(No Model.) 2 Sheets—Sheet 1.

C. H. NOTTER.

CONVEYER.

No. 585,693. Patented July 6, 1897.

Fig. 1.

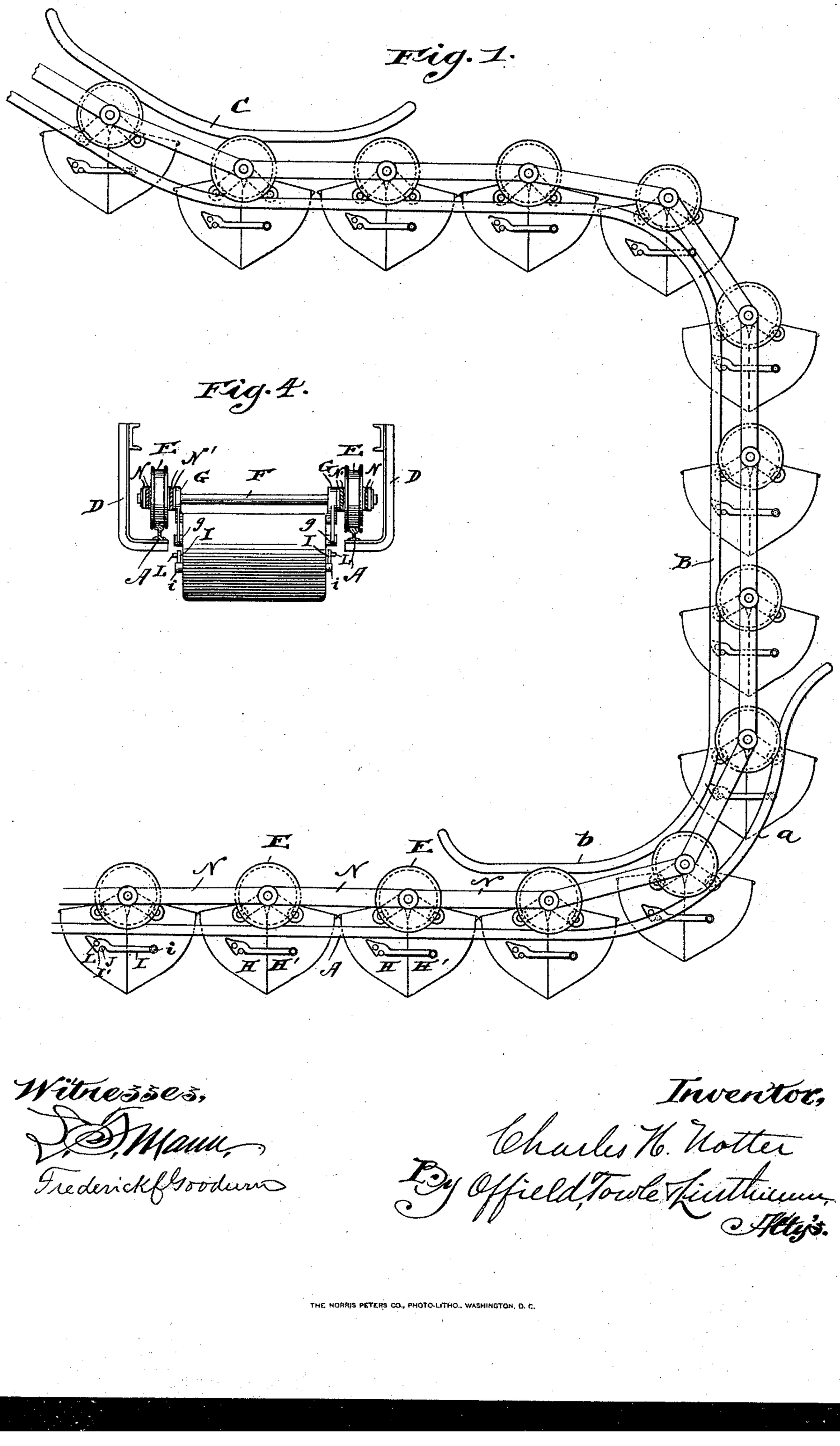

Fig. 4.

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Frederick F. Goodwin

Inventor,

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By Offield, Towle & Linthicum,

Atty's.

(No Model.) 2 Sheets—Sheet 2.

C. H. NOTTER.

CONVEYER.

No. 585,693. Patented July 6, 1897.

