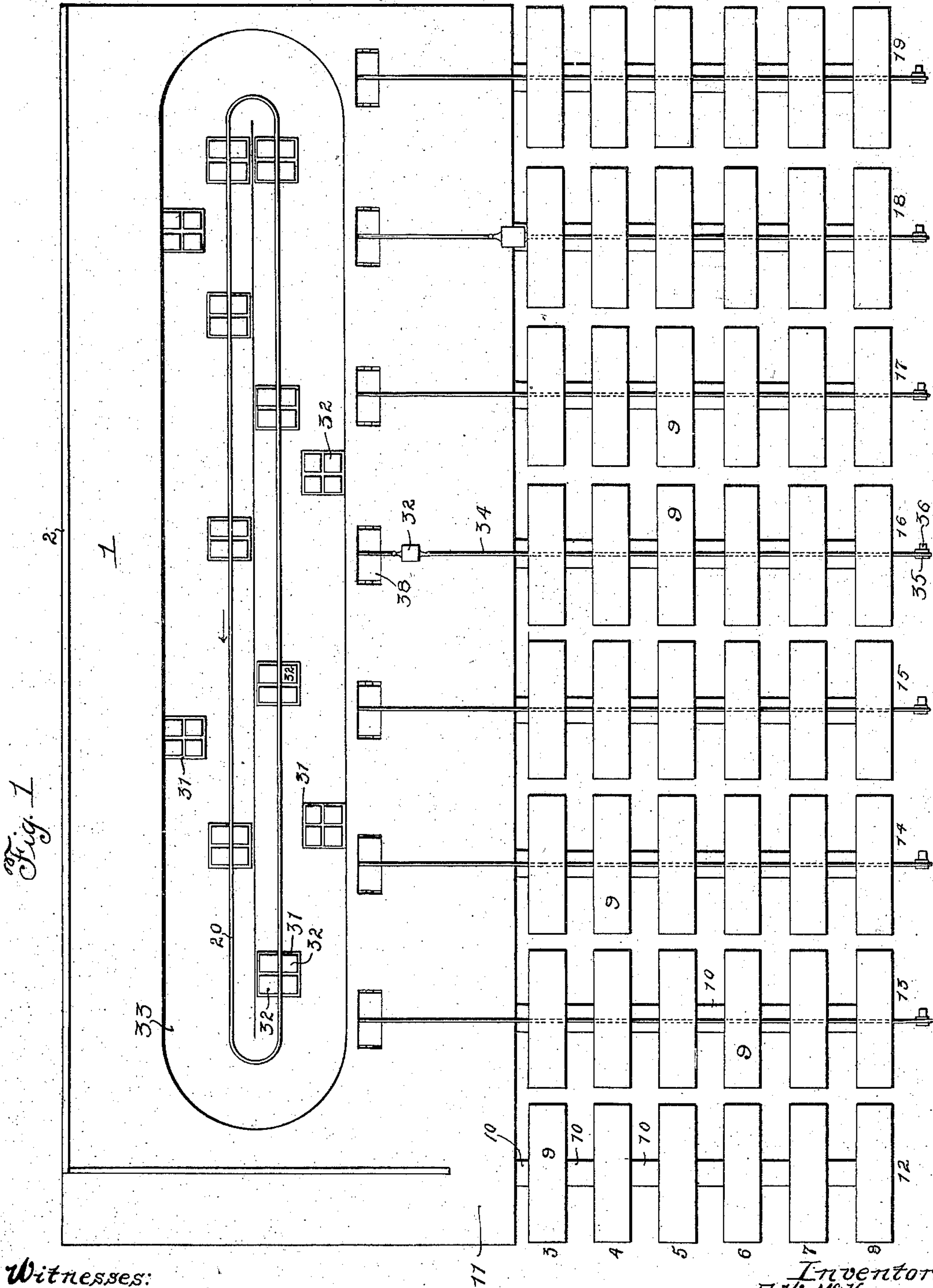


E. W. McKENNA.
TRANSFER SYSTEM.

(Application filed Jan. 7, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

Max W. Zabel.

Milton M. Alexander.

