C. C. JACOBS.

TRACK SHIFTING APPARATUS.

APPLICATION FILED JAN. 10, 1912.

1,167,075.

Patented Jan. 4, 1916.

3 SHEETS—SHEET 1.

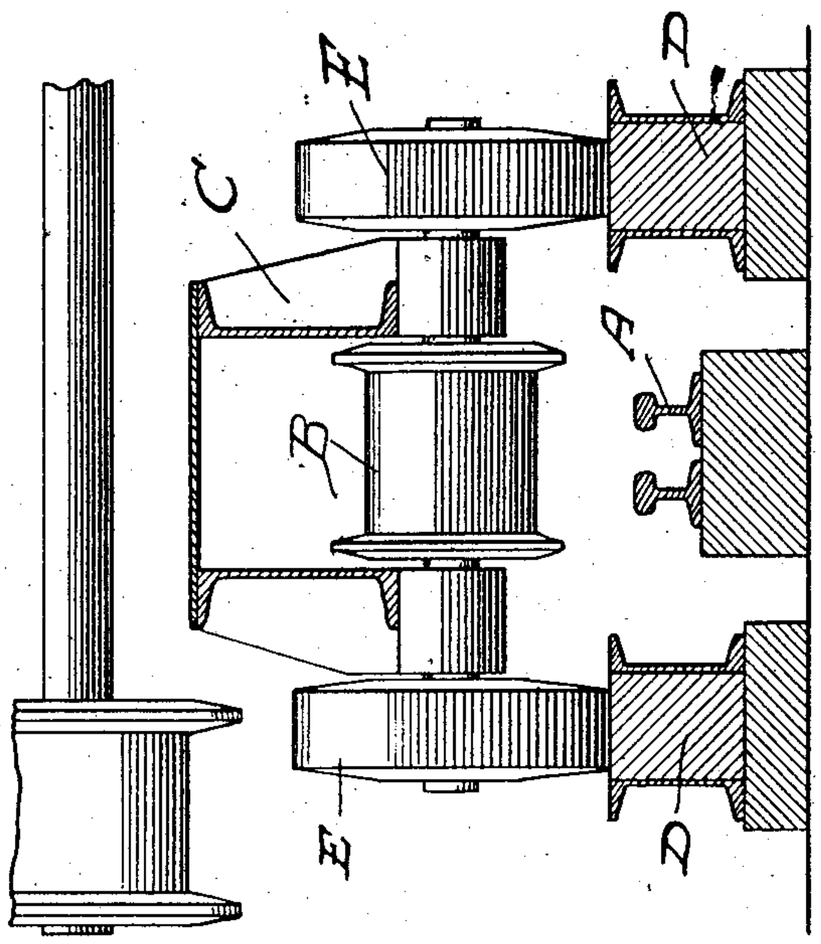

Fig. 3

