

No. 615,748.

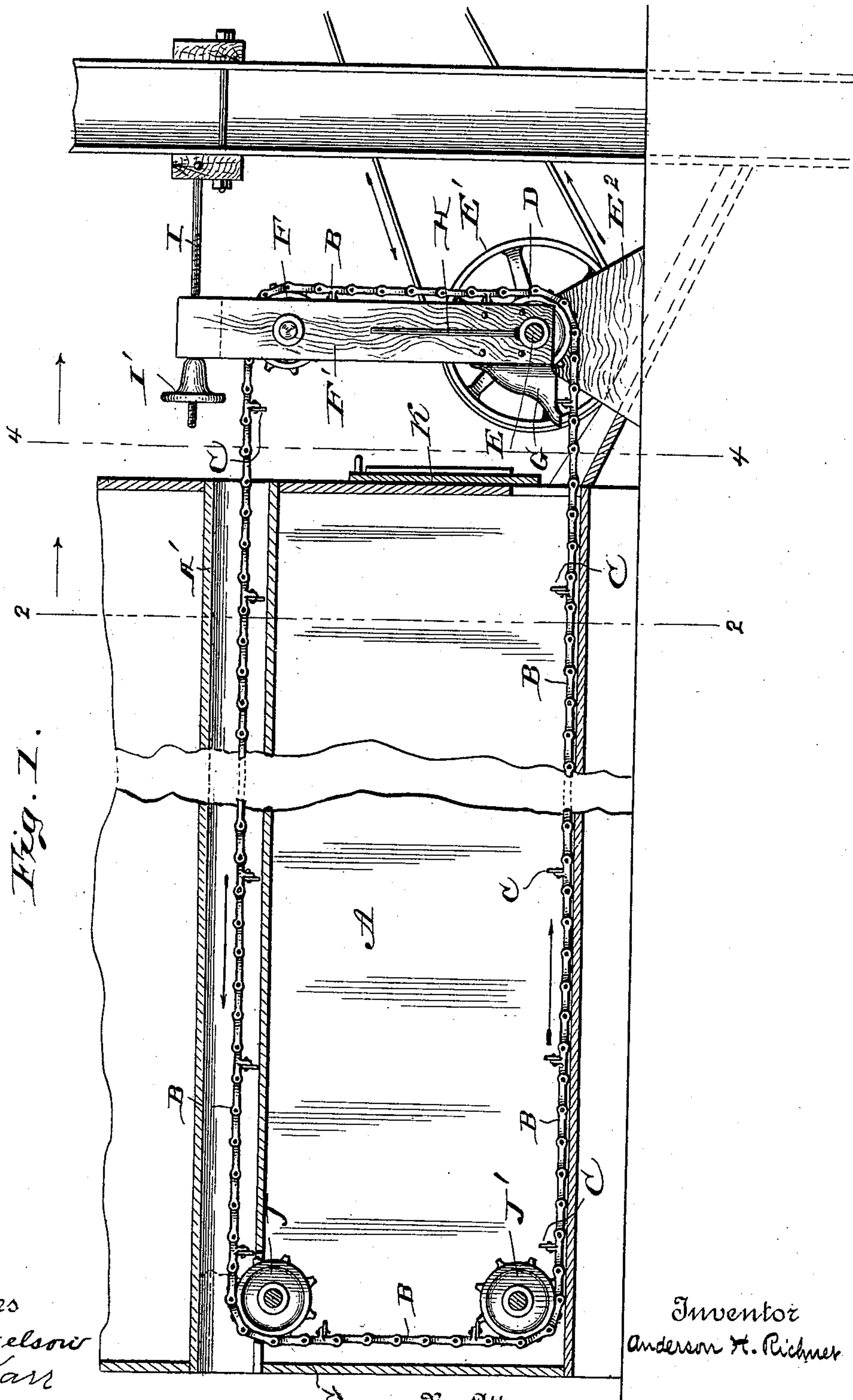
Patented Dec. 13, 1898.

A. H. RICHNER.  
CONVEYER.

(Application filed Feb. 26, 1898.)

(No Model.)

3 Sheets—Sheet 1.



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Fig. 2.

