

No. 777,852.

PATENTED DEC. 20, 1904.

W. O. GUNCKEL.
GRIP FOR CABLE RAILROADS.

APPLICATION FILED APR. 22, 1904.

NO MODEL:

2 SHEETS—SHEET 1.

FIG. 1.

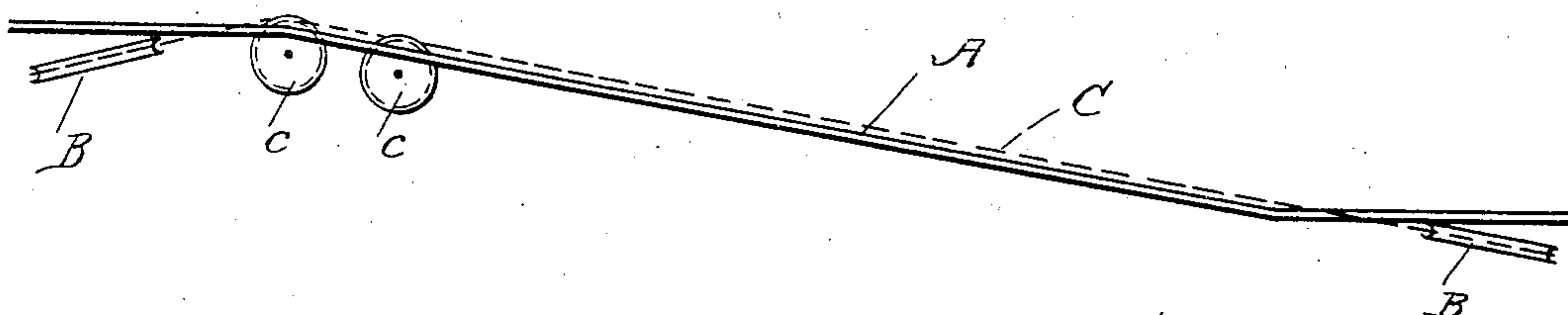


FIG. 2.

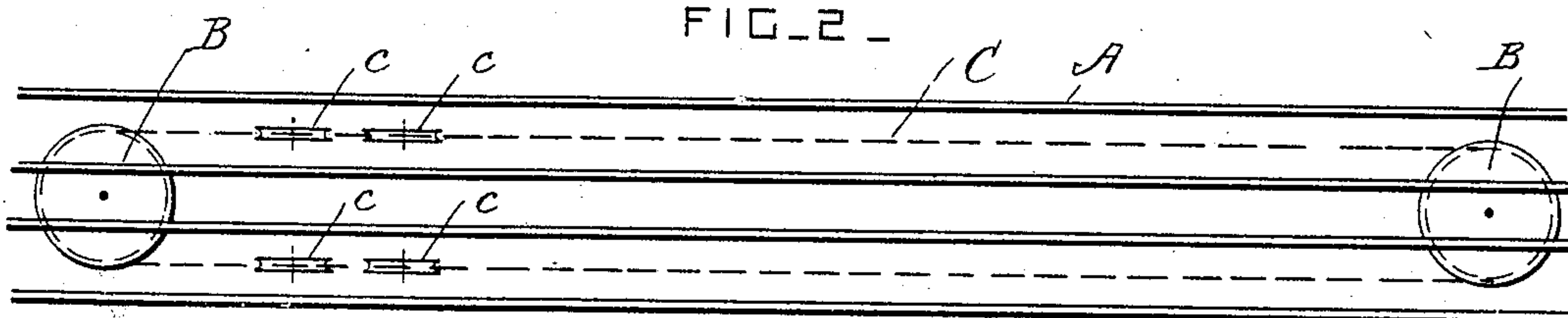


FIG. 3.