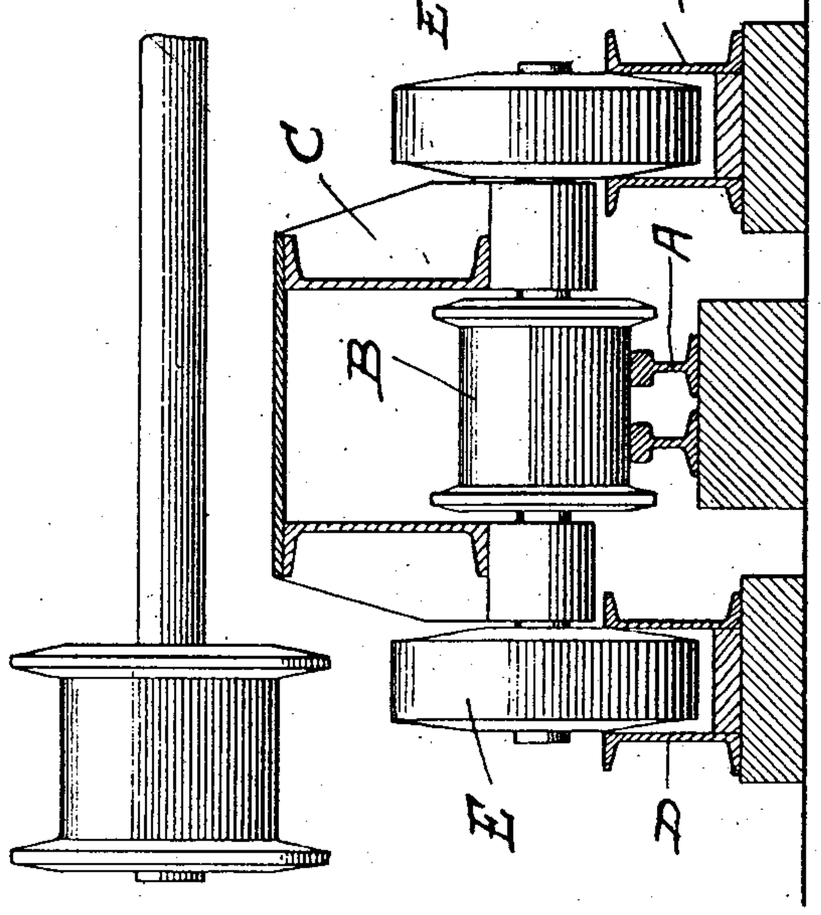

Fig 2

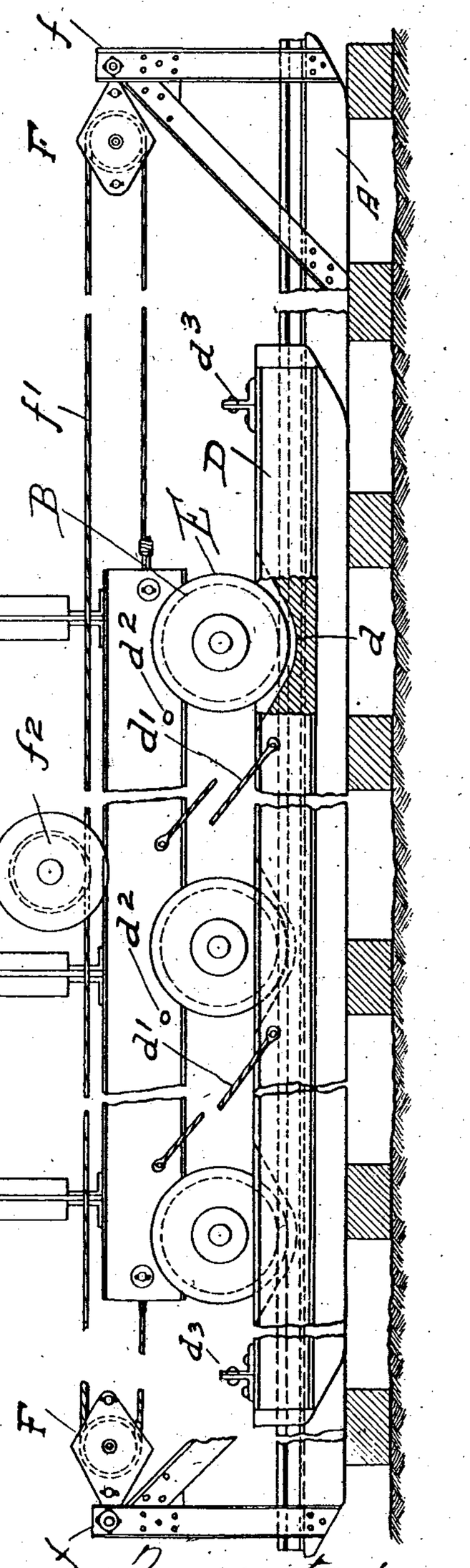

Fig 1

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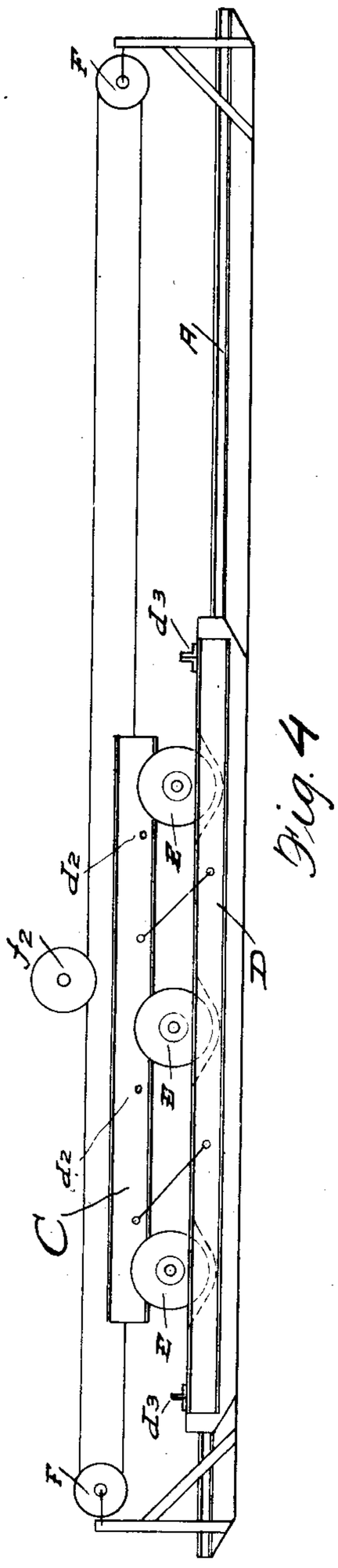

