

No. 763,897.

PATENTED JUNE 28, 1904.

J. C. HOSHOR.
CONVEYING DRIVING MECHANISM.

APPLICATION FILED FEB. 9, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

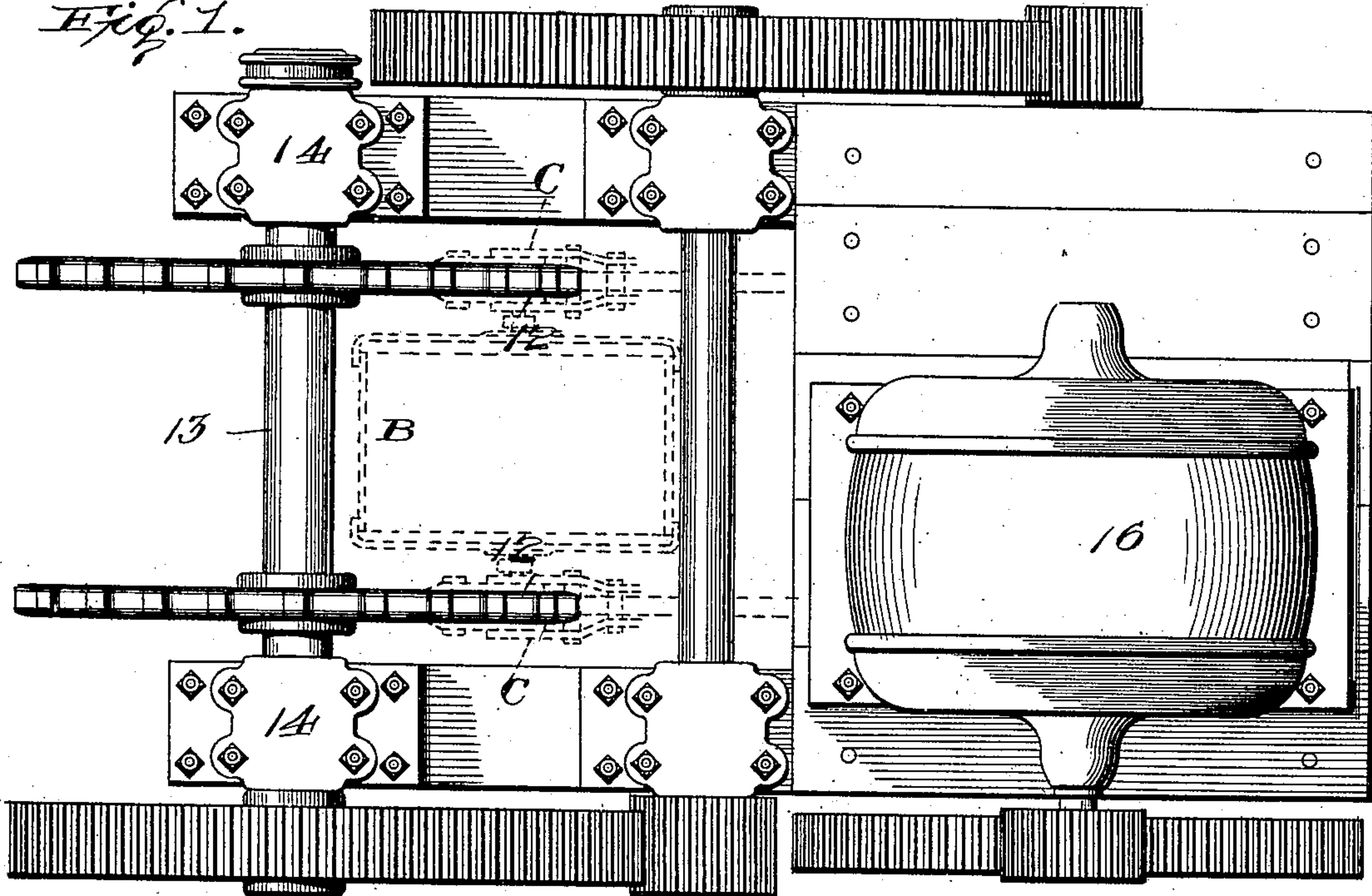
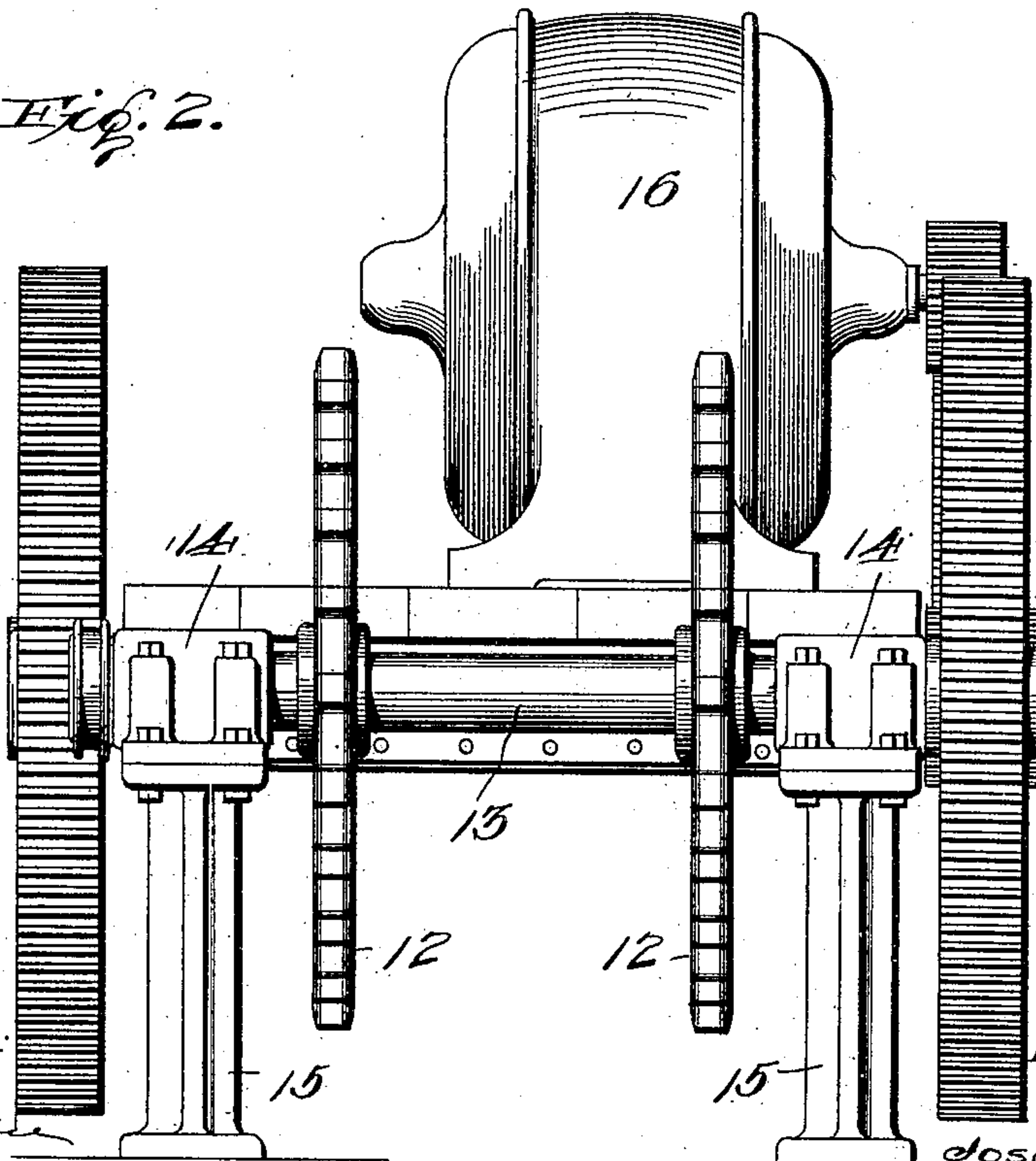


