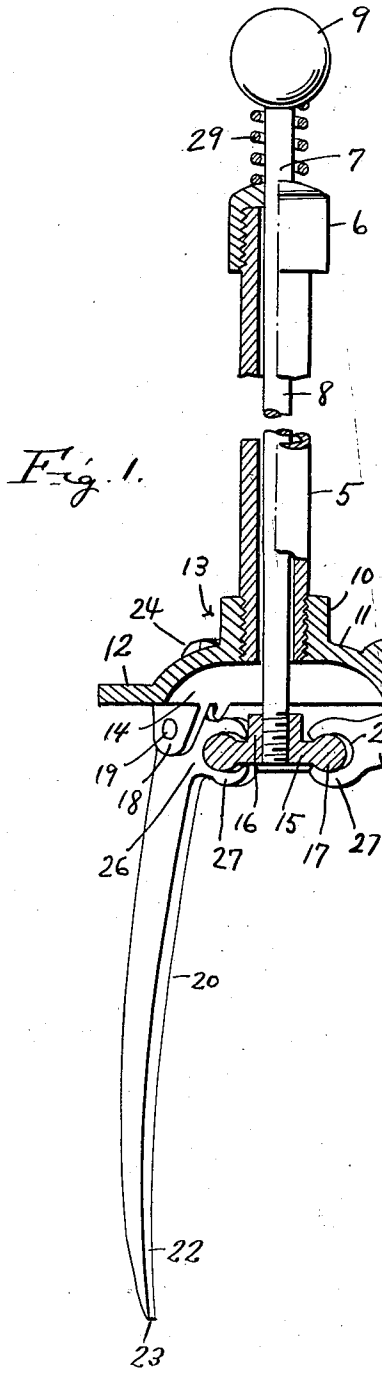


Fig. 1.

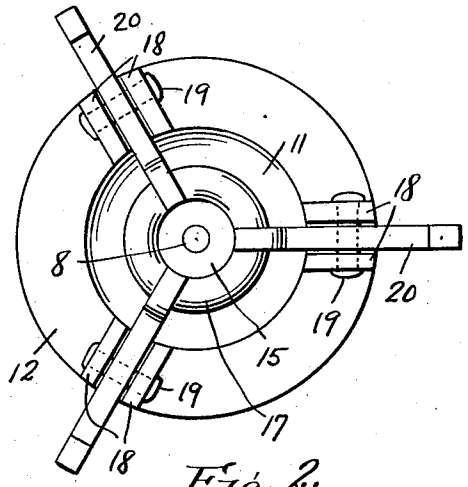


Fig. 2.

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TONGS

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This invention relates generally to tongs provided with a long extension handle, for reaching the tongs into underground storage pits, sewer main traps, or frost-proof closets placed below ground level, into which articles such as tin cans, bottles, small sticks and the like fall, and must be removed, and it is the particular purpose of this invention to provide an efficient and satisfactory tongs for reaching into said places, and grasping said articles, so that they may be removed by withdrawing the improved tongs.

It is an object of this invention to provide an improved tongs of the type described, which is composed of few and simple parts, which is rugged and serviceable, and which is cheap and extraordinarily easy to manufacture.

It is also an object of this invention to provide a device of the character described which is as far as possible made up of standard and readily purchasable parts.

It is also an object of this invention to provide a tongs of the type described, which will be quick and positive in operation, simple to manipulate and certain and strong in its gripping function.

These and other and further objects which will appear as the description proceeds, the nature of the invention, its composition and arrangement and combination of parts will be fully understood by anyone acquainted with the art to which this invention relates upon consulting the following description of the drawings, in which:

Figure 1 is a view of my complete tongs partly in elevation and partly in vertical longitudinal section.

Figure 2 is a bottom view.

It is to be definitely understood that I do not desire to limit the application of this invention to the particular modification set forth herein, and any change or changes may be made in material and structure consistent with the spirit and scope of the invention.