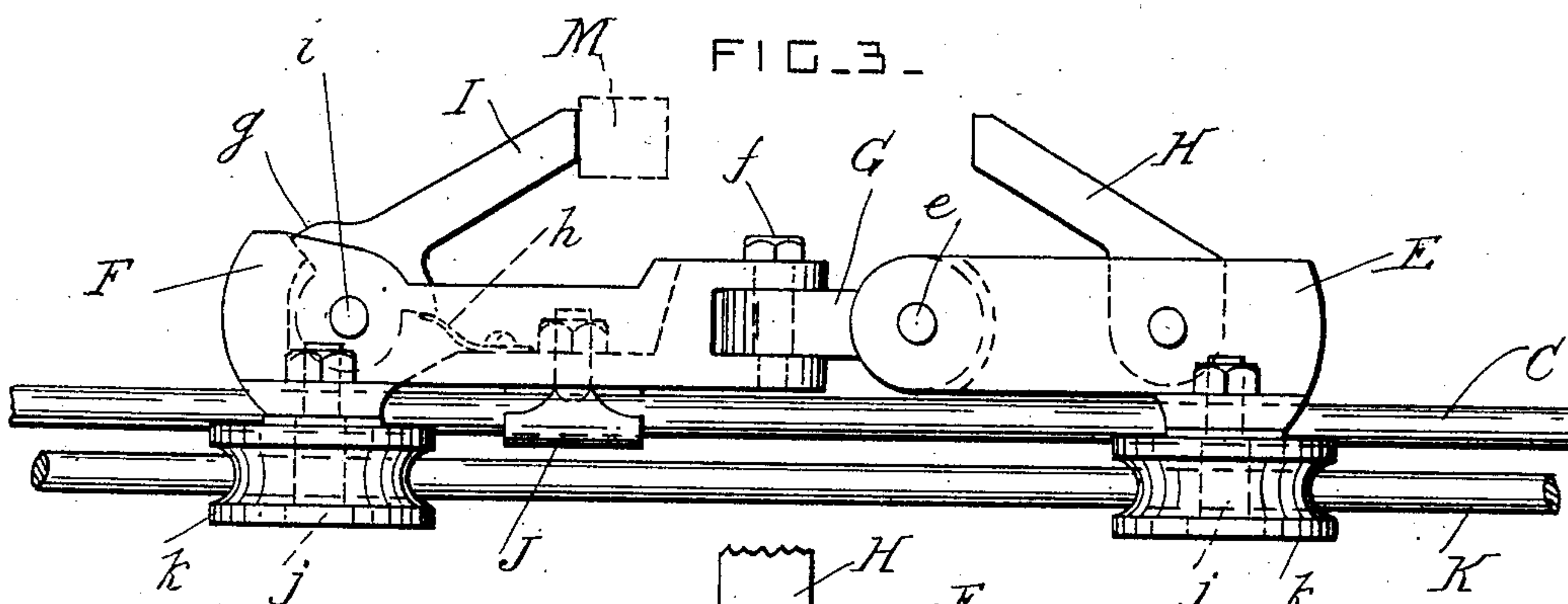
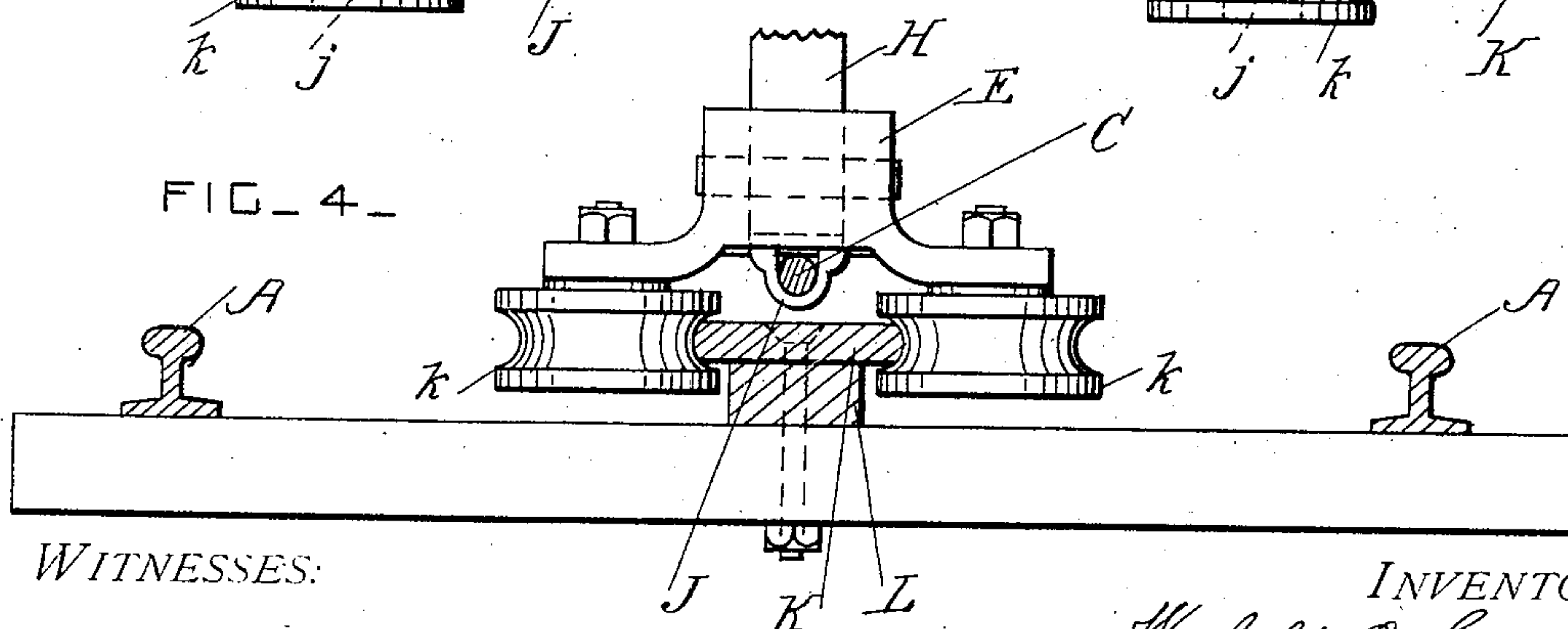


