

(No Model.)

2 Sheets—Sheet 1.

J. VOLK.
CABLE LIFTING DEVICE.

No. 424,520.

Patented Apr. 1, 1890.

Fig. 1.

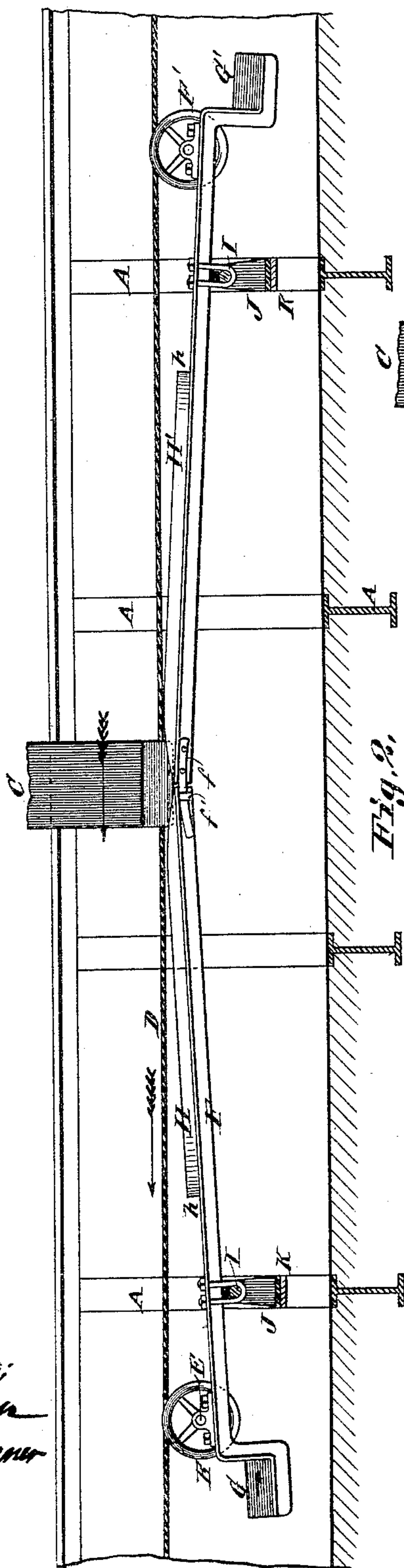
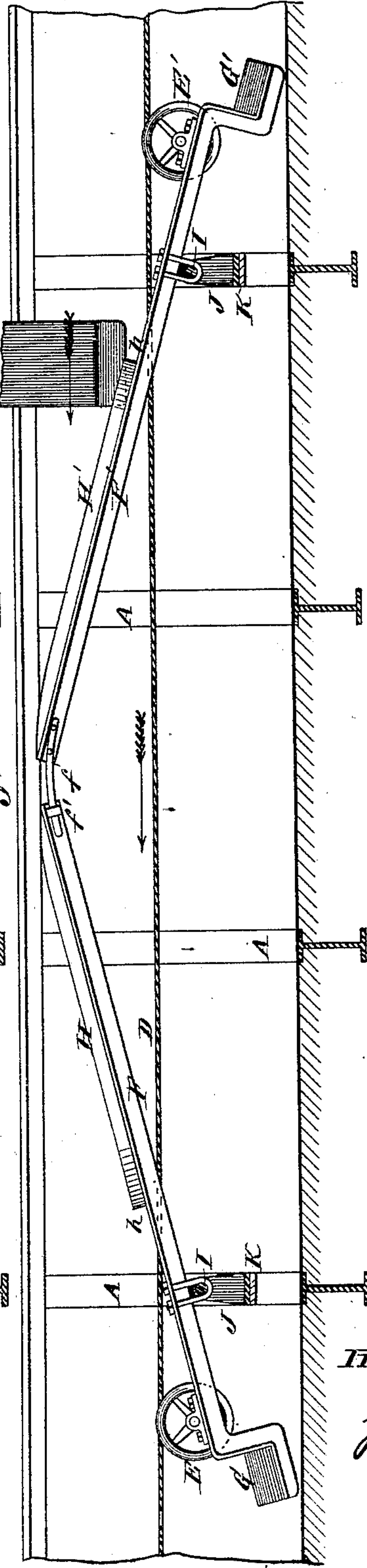


Fig. 2.



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Fig. 3.

