

No. 706,294.

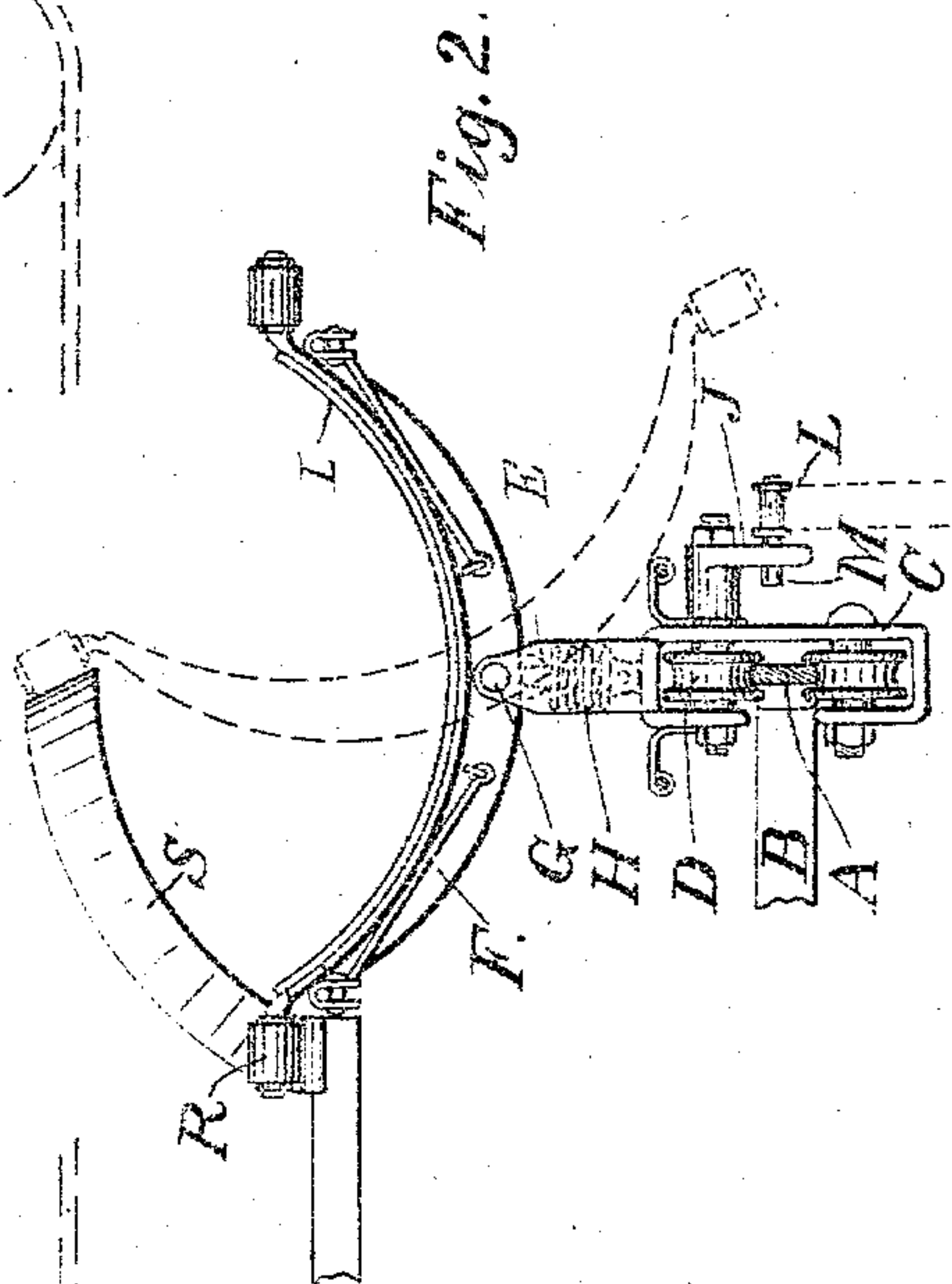
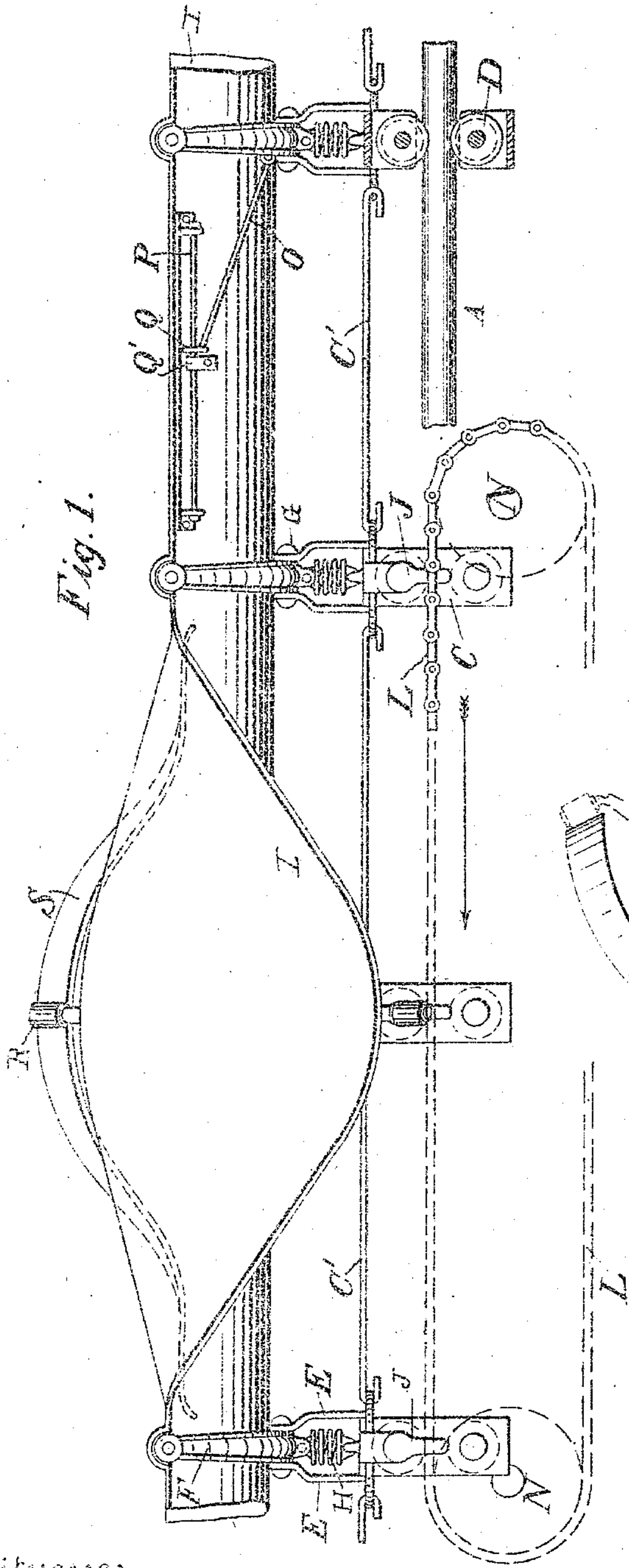
Patented Aug. 5, 1902.

