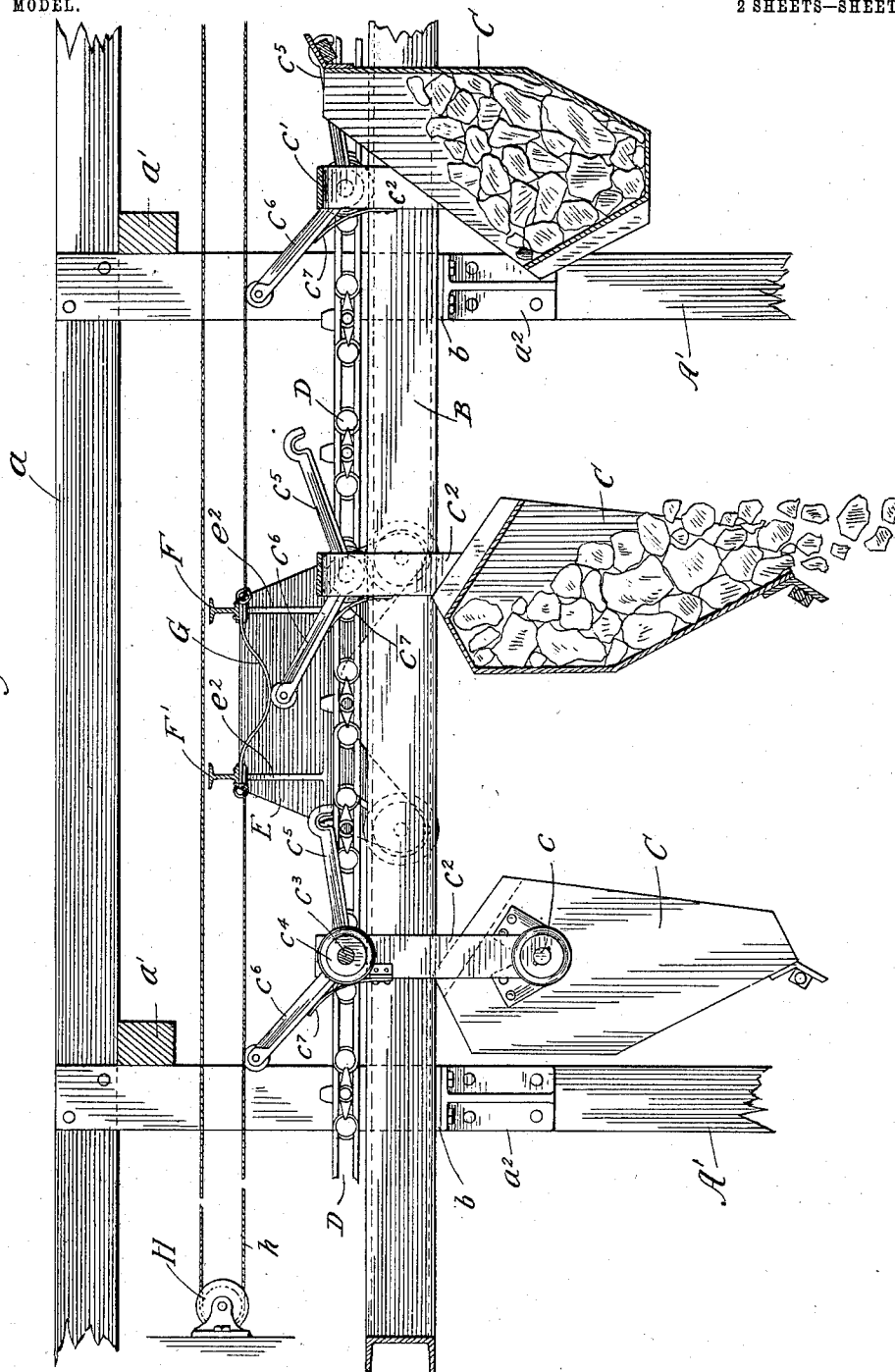


E. BIVERT.
TRIPPER FOR BUCKET CONVEYERS, &c.
APPLICATION FILED SEPT. 22, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Attest
Charles H. Schaper
at test
Charles H. Schaper

Inventor

Eugene Bivert
By *Charles H. Schaper*
Atty.

