

994,341.

J. B. SHELTON.

DUMP CAR.

APPLICATION FILED MAY 21, 1910.

Patented June 6, 1911.

3 SHEETS-SHEET 1.

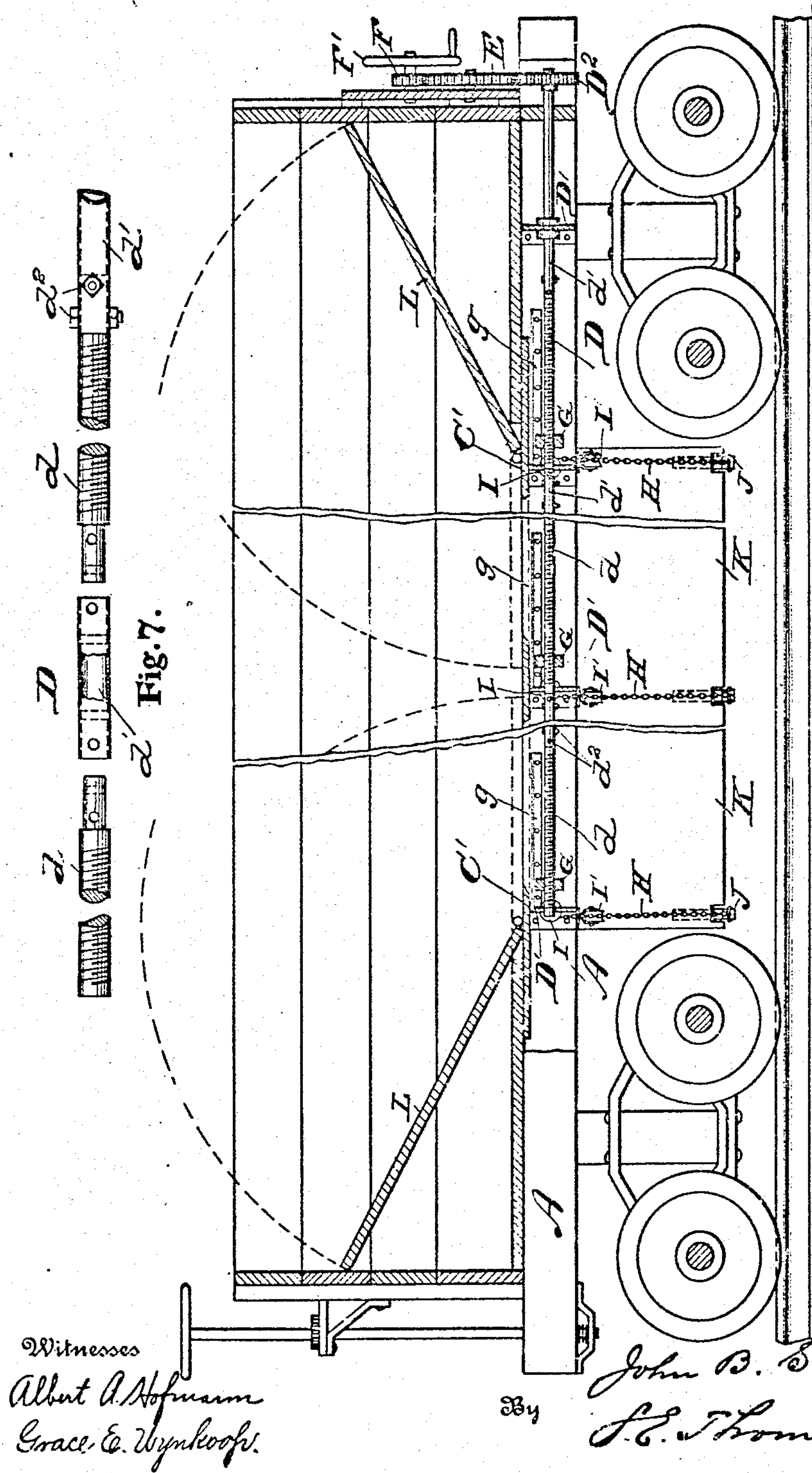


Fig. 1.