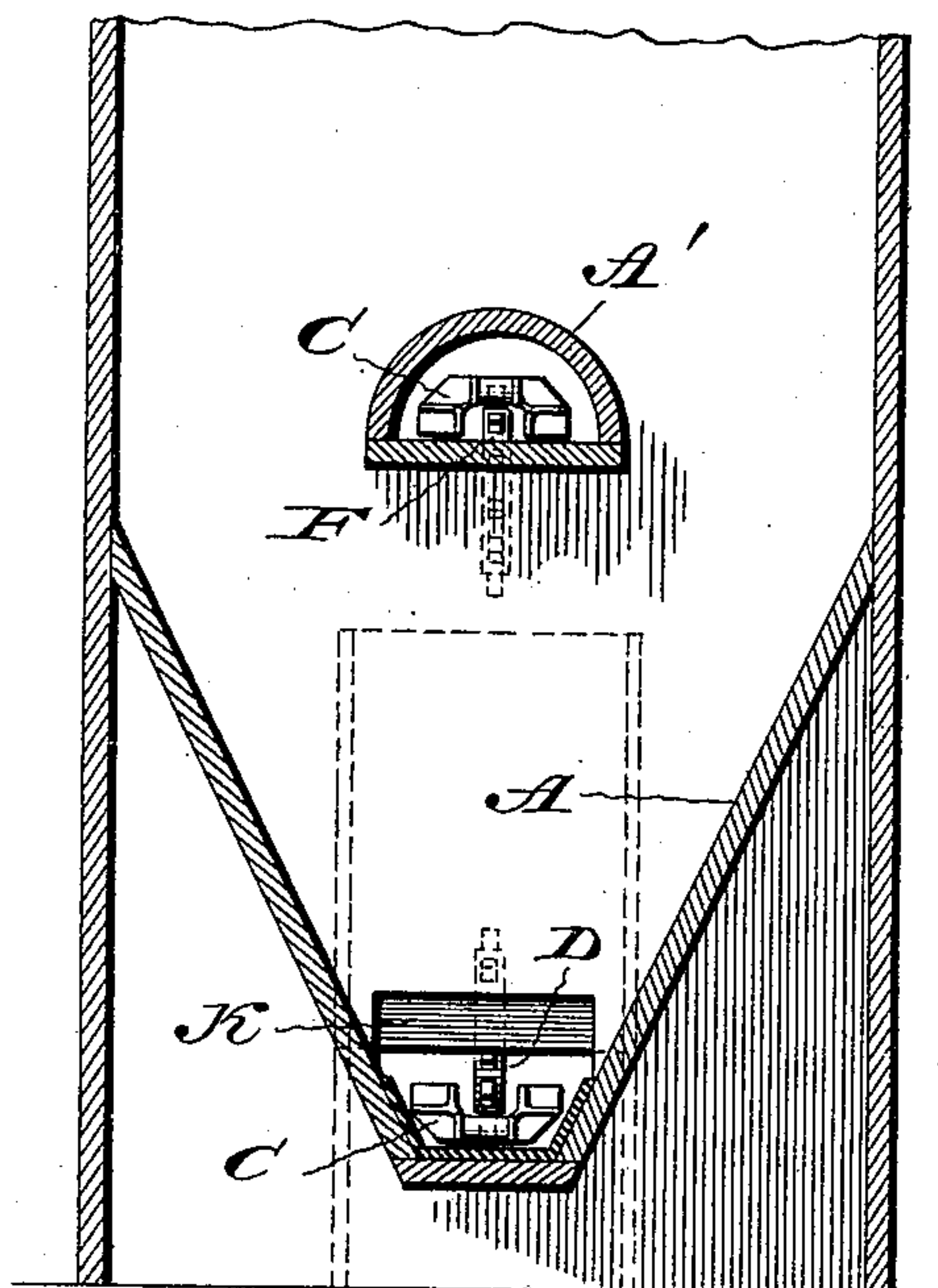
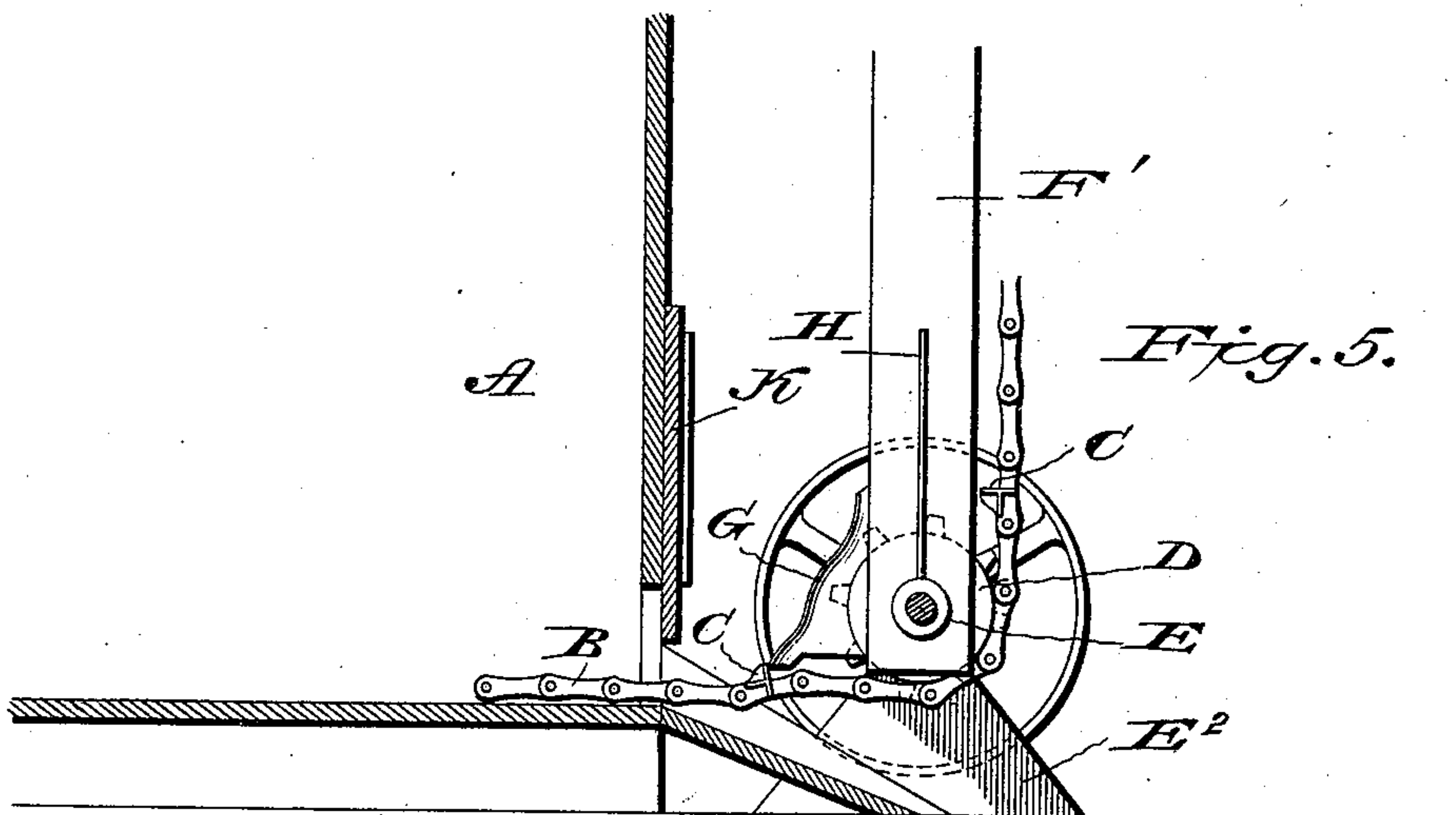