In detail in the drawings, 5 indicates a tubular casing which may be a section of pipe threaded at both ends exteriorly. Threaded on the upper end is a cap 6 having a central aperture 7 through which an operating rod 8 is adapted to reciprocate. The upper end of the rod 8 is provided with a ball handle 9 and the lower end of the rod 8 projects through and beyond the lower end of the casing 5.

Threaded on the lower end of the casing 5 is a collar 10 having projecting from its lower edge portion outwardly and downwardly directed flange 11 which has a horizontally and laterally projecting flange 12. The collar 10, the flange 11 with the flange 12 form a body generally designated 13 which has an upwardly concaved recess 14 in its lower side for freely accommodating the upward motion of a disc 15 which is mounted by a collar 16 on the lower end of the shaft 8.

The edge portions of the disc 15 are provided circular in cross section as at 17. The special formation of the body 13 provides an improved arrangement of co-acting parts which greatly increase the efficiency and strength of operation of the tongs as will be understood by anyone familiar with the art.

The lower face of the flange 12 is provided at intervals with pairs of lugs 18, between which are journalled pivots 19, on which ride claws generally designated 20. The claws 20 are formed of depending bars 21 which are slightly bowed inwardly as at 22 in the familiar manner of a claw, and pointed at the lowermost portion as at 23.

The upper end of the claw 20 is provided with a stop face 24 which abuts a projection on the outer upper portion of the flange 11 indicated at 25 to limit the outward movement of the claw 20. At a point a short distance below the stop face 24 and so placed that the stop face 24 coincides with the portion 25, is provided a pivot 19 which engages through the lugs 18 and the claw 20, to pivotally maintain the claw in said disposition.

Projecting inwardly from and contiguous to the pivoted portion of the claw is an arm 26, whose end portion is bifurcated and the furcations 27 are bent or otherwise formed so that they loosely grasp the circular outer

portion of the disc 15. The inner end of the bight of the U-shaped formation is rounded as at 28.

It is thought to be obvious that upon the reciprocation of the rod 8 by the ball handle 9, the claws 20 will be swung inwardly and outwardly, and upon full retraction of the rod 8, the point 23 of the claws will be brought into close or closed position, for grasping objects.

It is intended that some spring means such as that of a coiled spring indicated at 29 shall be provided to contact the under part of the ball 9 and the upper part of the cap 6 for retaining the bar 8 in fully retracted position, and of sufficient strength to retract the said bar with sufficient force to enable the claws 20 to firmly grasp objects, desired to be lifted.

It is intended to manufacture the casing 5 of a sufficient length say five or six feet, for use in deep traps, and storage chambers, to enable a person on the ground level to reach into said traps and the like and remove obstructions and articles therefrom without descending into the trap or withdrawing same from the ground.

It will be understood that I have provided a device of the character described, which is admirably adapted for the purpose for which it was designed, and which is of simple and few parts, which may be cheaply and easily manufactured, and which is highly efficient and satisfactory in operation.

I claim:

A tongs of the type described comprising a tubular casing threaded at both ends, a cap screw-threaded on the upper end of the casing and provided with a central aperture, a rod for reciprocation within the casing, and through the said aperture, a ball handle on the upper end of the rod, and a claw operating disc screw-threaded on the lower end of the rod, and a collar screw-threaded on the lower end of the casing, a downwardly and outwardly flared flange at the lower end of said collar, and a laterally directed flange on the outer lower end of said first named flange, and a plurality of pairs of depending lugs on the lower surface of the last mentioned flange, and stop members formed adjacent to and above said lugs on the upper surface of the last mentioned flange, a pivot through said pairs of depending lugs, and claws pivoted near their upper ends between each of the lugs of said pairs, a projection on the upper end of said claws above said pivotal point, adapted to engage against said stop members, and inwardly and laterally directed arms projecting from said claws adjacent the pivotal points and the inner end portions of the arms adapted to be engaged with the said disc, said disc comprising a collar, a circular flange on the lower end of the collar, and the outer end portions of the flange expanded to have a circular cross section.

In testimony whereof I affix my signature.

FREDERICK PHILIP BROCKSCHMIDT.