F. BECK.
CONVEYER.

(Application filed Apr. 13, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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3 Sheets—Sheet 2.

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Fig. 3.

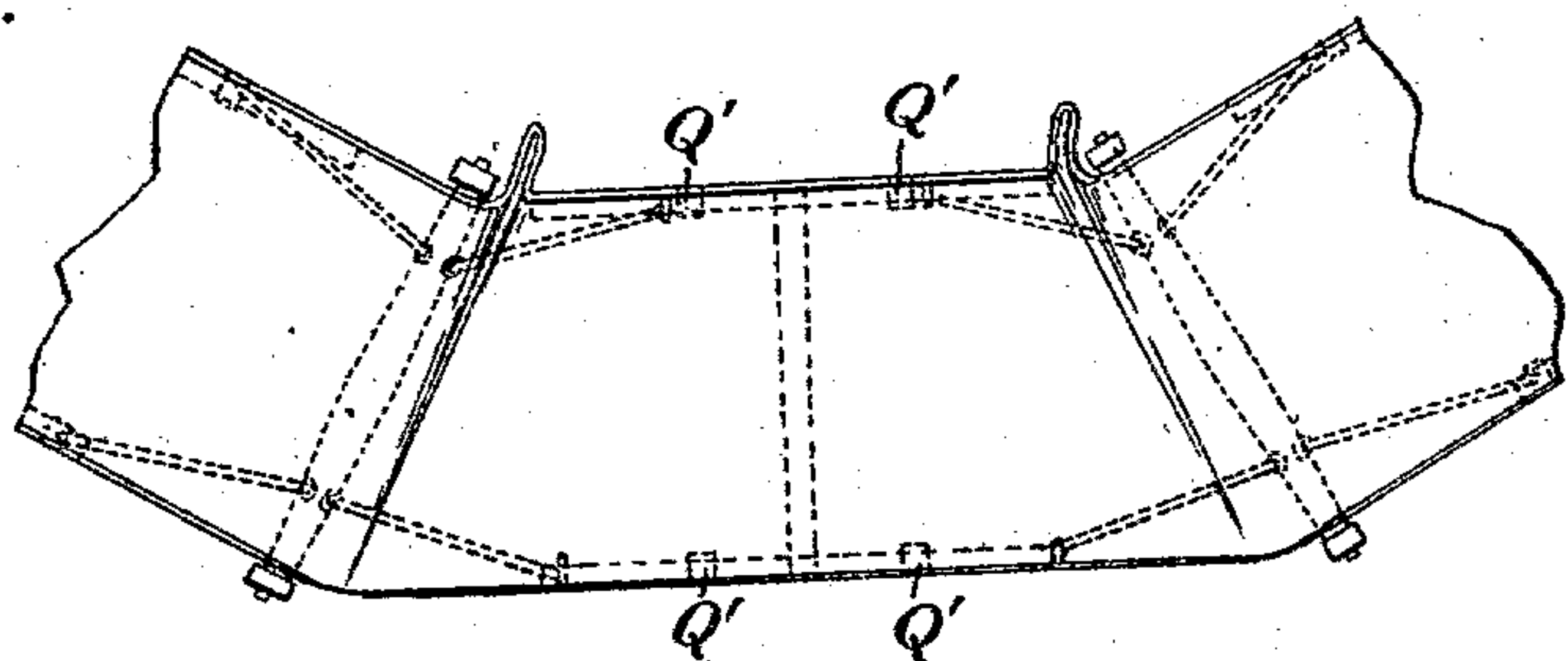


Fig. 4.

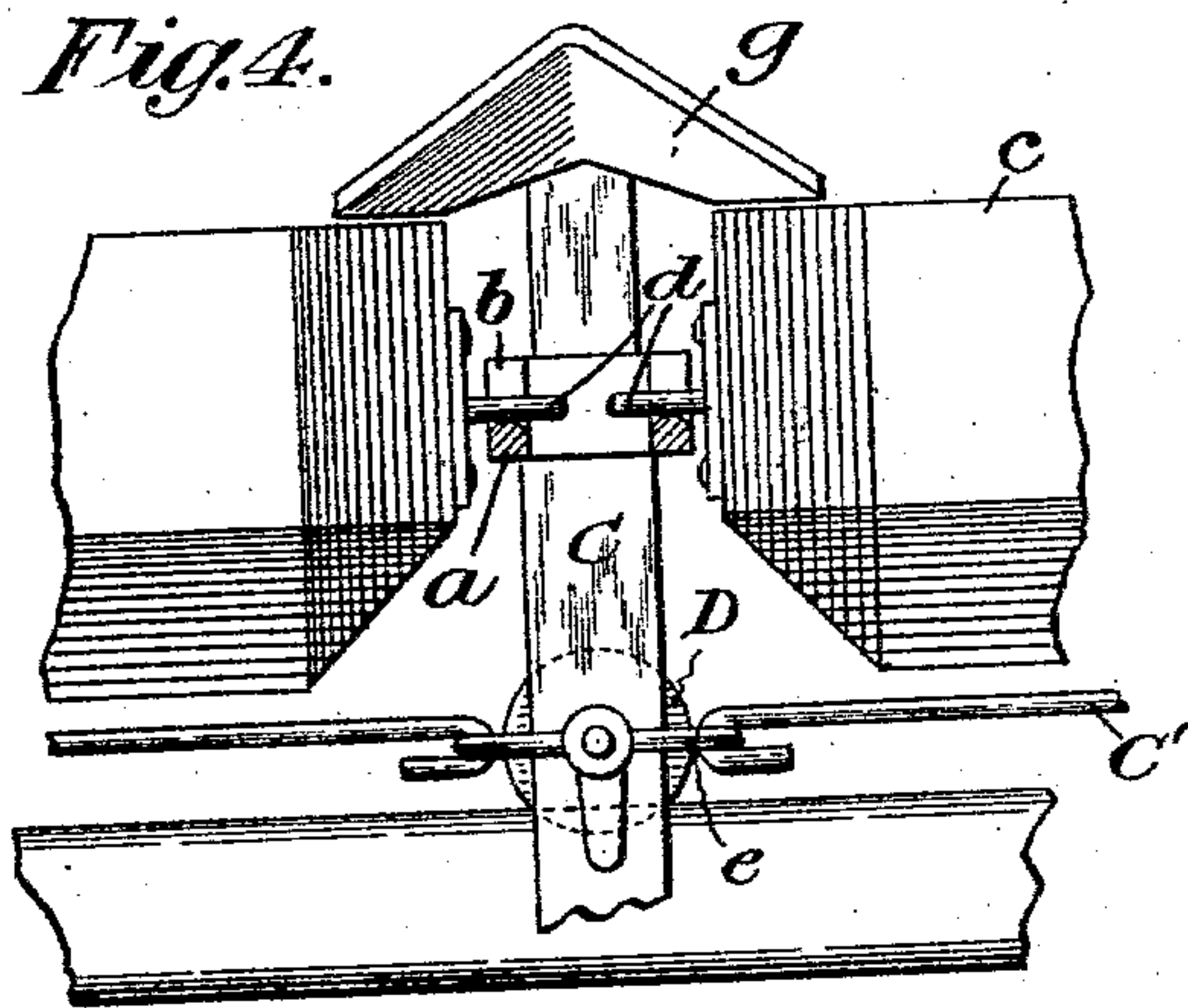


Fig. 5.