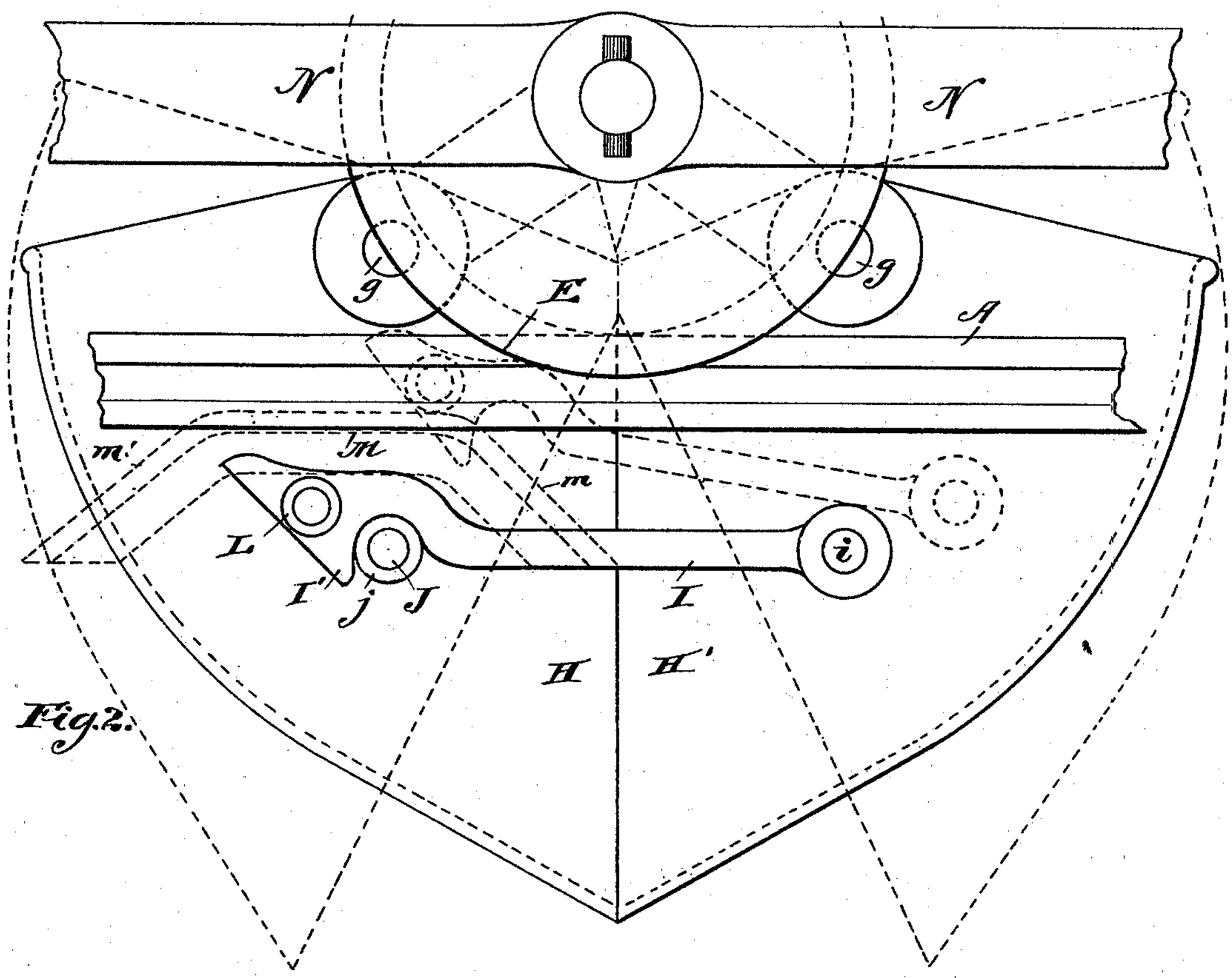

Fig. 2.