FIG. 4.



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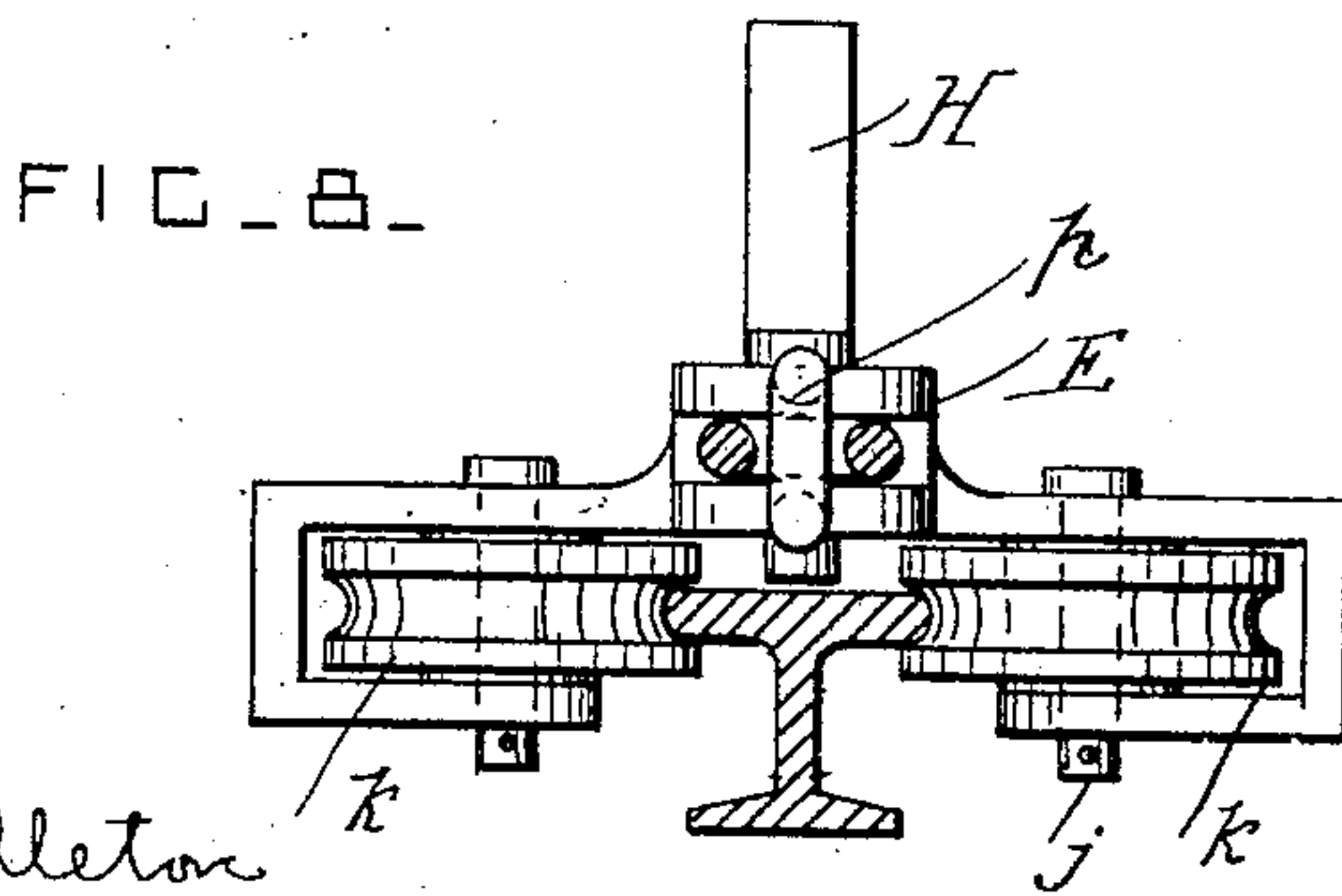
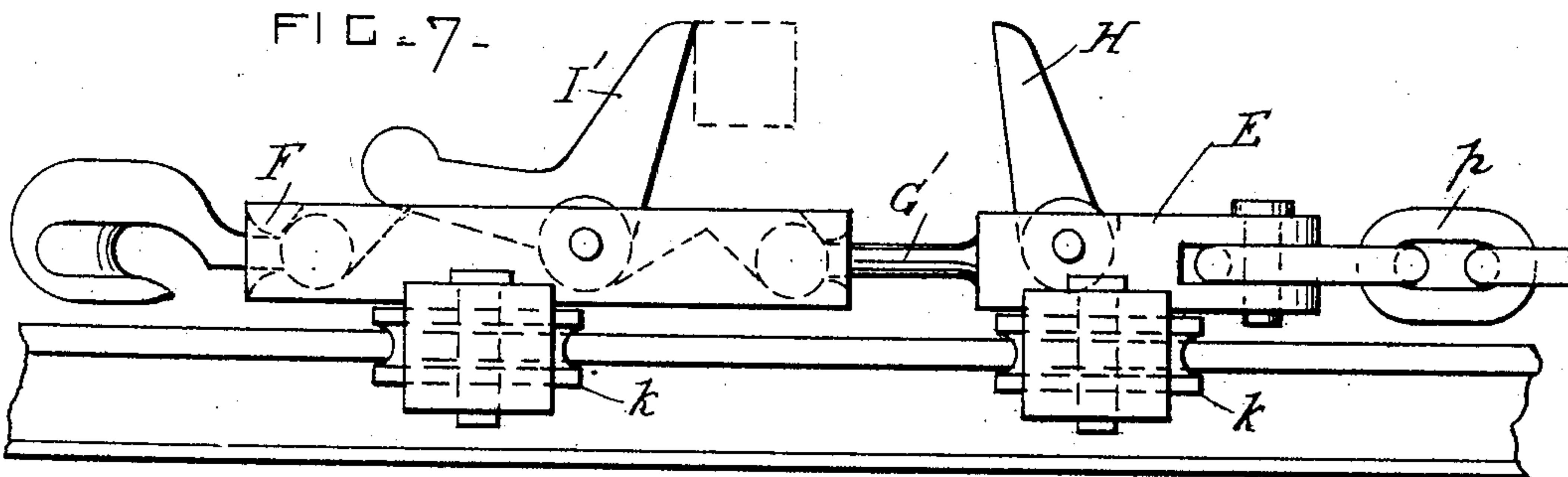