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3 SHEETS-SHEET 2.

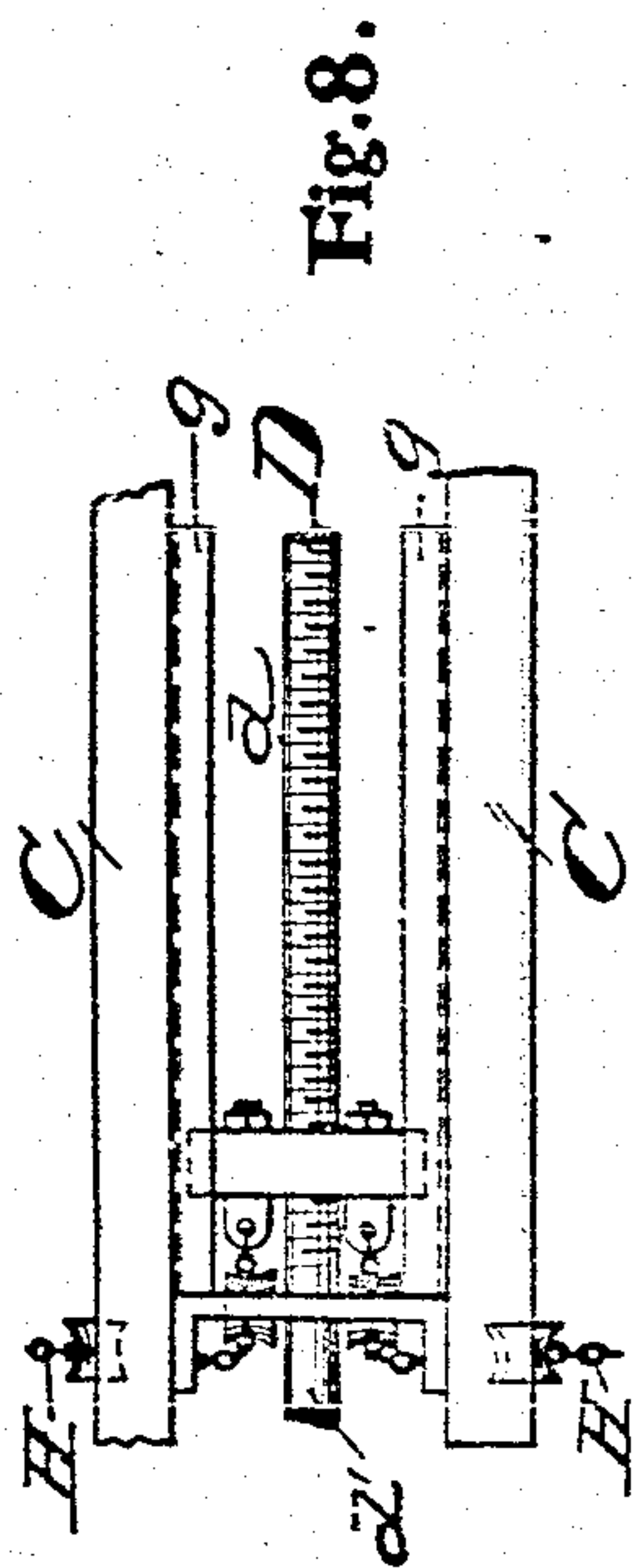


Fig. 8.