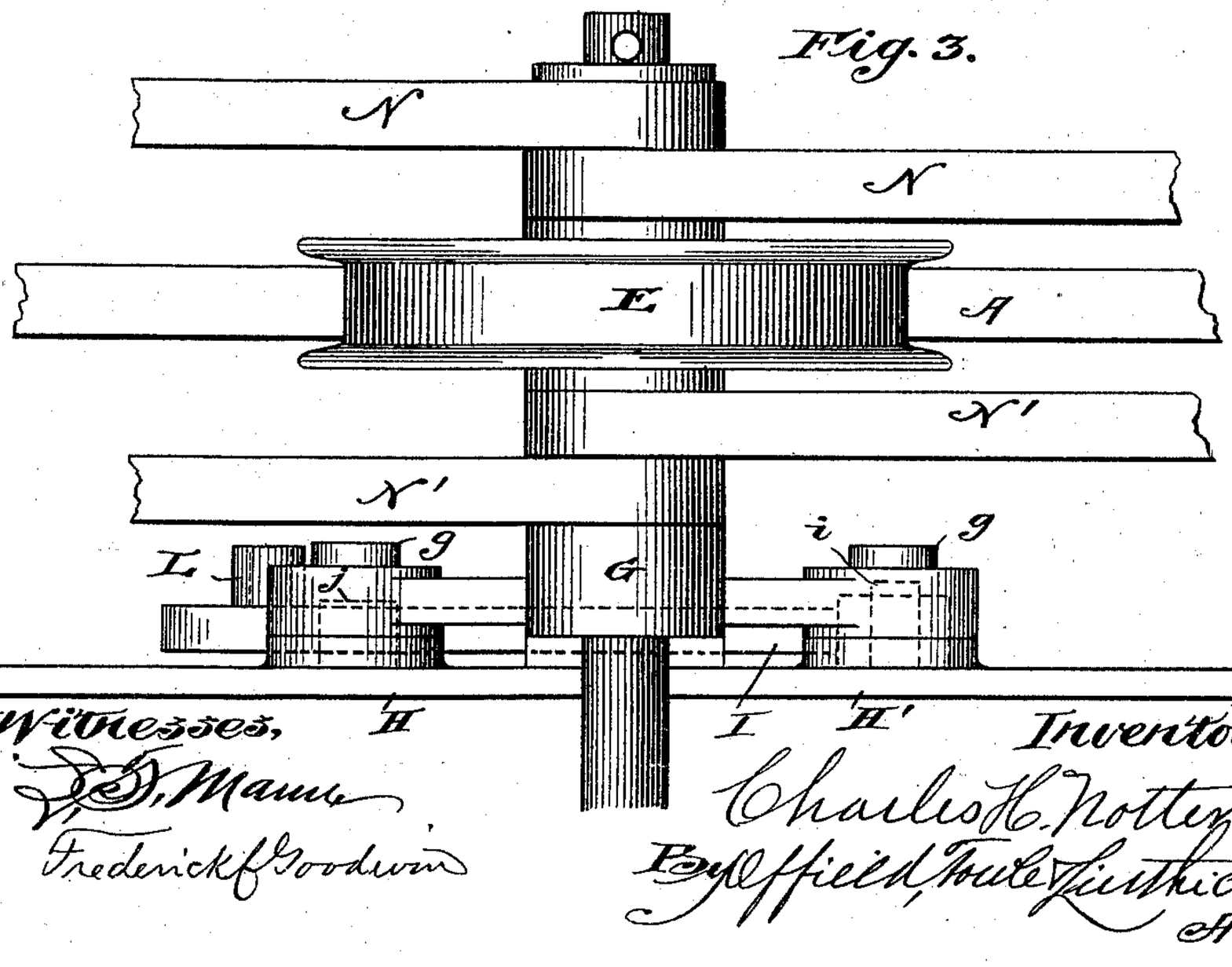

Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES H. NOTTER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WALTER S. BOGLE, OF SAME PLACE.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 585,693, dated July 6, 1897.

Application filed May 16, 1896. Serial No. 591,759. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. NOTTER, of Chicago, Illinois, have invented certain new and useful Improvements in Conveyers, of which the following is a specification.

This invention relates to that class of conveyers in which a series of receptacles, such as buckets, are connected together and driven at one point and are caused to pass at a point of their revolution in proximity to material to be conveyed to a distant point. Apparatus of this sort is used in transferring coal, ore, grain, and the like.

The object of my invention is to provide a conveyer of this sort with a bucket which is adapted to maintain at all times its proper position by gravity alone, which is so constructed that it may be dumped from the bottom, and which is provided with a suitable latch or catch operating in conjunction with a trip located in the path of the moving carrier, so that it will automatically trip or unload at any desired place.

In carrying out my invention I employ a series of buckets of the clam-shell type and pivot the sections of each bucket in a frame, said frame having a bearing for the axle or journal of a pair of wheels which are used to support the buckets upon track-rails extending through the horizontal portions of the conveyer-circuit and to guide said buckets through vertical or inclined portions of their circuit.

In the accompanying drawings, Figure 1 is a side elevation, partly broken away, of a conveyer, showing three legs of the circuit. Fig. 2 is an enlarged side elevation of one of the buckets, showing a portion of the track and the tripping device, the dotted lines indicating the open position of the bucket. Fig. 3 is an enlarged detail plan view of the track, one of the track-wheels and the chain connecting the axles of the several bucket-frames. Fig. 4 is a view sectional through the track-rails, showing the hangers for supporting the track-rails, the bucket, and its axle and wheels in elevation.

