

E. A. BOLE.

GRIPPING TONGS.

APPLICATION FILED JULY 13, 1909.

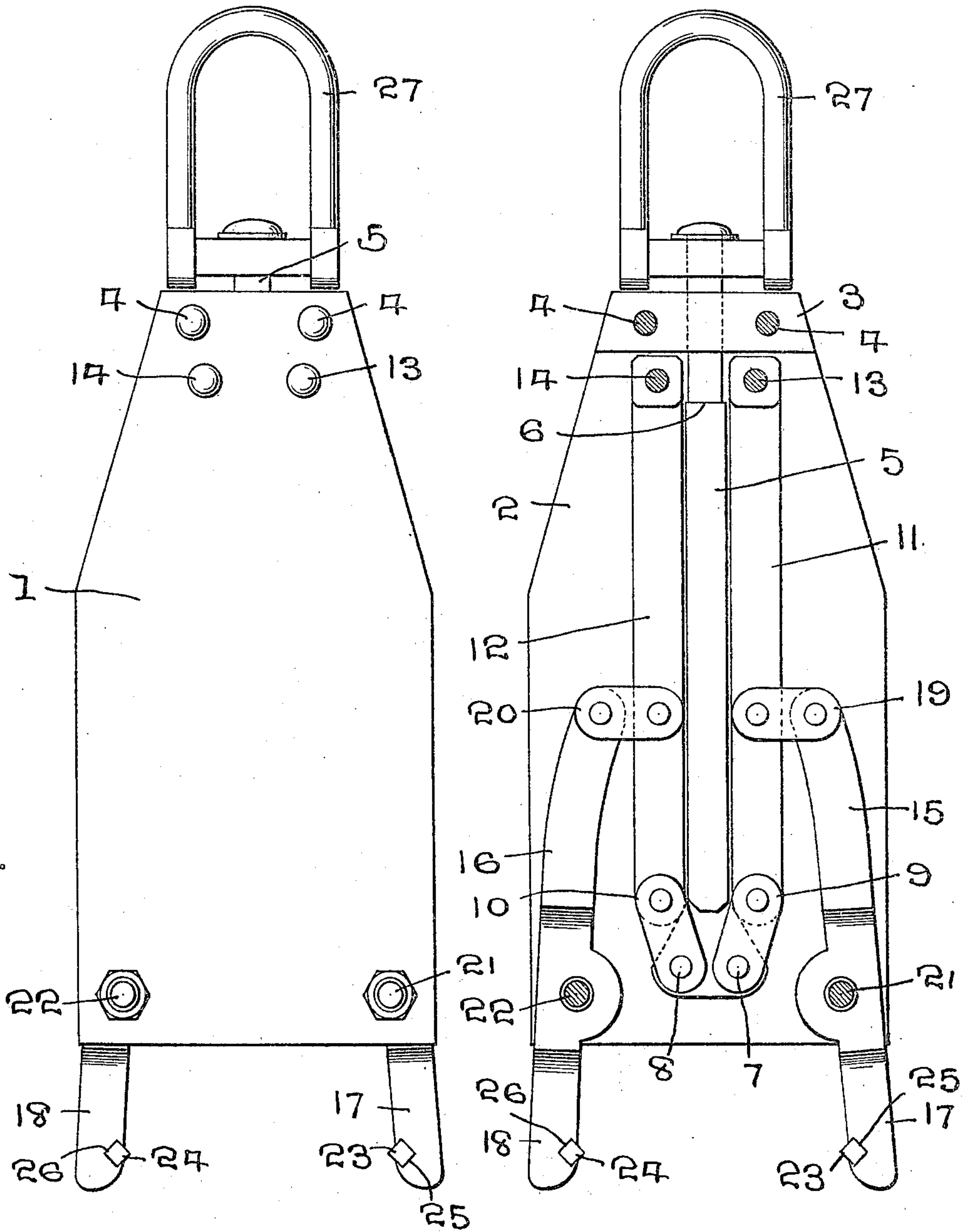
952,095.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

Fig. 2.