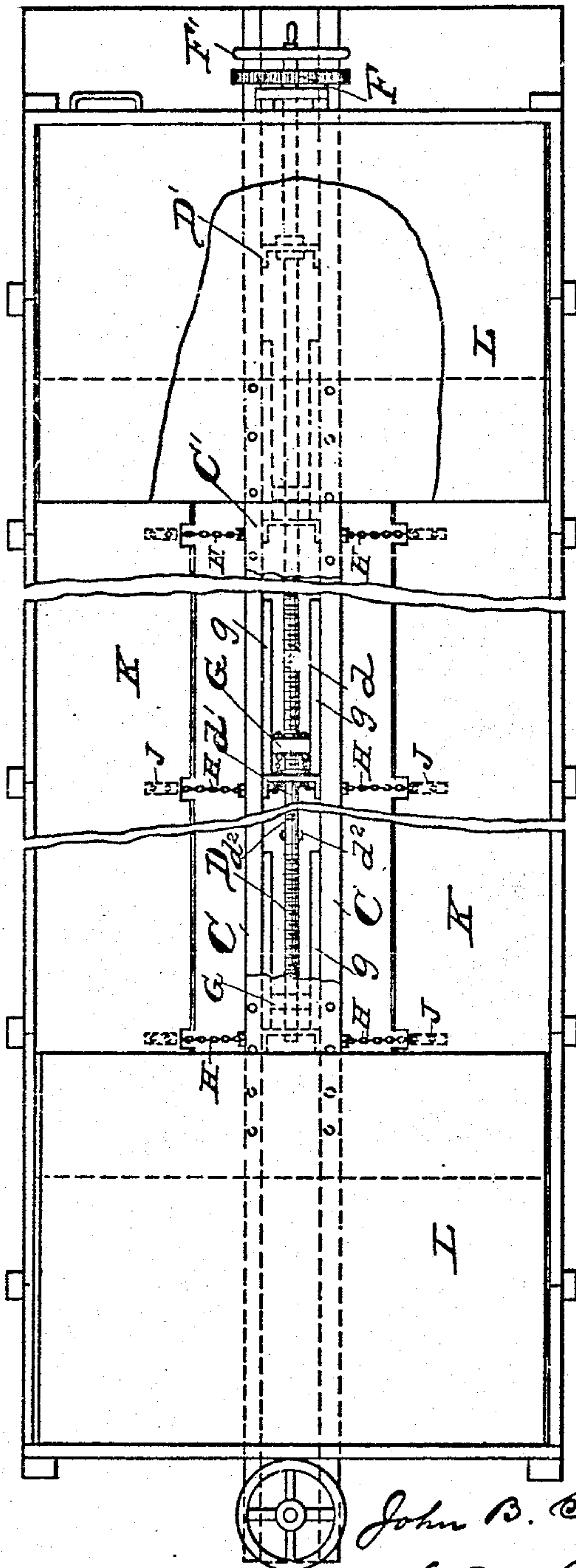


Fig. 2.

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3 SHEETS-SHEET 3.

Fig. 4.

