July 3, 1923.

1,460,730

B. PHELPS

BOX TONGS

Filed Jan. 5, 1922

Fig. 1

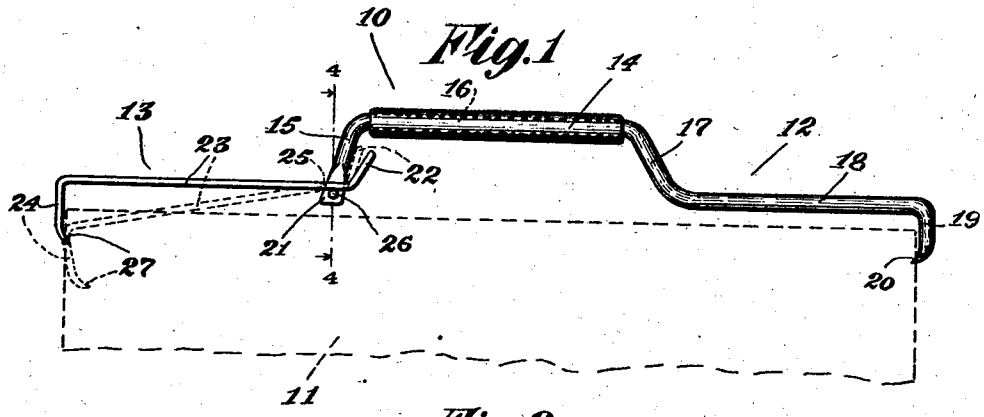


Fig. 2

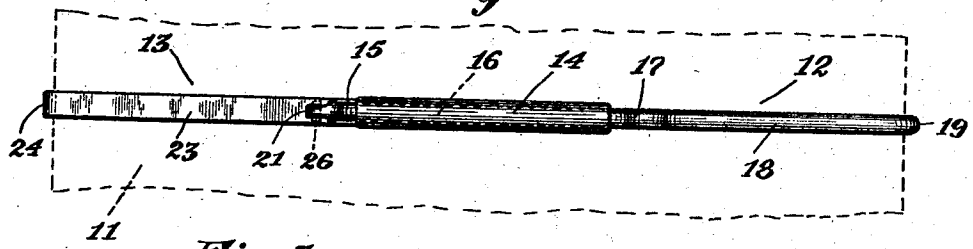


Fig. 3

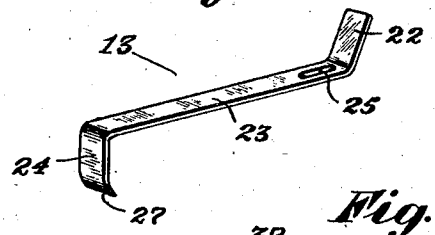


Fig. 4

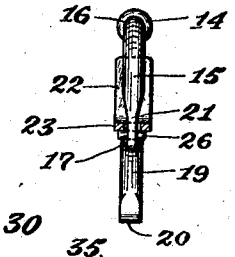


Fig. 5

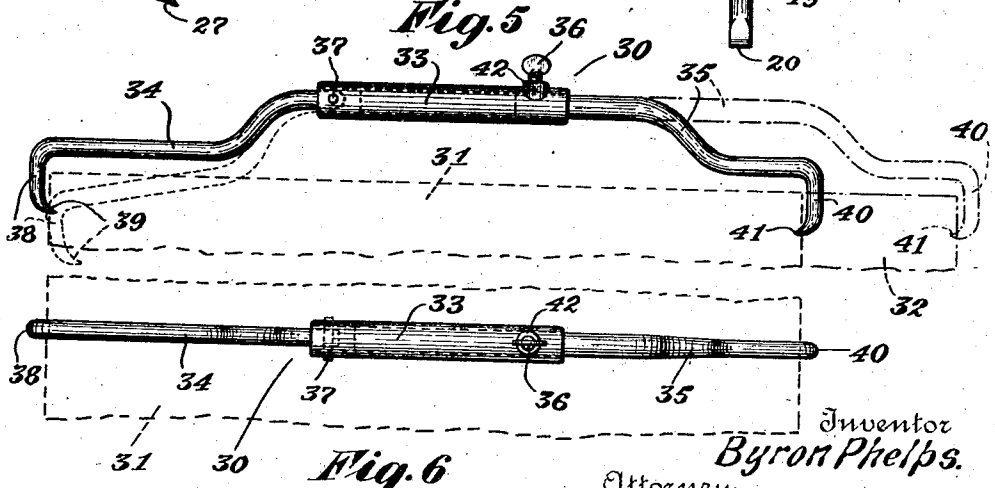


Fig. 6

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UNITED STATES PATENT OFFICE.