Inventor.
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By Charles A. Brown & Cragg
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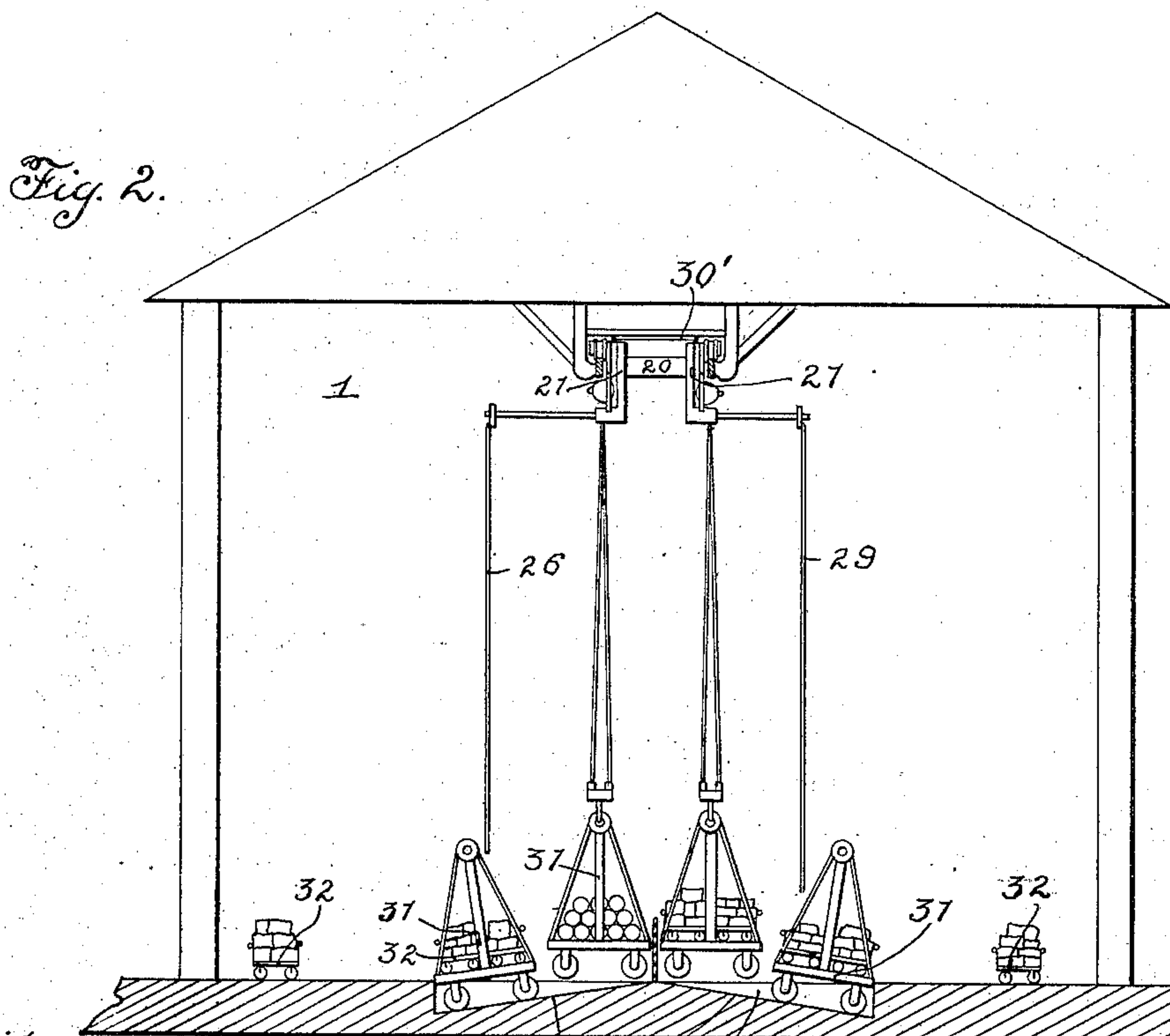