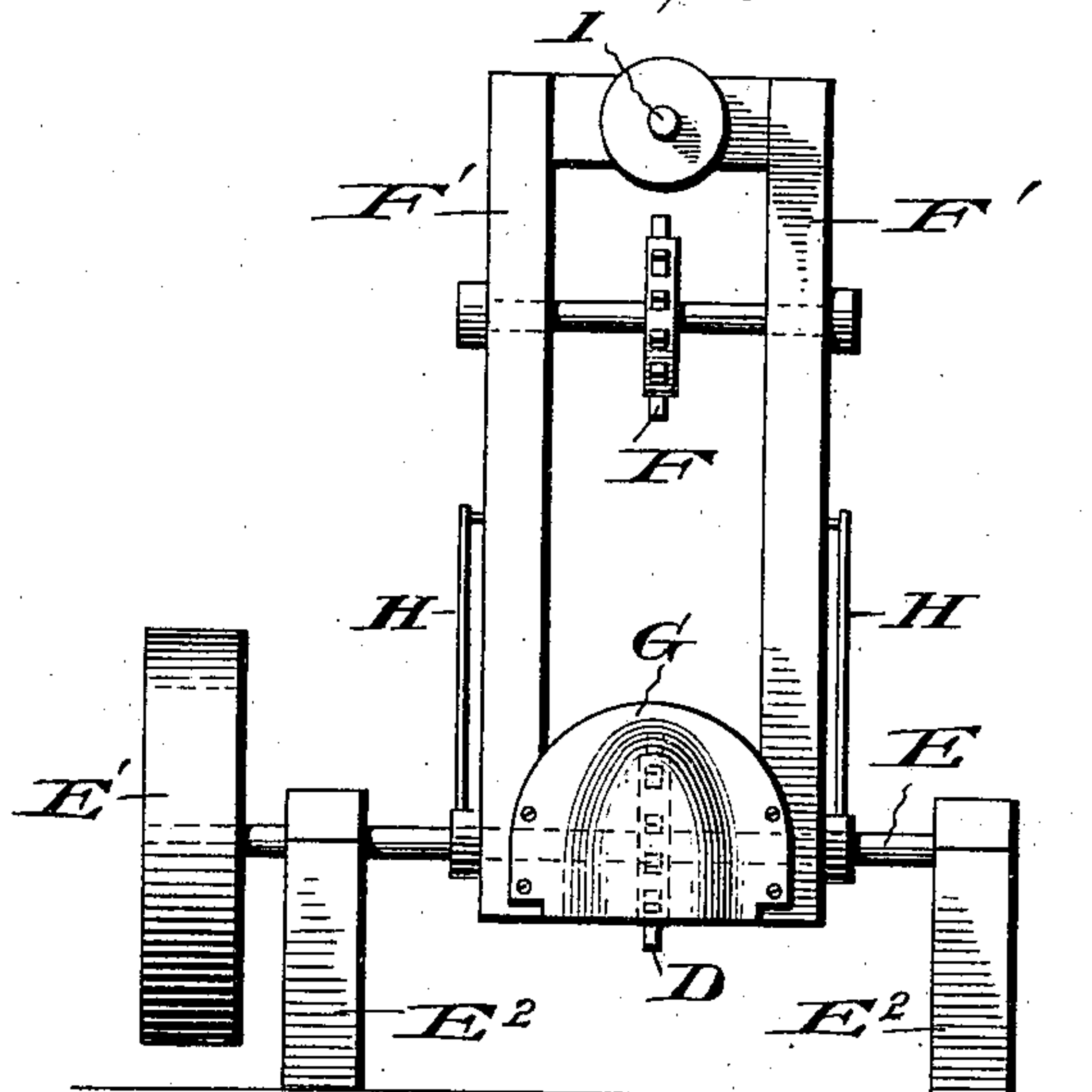