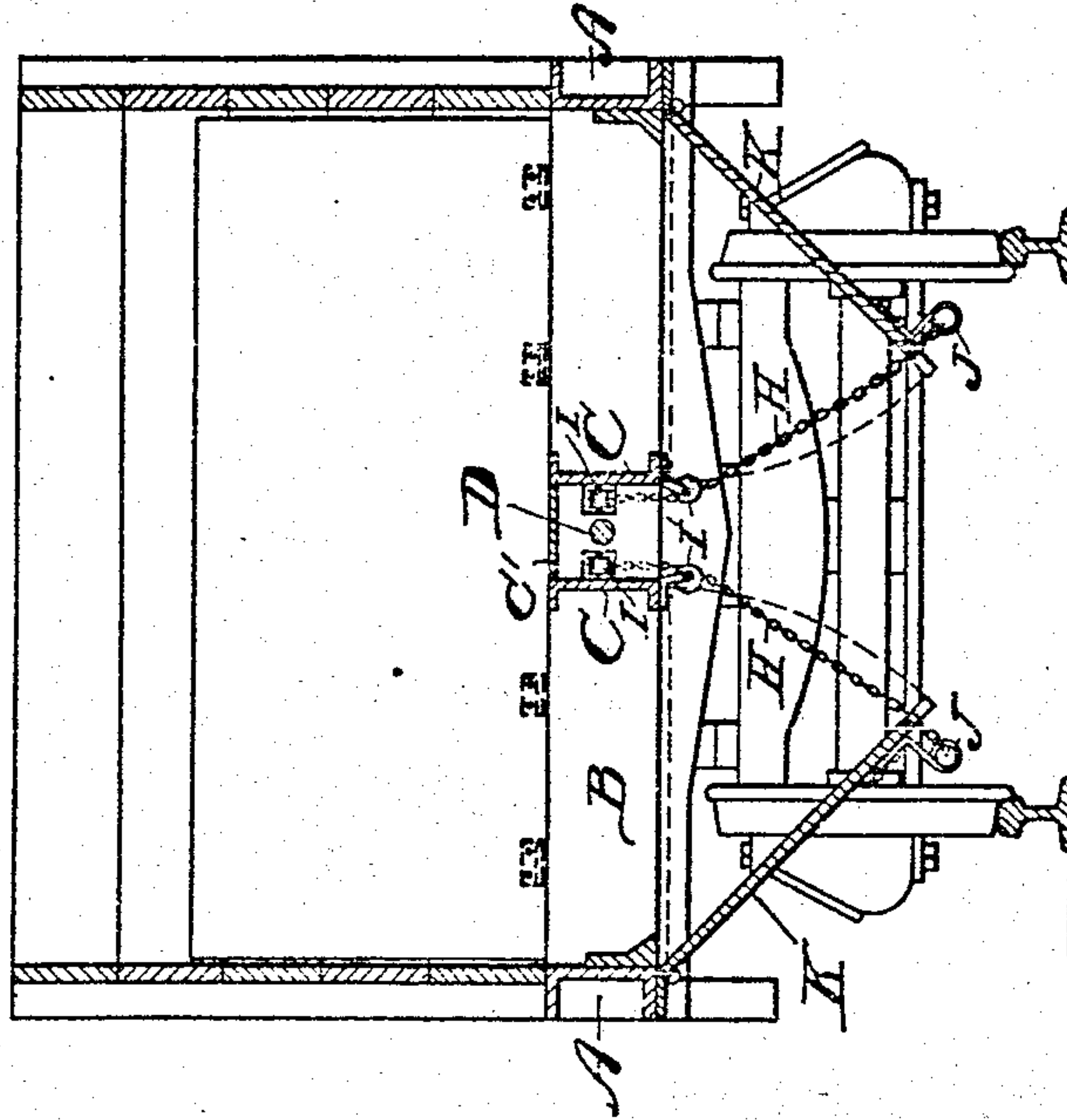


Fig. 6.