Fig. 4

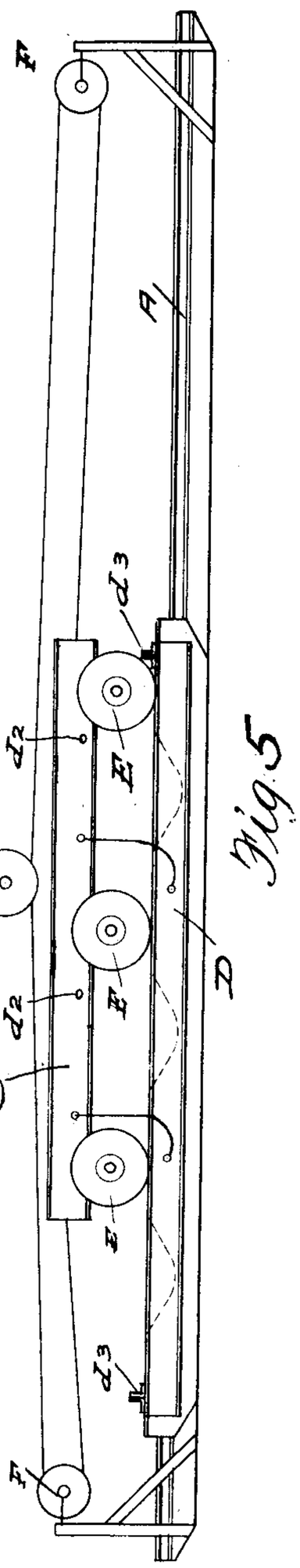

Fig. 5

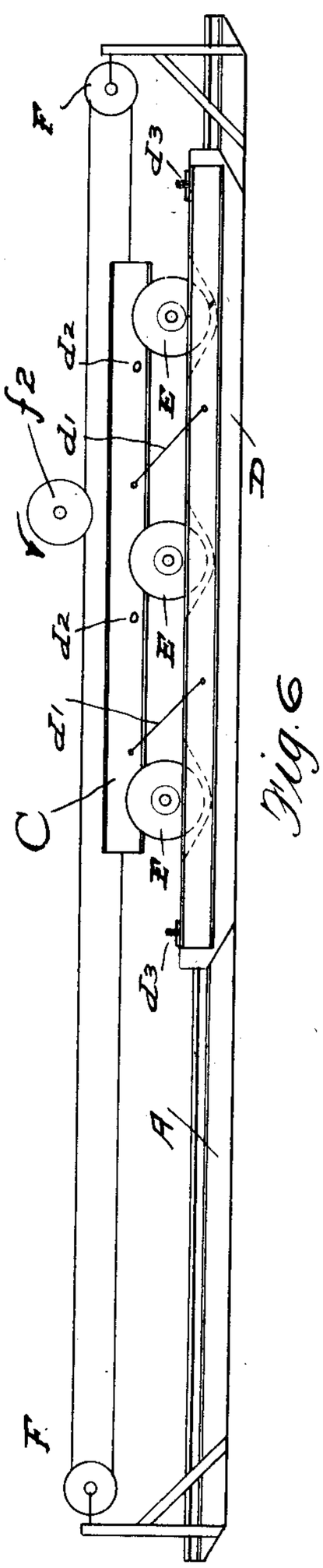

Fig. 6

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3 SHEETS—SHEET 3.