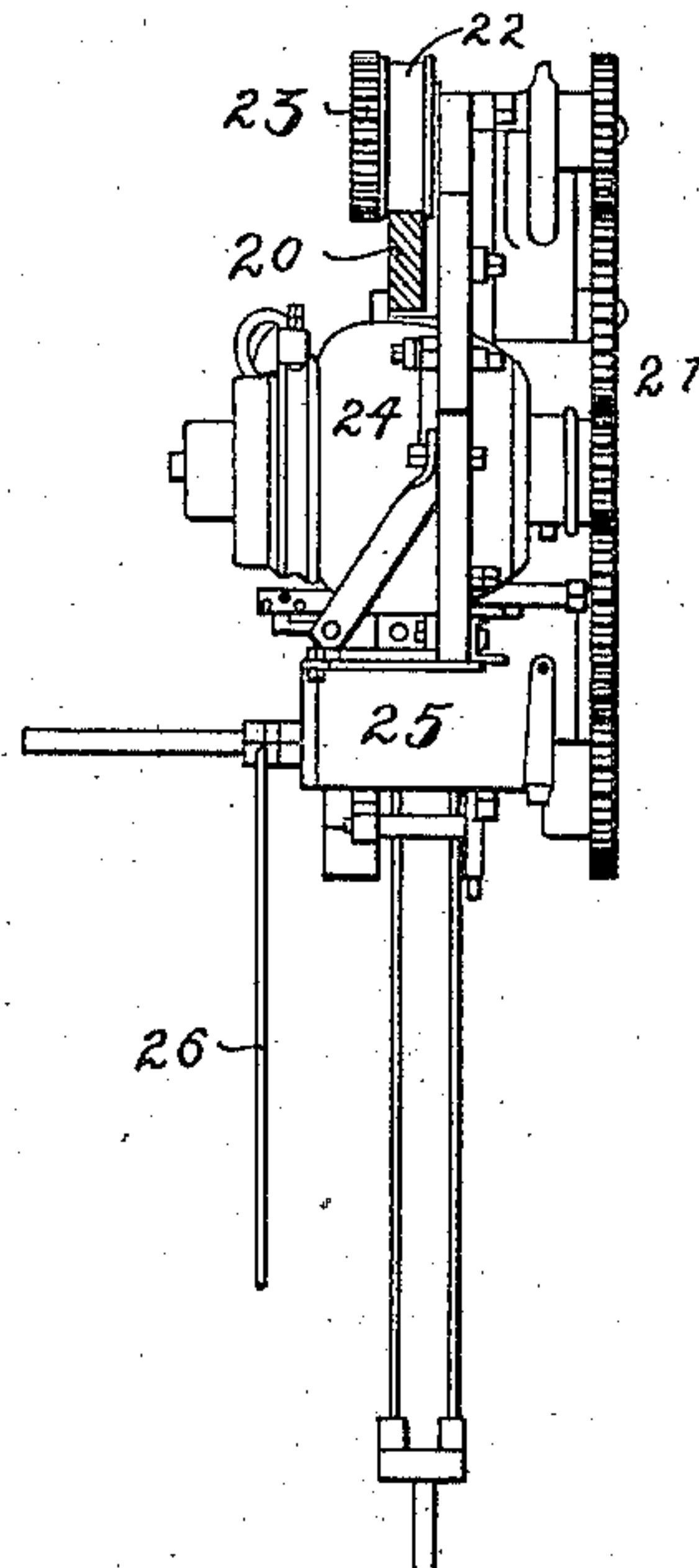
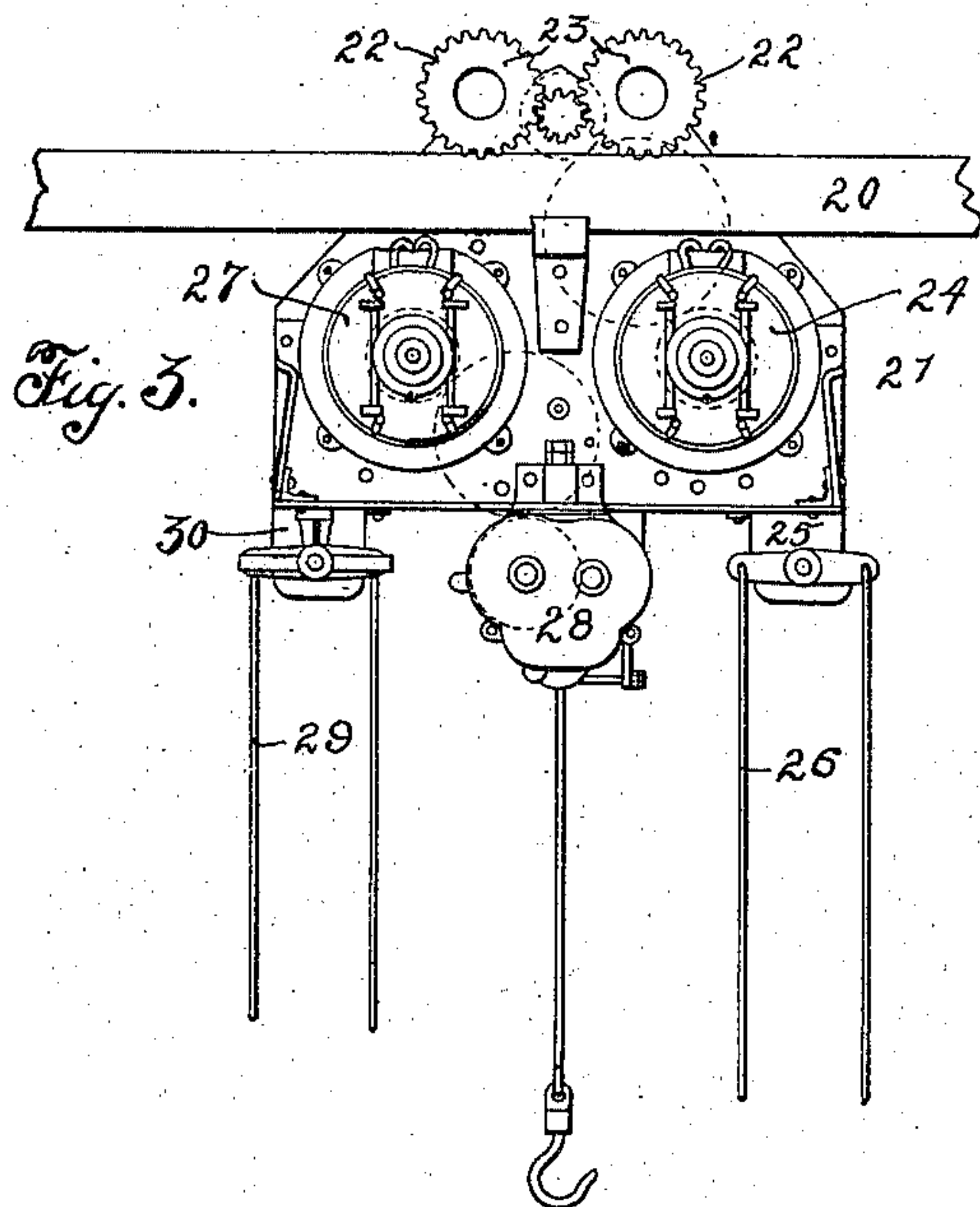
No. 705,119.