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BOX TONGS.

Application filed January 5, 1922. Serial No. 527,101.

To all whom it may concern:

Be it known that I, BYRON PHELPS, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Box Tongs, of which the following is a specification.

My invention relates to improvements in box tongs, and the object of my invention is to provide box tongs of the type adapted for use in facilitating and expediting the handling of boxes containing fruit, general merchandise or the like, which tongs may be attached to or operatively secured upon the box to be handled with the maximum facility and in the minimum time and that may be detached therefrom with similar facility and dispatch.

Another object is to provide box tongs embodying novel adjustable means whereby boxes of varying sizes may be handled with equal facility and celerity.

A further object is to provide box tongs embodying simplicity, durability and economy in construction and that are positive and efficient in operation.

With the above and more specific objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination, adaptation and arrangement of parts hereinafter described and defined in the appended claim.

I accomplish these objects by devices illustrated in the accompanying drawings, wherein—

Figure 1 is a view in side elevation of box tongs embodying the features of my invention;

Fig. 2 is a top view of the same;

Fig. 3 is a detached perspective view in side and end elevation of the hinged or movable gripping member of my tongs;

Fig. 4 is a view in transverse section taken substantially on a broken line 4—4 of Fig. 1;

Fig. 5 is a view in side elevation of adjustable box tongs fabricated in accordance with my invention, and

Fig. 6 is a top plan view of the same.

Referring to the drawings, throughout which like reference numerals indicate like parts, the numeral 10 designates box tongs which are shown in a substantially operative or gripping position upon a box, as 11, which box is illustrated in dotted lines.

The box tongs 10 comprise a relatively rigid or stationary gripping member 12 a hinged or movable gripping member 13 and a tubular hand hold 14.

The fixed gripping member 12 is formed by bending one piece or length of iron or steel rod substantially into the shape and form illustrated in Fig. 1, said member comprising an upwardly extending angularly disposed portion 15, a horizontally disposed handle portion 16, a downwardly extending angularly disposed portion 17, an outwardly extending horizontally disposed portion 18 and a downwardly extending jaw or box engaging portion 19, which portions are disposed in relative prolongation and alignment to each other, as shown in Fig. 2.

To positively insure and assure of the jaw portion 19 engaging the box 11 when the tongs 10 are operatively disposed thereon, I have formed and provided the lower end of said portion with an inwardly bent claw portion 20, which claw is adapted to bite into the wood of the box 11 when the same is engaged and elevated, as will be readily apparent. However, if desired said terminal portion may be provided with teeth to thereby still further insure of the more positive biting engagement of the same in the walls of the said box.

Formed upon the lower end of the upwardly extending angularly disposed portion 15 is a flattened terminal portion 21, which portion is adapted to operatively receive the hingedly mounted gripping member 13.

The hinged gripping member 13 is formed by bending one piece or length of iron or steel bar substantially in the shape and manner illustrated in Figs. 1 and 3, said member comprising an upwardly extending angularly disposed portion 22, a horizontally disposed portion 23 and a downwardly extending jaw or box engaging portion 24, which portions are disposed in relative prolongation and alignment as shown more clearly in Fig. 3.

Formed within the horizontally disposed portion 23 of the member 13 adjacent the inner end thereof is a medially and longitudinally disposed slot 25, which slot 25 is adapted to receive the flattened terminal portion 21 of the fixed gripping member 12, which terminal portion 25 is adapted to normally extend downwardly through said slot, as shown in Fig. 1.

To positively retain and maintain the inner end of the hinged gripping member 13 upon the terminal portion 21, I have provided said terminal portion adjacent the lower end thereof with a transversely disposed pin 26, which pin is adapted to extend outwardly from the sides of said portion a sufficient amount to thereby engage the underside of said inner end of said gripping member 13, as shown more clearly in Fig. 4.

The upwardly extending angularly disposed portion 22 of the hinged gripping member 13 is adapted to function as a stop for said member when the same is in an inoperative position, as shown by dotted lines in Fig. 1.