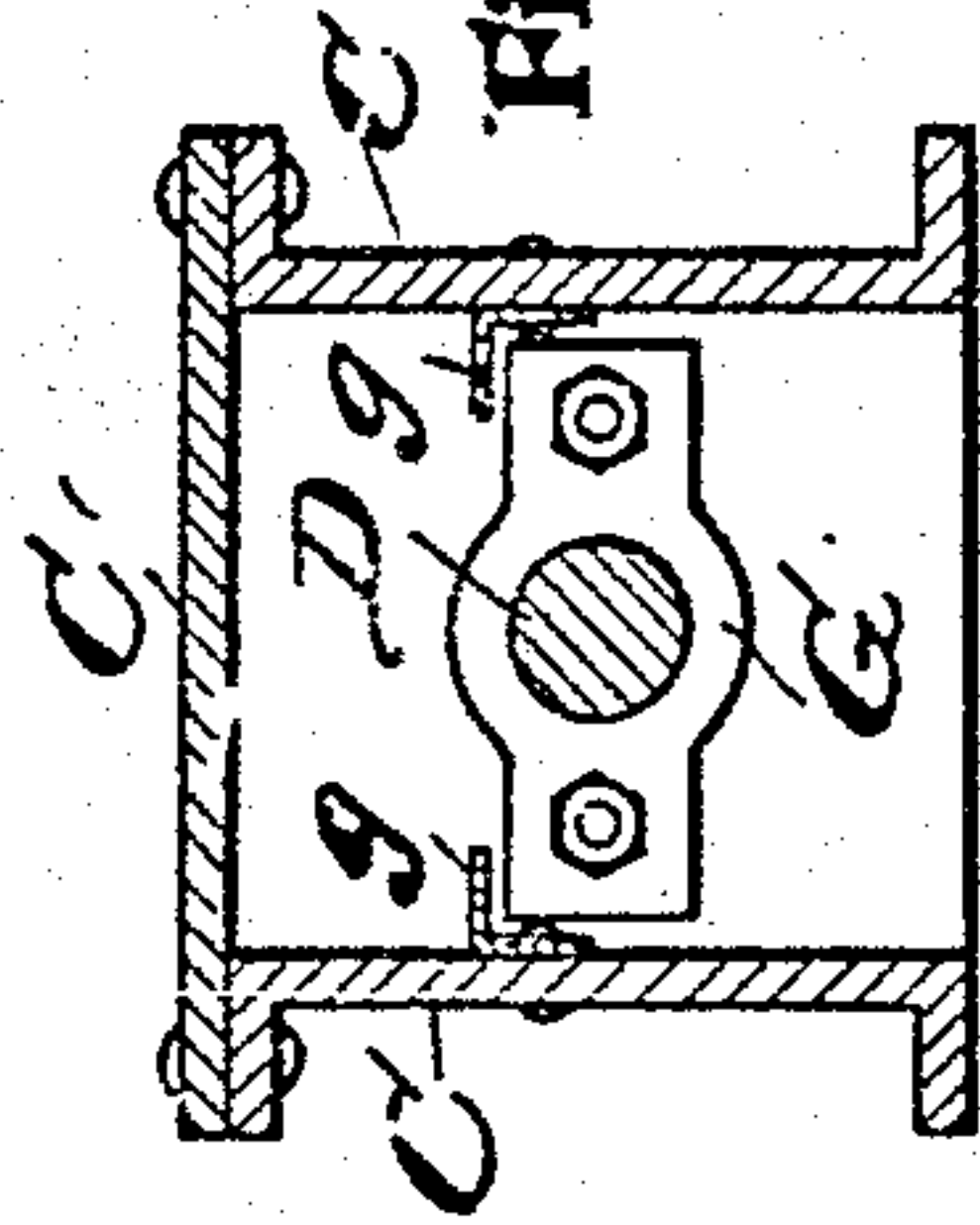


Fig. 3.