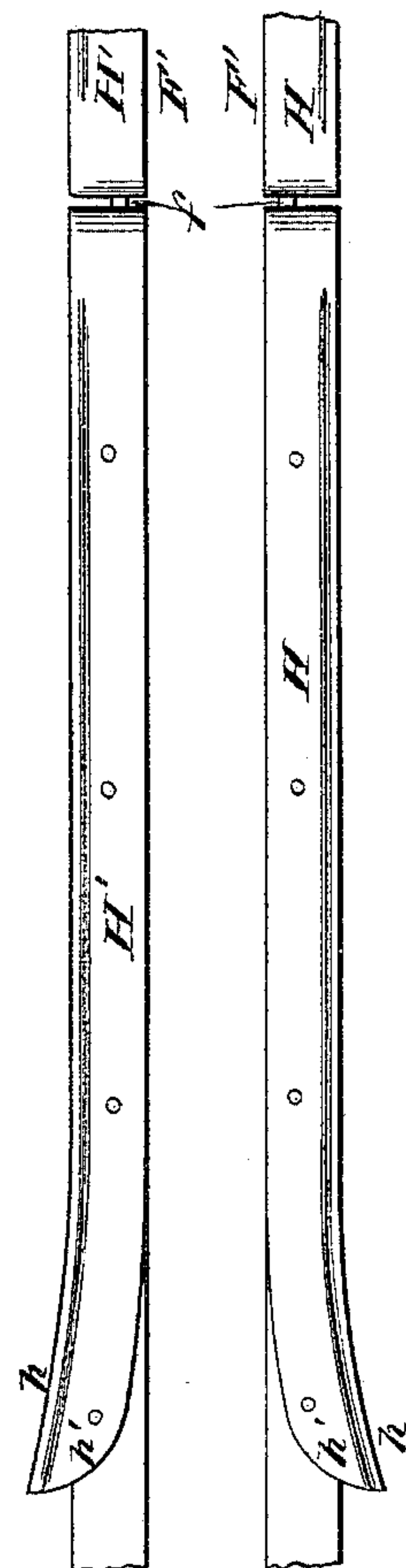


Fig. 5.