Fig. 4.



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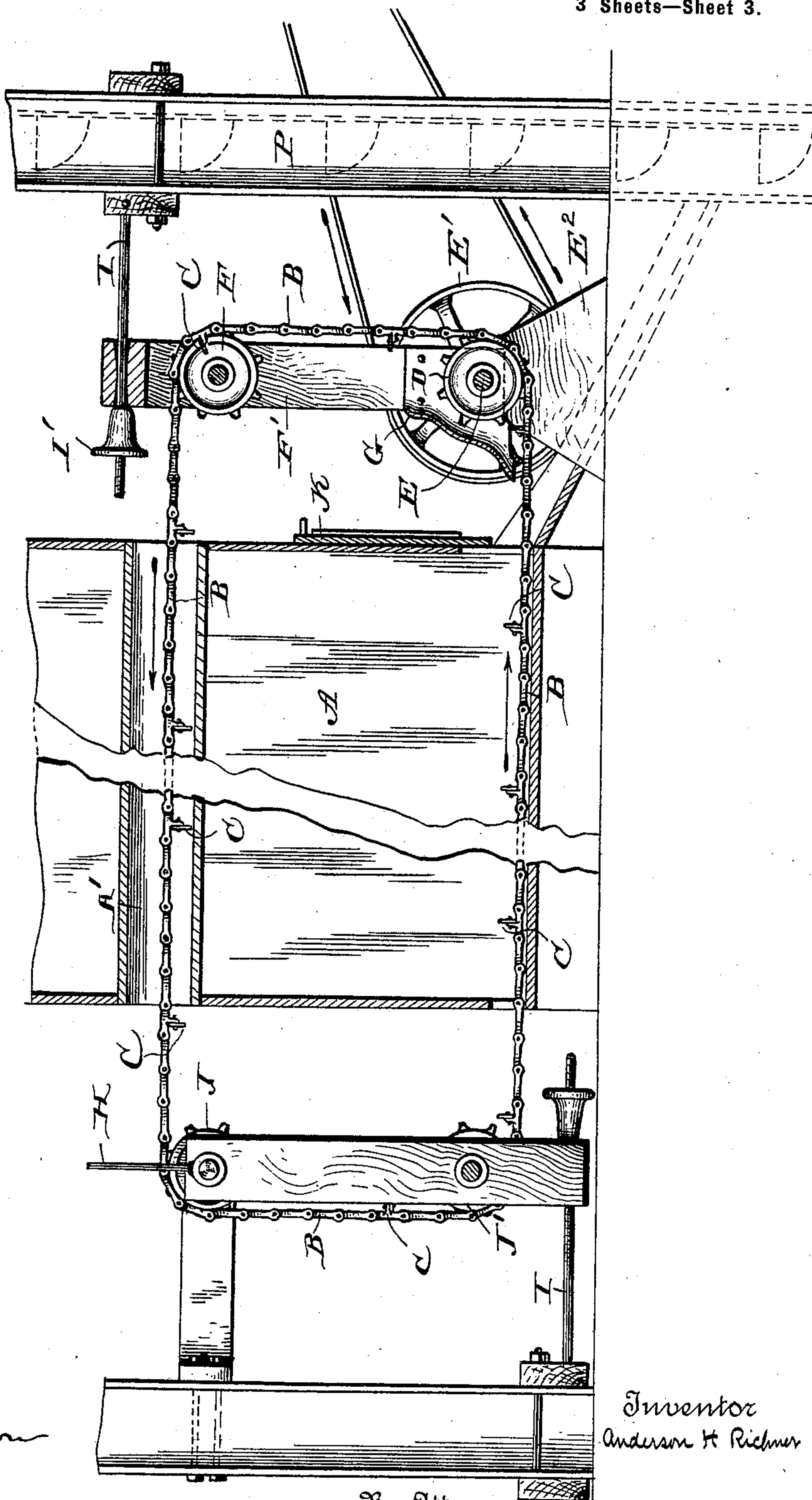
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3 Sheets—Sheet 3.