Patented July 22, 1902.

E. W. McKENNA.
TRANSFER SYSTEM.
(Application filed Jan. 7, 1901.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses:
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H. F. Obergfell.

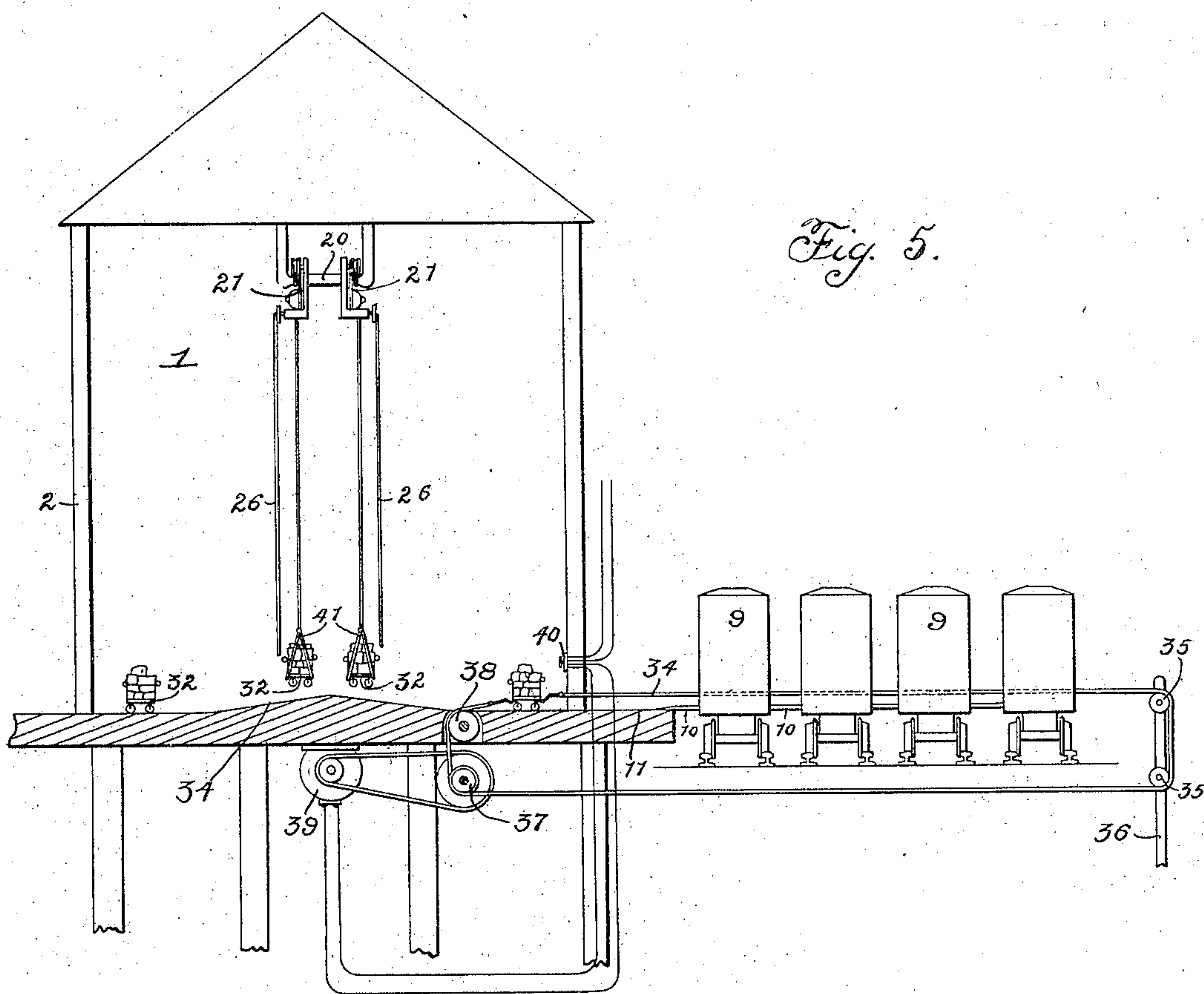
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E. W. McKENNA.
TRANSFER SYSTEM.

(Application filed Jan. 7, 1901.)

(No Model.)

3 Sheets—Sheet 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD W. MCKENNA, OF CHICAGO, ILLINOIS.

TRANSFER SYSTEM.

SPECIFICATION forming part of Letters Patent No. 705,119, dated July 22, 1902.

Application filed January 7, 1901. Serial No. 42,389. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. MCKENNA, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Transfer Systems, (Case No. 8,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to freight-transferring mechanism, and particularly that class of freight-transferring mechanism employed in freight-houses for distributing freight from the receiving side of the freight-house to the selected freight-cars upon the other side, and has for its object the provision of improved means and apparatus for effecting the speedy transfer of freight.

Heretofore it has been the usual practice to employ push-carts or trucks that were moved about the floor of the freight-house from the receiving side to the selected freight-cars without any definite plan, the trucks being moved indiscriminately, thereby causing great confusion and delay in handling freight. Moreover, by such means as has heretofore been practiced commercially the attendant expense is very great.