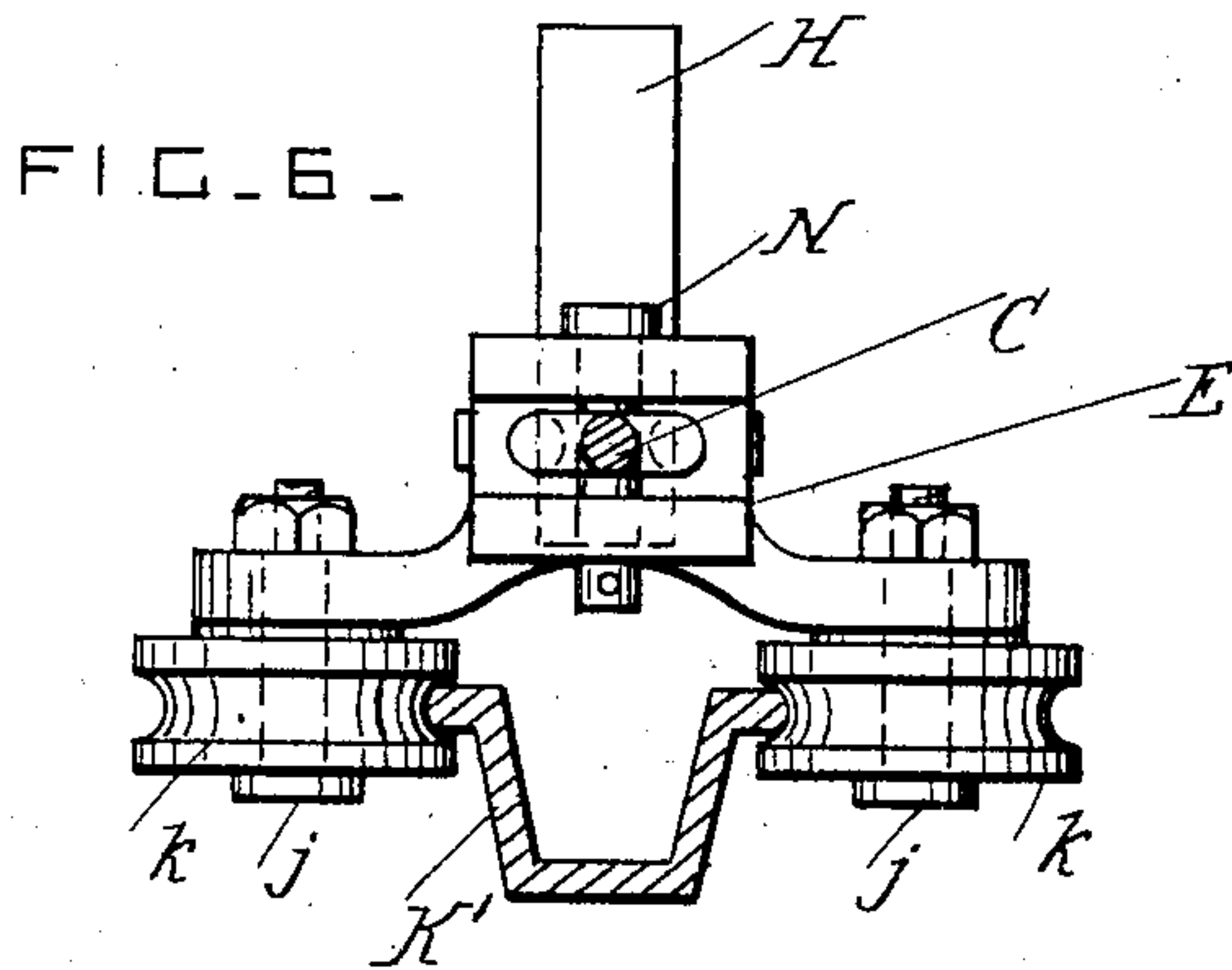
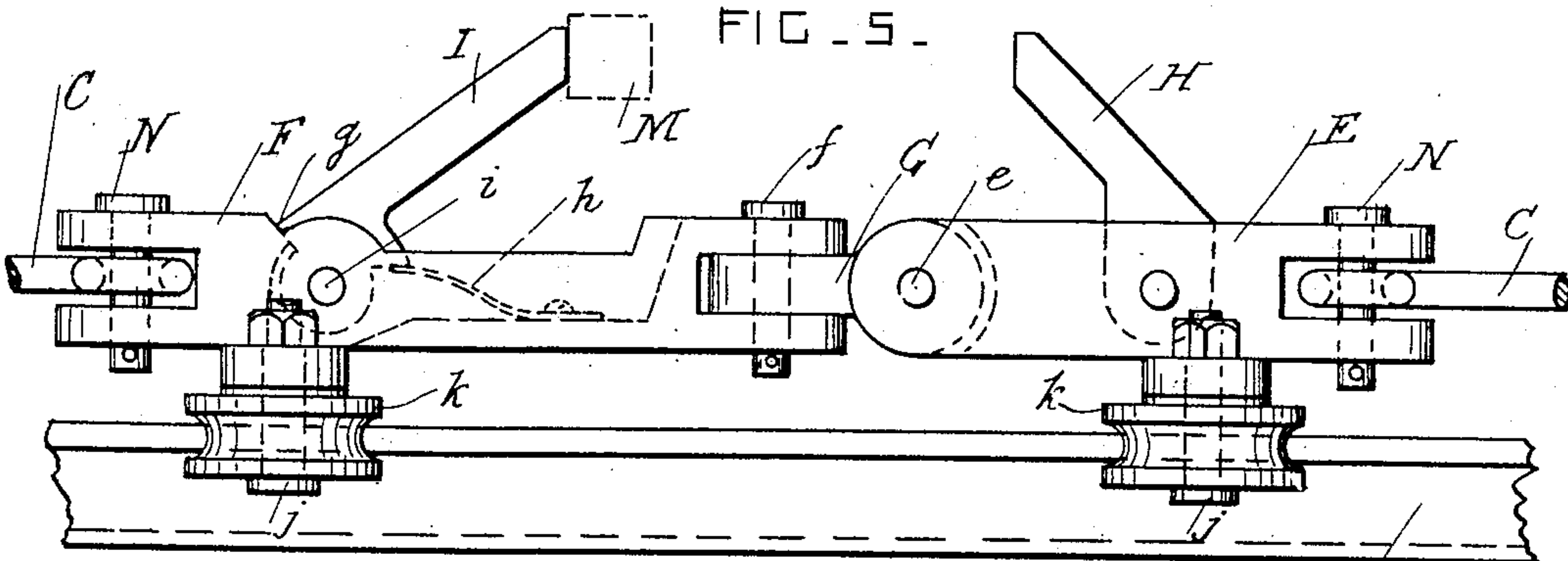
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NO MODEL.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WINFIELD O. GUNCKEL, OF CHICAGO, ILLINOIS.