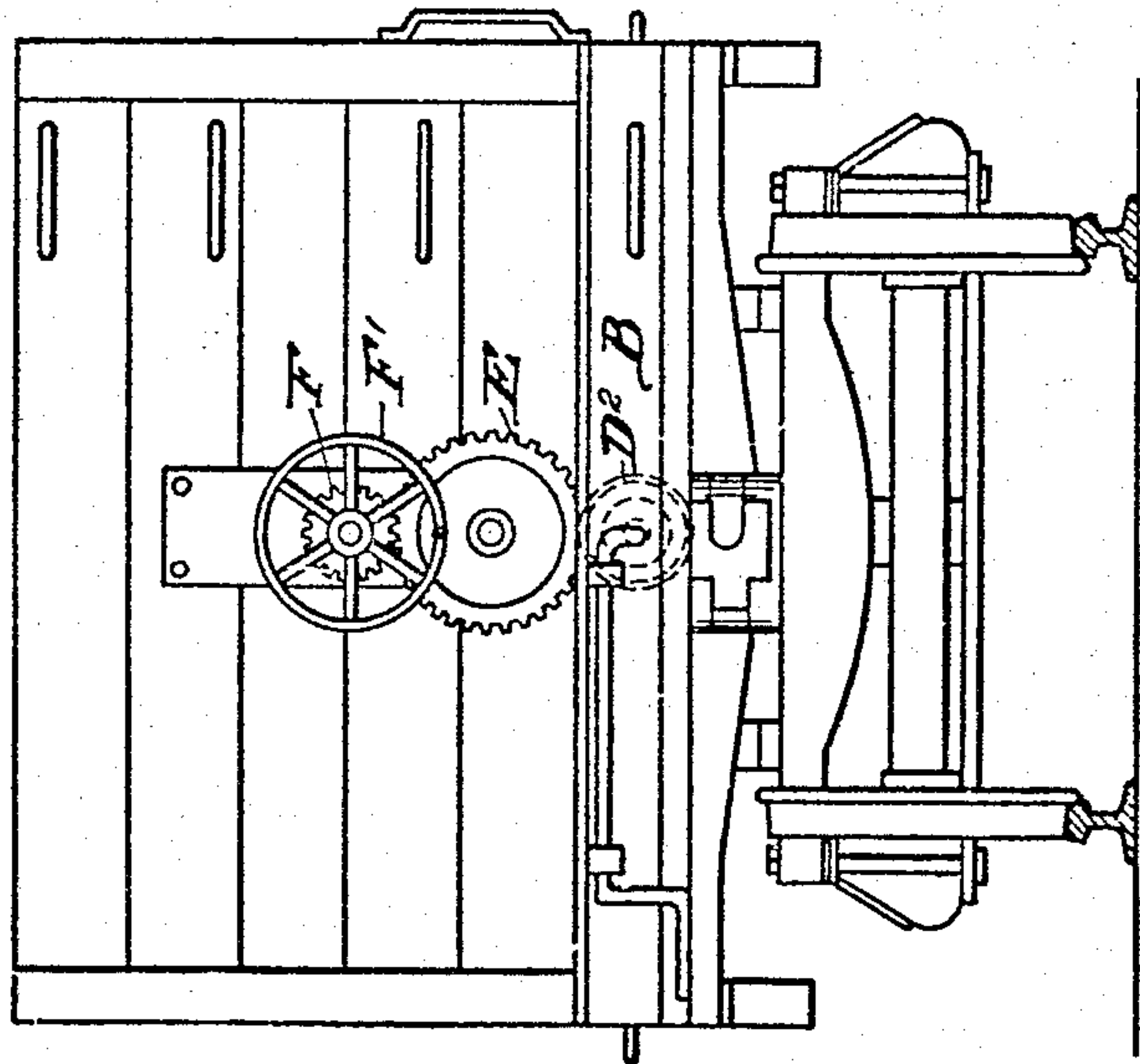
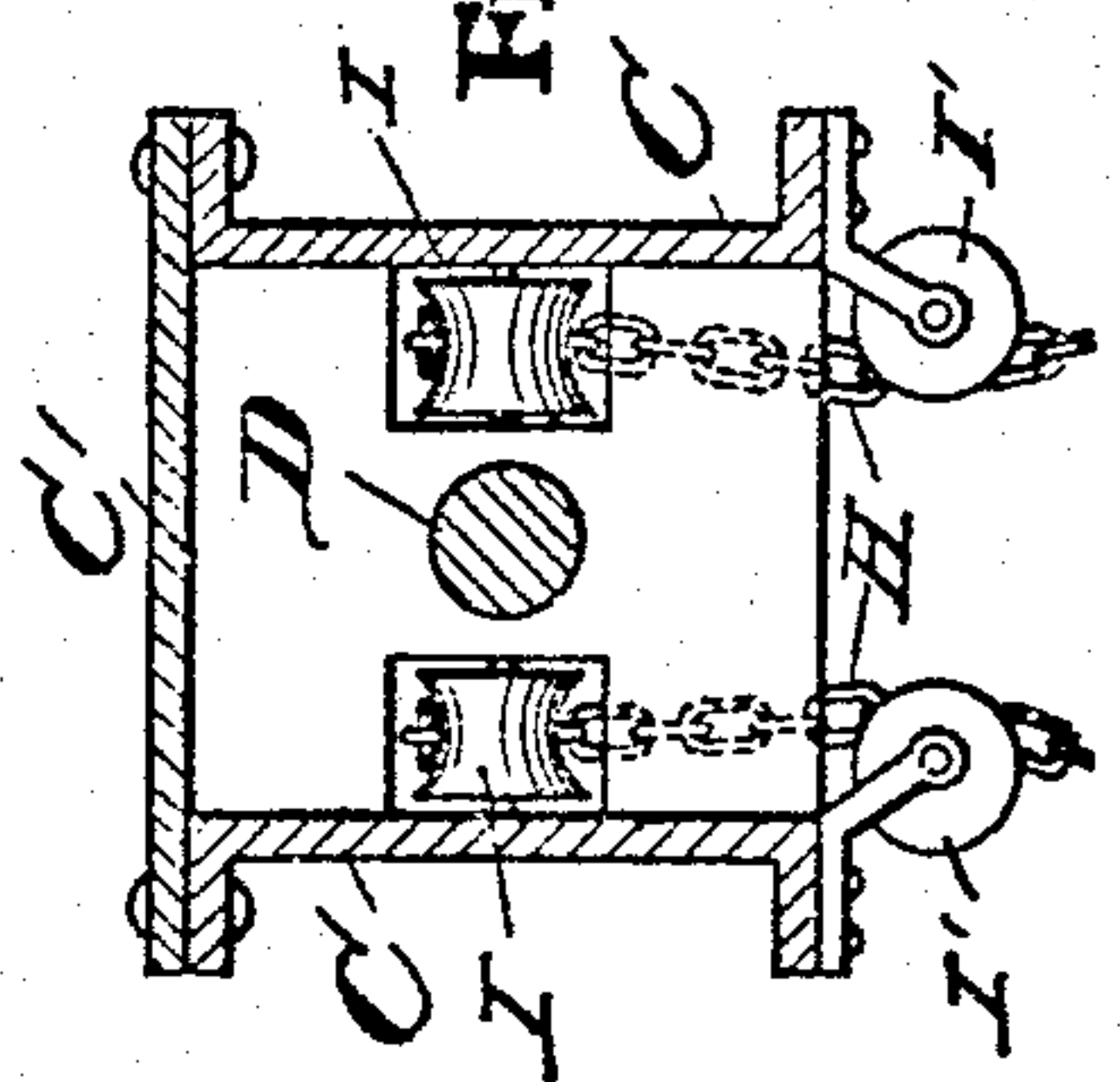