In accordance with my invention I employ a track forming a loop or closed path, the track being preferably suspended from the ceiling of the freight-house and located in the center thereof, which track is designed to support a plurality of freight conveyers, desirably in the form of cages, which may receive a plurality of hand-trucks. The cages travel clear of the freight-house floor, so that the floor-space is not encroached upon. The cages are conveyed from the receiving portions of the freight-house to all of the discharging portions, so that the hand-trucks that receive the freight from the receiving side may be picked up from the receiving side and discharged opposite the doors of the selected cars, each hand-truck being desirably loaded with freight intended for a given car. Thus the freight may readily be assorted at the receiving side and loaded upon selected hand-trucks, which trucks in turn may be loaded upon the cages which travel in their fixed path, and removed opposite the selected

car. The cage conveying the trucks is preferably disconnected from the overhead-trolley conveyers, whereafter the trucks may be removed. In the preferred embodiment of my invention I provide means whereby the cages may be disconnected from the overhead track and automatically shifted from the path of the remaining cages, so that the progress of the latter cages need not be materially impaired. In the further development of my invention means may be provided for moving the trucks through doors of freight-cars aligned abreast where a plurality of tracks is provided along the freight-house. I preferably provide a trolley-hoist for each cage, which is adapted to effect the travel of the cage in its loop or closed path and lift the same from the floor of the freight-house. Hand-ropes preferably depend from the trolley-hoists to control the elevation and lowering of the cages and their travel.

I will explain my invention more fully by reference to the accompanying drawings, illustrating the preferred embodiment thereof, in which—

Figure 1 is a diagrammatic plan view of a freight-house with the system of my invention indicated, the cars to be loaded being shown in parallel lines adjacent to one side of the freight-house. Fig. 2 is a sectional view of the freight-house indicated in Fig. 1. Fig. 3 is a front view of the cage-conveying means which I prefer to employ. Fig. 4 is an end view thereof. Fig. 5 is a view of a modification which I may employ.

Like characters of reference indicate like parts throughout the different figures.

Freight may be delivered to a freight-house upon one side thereof, in this instance along the wall 2. Parallel lines 3, 4, 5, 6, 7, and 8 of cars 9 9 are in this instance placed adjacent to the opposite side of the freight-house upon parallel tracks, the adjacent cars 9 9 upon the parallel tracks registering, so that their doors are in line. Crossovers span the spaces between the cars, so that a continuous floor is afforded for conveying freight from the outer platform 11 of the freight-house to either one of the adjacent cars situated upon the parallel tracks. I have in this instance shown eight parallel lines of cars 12, 13, 14, 15, 16, 17, 18, and 19.

The freight which is delivered along the wall 2 is conveyed across the freight-house 1 and delivered to a crossover 10, joining the platform 11 and the car in the particular line to which it is consigned. For instance, the freight may be conveyed from one corner of the freight-house 1 to the diagonally-opposite corner, where it is to be loaded upon a car.

I obviate the difficulty attendant upon the transfer of freight through the freight-house by providing a closed track 20. The track 20 thus constitutes a loop or normally continuous path, so that the freight may be moved along the track from the receiving to the discharging side of the freight-house. Suitable motor means—such, for instance, as a trolley-hoist 21, (shown most clearly in Figs. 3 and 4)—may be employed to operate along said track, always moving, preferably, in one direction. (Indicated by the arrow in Fig. 1.) The trolley-hoist which I prefer to employ is suspended from two wheels 22 22, which engage the track 20, the said wheels being secured to gear-wheels 23, which are driven by means of the motor 24, mounted upon the trolley-hoist frame. A controller 25 is used in connection with the motor 24, a hang-chain 26, suspended from the controller-handle, actuating the motor-controller. A second motor 27 is also mounted upon the trolley-hoist frame, which motor is connected in this instance to a hoisting mechanism 28, the control of said motor being similarly effected by means of a hand-rope 29, acting in conjunction with the controller 30. Both motors receive their power from a trolley-wire 30', running alongside of the track 20. The track 20 is suspended from the roof of the freight-house in any suitable manner. In carrying out my invention I employ suitable cages 31 31, which are adapted to be picked up by the trolley-hoist through the agency of the hoisting-gear and carried from place to place within the freight-house 1, around the closed path, upon track 20. The cages 31 are preferably of such size that four hand-trucks 32 32 may be placed thereon. The hand-trucks are loaded with the freight at the wall 2 of the freight-house 1 and are then placed upon cages 31, preferably four at a time. A trolley-hoist is then connected to the said cage 31, and by means of the motor 24 it is operated to carry the cage along the opposite side of the freight-house to a place opposite the car to which the freight is consigned. The operation of the trolley-hoist, as will be noted, is preferably effected by a hand-rope 26, actuating the motor 24 to drive the trolley-hoist along the track 20, the rope 29 controlling the operation of the hoisting mechanism. These ropes are preferably of such length that they may be easily operated from the floor of the freight-house.