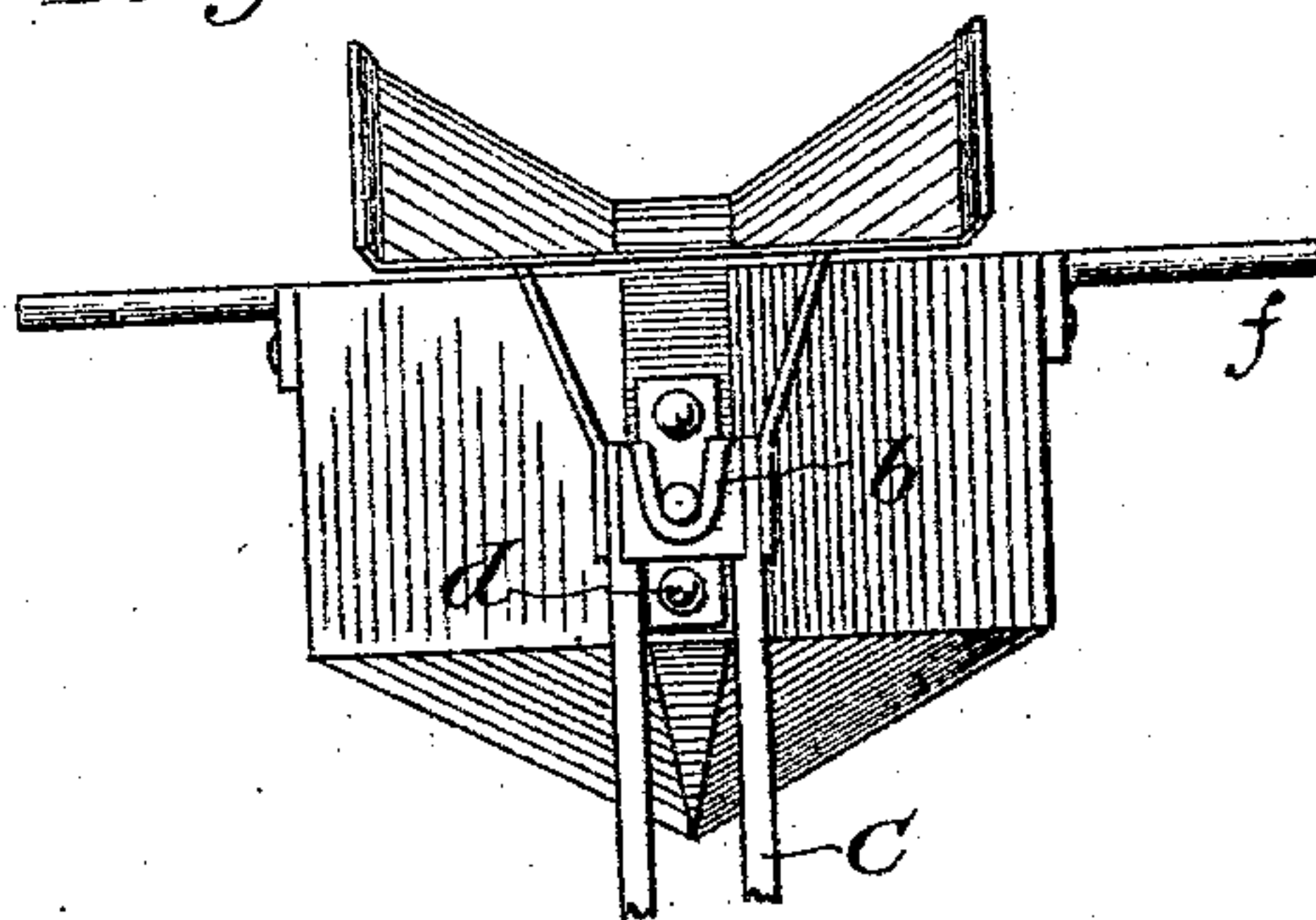
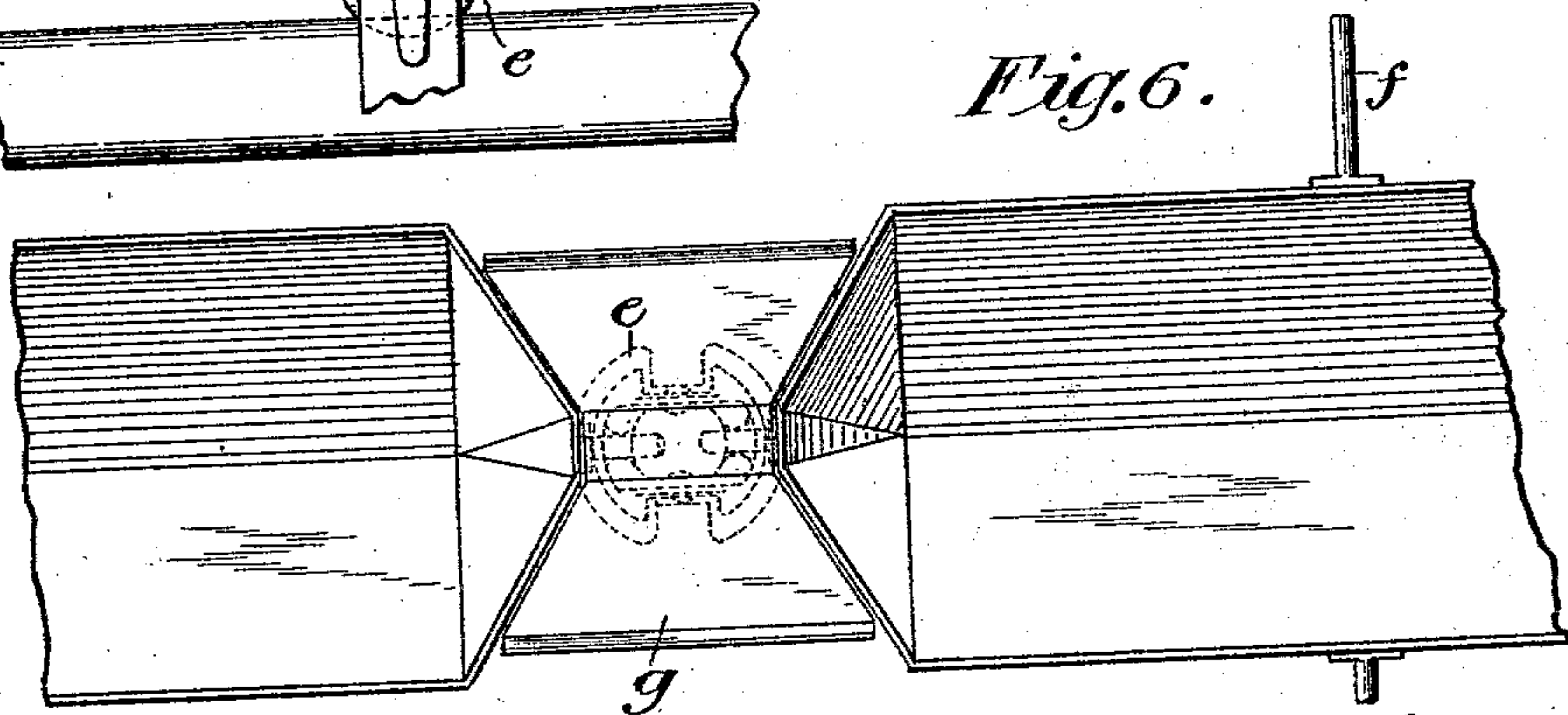


