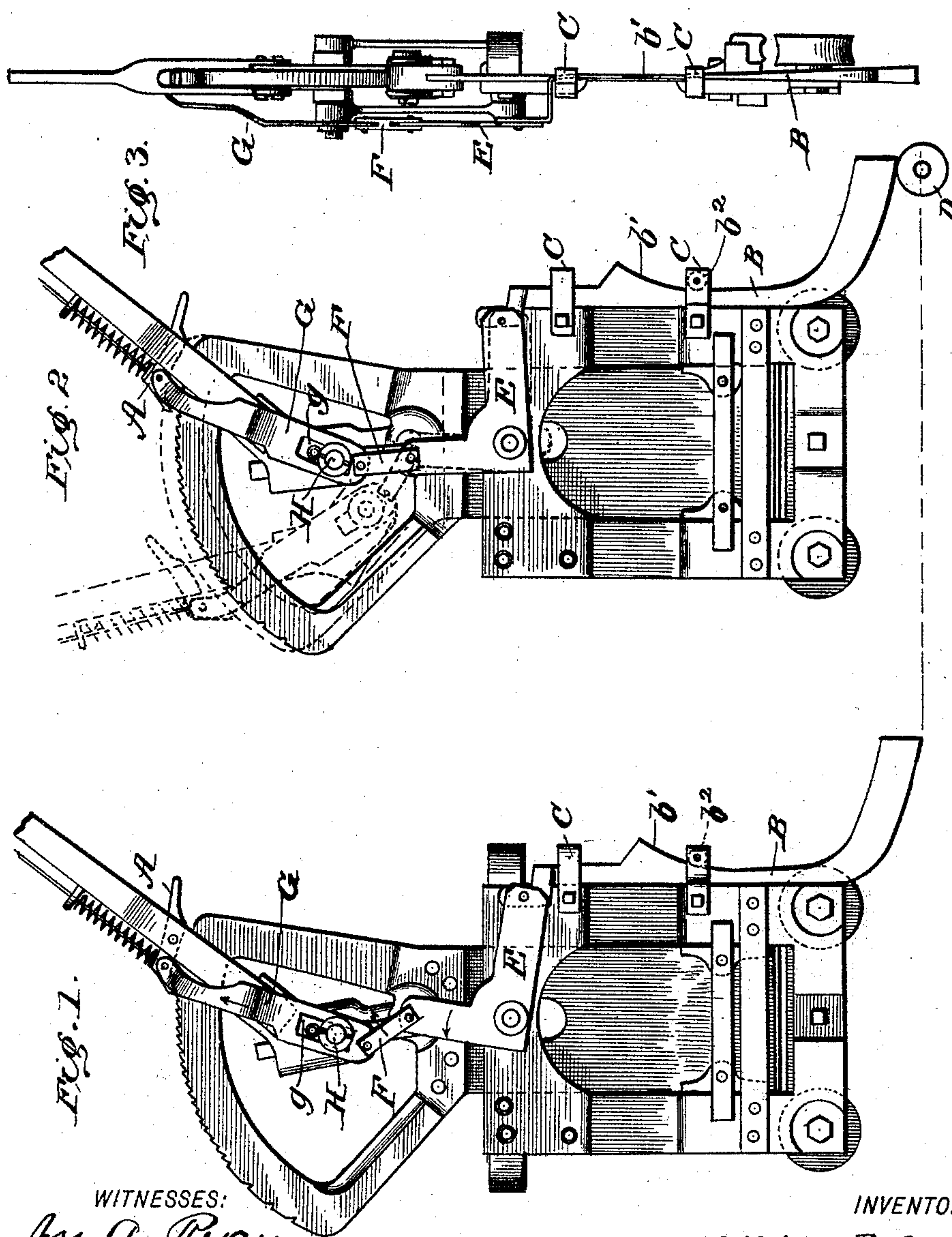


(No Model.)

W. P. COURTNEY.
AUTOMATIC GRIP OPENER.

No. 497,166.

Patented May 9, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM P. COURTNEY, OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO ALBERT BROWN, OF SAME PLACE.

AUTOMATIC GRIP-OPENER.

SPECIFICATION forming part of Letters Patent No. 497,166, dated May 9, 1893.

Application filed September 13, 1892. Serial No. 445,680. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. COURTNEY, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented a new and useful Automatic Grip-Opener, of which the following is a specification.

My invention is an improvement in cable grips and has for an object to provide a simple novel construction whereby to release the grip at the "let go" in case the gripman should forget to do so, and the invention consists in the special constructions and combinations of parts as will be hereinafter described and pointed out in the claims.

In the drawings—Figures 1 and 2 are face views of the grip and Fig. 3 is an edge view thereof.

The grip may be of the ordinary side grip form and has its grip lever provided with the detent pawl A.

The special construction and mode of operation of the grip being well known requires no detailed description herein.