E. BIVERT.
 TRIPPER FOR BUCKET CONVEYERS, &c.
 APPLICATION FILED SEPT. 22, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.

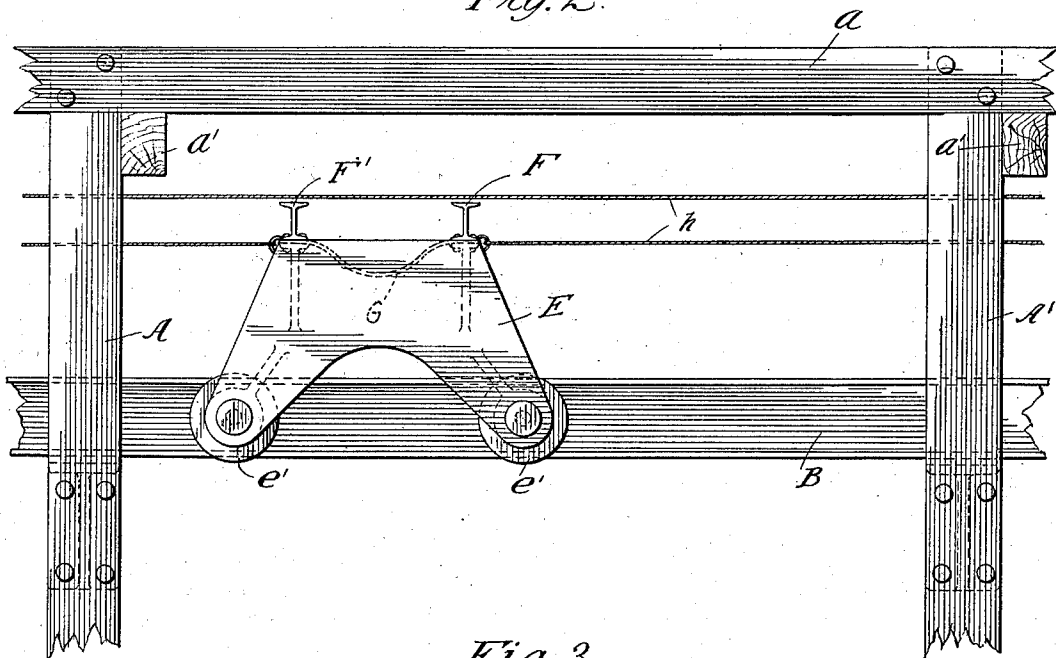
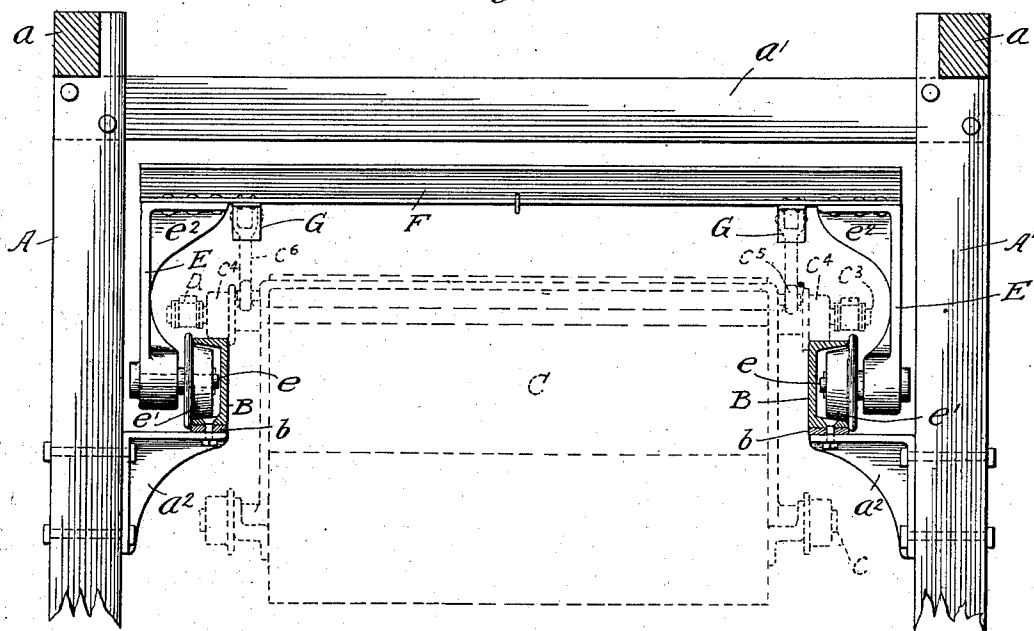