Fig. 6.



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(No Model.)

Fig. 7.

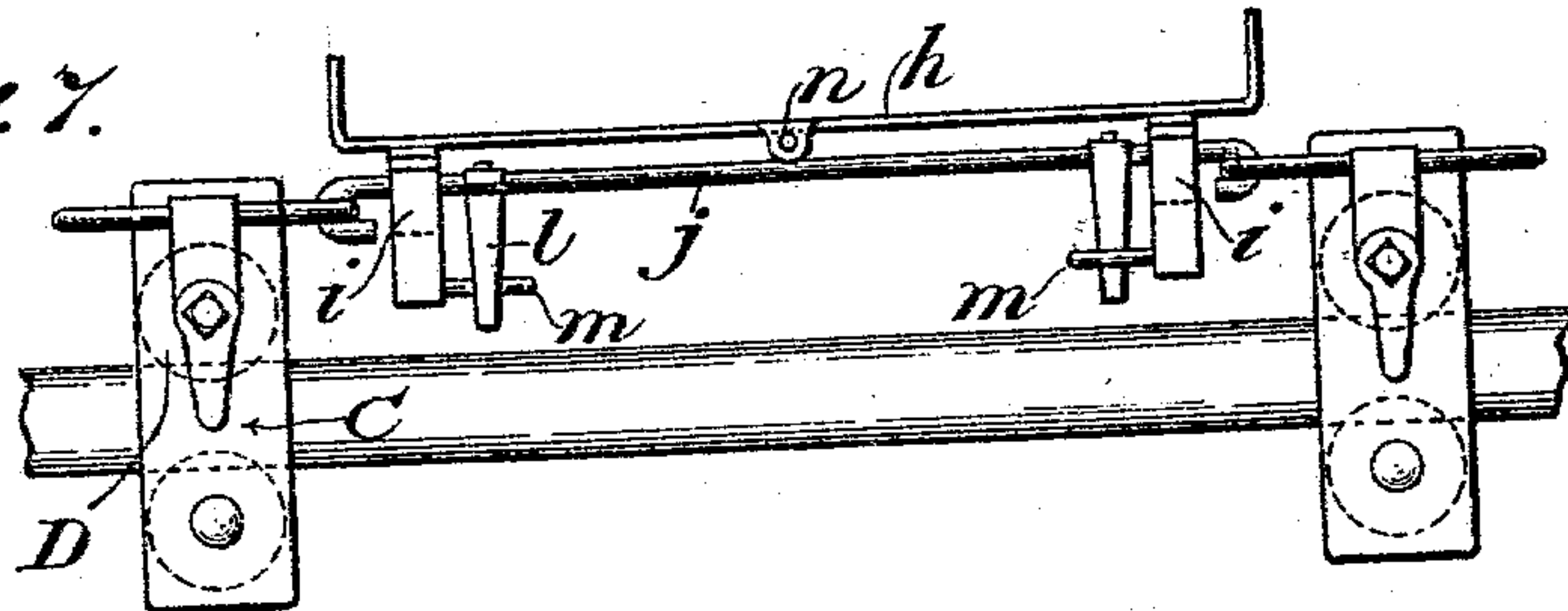


Fig. 8.

