(No Model.)

F. A. YARD.

CABLE GRIP.

No. 433,843. Patented Aug. 5, 1890.

Fig. I.

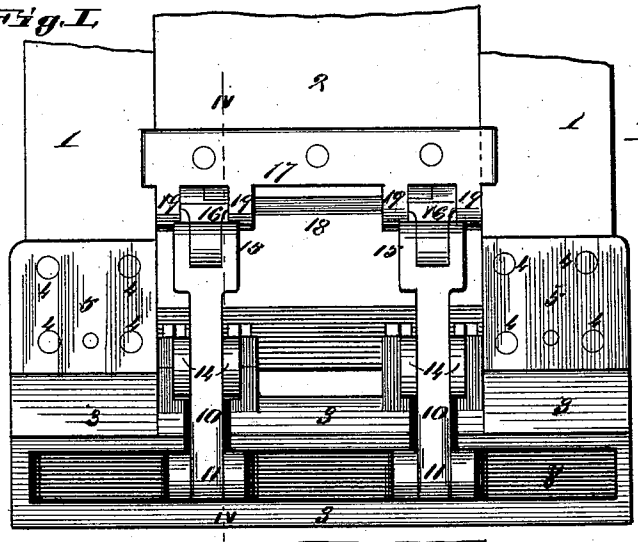


Fig. V.

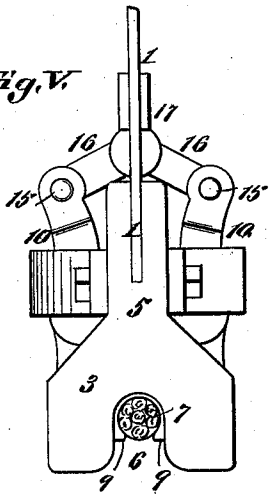


Fig. II.

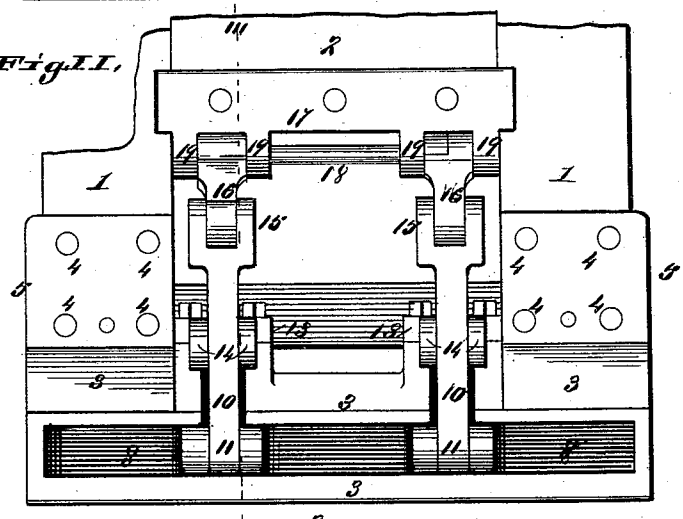


Fig. VI.

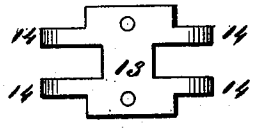


Fig. VII.

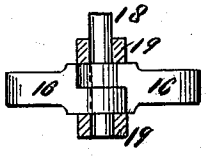


Fig. III.

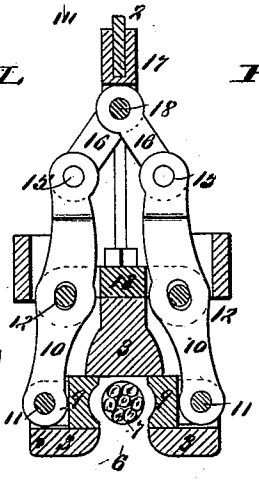
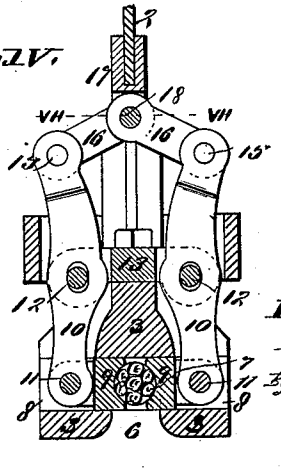


Fig. IV.