In order not to create a stoppage in the transit of the remaining hoists when a cage 31 has been deposited by one of said hoists, it is desirable to provide means whereby the car of

itself is carried laterally away from the path of the remaining cages. To accomplish this result, I preferably provide automatic means desirably in the form of a groove 33 in the floor of the freight-house, which groove has inclined diverging faces 34 34, which recede from the center or highest point in said groove. The outer and deepest parts of the groove are preferably provided at the point where the cages come to rest after moving out of the path of the remaining moving cages, and at this point the groove is preferably of such depth that the upper surface of the floors of the cages 31 register with the normal level of the freight-house floor, so that no trouble is experienced in removing the trucks 32 from the said cages.

The operation of the device will now be apparent. Freight is loaded at the side 2 upon trucks 32, which trucks are then placed upon the cages 31. If large bundles of movable freight are employed, however, the freight may be directly loaded upon the cages 31. After a sufficient amount of freight has been loaded upon the cage 31 the hoisting mechanism of one of the trolley-hoists 21 is brought into engagement with the cage 31 and the respective rope 29 of said trolley-hoist actuated to raise the cage 31 and bring it into line below the closed path 20. Rope 26 is then actuated to start the trolley-hoist, with its load, along the closed path, to be deposited generally upon the opposite side of the freight-house at the door of the car to which it is consigned. The hand trucks or carriers 32 are preferably of such size that they readily enter through the door of the cars 9, and in order to facilitate the movement of the trucks through the cars I provide a rope 34, passing around loose pulleys or sheaves 35 35, suitably mounted upon a post 36, set opposite the car-door beyond the outermost track. The rope 34 is passed about a drum 37 and also about a loose pulley 38, fastened so that its upper edge is very nearly of the same height as the floor of the freight-house 1. The drum 37 is driven by means of a motor 39, as is well shown in Fig. 5. Both ends of the rope 34 are attached to the truck 32 and the excess of rope preferably coiled and laid upon the said truck. The motor is then operated by means of a hand-switch 40, located at any suitable point on the wall nearest to the tracks, to draw the said truck through the adjacent cars to its particular car, after which the motor may be reversed and the truck is again drawn back to the freight-house and disengaged from the rope 34.

In my copending application, Serial No. 42,390, filed January 7, 1901, I have claimed the means for transferring the freight through the doors of freight-cars located abreast.

In Fig. 5 I have illustrated a modification in which I do not employ cages 31 for carrying trucks 32. In this construction I connect hinged supports 41 41 to the hoisting mechanism of the trolley-hoist 21, which hinged supports are adapted to be placed about the

trucks 32 to raise the same and carry them about the loop or closed path upon track 20. The floor of the freight-house has a gradual incline toward the center thereof, so that the trucks 32 when released from the trolley-hoisting mechanism may roll out of the path of the remaining moving trucks.

I have herein shown and particularly described a system in which a freight-house is employed that is designed to receive goods delivered by wagons upon one side and to deposit the freight upon the other side into freight-cars. The invention is equally pertinent to transfer-houses where tracks are provided upon both sides of the transfer-house and where the freight is delivered to the transfer-house by freight-cars instead of by delivery-wagons, and it relates also to discharge-houses.