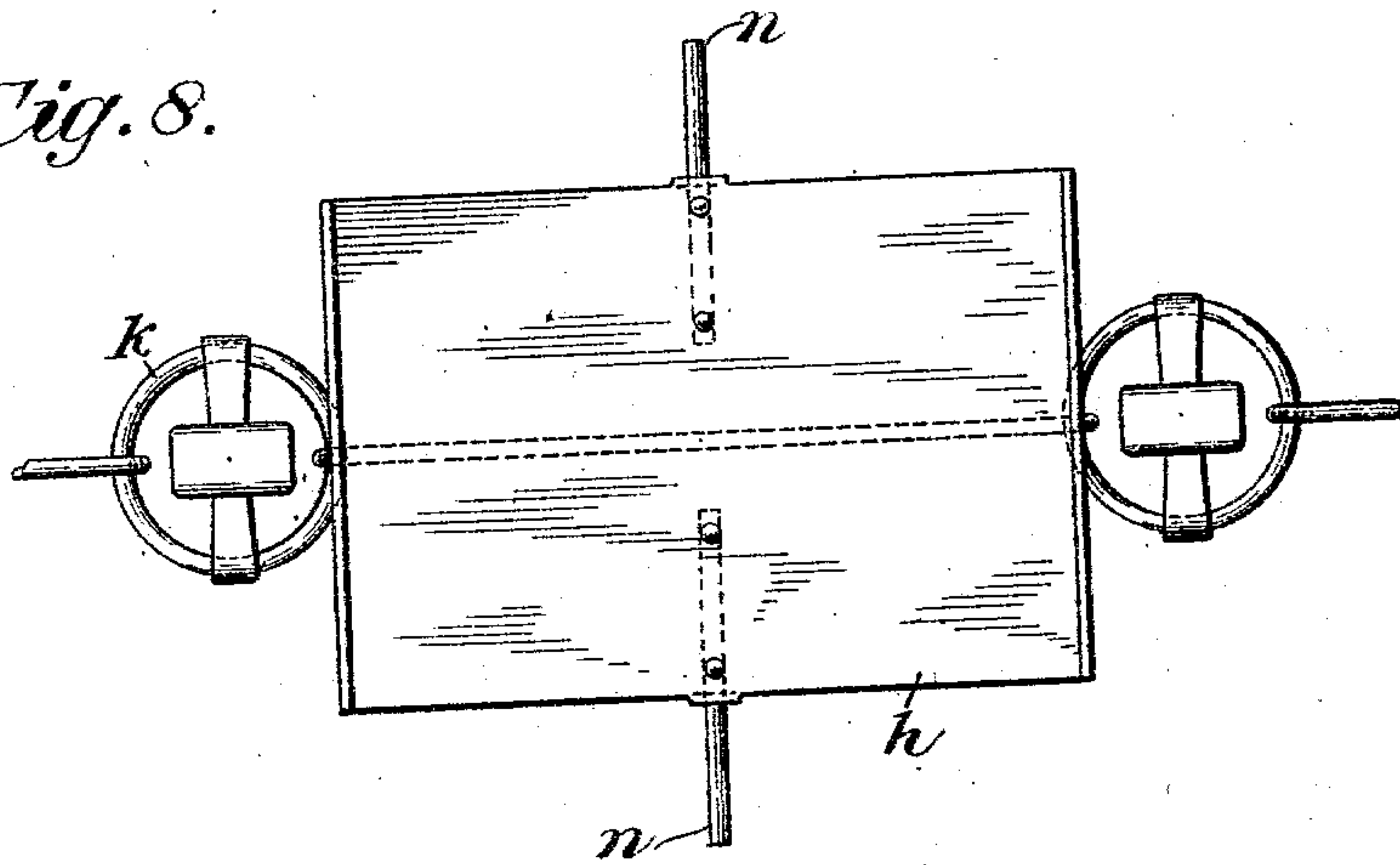
