

(No Model.)

2 Sheets--Sheet 1.

J. QUINN & W. H. BRADLEY.  
TONGS.

No. 553,737.

Patented Jan. 28, 1896.

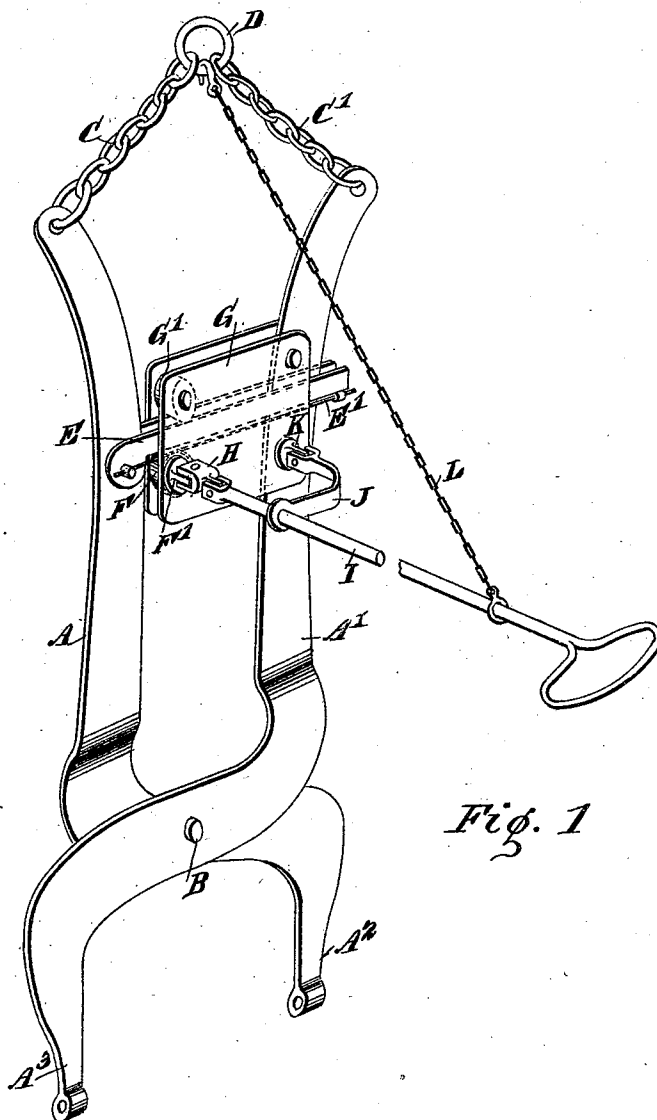


Fig. 1

WITNESSES:

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Geo. G. Kershner

INVENTORS

J. Quinn  
BY W. H. Bradley  
Munn & Co  
ATTORNEYS.

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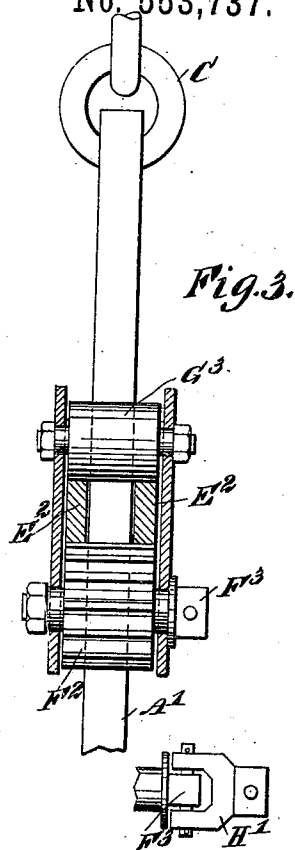


Fig. 3.

Fig. 4.