Fig. 3.



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# UNITED STATES PATENT OFFICE.

ANDERSON H. RICHNER, OF CRAWFORDSVILLE, INDIANA.

## CONVEYER.

SPECIFICATION forming part of Letters Patent No. 615,748, dated December 13, 1898.

Application filed February 26, 1898. Serial No. 671,773. (No model.)

*To all whom it may concern:*

Be it known that I, ANDERSON H. RICHNER, a citizen of the United States, residing at Crawfordsville, in the county of Montgomery and State of Indiana, have invented new and useful Improvements in Conveyers, of which the following is a specification.

This invention relates to certain new and useful improvements in conveyers of the endless-chain type which are adapted for use in conveying or carrying grain, stone, ores, or other material from a bin or receptacle to a machine or conveyer, the object of my invention being to provide a conveyer in which the endless chain can be readily adjusted and the slack thereof taken up and to generally improve the construction and reduce the cost of manufacture of an apparatus of this type.

The invention consists in the construction and general arrangement of the parts, as will be fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, showing a conveyer constructed in accordance with my improvement. Fig. 2 is a sectional view on the line 2 2. Fig. 3 is a side elevation, partly in section, showing a further modification of my improvement. Fig. 4 is an end view on the line 4 4, and Fig. 5 is a sectional view showing one of the flights in engagement with the shoe or trip.

A refers to a suitable bin or receptacle which is provided with a closed way or passage A', which passes through the bin and is open at both ends for the passage therethrough of a chain B, which has attached thereto carriers C. The chain B passes over sprocket-wheels D F J J', the sprocket-wheel D being mounted on a shaft E, to which is also attached a drive-pulley E', said pulley being at a considerable distance to one side of the sprocket-wheel D. The shaft E is mounted in bearing-blocks E<sup>2</sup>, which are rigidly supported, and between said blocks the conveyer-chain B passes, and upon the shaft is mounted a pair of beams or bars F', which are connected to each other, said beams having journaled between the same the sprocket-wheel F. It will be noted by this arrangement that the beams or bars F' are fulcrumed

upon the shaft E and are between or adjacent to the inner side of the bearing-blocks E<sup>2</sup>.