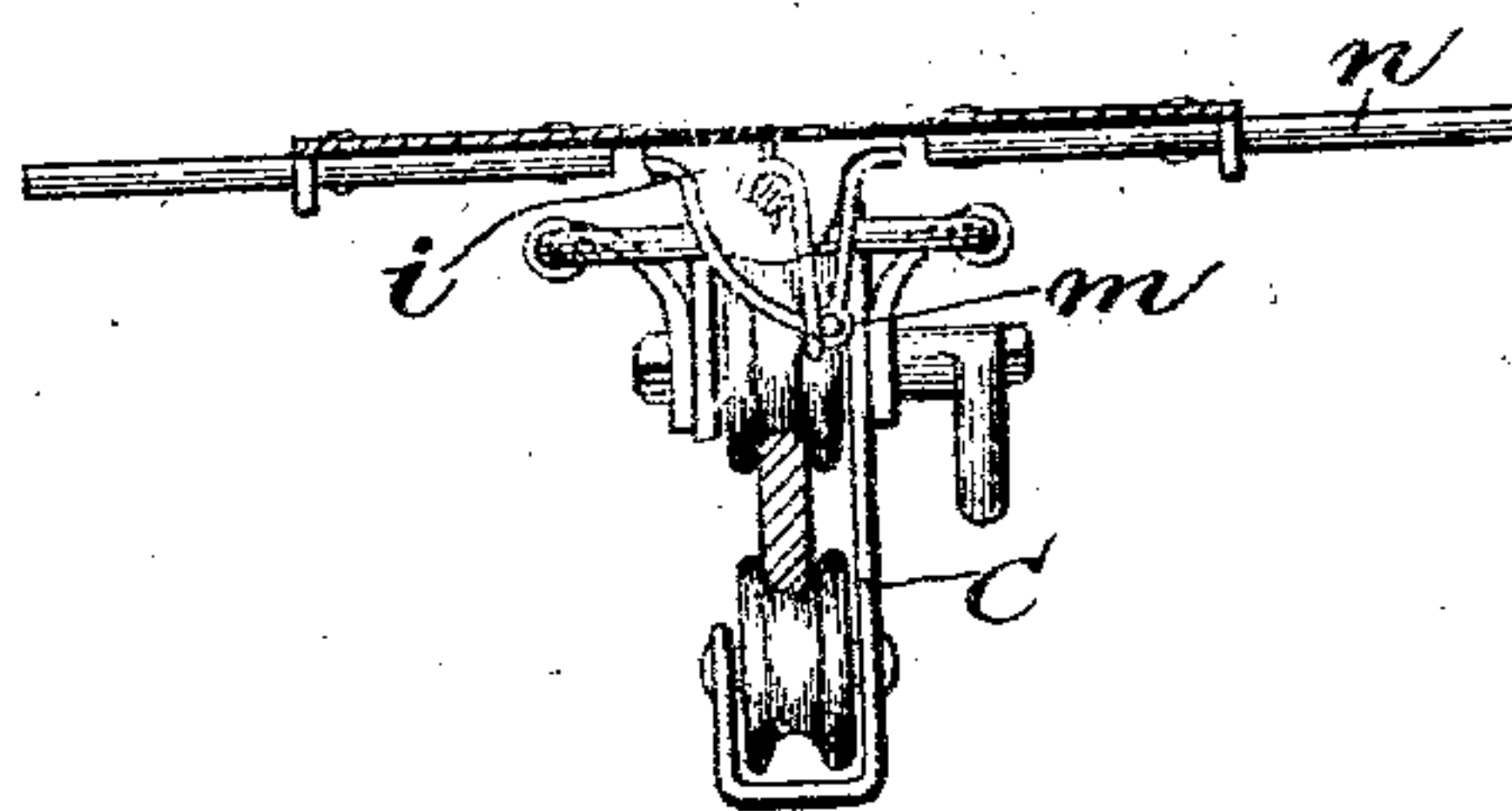