Fig. 5.



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UNITED STATES PATENT OFFICE

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DUMP-CAR.

994,341.

Specification of Letters Patent.

Patented June 6, 1911.

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To all whom it may concern:

Be it known that I, JOHN B. SHELTON, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Dump-Cars, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in dump cars, and its object is to dispense with the usual locking or latching mechanism employed to secure the doors when in position to receive a load,—the construction being such that the doors may be opened to any desired degree and remain wherever set without the employment of independent locking or latching mechanism.

Another object is to so construct the operating mechanism that it will not in any way interfere with the general construction of the car,—it being well known that many devices of this character require the cars to be especially designed in order that the raising and lowering mechanism will not interfere with the arrangement of the structural framework of the car.

Other advantages and improvements will hereafter appear.

In the drawings accompanying this specification:—Figure 1 is a longitudinal vertical section through a car, with parts broken away, showing the dumping doors in discharging position. Fig. 2 is a plan view of the same with parts broken away to more clearly disclose the main operating shaft and the mechanism actuated by it. Fig. 3 is an end elevation of the car. Fig. 4 is a cross-sectional view through the car. Fig. 5 is a detail cross-sectional view through the central sills showing the operating shaft and the pulleys over which the chains engaging the doors pass. Fig. 6 is a cross-sectional view through the channel members, showing the main operating shaft and the traveling block to which the chains are attached. Fig. 7 is a detail view of the main operating shaft showing the manner of assembling the piping and threaded portions composing the same. Fig. 8 is a detail plan view of the central channel members and main operating shaft and the traveling nut mounted thereon.

Referring now to the letters of reference placed upon the drawings:—A, A, denote the side sills of the car; B, B, the end sills, and C, C, the central sills, which are preferably of channel iron.

D is a main operating shaft located between the central sills and journaled in cross members D' secured to the central sills or car frame.

