

No. 677,031.

Patented June 25, 1901.

J. C. HOSHOR.
BUCKET CONVEYER.

(Application filed Aug. 29, 1900.)

(No Model.)

Fig. 1.

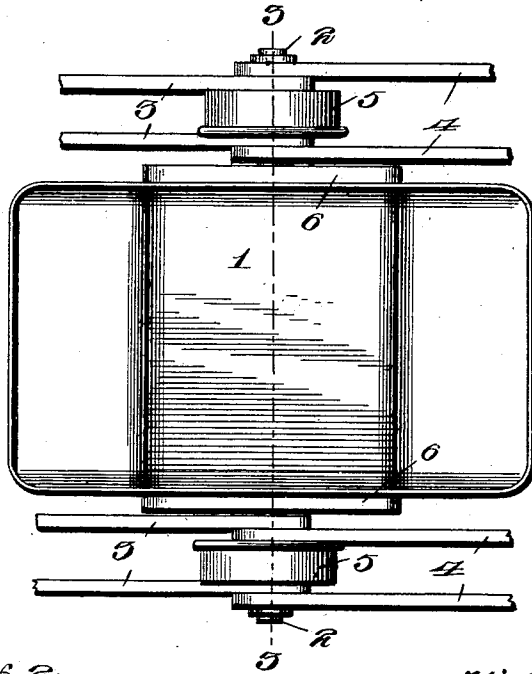


Fig. 2.

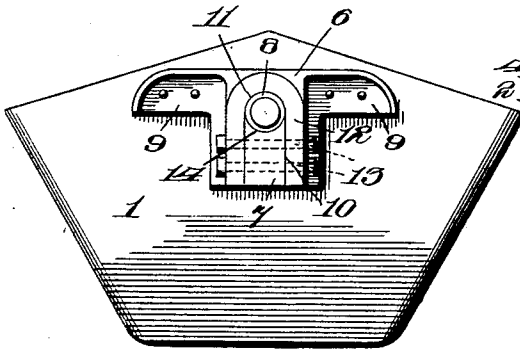


Fig. 3.

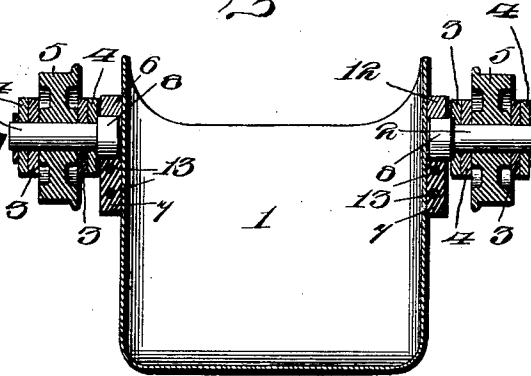


Fig. 4.

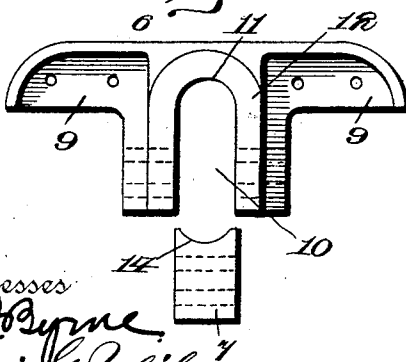
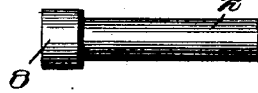


Fig. 5.



Joseph C. Hoshor.
Inventor

Witnesses
Geo. W. Byrne
Louis E. Gulikn

By

E. J. Siggers
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH C. HOSHOR, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO THOMAS E. PLATT, OF SAME PLACE.

BUCKET CONVEYER.

SPECIFICATION forming part of Letters Patent No. 677,031, dated June 25, 1901.

Application filed August 29, 1900. Serial No. 28,416. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. HOSHOR, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Bucket Conveyor, of which the following is a specification.