Fig. 9.



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UNITED STATES PATENT OFFICE.

FRITZ BECK, OF NEW YORK, N. Y.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 706,294, dated August 5, 1902.

Application filed April 13, 1901. Serial No. 55,688. (No model.)

To all whom it may concern:

Be it known that I, FRITZ BECK, a citizen of Switzerland, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Conveyers, of which the following is a specification.

The object of my invention is to provide a conveyer in which materials of any kind can be carried to a predetermined point and there automatically discharged.

The details of this invention will be more fully set forth in the following description.

In the drawings forming part of this specification, Figure 1 is a side elevation illustrating the operation of the complete conveyer. Fig. 2 is an end view thereof, parts being omitted. Fig. 3 is a view representing the device which may be used with the belt where the conveyer is caused to make sharp turns. Figs. 4, 5, and 6 are views showing my invention adapted to a bucket conveyer. Figs. 7, 8, and 9 are views of my invention, the carrier being of the platform type.

Referring to the first three figures of the drawings, A represents a rail carried by any suitable support B. Traveling on this rail is a yoke C, which has grooved wheels D, engaging, respectively, the top and bottom of the rail. On the upper part of the yoke are up-rights E, on which is pivoted, by means of the bolt G, the curved bracket F. Attached to the curved bracket at one end and to the yoke at the other end is a spring H of any suitable character and of such strength as to hold the bracket in its normal position under ordinary circumstances. Attached to the side of the yoke is a lug or finger J. Supported below and to one side of the rail are sprocket-wheels N, carrying a sprocket-chain L. At the sides of the links of this chain are projections M, with which the lugs or fingers J engage. These sprocket-wheels may be turned by any suitable mechanism, which it is not necessary to show, and the sprocket-chain should be of sufficient length to engage several of the lugs or fingers on the carrier at one time. This is clearly illustrated in the drawings. Attached to the brackets in any suitable manner and supported by them is a belt or apron I. The ends of the bracket F are provided with rollers R, and at suitable points along the rail are provided inclined cam-surfaces S. The car-

riers are connected by a chain or other suitable device C'.