While I have herein shown and particularly described the preferred embodiment of my invention, it is obvious that modifications may readily be made without departing from the spirit thereof, and I do not therefore wish to be limited to the precise disclosures herein set forth; but,

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

1. In a freight-transfer system, the combination with an elevated track arranged in a looped path, of motor means adapted for operation upon said track, hoisting mechanism coöperatively associated with said track, trucks for supporting freight, and conveying-cages for said trucks, said conveying-cages being adapted, through the agency of said motor means and said hoisting mechanism, to be lifted and conveyed from place to place along said looped path, substantially as described.

2. In a freight-transfer system, the combination with an elevated track arranged in a looped path, of motor means adapted for operation upon said track, hoisting mechanism coöperatively associated with said track, trucks for supporting freight, conveying-cages for said trucks, said conveying-cages being adapted, through the agency of said motor means and said hoisting mechanism, to be lifted and conveyed from place to place along said looped path, and means for bringing the said conveying-cages, when not associated with said motor means and hoisting mechanism, out of the said looped path, substantially as described.

3. In a freight-transfer house, the combination with an elevated track within said freight-transfer house arranged in a looped path, of motor means adapted for operation upon said track, hoisting mechanism operatively associated with said track, freight-conveying cages adapted, through the agency of said motor means and said hoisting mechanism, to be lifted and conveyed from place to place along said looped path, the floor of the said freight-house declining outward from

the center line of said looped path, for the purpose of bringing said freight-conveying cages out of said looped path when released by said hoisting mechanism, substantially as described.

4. In a freight-transfer system, the combination with an elevated track arranged in a looped path, of freight-supporting devices, means associated with said track for lifting and conveying said freight-conveying devices along said looped path, and means for bringing the said freight-supporting devices, when not associated with the first aforesaid means, laterally away from the said looped path, substantially as described.

5. In a freight-transfer system, the combination with an elevated track arranged in a looped path, of motor means adapted for operation upon said track, hoisting mechanism coöperatively associated with said track, trucks for supporting freight, conveying-cages for said trucks, said conveying-cages being adapted, through the agency of said motor means and said hoisting mechanism, to be lifted and conveyed from place to place along said looped path, and automatic means for bringing the said conveying-cages, when not associated with said motor means and hoisting mechanism, out of the said looped path, substantially as described.

6. In a freight-transfer house, the combination with an elevated track within said freight-transfer house arranged in a looped path, of motor means adapted for operation upon said track, hoisting mechanism operatively associated with said track, freight-conveying trucks, cages adapted to carry said trucks and adapted, through the agency of said motor means and said hoisting mechanism, to be lifted and conveyed from place to place along said looped path, and a groove for said cages provided in the floor of said freight-house below said track, the surface of said groove declining outwardly from the center line thereof, the outermost portion of the said groove being of sufficient depth to permit the floor of the said cages to register with the normal level of the freight-house floor, substantially as described.

7. In a freight-transfer system, the combination with a transfer-house having a receiving and a discharging side, of a track in the form of a looped path interposed between the said sides of the transfer-house, a plurality of hand trucks or carriers for transferring freight from the receiving to the discharging side of the house, a plurality of conveyers moving upon the said track for picking up the trucks and moving them from the receiving to the discharging portions of the track, and means associated with each conveyer for lifting the truck carried thereby off the floor of the freight-house, substantially as described.

8. In a freight-transfer system, the combination with a transfer-house having a receiving side and a discharging side, of a track in

the form of a looped path interposed between
the receiving and discharging sides of the
freight-house, hand trucks or carriers for con-
veying freight from the receiving side to the
5 discharging side of the transfer-house, and
conveying means moving upon the track for
receiving the freight at the receiving side of
the track and carrying the same to the dis-
charging side of the track where the freight

may be carried to the discharging side of the 10
transfer-house, substantially as described.

In witness whereof I hereunto subscribe my
name this 27th day of December, A. D. 1900.

EDWARD W. MCKENNA.

Witnesses:

HARVEY L. HANSON,
MAX W. ZABEL.