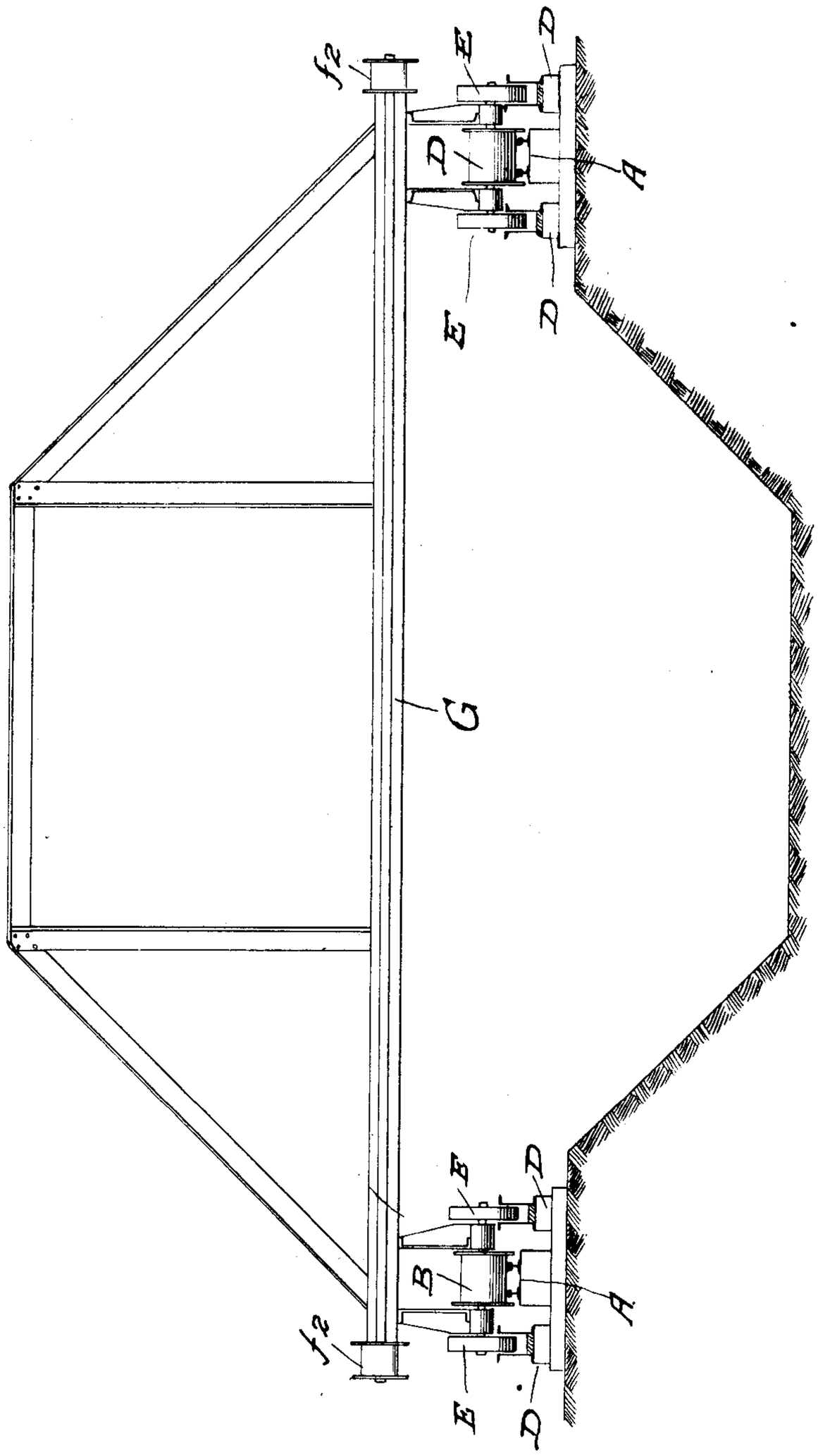

Fig. 7

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UNITED STATES PATENT OFFICE.

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TRACK-SHIFTING APPARATUS.

1,167,075. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed January 10, 1912. Serial No. 670,466.

To all whom it may concern:

Be it known that I, CHARLES C. JACOBS, a citizen of the United States of America, and resident of Amboy, Lee county, Illinois, have invented a certain new and useful Improvement in Track-Shifting Apparatus, of which the following is a specification.

My invention relates to track shifting apparatus in general, but more particularly to those which are adapted for use in connection with excavating machinery.

Generally stated, the object of my invention is to provide a novel and highly efficient arrangement for shifting the track of an excavating machine or other traveling body, whereby only a short length of track is necessary, as with this arrangement the track can be shifted forward each time the excavator or other body reaches the front end thereof.

A special object is to provide a novel arrangement whereby the excavator is raised and the track then shifted by practically one and the same operation of a winding drum or other mechanism on the said excavator or body.

To these and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings—Figure 1 is a side elevation of a track shifting apparatus embodying the principles of my invention, showing portions thereof broken away for convenience of illustration. Fig. 2 is an enlarged transverse section showing the body down on the track. Fig. 3 is a similar view showing the body raised from the track. Figs. 4, 5 and 6 are diagrams showing the body in the various positions incident to a forward shifting of the track. Fig. 7 is a view showing the manner in which my invention is employed in connection with an excavator of that type in which the frame or body thereof is supported at each side of the ditch or excavation.