GRIP FOR CABLE-RAILROADS.

SPECIFICATION forming part of Letters Patent No. 777,852, dated December 20, 1904.

Application filed April 22, 1904. Serial No. 204,464.

To all whom it may concern:

Be it known that I, WINFIELD O. GUNCKEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grips for Cable-Railroads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the gripping mechanism whereby cars are connected to the cable on cable-railroads; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a diagram showing a side view of a portion of a cable-railroad to which this invention is applicable. Fig. 2 is also a diagram showing a plan view of the same. Fig. 3 is a side view of one pair of grips, and Fig. 4 is an end view of the same. Fig. 5 is a side view showing a modification of the devices shown in Fig. 3, and Fig. 6 is an end view of the same. Fig. 7 is a side view showing a second modification of the devices shown in Fig. 3, and Fig. 8 is an end view of the same.

A is a portion of a double-track railroad arranged upon and secured upon an incline, and B represents guide-sheaves arranged under the tracks at the top and bottom of the incline.

C is an endless cable which passes over the guide-sheaves and draws a car up the incline of one track and regulates the descent of the car down the other track. Guide-sheaves *c* are also arranged in vertical planes under the cable between the end guide-sheaves B near the top of the incline or wherever same may be desirable. Power is applied to one of the sheaves B, and preferably to the sheave at the top of the incline, by any approved driving mechanism, which is not shown in the drawings, and the cable is thereby driven continuously.

In the form of the device shown in Figs. 3 and 4 two blocks E and F are provided and are connected together by a universal joint, so that they may be placed at any angle with

respect to each other within certain limits. This universal joint consists of a link G and two pins *e* and *f*, which are arranged at a right angle to each other and which pivot the end portions of the link to the respective blocks. The block E is provided with a stationary grip-finger H, which is inclined upward toward the block F, and the block F is provided with a spring-actuated grip-finger I, which projects upwardly from it and toward the block E. The grip-finger I is pivoted on a pin *i* and is provided with a stop *g*, which limits its motion when pressed upward by the spring *h*.

J is a clip which clamps one of the blocks to the cable C. This clip is shown engaging with the block F; but it is immaterial to which one of the two blocks it is attached.