Fig. 2.



WITNESSES:

J. L. Moore
D. Webster, Jr.

INVENTOR

Joseph C. Hoshor
By *J. P. Holm*
Attorney

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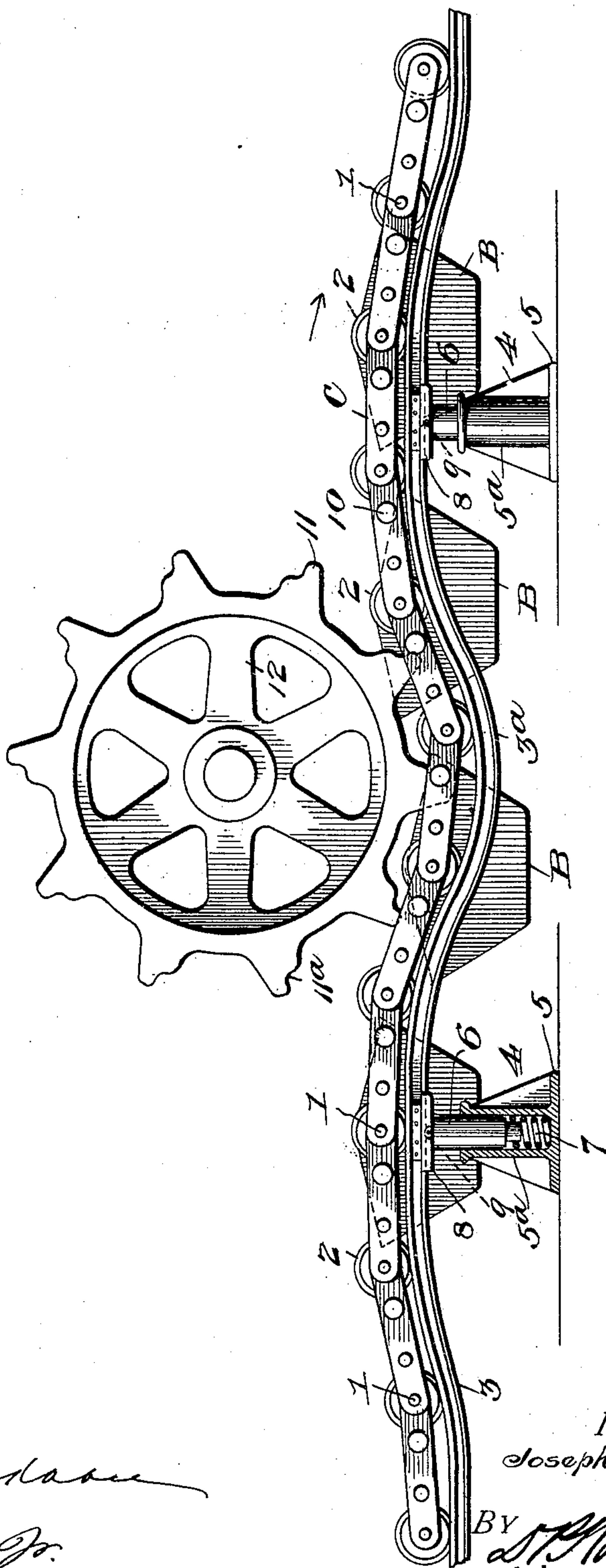
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J. L. Mochane

D. Webster, Jr.

INVENTOR

Joseph C. Hoshorn

By

By *S. J. Chaufeter.*

Attorney

UNITED STATES PATENT OFFICE.

JOSEPH CARPER HOSHOR, OF PATERSON, NEW JERSEY.

CONVEYING DRIVING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 763,897, dated June 28, 1904.

Application filed February 9, 1904. Serial No. 192,837. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CARPER HOSHOR, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Conveyer Driving Mechanism, of which the following is a specification.

This invention relates to conveyers, and more particularly to the driving mechanism therefor.

To this end the invention primarily has in view certain improvements in the means for driving an endless conveyer, preferably of the gravity bucket type, whereby a positive and direct driving force will be imparted to the conveyer-chains without possibility of the latter being displaced from a true working position with reference to the track and also with reference to the driver therefor. A special object in this connection is to provide an improved form of driving-sprocket so constructed as to have a holding-down effect upon the conveyer-chains, while at the same time exerting a firm and direct impelling force thereto.

Another object of the invention is to provide means for holding the conveyer or conveyer-chains to the true pitch of a circle struck on the radius of the driving-sprocket.

Another distinctive feature of the invention resides in providing a practical means for supporting the conveyer-track, whereby inequality of strains or wear in the bearings will be compensated for and any clamping-down pressure of the driver or drivers on the track will be relieved, thus insuring the easy and true running of the conveyer at all times.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts which will be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in the construction of the driving-sprocket and the compensating supports for the track are necessarily susceptible to structural change without departing from the scope of the invention; but a preferred embodiment

thereof is shown in the accompanying drawings, in which—

Figure 1 is a plan view of a conveyer driving mechanism embodying the present invention. Fig. 2 is an end view thereof. Fig. 3 is a detail enlarged elevation showing the compensating supporters for the track and the relation thereof to the driving sprocket or sprockets.

Like characters of reference designate corresponding parts in the several figures of the drawings.