This invention relates to improvements in bucket conveyers, and more particularly to a novel mounting for the buckets. It is usual in constructing conveyers of this character to provide a pair of chains the links of which are composed of inner and outer link-plates having their ends overlapped and retained by a cylindrical link-connector upon which a roller or traveler is mounted for movement upon a track. The opposed link-connectors of the conveyer-chains are located in alinement, and heretofore they have served as supports for the conveyer-bucket, the latter being suspended from the inner ends of the connectors and usually having fixed relation therewith. The result of this fixed relation is to compel the connectors to rotate as the buckets are swung, and thereby wearing the bearing-faces provided for the connectors in the link-plates and travelers, which wear quickly produces lost motion between the links of the conveyer-chains and materially interferes with the smooth operation of the conveyer. The rigid mounting of the connectors upon the buckets has further tended to bend or break the former under the weight of the buckets, particularly at curved or inclined portions of the track upon which the conveyer is operated to transport the buckets from the loading to the unloading stations. To overcome these objections, the connectors or axles have sometimes been made separate from the buckets and have been extended through the side walls of the latter to constitute journals therefor, and in some instances they have been made in sections, one section being rigidly connected to one of the link-plates and extended through the wall of the bucket. Both of these last-named expedients contemplate the perforating of the side walls of the conveyer-buckets and necessitate either the spreading of the conveyer-chains to withdraw the connectors from engagement with the buckets or the loosening of the con-

nectors to permit it to be moved longitudinally.

The object of my invention is to provide the conveyer-chains with connectors upon the inner ends of which the buckets may be mounted without perforating the sides of the latter and in a manner to permit the bucket to swing freely without rotating the connector and to be removed when necessary for purposes of replacement or repair without disturbing the conveyer-chains or moving the connectors from their normal positions.

To the accomplishment of this object the invention consists in providing the conveyer-chains with connectors having enlarged journal-heads journaled within suitable bearings extending from the side walls of the bucket and having a removable member, the displacement of which latter permits the bucket to be lifted from the conveyer without disturbing the conveyer-chains or any elements connected therewith.

The invention further consists in the construction and arrangement of parts to be hereinafter more fully described, illustrated in the accompanying drawings, and defined in the appended claims.

In said drawings, Figure 1 is a top plan view of a bucket and portions of the conveyer-chains. Fig. 2 is a side elevation of one of the buckets, illustrating the construction and arrangement of the bar. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detached view of the bearing members, and Fig. 5 is a detail view of one of the connectors.

Referring to the numerals of reference employed to designate corresponding parts throughout the views, 1 indicates a conveyer-bucket of ordinary form suspended from the inner ends of coaxial link-connectors 2, flexibly connecting the contiguous ends of chain-links 3 and 4 and serving as axles for the travelers or flanged rollers 5, located intermediate of the link-plates and designed to move upon a track (not illustrated) for the purpose of effecting the transportation or conveyance of the buckets. This general structure is ordinary; but, as premised, my invention comprehends a novel mounting for the buckets to the accomplishment of the various ends heretofore stated. This mounting

is effected by securing to the side walls of the buckets in any suitable manner stationary bearing members 6, within which are removable bearing members or blocks 7, the stationary and removable bearing members when connected constituting bearings for enlarged cylindrical journal-heads 8, formed upon the inner ends of the connectors 2.

My invention in its broadest aspect comprehends the employment of bearing members of any desired form; but, as shown in the drawings, I prefer to impart a general T form to the member 6 for the purpose of defining at the upper end of the member a pair of oppositely-extending bolt-plates 9, riveted or otherwise secured to the side wall of the bucket and serving not only to secure the stationary bearing member, but to stiffen and brace the end of the bucket. At the vertical center of the member I provide an elongated recess 10, open at its lower end and having a substantially semicircular bearing-face 11, an outstanding flange 12 of inverted-U shape serving to impart additional width to the bearing-face and to afford means for the retention of the movable bearing member 7, designed to be received within the recess 10 and to be secured by two or more transverse bolts 13, passed through the parallel portions of the flange 12 and through the member or block 7. The upper end of the removable bearing member is provided with a concave bearing-face 14, which when the block is in place constitutes a continuation of the bearing-face 11 of the stationary member to form a circular bearing into which the enlarged journal-head 8 of the adjacent connector extends.

As shown more clearly in Fig. 3 of the drawings, the length of the head 8 is slightly less than the width of the bearing afforded by the bearing members for the purpose of preventing the walls of the bucket from being subjected to the end thrust of the connectors.