To positively insure of the jaw portion 24 engaging the box 11, when the tongs 10 are operatively disposed thereon, I have formed and provided the lower end of said portion with an inwardly bent claw portion 27, which claw portion is adapted to bite into the wood of the box 11, when the same is engaged and elevated. Said claw portion may be also provided with teeth, in order to insure a better biting engagement with wall of said box, as will be readily understood.

The tubular hand hold 14 is adapted to be concentrically and longitudinally disposed upon the horizontally disposed handle portion 16 of the fixed gripping member 12, to thereby insure and provide a more substantial grip for the operator.

In use the operator applies the box tongs 10 to the box 11, by first engaging the claw portion 27 of the hinged gripping member 13 in the end of the wall of said box, he then lowers the other end of said tongs to permit of the claw portion 20 of the fixed gripping member 12 engaging the opposite end wall of said box, which box may then be elevated and transported to the desired point.

In Figs. 5 and 6 I have shown an adjustable box tong 30, which tong is fabricated in accordance with my invention and is shown as applied to a box 31, which box is illustrated in dotted lines, I have also shown in dot and dash lines in Fig. 5 the tongs 30 in an extended or longitudinally adjusted position to handle a longer box, as 32.

The adjustable tongs 30 comprise a tubular hand hold 33, a pivotally mounted gripping member 34, a longitudinally adjustable gripping member 35, and a clamping screw 36 for said gripping member 35.

The gripping member 34 is formed substantially in the shape and manner disclosed in Fig. 5, and is adapted to be pivotally secured at its inner end within one end of the tubular hand hold 33, as by a pivot pin 37, while the outer end of said gripping member 34 is provided with a downwardly extending jaw or box engaging portion 38, which portion is provided upon its lower end or terminal with a claw 39 adapted to bite into the wood of the box 31, when the same is engaged and elevated by the tongs 30.

The longitudinally adjustable gripping member 35 is formed substantially in the shape and manner shown in Fig. 5, and is adapted to be concentrically and telescopically disposed at the inner end thereof for longitudinal or axial adjustment within the other or opposite end of the tubular hand hold 33, to that of the pivotally mounted gripping member 34, while the outer end of said gripping member 35 is provided with a downwardly extending jaw or box engaging portion 40, which portion is provided upon the lower end or terminal thereof with a claw 41, adapted to bite into the wood of the boxes 31 or 32, when the same are engaged and elevated.

The clamping screw 36 is adapted to fixedly secure or retain the adjustable gripping member 35 in any desired or selected longitudinally adjusted position within the tubular hand hold 33, said clamping screw is further adapted to be threadably engaged within a boss 42 formed upon the periphery of the said tubular hand hold 33 at a point on said hand hold contiguous to the end thereof adapted to receive said gripping member 35, as shown more clearly in Figs. 5 and 6.

It will be apparent from the foregoing and referring to the drawings that the form of adjustable box tongs 30 disclosed in Figs. 5 and 6 are readily adapted for handling boxes of varying lengths and sizes, thereby materially increasing the sphere of utility of said box tongs and rendering the same invaluable under varying conditions, and I have found in practice and after exhaustive tests and experimentation that tongs fabricated in accordance with my invention are productive of the desired and maximum results in that much time and labor is conserved in handling and transporting large number of boxes.

In use the operator applies the tongs 30 to the boxes 31 or 32 in a similar manner to that hereinbefore described for the tongs 10.

From the foregoing description taken in connection with the accompanying drawings the advantages of construction and method of operation of my box tongs will be readily apparent to those skilled in the art to which my invention pertains, but, while I have shown and described the construction and operation of box tongs embodying the features and principles of my invention, which I now consider to be the best embodiment thereof, I desire to have it understood that the box tongs shown are merely illustrative and that such changes

may be made when desired as are within the scope of my invention and embodied in the accompanying claim.

What I claim is:

Box tongs comprising a relatively rigid gripping member, a downwardly extending claw portion formed upon the outer end of said member, a hand hold formed upon said member adjacent the inner end thereof, a movable gripping member hingedly mounted at the inner end thereof, a downwardly extending claw portion formed upon the outer end of said last named member, means to retain said last named member upon said first named member, and means to limit the closing movement of said movable gripping member upon said rigid gripping member.

In witness whereof, I hereunto subscribe my name this 26th day of December A. D. 1921.

BYRON PHELPS.