K is a longitudinal guide-rail, which is secured centrally between the rails of the tracks under the cable. Each block E and F is provided with two similar guide-sheaves *k*, which engage with the side edges of the guide-rail. These sheaves *k* are arranged under the blocks, one on each side of the guide-rail, and they are journaled on pins *j*, which project from the said blocks. The guide-rail K is formed of a flat bar of metal having rounded edges, which is bolted to the ties, and L is a distance-piece placed between the middle part of the rail and the tie underneath it.

A car-axle is indicated by the dotted lines M. The spring-actuated grip-finger permits the car-axle or other suitable projection on the car to pass into the space between the end portions of the two grip-fingers. One grip-finger assists the car up one track, and the other grip-finger regulates the descent of the car down the other track. The car leaves the grip-finger at each end of the incline where the cable passes below the tracks, and the guide-rails hold the grip-fingers at the proper level when the car is on the incline.

In the modification shown in Figs. 5 and 6 the clip J is dispensed with, and the blocks are provided with connecting-pins N or other equivalent connecting devices for securing them to the cable, which is made in suitable lengths and has the blocks inserted in it.

The guide-rail K' is here shown as a channel-shaped bar, having projecting side flanges at its top, and the distance-pieces between it and the ties are dispensed with.

5 In the modification shown in Figs. 7 and 8 the blocks are also inserted in the cable, and any suitable flexible connection *p*—such as a chain, wire rope, or sprocket-chain—may be used to connect two contiguous pairs of blocks
10 together. In this form of the device the universal joint between the blocks is formed of a ball-and-socket joint G', the ball being formed on a stem projecting from one block and the socket with which the ball engages
15 being formed in the other block. A gravity-operated grip-finger I' is provided and is pivoted to one of the blocks in place of the spring-actuated grip-finger and serves the same purpose.

20 In carrying out this invention I do not confine myself to the use of a wire-rope cable in connection with the gripping devices, as I may use any mechanical equivalent for a wire rope—as, for instance, a chain cable or a drive-
25 chain or any other flexible device by which cars may be drawn along—and I use the word “cable” as applying generically to all such devices.

What I claim is—

30 1. In a cable-grip, the combination, with a cable, and a stationary guide; of a grip-block secured to the said cable and provided with means for engaging with a car, a second grip-block pivoted to the aforesaid grip-block and
35 also provided with means for engaging with a car, and guides on each of the said grip-blocks which engage with the said stationary guide.

40 2. In a cable-grip, the combination, with a cable, and a stationary guide; of a grip-block secured to the said cable and provided with means for engaging with a car, a second grip-block also provided with means for engaging with a car, a universal joint connecting the two said grip-blocks, and guides on each of

the said grip-blocks which engage with the 45 said stationary guide.

3. In a cable-grip, the combination, with a cable, of two grip-blocks connected together by a vertically-arranged pivot so that one block may move laterally in relation to the other, 50 each said block being provided with means for engaging with a car independent of the other, and means for connecting one of the said blocks to the said cable.

4. In a cable-grip, the combination, with a 55 cable, of two grip-blocks pivotally connected together by a vertical pin, and one of the said blocks being connected to the cable, means for engaging with a car projecting upwardly from one of the said grip-blocks, and a depressible 60 grip-finger for engaging with a car projecting upwardly from the other said grip-block.

5. In a cable-grip, the combination, with a cable, of two grip-blocks pivotally connected together and connected to the cable, means 65 for engaging with a car projecting upwardly from one of the said grip-blocks, a depressible grip-finger projecting upwardly from the other said grip-block, a spring normally holding the said grip-finger raised, and a stop for 70 limiting the upward movement of the said grip-finger.

6. In a cable-grip, the combination, with a cable, and a stationary guide-rail below the cable; of a grip-block secured to the said ca- 75 ble and provided with means for engaging with a car, a second grip-block pivoted to the aforesaid grip-block and also provided with means for engaging with a car, and guide-rollers carried by each of the said grip-blocks 80 and engaging with the side edges of the said guide-rail.

In testimony whereof I have affixed my signature in the presence of two witnesses.

WINFIELD O. GUNCKEL.

Witnesses:

J. W. JOHNSTON,
A. F. COLES.