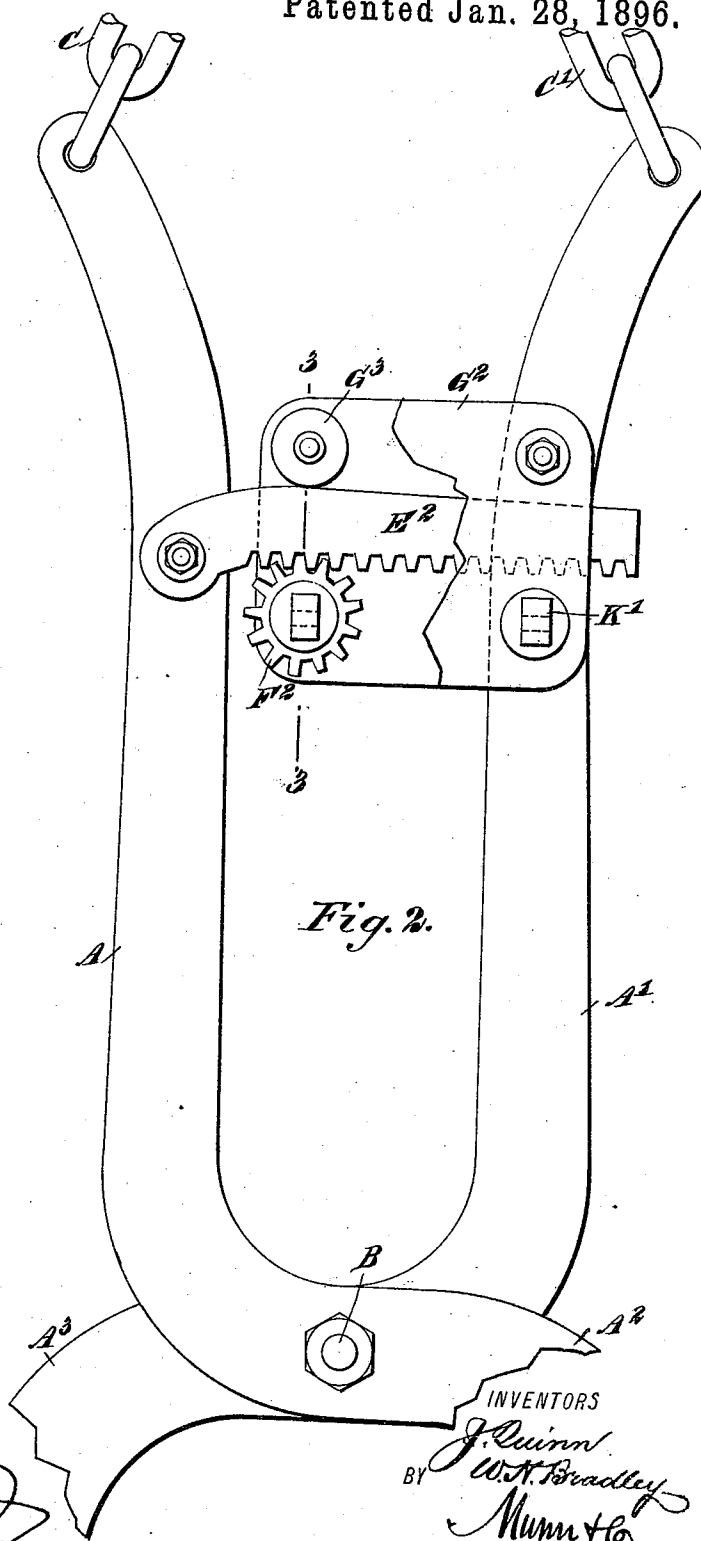


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN QUINN AND WILLIAM H. BRADLEY, OF MINGO JUNCTION, OHIO.

## TONGS.

SPECIFICATION forming part of Letters Patent No. 553,737, dated January 28, 1896.

Application filed September 24, 1895. Serial No. 563,480. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN QUINN and WILLIAM H. BRADLEY, of Mingo Junction, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Tongs, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in tongs, whereby the jaws are positively opened or closed whenever desired.

The invention consists principally of a bar held on one of the tong-arms and engaging a revoluble wheel on the other tong-arm.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement. Fig. 2 is an enlarged side elevation of a modified form of the improvement. Fig. 3 is a cross-section of the same on the line 3 3 of Fig. 2, and Fig. 4 is a plan view of the connection between the wheel and handle.

The tongs, as illustrated in Fig. 1, are provided with arms A and A', pivotally connected with each other at B, and provided with jaws A<sup>2</sup> and A<sup>3</sup>, respectively, adapted to grasp and hold the article. The upper ends of the arms A and A' are connected by chains C and C', respectively, with a link D supported from a suitable carrier to move the tongs and the articles suspended thereon from place to place.

On the arm A is pivoted a bar E extending to the other arm, A', and provided with a rope or cable E' wound once or twice around a wheel F, mounted to revolve in suitable bearings in plates G, attached to the other arm, A'. Now when this wheel F is revolved the arms A and A' are opened or closed, and a corresponding closing or opening of the jaws A<sup>2</sup> and A<sup>3</sup> takes place.