WITNESSES:

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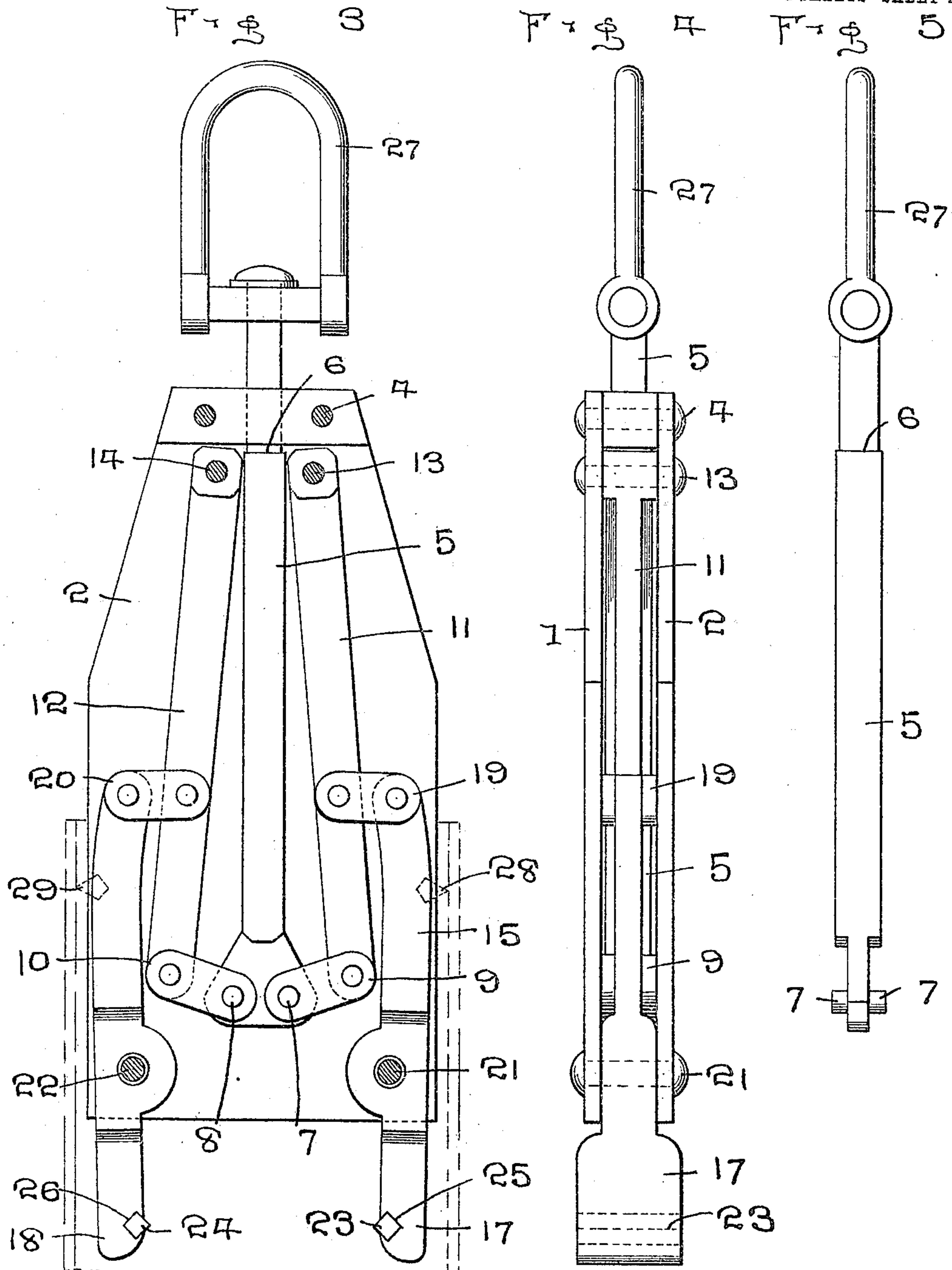
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# UNITED STATES PATENT OFFICE.

EDWARD A. BOLE, OF FOLLANSBEE, WEST VIRGINIA.

## GRIPPING-TONGS.

952,095.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed July 13, 1909. Serial No. 507,308.

*To all whom it may concern:*

Be it known that I, EDWARD A. BOLE, a citizen of the United States, residing at Follansbee, in the county of Brooke and State of West Virginia, have invented certain new and useful Improvements in Gripping-Tongs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in gripping tongs and my object is to provide a device of this class whereby heavy objects may be readily lifted and handled.