The operation of the device so far as described is as follows: Motion being imparted to the sprocket-wheels N the sprocket-chain will move, the projections M will engage the fingers J and move the yokes along the rail, and as these yokes are connected by the chain or rod C' the entire carrier will be moved. The substance to be carried is thrown into the conveyer. At the point where it is desired to discharge the same the cam-surface S is placed. As the carrier reaches this point the roller will travel along the cam-surface and the bracket F will be tilted, discharging the load from the belt, as clearly indicated in dotted lines in Fig. 2. When the roller has left the cam-surface, the force of the spring H will return the bracket to its normal position.

It will be observed that if the carrier were made to turn sharp curves the wrinkling or distorting of the belt would cause a portion of the load to be discharged. To prevent this, I use the construction shown in Figs. 1, 2, and 3. This consists of a rod P, attached to the sides of the belt, on which travels a stirrup Q. On the rod are fixed stops Q'. A rod O is attached at one end to the bracket and at the other end to the yoke. This construction is placed on both sides of the belt. In turning a curve the yokes on one side of the apron will approach each other, while the yokes bear against the fixed stops, whereby the belt will be held up on that side, and those on the other side will separate, the effect being to keep the belt in such a position as to retain the load within it. This is clearly illustrated in Fig. 3. I may dispense with this construction by stiffening the edges of the belt in any desirable manner.

In Figs. 4, 5, and 6 I have shown my invention applied to a carrier consisting of a series of buckets instead of an apron or belt. In this case the yoke C carries a bracket a, which is recessed or notched at b. On each of the buckets c is a rod or projection d, resting in the notches of the bracket a. These notches are rounded, as clearly shown in Figs. 4, 5, and 6, so as to allow motion of the bucket both vertically and horizontally. Attached to the yoke are half rings or links e, to which are secured the links of the chain C'. On

each side of the buckets are projecting arms *f*, by means of which the bucket can be tipped either by hand or automatically by a mechanism similar to that shown in Fig. 1. In order to make the series of buckets practically a continuous system, I place between each pair a shield or deflector *g*, as clearly shown in Figs. 4, 5, and 6, so that material thrown toward the bucket will be guided down so as to fall therein. These shields or deflectors are secured to the upper part of the yoke.

In Figs. 7, 8, and 9 I have illustrated my carrier with a platform-like car to be used in carrying bricks and the like. At each end of the platform *h* is secured a bracket *i*, through which bracket runs a rod or link *j*. Secured to each yoke *C* is a ring *k*, into which ring hooks one end of the rod or link *j*, thus securing the cars together, as clearly indicated in the drawings. Supported on the rod or link *j* is a spring *l*, one at each end of the car, and secured to the under side of the car is a stop *m*, against which the spring normally bears, the springs at opposite ends of the car being on opposite sides of said stops, so that the car when tilted will be tilted against the force of one or the other of the springs, which serves to return the car to its normal position. On each side of the car projects a rod *n*, by which the car may be tilted by hand, or the car may be tilted automatically by a construction similar to that shown in Fig. 1. I thus secure a practically continuous conveyor, which is adapted to any use to which conveyers may be put, which is simple in construction and easy of operation.

What I claim, and desire to secure by Letters Patent, is—

1. In a conveyer the combination of a rail, yokes traveling on same, connections between said yokes, means supported by said yokes

for receiving the material to be carried, and means for operating the conveyer, substantially as described.

2. In a conveyer the combination of a rail, yokes traveling on same, connections between said yokes, means supported by said yokes for receiving the material to be carried, means for operating the conveyer and automatic means for discharging the load at any predetermined points.

3. In a conveyer the combination of a rail, yokes traveling on said rail, connections between said yokes, curved brackets supported by said yokes and a belt or apron supported by said brackets, substantially as described.

4. In a conveyer the combination of a rail, yokes traveling on said rail, connections between said yokes, curved tilting brackets supported by said yokes, a belt or apron supported by said yokes and means for tilting said brackets at any predetermined points, substantially as described.

5. In a conveyer the combination of a rail, yokes traveling on said rail, connections between said yokes, curved brackets supported by said yokes, a belt or apron supported by said brackets, and means for supporting the edge of the belt or apron when passing around curves, substantially as described.

6. In a conveyer the combination of a rail, yokes traveling on same, wheels on said yokes bearing one at the top and the other at the bottom of the rail, connections between said yokes, means supported by said yokes for receiving the material to be carried, and means for operating the conveyer, substantially as described.

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Witnesses:

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