Attest:
E. Arthur
Edward C. Knight.

Inventor
Frank A. Yard
by Knight Bros
Atty's

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK A. YARD, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO MORE, JONES & CO., OF SAME PLACE.

CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 433,843, dated August 5, 1890.

Application filed March 21, 1890. Serial No. 344,761. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. YARD, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Cable-Grips, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the manner of arranging and moving the dies or jaws of a cable-grip; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side elevation illustrative of my invention. Fig. II is a similar view showing the parts in the position they assume when the jaws of the grip are open, Fig. I showing the parts in the position they occupy when the jaws are closed. Fig. III is a vertical section taken on line III III, Fig. II, the pivot-pins connecting the links to the levers being shown in end view. Fig. IV is a vertical section taken on line IV IV, Fig. I, the pivot-pins of the links being shown in end view. Fig. V is an end view showing the jaws closed upon the cable. Fig. VI is a view of the head or cross piece to which the jaw-levers are pivoted. Fig. VII is a section taken on line VII VII, Fig. IV.

Referring to the drawings, 1 represents the vertical stationary pieces of the grip-frame, and 2 the vertical movable piece of the grip, which is raised and lowered to open and close the jaws.

3 represents a lower cross-piece or casting, which is secured to the lower ends of the vertical pieces 1 by means of rivets or bolts 4, which pass through slotted extensions 5 of the head 3, in which fit the lower ends of the vertical pieces 1 of the frame. As stated, this head or cross piece unites the pieces 1 at their lower ends, and it has a central vertical longitudinal opening 6 (see Figs. III, IV, and V) to admit the cable 7. It is also provided with a horizontal slot or opening 8 on each side, these slots or openings 8 extending from each side of the head to the central vertical opening 6, as shown in Figs. III and IV; but the slots or openings do not extend quite the entire length of the head or casting, as shown in Figs. I and II. In these slots or openings 8 the dies or jaws 9 of the grip are placed, and in these openings the jaws work back and forth in a horizontal plane as the cable is grasped and released.

10 represents levers, (there are preferably two on each side of the grip, as shown in Figs. I and III,) which are pivoted at 11 to the jaws or dies 9, and which are also pivoted at 12 to the cross-head or casting 3, preferably by means of brackets 13, bolted or secured to the cross-head, as shown in Figs. III and IV. These brackets have ears 14, between which the levers fit, these being shown clearly in Fig. VI. The upper ends of the levers 10 are pivoted at 15 to links 16, there being a link for each lever, and the inner ends of the links are pivoted to the lower end of the movable plate or piece 2 by means of a suitable head 17 and a rod 18, the head being bolted or riveted to the plate 2 and having ears 19, between which the links fit and through which the connecting rod or shaft 18 passes, the rod or shaft also passing through the inner ends of the links, as shown in Figs. I and VII. The links 16 and levers 10 form toggles by which the jaws 9 are opened and closed as the plate 2 is raised and lowered by the usual lever. (Not shown.) By an arrangement of this kind I obtain a horizontal movement of the jaws, and a far superior bearing between the jaws and the cable is assured than is obtained by permanently securing or forming the jaws on the lower ends of the levers, which causes the jaws to move on the arc of a circle, of which the pivot of the lever is the center.

I claim as my invention—

1. In a cable-grip, the combination of the fixed head or cross piece having a vertical opening to receive the cable and having horizontal openings, jaws or dies fitting in the horizontal openings of the cross-head, pivoted levers hinged to the jaws or dies, and means for moving the levers to open and close the jaws or dies, substantially as set forth.

2. In a cable-grip, the combination of the head or cross piece having a vertical opening to receive the cable and horizontal openings, jaws or dies fitting in the horizontal openings of the cross-head, pivoted levers hinged to the jaws or dies, links pivoted to the upper ends of the levers, and a movable plate to which the links are pivoted or hinged, substantially as and for the purpose set forth.

FRANK A. YARD.

In presence of—
E. S. KNIGHT,
E. M. EBERSOLE.