A further object is to so construct the device as to employ the lifting action for causing the tongs to grip an object to be lifted and a further object is to so arrange the tongs as to cause them to grip a solid object or extend into and engage the walls of the hollow object.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of this application, Figure 1 is an elevation of the tongs complete. Fig. 2 is a similar view with one face plate removed. Fig. 3 is a view similar to Fig. 2, showing a slightly modified form of tongs. Fig. 4 is an edge elevation thereof, and, Fig. 5 is an elevation of the lifting rod.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 and 2 indicate the side plates, between the upper ends of which are located a cross head 3, said head being secured between the plates by means of bolts or rivets 4 and through an opening in the central portion of said cross head extends a lifting rod 5, said lifting rod having a shoulder 6 to limit the upward movement of the rod through the cross head. The lower end of the rod 5 is preferably flattened and provided with stub shafts 7 and 8, there being a pair of said shafts on each face of the flattened portion of the rod and to these shafts are secured one end of links 9 and 10, respectively, the opposite ends of said links being pivotally attached to arms 11 and 12, respectively, said arms being in turn pivotally mounted at their upper end between the side plates

1 and 2, and immediately below the cross head, said arms being held in position by means of rivets or bolts 13 and 14, respectively.

Pivotally mounted between the lower ends of the side plates 1 and 2 are tongs 15 and 16, said tongs having enlarged heads 17 and 18, respectively, at their lower ends, which heads extend below the lower ends of the side plates, while the upper ends of said tongs are connected to the arms 11 and 12 by means of links 19 and 20, respectively, said links being positioned a distance above the lower ends of the arms 11 and 12. At the pivotal point of the tongs, they are also enlarged to increase the strength thereof at this point, the pivot bolts 21 and 22 passing through the tongs at the enlarged portions and said enlarged portions are of sufficient width to snugly fit between the side plates 1 and 2, thus holding said side plates the same distance apart at both ends thereof.

On the inner portion of the heads 17 and 18 are provided grippers 23 and 24, which are substantially square in cross section and are entered in seats 25 and 26, with one edge portion thereof projecting beyond the faces of the heads, whereby an object placed between said heads will be engaged by said protruding edges.

In operation, the usual or any preferred form of lifting cable is attached to a clevis 27 which is swivelly attached to the upper end of the rod 5 and by extending the heads 17 and 18 on opposite sides of an object, the lifting action on the clevis will move the rod 5 upwardly and through the medium of the links 9 and 10, the lower ends of the arms 11 and 12 will be moved upwardly, which will result in swinging the tongs on their pivots and moving the grippers into engagement with the object, when said object may be elevated and deposited at the desired place.

As shown in Fig. 3, the upper portion of the tongs 15 and 16 may be provided with auxiliary grippers 28 and 29, which are positioned on the outer edges of the tongs, said auxiliary grippers being adapted to engage the inner faces of a hollow object, to raise or lower the same. In this instance, the outward pressure on the upper end of the tongs is employed for forcing the grippers into engagement with the object, the



movement of the parts being the same as when an object is engaged between the lower ends of the tongs.

By arranging the parts of the device in the manner shown, it will be readily seen that an object may be readily raised or lowered and moved from place to place as occasion may require and it will further be seen that the heavier the object, the greater the pressure of the gripper upon the object. It will likewise be seen that the tongs may be quickly engaged or disengaged from an object and by forming the grippers of hardened steel, they will be practically indestructible from use but should said grippers become dulled or broken they can be readily replaced by introducing new grippers in the seats therefor.

What I claim is:

1. A gripping tong comprising a pair of plates spaced apart, a cross head between the upper ends of said plates, means to secure the head between the plates, a rod extending through said head and having a shoulder thereon to limit its movement, stub shafts at the lower end of said rod, links pivoted to said stub shafts, arms pivotally secured between said plates and having their

lower ends engaged by said links, a pair of tongs pivoted between the lower ends of said plates, links connecting the upper ends of said tongs to said arms and a clevis at the upper end of said rod.

2. A lifting tong comprising a pair of plates, a cross head between the upper ends of said plates, a rod extending through said cross head, a shoulder on said rod to limit its upward movement, the lower end of said rod being flattened, links pivotally attached to the flattened portion of said rod, arms pivotally secured at their upper ends between said plates and at their lower ends to said links, whereby when the rod is elevated, the lower ends of said arms will be swung outward, tongs pivotally mounted between said plates and having their lower ends enlarged and extending below the plates, grippers carried by said prongs and links connecting said tongs to said arms.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD A. BOLE.

Witnesses:

ROBERT L. RAMSEY,  
MARTHA A. HILL.