As thus illustrated, my invention comprises a track A for the wheels or rollers B of the body C. The ground supports D are disposed at each side of said track, and are provided with depressions d forming inclines. Normally, the wheels E on the sides of the body rest in said depressions to permit the body to travel along said track. Flexible connections d' connect the body with said supports D, said connections preventing the wheels from sliding up the inclines when the body moves forward, but permitting said wheels to travel up the other inclines when the body is backed in the other direction. By transferring the upper ends of these connections to the points d^2 the operation can be reversed.

The means for moving the body forward and backward and shifting the track comprises the sheaves F mounted on posts f at opposite ends of the track, and a cable f' extending around these sheaves and having the ends thereof secured to the opposite ends of the body. The middle portion of said cable extends around the winding drum f^2 on the body. Preferably, the supports D are tied together at their ends by the cross bars d^3, or in any suitable manner.

As shown in Fig. 7, the construction shown in Figs. 1, 2 and 3 is employed for supporting the frame G at each side of the ditch. This frame may be equipped with excavating apparatus of any suitable, known or approved character.

The operation is as follows:—As the apparatus stands in Fig. 4, the body C has reached the forward end of the track. A rotation of the drum f^2 in the direction indicated serves to draw the body C backward, and the inclines serve to raise the body off from the track, either partially or entirely, and, if entirely, the connections d' then limit the backward movement of the body on the high portions of the said supports D, as indicated. A continued rotation of the drum in the same direction then pulls on the rear end of the track which latter is now relieved of the weight of the body. This pull moves the track forward, as shown in Fig. 6, and a reverse rotation of the drum f^2, as indicated in this figure, then pulls on the forward end of the track. This draws the wheels E down into the depressions d, thus restoring the wheels or rollers B to the track A, and thereby making it possible to again move the body forward on the track. At this time the connections d' serve to drag the supports D along with the body. Thus only a short length of track is necessary, and the extent of shift of the track is only limited by the length thereof.

It is obvious that the details of construction can be changed or varied without de-

parting from the spirit of my invention. For this reason I do not limit myself to the exact construction shown and described.

It is also obvious that my improved track shifting arrangement can be employed for different purposes. As shown, it is employed as a means for shifting the tracks at each side of the ditch or excavation, in conjunction with an excavating machine. In such case, my improved construction is especially adapted for the purpose, as in the operation of an excavating machine of this kind, it is usual to back the machine a distance, each time an operation is completed, for the purpose of finishing the operation. As this occurs each time the machine reaches the forward ends of the track, it follows that the track shifting operation is practically coincident with the usual backing up of the excavator.

I do not limit myself to the exact construction shown and described.

What I claim as my invention is:

1. A track shifting apparatus comprising a track, a wheeled body mounted to travel thereon in either direction, mechanism for removing the weight of the body from said track, and means for shifting the track endwise while thus relieved of the weight of said body, said mechanism comprising ground supports having inclines therein, wheels engaging said inclines to lift the body when the latter moves in one direction, connections for shifting said supports when the body moves in the opposite direction, and means for reversing said connections to permit reverse travel of said body on said track.

2. A track shifting apparatus comprising a track, a wheeled body mounted to travel thereon, mechanism for removing the weight of the body from said track, and means for shifting the track endwise while thus relieved of the weight of said body, and means serving also to propel said body along said track, and said mechanism including supports which slide on the ground, means having wheels for engaging said supports, and connections between said supports and body, entirely separate from and independent of said last mentioned means.

3. A track shifting apparatus comprising a track, a wheeled body mounted to travel thereon, mechanism for removing the weight of the body from said track, and means for shifting the track endwise while thus relieved of the weight of said body, said means comprising flexible connections from the body to each end of said track, and said mechanism including supports which slide on the ground, means having wheels for engaging said supports, and connections between said supports and body, entirely separate from and independent of said last mentioned means.

4. A track shifting apparatus comprising a track, a wheeled body mounted to travel thereon in either direction, mechanism for removing the weight of the body from said track, means for shifting the track endwise while thus relieved of the weight of said body, said mechanism comprising ground supports, inclines disposed at opposite angles between said supports and body, and means for engaging said inclines to lift the body by movement of the latter in either direction on the track.

5. In a track shifting apparatus, a track, a wheeled body movable in either direction thereon, mechanism for raising the body, means on the body for pulling on the end of said track to operate said mechanism and shift the track, means for pulling on the other end of the track to move the body forward on the track, and means for reversing said mechanism to permit reversal of travel of said body on said track.

Signed by me at Chicago, Illinois, this sixth day of January, 1912.

CHARLES C. JACOBS.

Witnesses:
GEO. F. SCHMIDT,
E. H. CLEGG.