It will now be seen that in organizing the conveyer the connectors are passed through the link-plates and travelers with the journal-heads 8 drawn against the adjacent faces of the innermost plates of the chains. The travelers may then be positioned upon the tracks, and the buckets are attached to the connectors by passing the bottoms of the buckets between the inner ends of the latter until the journal-heads 8 are engaged by the bearing-faces 11 and effect the support of the bucket. The secure retention of the bucket is now effected by placing the bearing-blocks or removable bearing members 7 within the elongated recesses of the stationary bearing members to present the bearing-faces 14 to the under sides of the journal-heads 8. With the conveyer organized as thus described the buckets are free to swing or to be actually rotated without causing the connectors to be rotated in the bearings provided for them in the overlapped ends of the link-plates. The result of this is that while the connectors serve as supports for the buckets the latter

are permitted to swing freely without producing such wear upon the bearing-surfaces of the links as will tend to loosen the chain connections.

From the foregoing it will be observed that I have produced a bucket conveyer embodying simple, inexpensive, durable, and novel mountings for the buckets; but while the present embodiment of my invention is believed at this time to be preferable I wish to reserve the right to effect such structural variations as may be fairly embraced within the scope of the protection prayed.

What I claim is—

1. The combination with a pair of conveyer-chains having link-connectors, of a bucket located wholly between the inner extremities of the connectors, and bearing members mounted on the outer walls of the bucket and receiving the inner ends of the connectors to permit the free rotation or swinging of the bucket without rotating the connectors.

2. The combination with a pair of conveyer-chains having link-connectors formed with enlarged heads at their inner ends, of a bucket having its end walls located between the extremities of the connectors, and bearing members mounted on the outer walls of the bucket, said bearing members being provided with open-ended recesses provided at their upper ends with curved bearing-faces extended over and designed to rest upon the contiguous inner ends of the connectors.

3. The combination with a pair of conveyer-chains comprising a pair of link-connectors, of a bucket having its end walls located between and abutting against the adjacent extremities of the connectors, stationary bearing members extending from the walls of the bucket and designed to rest upon the ends of the connectors, and removable bearing members carried by the walls of the bucket and coöperating with the stationary members to effect the mounting of the buckets.

4. The combination with a pair of conveyer-chains comprising link-connectors, of a bucket having its end walls located between the inner extremities of the connectors, stationary bearing members carried by the walls of the bucket and provided with downwardly-opening recesses having curved bearing-faces at their upper ends, removable bearing-blocks provided at their upper ends with concave bearing-faces, and means for retaining said blocks within the recesses of the stationary bearing members to provide a continuous bearing for the inner ends of the connectors.

5. The combination with conveyer-chains comprising link-plates, travelers located intermediate thereof and cylindrical connectors passed through the link-plates and travelers and provided with enlarged journal-heads opposed to the adjacent faces of the chains, a bucket having its end walls located between the journal-heads of corresponding connectors, stationary bearing members extending outwardly from the walls of the bucket and

provided with downwardly-opening recesses having their end walls curved to form bearing-faces, bearing-blocks located within the recesses of the stationary bearing members, and means for detachably connecting said blocks to the members.

6. The combination with conveyer-chains comprising link-connectors, of a bucket having its end walls located between the inner extremities of the link-connectors, and bearing members secured upon the end faces of the bucket and provided with laterally-extending bolt-plates extending in opposite directions from the vertical center of the bucket and serving to retain the members upon the bucket and to stiffen the walls of the latter.

7. The combination with a pair of conveyer-chains comprehending links, travelers, and link-connectors constituting axles for the travelers, of a bucket located between the inner ends of the connectors, said inner ends of the connectors abutting against the outer walls of the bucket, and bearing members mounted on said walls and receiving the ends of the connectors.

8. The combination with a pair of conveyer-chains comprehending links, travelers, link-connectors connecting the links and constituting axles for the travelers, and heads formed

on the inner ends of the link-connectors, of a bucket interposed between opposed connectors with its outer walls abutting against said heads, and bearing members mounted upon the outer walls of the bucket and receiving the heads of the connectors.

9. The combination with conveyer-chains comprehending link-plates, travelers and link-connectors serving to connect the link-plates and to constitute axles for the travelers, said connectors being provided upon their inner ends with enlarged journal-heads opposed to the adjacent faces of the chains, of buckets interposed between pairs of connectors and having their outer walls abutting against the adjacent ends of the journal-heads, and bearing members mounted upon the walls of the buckets and receiving the heads of the connectors, whereby said heads bear against the faces of the bearing members, bucket-walls and chains.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH C. HOSHOR.

Witnesses:

JOHN HULETT,
ALEX THOMSON, Jr.