In carrying out the present invention the driving mechanism and the compensating track-supports are designed specially for use in operating a gravity bucket conveyer; but it will of course be understood that these improvements are susceptible to general application to analogous machinery. However, for illustrative purposes there is shown in the drawings a conveyer of the gravity bucket type, essentially consisting of the opposite conveyer-chains C and a series of conveyer-buckets B, arranged between said chains and pivotally hung or suspended therefrom through the medium of suitable pivotal supports 1, whereby the buckets will always retain a horizontal position when the conveyer is passing through vertical, horizontal, or inclined planes. Also the conveyer-chains C carry a series of traveler wheels or rollers 2, which are designed to travel upon the track-rails 3, which follow the predetermined line of travel for the conveyer.

One of the distinctive features of the present invention resides in means for yieldingly sustaining the track or track-rails 3 in connection with sprocket-driving means, and to secure the results contemplated the track or track-rails are arranged on a sinuous line, the curved portion 3^a thereof in the vertical plane of the driving-wheel being struck on the radius of the same circle as the driving-wheels, as will presently appear. As to the special means employed for yieldingly supporting the track or track-rails 3 there are arranged at suitable points, usually at points equidistant from the vertical plane of the axis of the drivers, the compensating track-stands 4. Each compensating track-stand 4 essentially

consists of a base 5, resting upon a suitable bed and provided with a vertically-disposed guiding-socket 5^a, within which is arranged to move the plunger-standard 6, supported upon a compensating spring 7, housed within the bottom portion of the socket 5^a. Each spring-supported plunger-standard 6 is provided at its upper end with a rail-supporting chair 8, to which the track-rails are coupled in any suitable manner; but at this point there may be interposed a pivotal joint 9 of any suitable character, so arranged as to conform to strains which may be imposed upon the supporting-chairs 8 in directions other than the perpendicular.

The several links of the opposite conveyer-chains C are provided with rigid connecting-studs 10 intermediate their ends and which studs are designed to be engaged by the points 11 of the driving-sprockets 12, arranged above the conveyer, and the dipped portion 3^a of the track concentric with the sprockets and struck on the same radius. With a pair of opposite conveyer-chains C there are necessarily employed a pair of driving-sprockets 12, mounted on a drive-shaft 13, journaled in suitable bearings 14, carried by the motor-stand 15 and suitably geared with the electrical or other driving motor 16, also carried by the stand 15. Each of the driving-sprockets is of duplicate formation, and the points 11 thereof are formed at one side of the radial centers thereof with the engaging shoulders 11^a, adapted to fit on top and at one side of the individual link-studs 10. By reason of this peculiar shouldered formation of the driving-sprockets the teeth when engaged with the link-studs 10 exert a holding-down effect upon the conveyer-chains, so as to positively prevent the same rising to a horizontal position and getting off of the true pitch of the circle of the driving-sprockets. At the same time the extremity of the sprocket-teeth bears firmly against one side of the link-studs and positively presses against the same in the direction of travel of the conveyer.

It is well understood that in the operation of heavy machinery the bearings frequently wear and inequalities develop which fre-

quently cause the machinery to cramp or bind. In the present invention should this occur in connection with the drive-shaft 13 the driving-sprockets would bear with cramped pressure downwardly upon the conveyer-chains; but through the medium of the compensating track-stands 4 described this is entirely relieved and compensated for.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described improvements will be readily apparent without further description.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a conveyer apparatus, the combination of a track having yielding compensating supports, a traveling conveyer having travelers riding on the track, and a driving-sprocket arranged at the side of the conveyer opposite the track and having shouldered teeth engaging with members of the conveyer for holding and propelling purposes.

2. In a conveyer apparatus, the combination with the traveling conveyer, of the track therefor, compensating track-stands arranged beneath the track and comprising a base having a guiding-socket, a compensating spring housed in said socket, and a plunger-standard supported on said spring and provided with a rail-supporting chair coupled to the track-rail.

3. In a conveyer apparatus, the combination with the traveling conveyer having travelers, of a driving-sprocket arranged above the conveyer and engaging with the chains thereof, a track supporting the conveyer and having a dipped portion beneath the driving-sprocket concentric thereto, and yieldable compensating track-stands sustaining the track respectively at opposite sides of the vertical plane of the driving-sprocket.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH CARPER HOSHOR.

Witnesses:

G. L. YOUNG,
HOWARD ROSS.