Aug. 21, 1945. F. J. PRINGLE 2,383,078

CLAMP

Filed Feb. 26, 1944

Fig. 1.

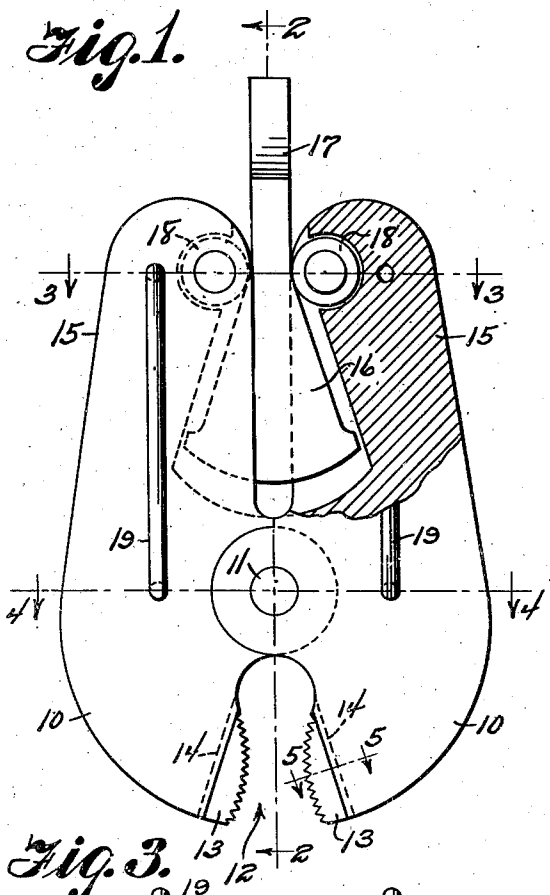


Fig. 2.

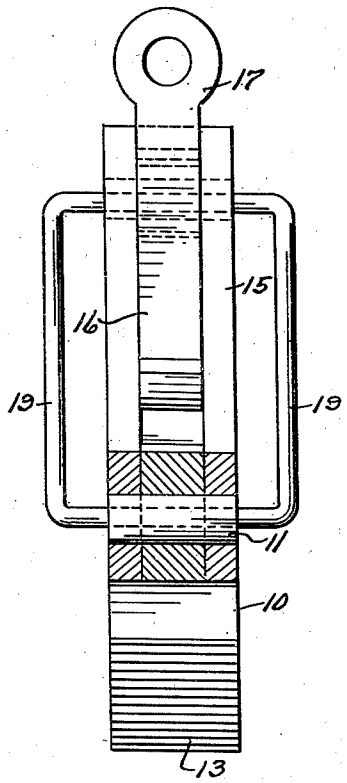


Fig. 3.

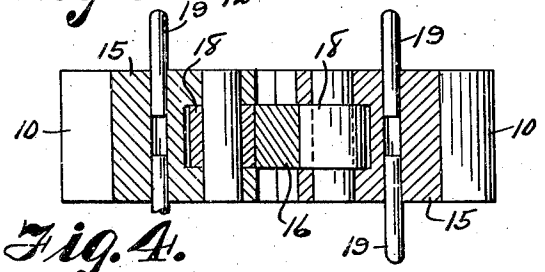


Fig. 4.

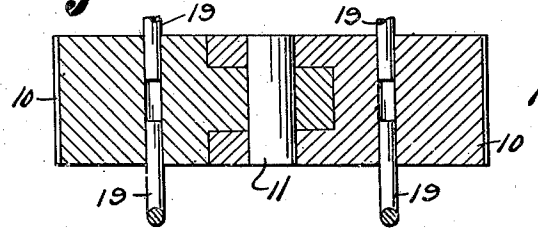
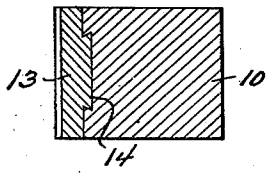


Fig. 5.



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CLAMP

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Application February 26, 1944, Serial No. 524,055

3 Claims. (Cl. 294—116)

The invention relates to a grip or clamp and more especially to an easy release plate hook for handling boiler plates.