I refers to a tightening-screw one end of which is pivotally attached or otherwise secured to a support, and this screw passes through the connecting-block at the upper ends of the bars or supports F', a hand-wheel I' being provided for drawing the bars toward the fixed end of the screw, so as to tighten the chain. The sprocket-wheels J J' are mounted on suitable shafts, which may be supported by the side pieces of the bin, and, as shown in Fig. 1, they may be approximately on a line with the sprocket-wheels D F, and the sprocket-wheels may be cut away in the usual manner to permit the carriers to enter the recesses in the periphery of said sprockets.

G refers to a shoe or trip which is attached to the lower ends of the bars F' and projects therefrom and is adapted to engage with the carriers and tilt the same, so as to entirely free the chain from any material which may accumulate thereon before the chain passes over the drive-sprocket attached to the shaft E. In order to lubricate the bearings of the shaft to which access cannot be had readily, I provide tubes or pipes H, which extend from the bearings upward.

In Fig. 1 of the drawings the bin A is rectangular at its upper portion, and below the way or passage therethrough the sides converge or are V-shaped, which bin may have a metallic bottom or strips upon which travels the chain B, which will carry the material out of the open end of the bin or hopper to a suitable chute, and said bin or hopper is provided with a slide or door K, which may be raised or lowered to change the size of the discharge-opening.

In Fig. 3, which is an amplification of Fig. 1, the device is provided with movable sprockets and adjusting-screws, the sprockets being mounted outside of the bin or hopper. In this view I have also shown the chute or spout from the bottom of the hopper to a conveyer or elevator, which passes through a hollow-tube spout P, for conveying the material upward, as in a grain-elevator. The improved conveyer hereinbefore described may be used for many purposes, and in practice the bin or



hopper A may be located beneath an opening in a floor or in a box, and grain or other material when passed through said opening will fall into the bin, box, or hopper through which the carrier-chain passes, and the material will be fed out of the bin, box, or hopper through an opening near the end of the same, so that it may be carried to a chute or directly to a machine—as, for instance, when used for conveying corn it may deposit the corn upon the cobs to a corn-sheller or in carrying grain may take the grain to an elevator. In practice the bin or hopper may be of considerable length, so as to receive material from many openings in the floor above or from many separate dumps, and but a single chain is used, having carriers rigidly attached to links with projecting portions, the carriers being shaped to conform to the configuration of the bottom of the bin or hopper. Owing to the great length of the chain, there will be sufficient give to the same to permit the carriers being inclined when they engage with the shoe or trip G.

The device hereinbefore described is susceptible of numerous modifications and reorganization of the parts from what has been herein shown.

The sprocket-wheels over which the conveyer-chain passes are of the ordinary type, and the carriers or flights attached to the chain are cut away centrally, so as to clear the teeth and sides of the sprocket-wheels. It will be noted that the flights or carriers project toward the sprocket-wheels.

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

1. In a conveyer, the combination with a bin

or hopper, having a passage or chainway there-through, of a conveyer-chain, and sprocket-wheels mounted so as to guide the chain through the chainway and over the bottom of the bin or hopper, a bar or post fulcrumed at one end on the shaft of the driven sprocket, a trip for the flights of the conveyer-chain carried by the bar or post, and a threaded bar and its nut for moving the bar upon its fulcrum to tighten the conveyer-chain, substantially as shown and for the purpose set forth.

2. In a conveyer, the combination with a series of sprocket-wheels, of a conveyer-chain having a series of inwardly-projecting carriers, a bar or support upon which is journaled a pair of the series of the sprocket-wheels, and a trip positioned in the path of the carriers of the chain, substantially as shown.

3. In a conveyer, the combination, with a bin or hopper having a covered passage or chainway therethrough, of a carrier-chain, sprockets which guide the chain through the chainway and over the bottom of the bin or hopper, a support for one of the sprockets fulcrumed upon the shaft of the driven sprocket, means for adjusting the support to tighten the carrier-chain, and a trip carried by the support so as to be engaged by the carriers of the chain, substantially as shown and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANDERSON H. RICHNER.

Witnesses:

J. W. RICHNER,  
J. O. FINCH.