A vertically movable plate or bar B is held in guides C alongside the rear edge of the grip blade and forms no projection laterally of the blade. This bar B extends along that portion of the grip blade which fits and operates in the slot so that the improvement involves no lateral projection whatever along that portion of the grip which is within the conduit. At the lower end the bar B extends normally below the grip and is inclined or curved rearwardly being thus adapted to engage a tripping abutment D properly arranged in the conduit, such abutment being preferably a roller as shown.

The bar B is connected above the conduit slot with one arm of a bell crank lever E such lever being pivoted between its ends to the grip and having its other arm connected by a link F with a pitman G which latter extends to and connects with the detent A. This pitman G has a sliding and pivoted or rocking connection between its ends with the grip lever being to such end slotted at g to receive the stud bolt H projected from the grip lever.

It will be noticed that the link F is pivoted

at one end to the pitman G and at its other end to the bell crank lever so that the grip lever may be swung from gripped to ungripped position and vice versa without interfering with the safety devices, and at the same time the upward movement of the safety bar B will operate to release the detent.

In practice the abutment D is arranged a little beyond the "let go" or point where the gripman is instructed to let go the cable. If he releases the cable according to instructions then the safety devices have nothing to do, but if through carelessness, inattention or the like he should omit to follow instructions then the safety bar B will strike and be pushed up by its abutment D. Such upward movement of the bar B through the link and pitman operates to release the detent thus releasing the cable which will escape sidewise from the grip, the cable being usually deflected at the "let go" so that when released it will escape from the grip as described. It will be noticed that the improvement requires no change in the construction of the grip and may be readily applied to the ordinary form of grip or to any other grip operating in the same or a similar manner. The rear edge of the safety bar being inclined at b' and bearing at such point against a roller b^2 in the lower guide operates to ease the upward and downward movement of the safety bar and avoids any binding of such bar as will be understood from Figs. 1 and 2.

I claim—

1. The combination with the cable grip, provided with a guide C having a bearing b^2 of a safety bar arranged in rear of the rear edge of its grip blade and within the planes of the sides of said blade and having an inclined edge b' arranged for engagement by the bearing b^2 , and connections between said safety bar and the detent of the grip substantially as set forth.

2. The combination with the grip of the pitman having a sliding and rocking connection with the grip lever and connected at its upper end with the detent, the pivoted bell crank lever, the link pivoted at one end to one arm of said lever and at its other end to the pitman, the safety bar connected with the

lever and having an inclined edge b' and the guides one having a roller for engaging edge b' all substantially as set forth.

3. In a grip the combination with the grip lever, plate and detent of the pitman having a sliding and pivotal connection with the grip lever and connected with the detent, a lever pivoted between its ends to the grip and having one end connected with the pitman and the safety bar connected with the other arm of the lever and adapted for operation, substantially as set forth.

4. In a grip, substantially as described the combination with the detent and the pitman, connected with and adapted to operate said detent the lever and the safety bar, of the pivoted link connecting the lever and the detent operating pitman substantially as set forth.

5. The combination of the grip, the safety bar movable vertically along the rear edge of the grip plate and adapted at its lower edge to engage the tripping abutment the bell crank lever having one arm connected with said safety bar, the pitman having a rocking and sliding connection with the lever, and connected with the detent, and a link connecting said pitman with the bell crank lever, substantially as set forth.

6. The combination with the grip having its lever provided with a detent, of a pitman connected with the detent and having a rocking and sliding connection with the lever, a tripping abutment, a device for engaging said abutment and connection between said device and the pitman substantially as set forth.

7. The combination, substantially as described of the grip, the safety bar held to the rear edge of the grip and arranged to engage the tripping abutment, the bell crank lever having one arm connected with the safety

bar, the link connected at one end with the other arm of the bell crank lever, a pitman held to slide along the grip lever and connected at one end with the grip detent and at its other end to the link, all substantially as and for the purposes set forth.

8. The improvement in grips substantially as described comprising the grip proper, the pitman connected at one end with the grip detent and having between its ends a pivotal and sliding connection with the grip lever, the bell crank lever, a link F connecting one arm of said lever with the lower end of the pitman and having a pivotal joint or connection with both said parts and operating devices connected with the other arm of the bell crank lever whereby it may be operated to release the detent all substantially as described and shown.

9. The combination substantially as herein described of the grip having at its rear edge guides C C the lower one of which is provided with a roller b^2 , the safety bar held in said guides and having its outer edge inclined at b' in position for engagement by the roller b^2 , the bell crank lever E having one arm connected with the safety bar, the link F connected at one end with the other arm of the lever, the pitman G connected at its upper end with the detent, and at its lower end to the link F and provided between its ends with the longitudinally elongated slot g and the pivot stud passed through said slot and connecting the pitman with the grip lever all substantially as and for the purposes set forth.

WILLIAM P. COURTNEY.

Witnesses:

P. B. TURPIN,
 SOLON C. KEMON.