A. COMRIE.

GRAB HOOK FOR LIFTING METAL PLATES, &c.

APPLICATION FILED JAN. 21, 1918.

1,279,274. Patented Sept. 17, 1918.

Fig. 1.

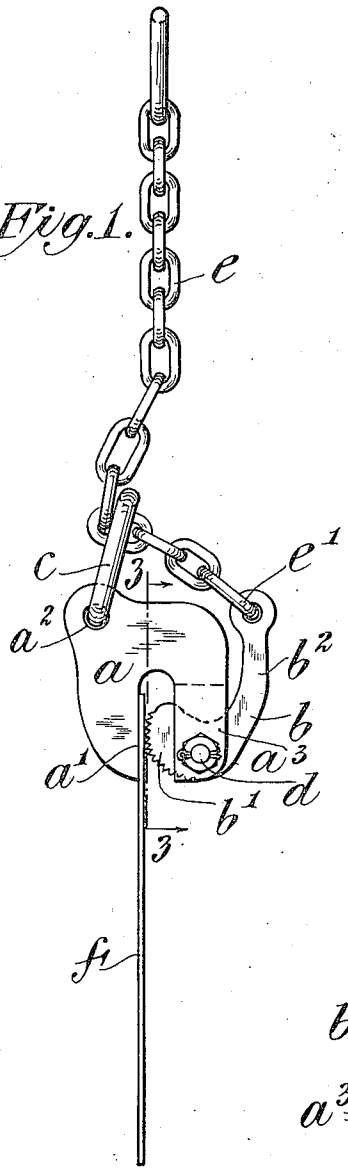


Fig. 2.

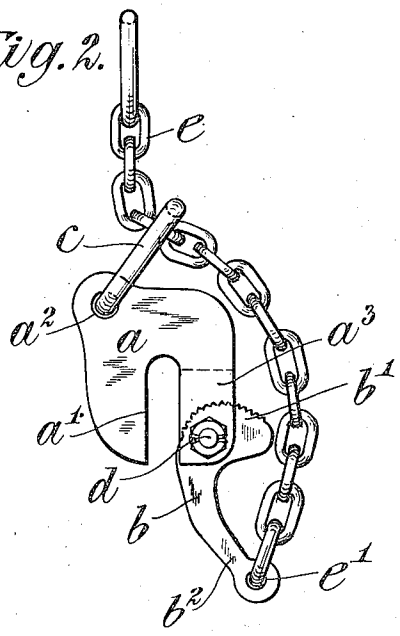
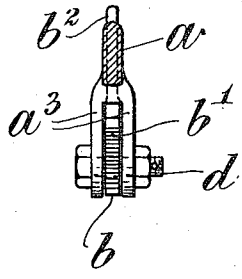


Fig. 3.



WITNESS

Geo. Smith.

INVENTOR

Alexander Comrie

BY

Redding, Gurley & Woodlett

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALEXANDER COMRIE, OF NEW YORK, N. Y.

GRAB-HOOK FOR LIFTING METAL PLATES, &c.

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Application filed January 21, 1918. Serial No. 212,921.

To all whom it may concern:

Be it known that I, ALEXANDER COMRIE, a citizen of the United States, and a resident of the borough of Richmond of the city of New York, in the State of New York, have invented certain new and useful Improvements in Grab-Hooks for Lifting Metal Plates, &c., of which the following is a specification, reference being had to the accompanying drawing forming a part hereof.

The object of this invention is to provide a grab-hook or clamp by which the handling of heavy plates of metal by cranes or derricks can be facilitated. It is not always feasible or desirable to form such plates with holes for engagement with a hook and to encircle them with chains is oftentimes difficult, generally dangerous because of the liability of the chains to slip, and always involving expense in equipment and the lifting of unnecessary weight. The invention consists in a grab-hook or lifting clamp which may be connected readily to a lifting chain or cable or rope and will grasp firmly the plate or plates to be lifted without danger of slipping. In accordance with the invention a rigid jaw-piece has pivoted thereon an eccentric gripper to which the lifting chain or cable or rope is connected in such a way that the strain on the chain, cable or rope in lifting causes the gripper to grip the plate or plates firmly against the closing jaw.

The invention will be more fully explained hereinafter with reference to the accompanying drawing in which it is illustrated, and in which—

Figure 1 is a view of the improved grab-hook in elevation, the grab-hook being shown as engaged with a plate to be lifted.

Fig. 2 is a similar view of the grab-hook but with the grab-hook open, in readiness to engage a plate.

Fig. 3 is a detail view in section on the plane indicated by the line 3—3 of Fig. 1, looking in the direction of the arrows.

The improved grab-hook comprises a jaw-piece a and a pivoted gripper b. The jaw-piece is so formed as to provide an unyielding abutment a' against which the plate to be lifted may be gripped. It is also formed, at one side of the plane of the abutment a', as with an eye a^2, for engagement with an elongated chain link or eye c. The pivoted gripper b, having an eccentric serrated body b' and an arm b^2, substantially at right angles with the body b', is pivoted opposite the abutment a'. For convenience, the jaw-piece a may have its extended arm a^2, opposite the abutment a', split, as clearly shown in Fig. 3, with the gripper pivoted between the members of the fork on a pivot bolt d. The lifting chain e, or so much thereof as is permanently attached to the grab-hook, is passed through the eye or link c and is connected to the end of the arm b^2 of the gripper, so that when a strain is put upon the lifting chain e the gripper will be drawn from the position shown in Fig. 2, which permits a plate or plates to be introduced between the abutment a' and the gripper, to the position shown in Fig. 1, in which the gripper is made to press firmly against the plate f to be lifted and to cause it to be gripped between the opposing abutment a' and itself. The greater the weight of the plate or plates to be lifted the more strongly will the gripper be made to grip the plate or plates, so that there is practically no danger of slipping of the plate or plates from the grab-hook. It is easily possible, with this grab-hook, to lift several plates at one time, as well as one, and as soon as the load is lowered to its resting place it can be released readily from the grab-hook by slackening the chain and, if necessary, striking the end of the arm b^2 of the gripper with a hammer or other suitable instrument. The flexible lifting chain is passed through the eye c, which is pivoted at the upper end of the jawpiece a and at one side of the plane of the abutment a'. The chain is then connected to the arm of the gripper at the other side of the plane of the abutment. Through the employment of these means the gripper is caused to grip the plate firmly regardless of the direction of pull of the chain with respect to the position of the plate, the danger of disengaging the clamp if the plate lands heavily on edge is obviated, and the device can be used without risk of injury to the hands of the workman who applies it to a plate. Moreover, there are no rigid links to be bent by a heavy side pull.

I claim as my invention:

A grab hook for lifting metal plates, etc., comprising a jaw piece having an abutment against which the plate to be lifted may be pressed and an arm opposite the abutment, and having an eye at one side of the plane of the abutment extending through an open-

ing in the jaw piece and freely movable therein and adapted to permit a chain to pass freely through it, an eccentric gripper pivoted in the arm of the jaw piece opposite the abutment having an arm extending outward at substantially a right angle from its body at the other side of the plane of the abutment from the point of connection of the eye with the jaw piece, and a lifting chain passed through the eye and attached to the arm of the gripper.

This specification signed this 14th day of January, A. D. 1918.

ALEXANDER COMRIE.