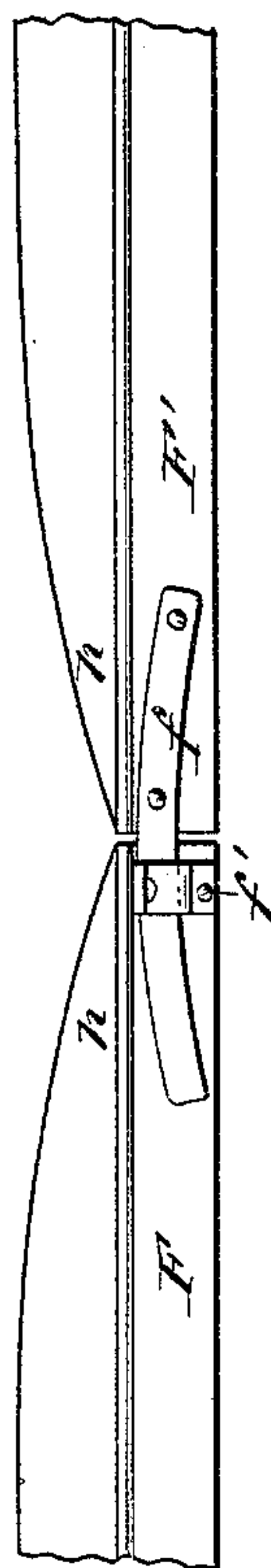
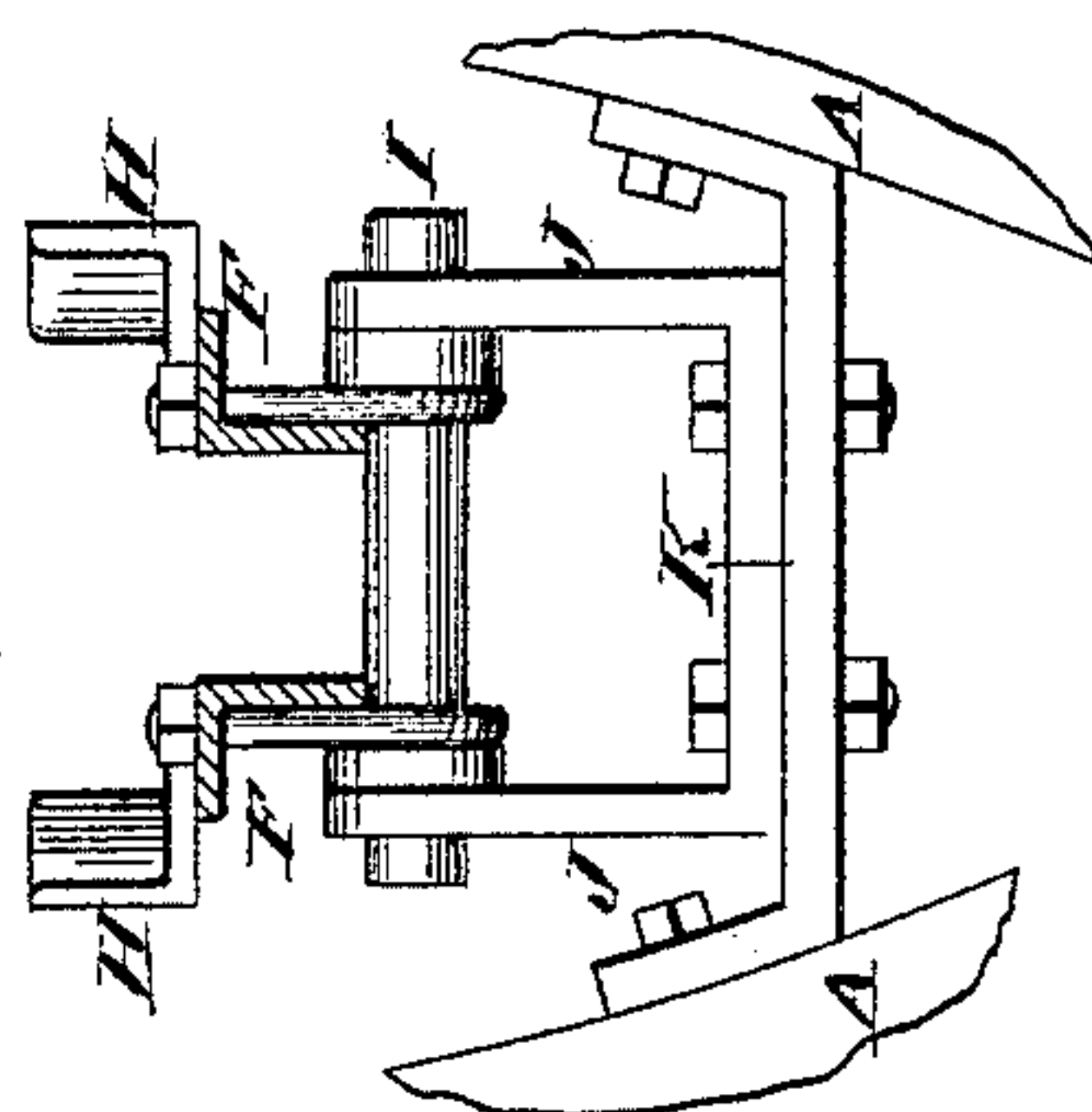
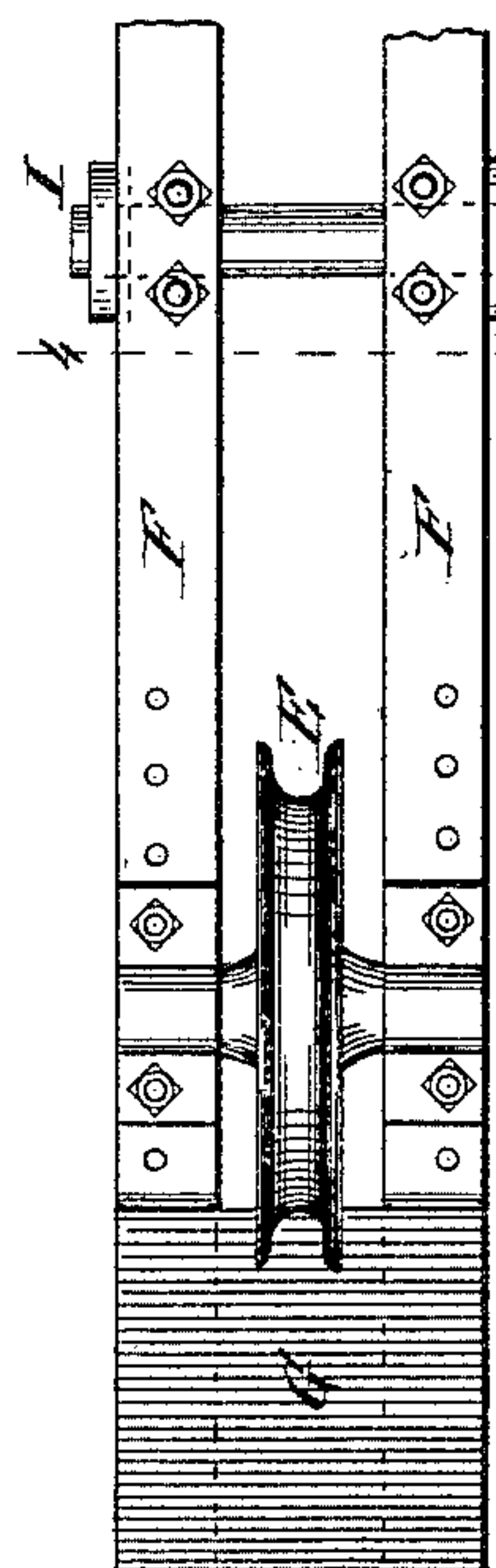


Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB VOLK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE VOLK CABLE CROSSING, GRIP AND CAR BRAKE COMPANY, OF CHICAGO, ILLINOIS.