On the shaft of the wheel F is formed a projection F' extending at one side of the plates G, and this projection is pivotally connected by a link H with a handle or rein I adapted

to be taken hold of at its outer end by the operator to turn the said wheel F to open and close the jaws and also to move the tongs about. The shank of the handle I is mounted to turn in bearings in an arm J, pivotally connected with a lug K projecting from the plates G at or near the arm A', the pivot between the arm J and projection K being arranged horizontally to permit an up-and-down swinging of the said arm J and the handle or rein I. A chain L is hooked to the link D and extends downwardly and forwardly to connect with the forward end of the handle I, to normally support the latter in a horizontal position. In order to hold the bar E in proper position between the plates G, a roller G' is provided journaled in said plates and engaging the top of the bar E.

As illustrated in Figs. 2, 3 and 4, the rope or cable E' is entirely dispensed with, and in its stead a bar E<sup>2</sup> is pivoted to the arm A and is movable between the plates G<sup>2</sup>. The bar E<sup>2</sup> is provided with rack-teeth in mesh with a gear-wheel F<sup>2</sup>, connected with the handle or rein I in the manner above described in reference to Fig. 1. A roller G<sup>3</sup> engages the top of the rack-bar E<sup>2</sup> to hold the teeth of the latter in mesh with the gear-wheel F<sup>2</sup>. Now by turning the gear-wheel F<sup>2</sup> the bar E<sup>2</sup> is moved transversely to open and close the arms A and A' and to correspondingly close and open the jaws A<sup>2</sup> and A<sup>3</sup> of the pair of tongs.

By the arrangement described the tongs can be conveniently opened and closed or moved about at the will of the operator, and a uniform power is obtained in opening and closing the tongs to securely hold or release the article. By using the chain L the handle I is held in position above the floor, so that the tongs and their load can be transferred from one place to another without the handle or rein striking or touching the floor.

We do not limit ourselves to the particular construction shown and described, as the same may be varied without departing from the scope of our invention.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A pair of tongs, provided with a bar or

bars held on one of the tong-arms, and a revoluble wheel supported on the other tong-arm and engaging the said bar, to move the latter transversely upon turning the wheel, substantially as shown and described.

2. A pair of tongs, provided with a rack bar or bars held on one of the tong-arms, a pinion in mesh with said rack-bar and supported from the other tong-arm, and a rein or handle for turning said pinion, substantially as shown and described.

3. A pair of tongs, provided with a bar held on one of the tong-arms, a revoluble wheel supported on the other tong-arm and engaging the said bar, to move the latter transversely upon turning the wheel, a handle for turning said wheel, and a flexible connection between the handle and the wheel, substantially as shown and described.

4. A pair of tongs, provided with a bar held on one of the tong-arms, a revoluble wheel supported on the other tong-arm and engaging the said bar, to move the latter transversely upon turning the wheel, a handle for turning said wheel, a flexible connection between the handle and the wheel, and an arm in which said handle is journaled, the arm being pivotally connected with the support for said wheel, substantially as shown and described.

5. A pair of tongs provided with a bar held on one of the tong-arms, a revoluble wheel supported from the other tong-arm and engaging said bar, to move the latter transversely, a rein or handle for turning said wheel, and

a chain for supporting said handle in position, substantially as shown and described.

6. A pair of tongs provided with an opening device, and a rein for operating the same and journaled in a part rigidly fixed to one of the tong-arms, substantially as described.

7. A pair of tongs, provided with an opening device, a rein for operating the same, and a brace connection for the said rein and loosely connected with one or both tong-arms, to permit of turning the rein in a vertical plane, substantially as shown and described.

8. A pair of tongs, provided with an opening device, a rein or handle for said device, and a support for holding the rein in position relatively to the tongs, substantially as shown and described.

9. A pair of tongs, provided with a rack secured to one of the tongs, and a pinion journaled in a part rigidly connected to the other tong, said pinion engaging the rack to operate the same, substantially as described.

10. A pair of tongs provided with an opening device having an operating-shaft journaled in bearings rigidly fixed to one of the tong-arms, and an operating-rod secured to the said shaft to rotate therewith, yet pivoted thereto to move in a vertical plane, substantially as described.

JOHN QUINN.

WILLIAM H. BRADLEY.

Witnesses:

J. M. WILSON,

JOHN COMLY.