D² is a gear mounted on the end of the shaft D, meshing with an idler E supported in a suitable bearing secured to the end wall of the car and which is in turn actuated by the pinion F mounted on the shaft of the hand wheel F' journaled in a suitable bearing supported by the car body.

The shaft D is formed alternately of threaded portions d, and sections of piping d', in which they are sleeved, being secured thereto by suitable bolts d²,—the purpose of thus forming the shaft in sections being to reduce the cost of manufacture and to simplify the matter of renewing the parts when broken.

G, G, are traveling nuts having screw-threaded engagement with the threaded portions of the shaft D and upon which they are respectively mounted.

g are angle plates bolted to the channel members C serving to secure the traveling nuts against turning upon the shaft when the latter is rotated.

H are a plurality of chains, a pair of which are attached at one end to each of the traveling blocks from whence they pass over suitable rolls I and I',—the opposite ends of the chains being engaged with suitable fastening devices J bolted to the dumping doors K which are in turn hinged to the side frames of the car.

L are end doors hinged to the frame of the car, which may be manually raised to form a hopper serving to deliver the contents of the car toward the central opening under the control of the dump doors. Upon closing the doors L the car is converted into one of the ordinary flat bottomed type, being thereby adapted for all uses to which such a car may be placed. Upon raising the doors, as shown in Fig. 1, it may be immediately converted into a dump car.

C' is a plate bolted to the channel members, covering the central operating shaft to protect it and the mechanism actuated by it from the entry of dust and dirt.

Having indicated the several parts by ref-

erence letters, the operation of the mechanism will be readily understood.

Assuming that the car is loaded and it is desired to discharge the same, the hand wheel F' is actuated which serves to rotate the main operating shaft D causing the traveling nuts E to move forward thereby releasing the chains and allowing the dumping doors to descend. Should it be desired to only partially open the doors in order to direct the discharge of the load to the center of the track, by stopping the rotation of the shaft the doors will be immediately locked against further movement,—the well known action of the screw shaft providing for locking the doors at any point. To restore the dump doors in position to receive another load, the operation of the hand wheel is reversed, which action causes the traveling nut to move in the opposite direction to that just described thereby raising the doors to their initial or horizontal position. Should it be desired to convert the car into an ordinary flat bottomed car, the manually operated hopper doors are closed, thereby forming a level floor.

Having thus described my invention, what I claim is:—

1. In a dumping carrier, doors hinged to the frame of the carrier, a longitudinal shaft suitably journaled formed of alternate plain and screw-threaded portions secured together to form a continuous unit, means for rotating said shaft, traveling blocks mounted upon its screw-threaded portions, and means connecting the blocks with the doors, whereby upon actuating the shaft the doors may be raised or lowered.

2. In a dumping carrier, doors hinged to the frame of the carrier, a longitudinal shaft suitably journaled formed of alternate screw-threaded portions and sections of tub-

ing bolted together to form a continuous unit, the ends of the screw-threaded portions being sleeved in the ends of the tubing, means for rotating said shaft, traveling blocks mounted upon its screw-threaded portions, and chains connecting said blocks with the doors, whereby upon actuating the shaft the doors may be raised or lowered.

3. In a dump car, the combination with the frame, of doors hinged to the side edges of the frame, a longitudinal shaft formed of alternate screw threaded portions, and sections of tubing secured together mounted centrally in the frame, traveling blocks mounted upon the screw threaded portions of said shaft, chains connecting said blocks to the respective doors passing through suitably arranged pulleys, and means for rotating said shafts through the medium of gears for raising and lowering said doors.

4. In a dump car, the combination with the frame, of longitudinally hinged doors carried by said frame, a shaft mounted centrally in said frame above said doors, said shaft being formed of screw threaded portions and tubular portions secured together alternately, traveling blocks mounted on the threaded portions of said shaft provided with chain attaching ears, chains connecting said ears having their free ends connected to the doors, pulleys for guiding said chains, a crank operated shaft for rotating said shaft through the medium of gears whereby said doors can be raised and lowered.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOHN B. SHELTON.

Witnesses:

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SAMUEL E. THOMAS.