CABLE-LIFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 424,520, dated April 1, 1890.

Application filed July 19, 1889. Serial No. 318,039. (No model.)

To all whom it may concern:

Be it known that I, JACOB VOLK, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain
5 new and useful Improvements in Cable-Lifting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable
10 others skilled in the art to which it appertains to make and use the same.

This invention has for its object to insure the accurate gripping of the cable of a cable railway by providing automatic lifting mechanism for raising the cable within the grasp of
15 each pair of grippers and taking the weight of the cable from the latter. This object is accomplished by means of the devices hereinafter set forth and claimed.

In the accompanying drawings, Figure 1
20 represents a side elevation of mechanism embodying my invention, the cable being in its lifted position and held by the grippers. Fig. 2 represents a similar view of said mechanism, the cable not being lifted or gripped. Fig. 3
25 represents a plan view of the lifting-levers and devices attached thereto, partly broken away and partly in horizontal section. Fig. 4 represents an end view of one of said levers and attached devices, and Fig. 5 represents
30 an enlarged detail view in side elevation of the coupling for the lifting-levers.

A designates the frame of a conduit, which is longitudinally slotted or open on top.

C designates a grip extending downward
35 from a passing car to be drawn by cable D in the direction of the arrows, Figs. 1 and 2. This cable passes along the interior of the conduit, resting on pulleys E E', which are attached to levers F F' of the first kind. These
40 lifting-levers F F' are arranged in pairs, as shown in Figs. 1 and 2, their inner ends, which are also their longer ends, being connected together by a coupling-strap f, which is attached to one of said levers and passes
45 through an eye f' on the other. The outer ends, which are also the shorter ends of said levers, are provided with weights G G'. Each lever, as shown in Fig. 3, is provided on top
50 with a pair of guide-rails H H', extending a considerable distance from the coupling, their

outer ends being flared laterally at h and provided with curved inner faces h'. As shown in Fig. 4, each lever has its pivot on a transverse rock-shaft I, mounted in a fixed bracket J, which is bolted to a rigid bent bar K, and
55 this again bolted to the conduit-frame A.

The operation is as follows: When the cable-grip C, passing along within the conduit, comes in contact with the inner coupled
60 ends of the first pair of levers F F', it necessarily tilts up the pulleys E E' and raises the cable within said grip. The grip then seizes and holds said cable and is drawn forward with it, successively entering between the
65 flared ends h of the guide-rails H H' of the near member of each pair of levers F F' and depressing the inner ends of said levers in like manner, so as to lift said cable and take the weight off from the grip, thus insuring a
70 firmer hold. When the grip releases the cable, the weights J J' restore it to its normal position by causing the pulleys E E' to descend. The cable is then idle—that is, it travels over the pulleys without affecting the grip or the
75 car.

This automatic lifting mechanism is put in only at the power-house, the end of a cable, or the points where the cable crosses other cables. In the latter instance the momentum
80 of the car will carry it over the other cable, its own cable being temporarily dropped, as described, and will cause the grip to come in contact with another pair of lifting-levers on the other side, with the result of automatically
85 lifting the cable and replacing it in the grip.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a traveling cable and a grip for seizing the same, a pair of levers
90 supporting said cable on one end and arranged for contact of their other ends with an attachment of the car provided with said grip, so that the weight of the cable may be supported by said levers while gripped, substantially as set forth.

2. An automatic lifting device for a cable, consisting of a pair of levers provided at one end with pulleys for the cable to run on, and also with weights, and coupled at the other end
100

in order that they may be depressed simultaneously at that end by an attachment of a car, substantially as set forth.

3. A pair of lifting-levers provided with
5 pulleys for a cable to rest on and with flared guide-rails to direct the grip, in combination with said grip and cable, substantially as set forth.

4. In combination with a grip and cable, a
10 pair of lifting-levers loosely coupled at one end and arranged to be depressed at that point by said grip, the other end of each lever being provided with a cable-supporting pulley and a counterbalance-weight, substan-
15 tially as shown.

5. In combination with a cable and grip, a pair of coupled levers loosely connected at their inner ends and provided with guide-rails H H', that are flared laterally at h, and provided with curved faces h' to receive and
20 direct said grip, the other ends of said levers being adapted to support and lift said cable, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB VOLK.

Witnesses:

ALBERT GERST,
KOSSUTH MORGNER.