In the accompanying drawings, let A B represent track-rails, the rail A having a portion *a* thereof upturned and outwardly curved and the rail B having a portion *b* overlapping or extending by the curved portion *a*, and the two constituting a guide whereby the line of buckets is deflected or carried from a horizontal to a vertical position, or vice versa, depending upon the direction of movement of the carrier.

Let C represent a guide-rail which serves to turn the line of buckets on a curve of less radius than the angle between the portions A and B. These track-rails may be of any convenient form and, as shown, are of ordinary railroad-rails, the two being indicated in the sectional view Fig. 4. These rails may be supported through their horizontal portions upon the hangers D. These rails are arranged parallel to each other, as shown in Fig. 4, and are adapted to support the wheels E, which are mounted upon the axle F, journaled in the bucket-frame G, which also furnishes bearings for the pivots *g* of the bucket-sections H H′. Said buckets are of the ordinary clam-shell variety and are so pivoted that they close by gravity, while they are opened by the weight of the load. In order to restrain the bucket-sections from opening under the weight of the load until the bucket in its travel reaches the proper point for discharge, I employ a gravity-latch composed of a bar I, pivoted, as at *i*, to one of the bucket-sections and having a hook I′, adapted to engage over a roller *j*, carried by a stud J on the other bucket-section. The bar I terminates in a pointed end having, by preference, a small roller L, pivoted on a stud and projecting out from the side of the head of the bar I. At a suitable point along the track there is provided a trip, which may consist of a bar of angle-iron M, having the inclines *m* *m′* and arranged in the line of travel of the roller L.

The several conveyer-buckets are connected in endless series by means of a chain composed of double links N N′, which are merely flat bars of iron perforated at their ends, so as to slip over the axle and upon opposite

sides of the track-wheels G. For convenience of construction the bucket-frame, the wheels, and the links are strung upon the axle and held thereon in any suitable way, so that any bucket of the series can be readily disconnected, if desired.

In operation, the buckets being filled under a chute or in any other way at one point of the circuit, are carried to the point of discharge at which the trip will be located. Upon reaching the trip the nose of the bar I is raised by the engagement of the wheel L with the trip, whereupon the hook will be lifted off the roller-catch and the weight of the load will cause the bucket-sections to swing on their pivots, opening away from each other at their lower edges and discharging the contents of the bucket. After the load is discharged the bucket-sections will swing back into position and the bar I will be supported by the trip or in any other convenient way until the bucket-sections are closed, whereupon it will drop back into place, thus again locking the bucket-sections together.

From the foregoing description it will be apparent that my conveyer may be run in either direction, driven in any convenient manner; that the buckets maintain a position to hold the load by gravity; that the trip is automatic in its operation and the contents of the buckets are discharged without tipping or reversing them, and that the bucket-sections close and are locked in position, the whole of the operation being automatic.

I am aware that endless conveyers composed of a chain or series of receptacles traveling upon or along track and guide rails and having buckets capable of being dumped and with hinged links and the like have been employed; but, so far as I am aware, no one has ever employed a bucket of the class described in a conveyer of this sort, such bucket having its sections pivoted at two points and opening by the weight of the load when the catch is released and closing again by gravity. My tripping device as applied to buckets of this class is also novel.

The details of construction may be varied; but

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

1. A conveyer of the class described comprising in combination suitable track and guide rails, conveyer-buckets each composed of two sections pivoted at separated points upon a suitable frame, track-wheels journaled upon the bucket-frames, link chains flexibly connecting the bucket-frames and the journals of track-wheels being extended through and coupling the overlapped ends of the links of said chains, substantially as described.

2. A conveyer of the class described comprising in combination track-rails, carrying wheels adapted to travel thereon, bucket-frames upon which said wheels are journaled, chains having their links connected by the said journals and bucket-sections pivoted at separated points to the frame and adapted to open by the weight of the load and to close by gravity and a latch mechanism for holding the bucket-sections closed, substantially as described.

3. A conveyer of the class described comprising in combination track-rails, carrying wheels adapted to travel thereon, bucket-frames upon which said wheels are journaled, chains having their links connected by the said journals, bucket-sections pivoted at separated points upon said frame and adapted to open at their lower meeting edges, a latch pivoted upon one of said bucket-sections and a catch upon the other and a tripping device located in the path of the conveyer and adapted to release the latch, substantially as described.

CHARLES H. NOTTER.

Witnesses:
C. C. LINTHICUM,
E. L. HUBER.