The primary object of the invention is the provision of a device of this character wherein the same is used for handling heavy steel plates or any flat object of great weight with the greatest possible ease, the device being of novel construction to assure safety during the lifting of the work and also can be readily released and applied with ease and rapidity.

Another object of the invention is the provision of a device of this character wherein the jaw members carry handles so that the device can be operated from either side and such handles enable the application and removal of the device with dispatch and ease.

A still further object of the invention is the provision of a device of this character which is extremely simple in its construction, thoroughly reliable and efficient in its purpose, strong, durable, easy of operation and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a side view partly broken away of the device constructed in accordance with the invention.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a sectional view taken on the line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is a sectional view taken on the line 5—5 of Figure 1, looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawing in detail, the device constituting the present invention comprises a pair of jaw members 10, these being swingingly connected to each other by a pivot 11 and such members are formed with a work receiving gap 12 therebetween which is confronted by serrated work engaging pieces 13 which are replaceable through the medium of the tongue and groove connection 14 between each piece 13 and the jaw member 10.

The jaw members 10 at the other ends thereof are formed with jaw actuating levers 15 having therebetween a sector shaped actuator wedge member 16 with which is formed the shackle 17 for the lift cable with which the device is associated for the lifting of work when introduced between the work engaging pieces 13 and gripped by the said device.

The levers 15 have suitably joined therein bearing rollers 18 making contact with the wedge 16 which is slidably supported between the levers 15 of the device for easy and smooth working of said wedge 16 in the opening and closing operation thereof with respect to the jaw members 10.

The levers 15 of the jaw members 10 have fitted in opposite sides of the device loop like handles 19 which protrude sufficiently for hand engagement thereof and these handles 19 are utilized for the convenient opening and closing of the jaw members 10, in that such handles 19 are pressed toward each other which enables the opening of the jaw members 10 when the wedge 16 has been brought to a lowered position or moved inwardly of the levers 15 whereby the latter can move toward each other for the opening of said jaw members.

The work is introduced between the pieces 13 when such work is in a vertical position although it can be grasped when in a horizontal position, and upon pull upon the wedge 16 through the shackle 17 engaged on the lift cable the jaw members 10 will be automatically closed whereby the pieces 13 will grasp the work when in the space 14 and thus such work lifted as will be clearly obvious.

The device is designated particularly for easy release and gripping of boiler plates although it can be utilized for lifting of any object.

What is claimed is:

1. A device of the character described comprising a pair of pivotally connected jaw members having work gripping pieces, a movable wedge engaged between the jaw members for effecting opening and closing movements thereto, bearing rollers carried by the jaw members and engageable with the wedge for minimizing friction during movement thereof, a grapple associated with said wedge, and handles arranged at opposite sides of the jaw members and coextensive for a

determined distance thereof whereby manual gripping of said handles enables the easy opening of the jaw members.

2. A device of the character described comprising companion jaws having inwardly projecting overlapped ears spaced upwardly from their lower ends and pivotally connected to mount the jaws for swinging movement to opened and closed positions, portions of said jaws above said ears constituting operating levers and having their inner side faces formed with longitudinally extending channels gradually reduced in depth towards their upper ends to provide sloping inner walls constituting upwardly converging cam surfaces, there being pockets adjacent upper ends of said channels, rollers rotatably mounted in said pockets and projecting into said channels, an upwardly tapered wedge between said levers having opposite side portions fitting within said channels and its side edge pieces bearing against said rollers, and said wedge having a shank at its upper end projecting upwardly above said levers and provided with means for engaging a suspension cable.

3. A device of the character described comprising companion jaws having inwardly projecting overlapped ears spaced upwardly from their lower ends and pivotally connected to mount the jaws for swinging movement to opened and closed positions, portions of said jaws above said ears constituting operating levers, spaced transversely from each other, an upwardly tapered wedge shiftable vertically between said levers and having means at its upper end for connection with a cable, there being openings adjacent the ears and upper ends of said levers, and handles extending longitudinally of the levers and mounted in the openings.

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