Fig. 3.



Witnesses.

Arthur H. Schaefer
 Alfred C. Case

Inventor.

Eugene Bivert
 By Charles W. Hill
 Atty.

UNITED STATES PATENT OFFICE.

EUGENE BIVERT, OF CHICAGO, ILLINOIS, ASSIGNOR TO FAIRBANKS, MORSE AND COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

TRIPPER FOR BUCKET CONVEYERS, &c.

SPECIFICATION forming part of Letters Patent No. 748,577, dated January 5, 1904.

Application filed September 22, 1902. Serial No. 124,306. (No model.)

To all whom it may concern:

Be it known that I, EUGENE BIVERT, a citizen of the Republic of France, and a resident of the city of Chicago, in the county of Cook and State of Illinois, (whose post-office address is Lake and Greenwood avenues, Chicago, Illinois,) have invented certain new and useful Improvements in Trippers for Bucket Conveyers or the Like; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in trippers for bucket conveyers, and is shown more particularly embodied in connection with a pivoted bucket conveyer the subject of a separate application for patent executed by me on the 27th day of June, 1902, and filed July 29, 1902, bearing Serial No. 117,471.

The object of this invention is to provide in connection with a bucket conveyer a tripping device adapted to be adjusted at any desired point in the path of the conveyer and acting to dump the buckets successively when they arrive at said point.

It is also an object of the invention to provide simple means for adjusting the tripper above any desired point in the path of the loaded buckets.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a longitudinal vertical section of a device embodying my invention, showing one of the buckets in side elevation and others in vertical section. Fig. 2 is a side elevation of the tripper and its supporting-frame. Fig. 3 is an end elevation of the same, showing one of the buckets of the conveyer in dotted lines.

As shown in said drawings, the tripper is supported upon and movable in the supporting-frame for the upper lap of the conveyer. Said frame consists of the uprights A and A', disposed laterally of the conveyer and connected at their tops longitudinally of the conveyer with the girders a and transversely of

the conveyer by the beam a'. On the inner side of each post an inwardly-directed bracket a² is rigidly bolted. Said brackets support at their outer ends the outwardly-opening channel-bars B, which are securely bolted on the ends of the brackets through one of the flanges thereof. As shown, said channel-bars are furred above the brackets by the plates b, of metal or other suitable material, raising the lower flanges of the channel-bars above the brackets, as shown in Fig. 3. The upper or outer surface of the upper flanges and the inner surfaces of the lower flanges form a continuous double track upon the upper and inner of which the conveyer is movable and along the outer and lower of which the tripper is movable.

The buckets constituting the conveyer are provided with laterally-directed shafts or trunnions c, as shown in Fig. 1, on which said bucket is pivoted in the extremities of a bail, the ends c² of which engage on said shafts on the outside of the bucket. Laterally-directed shafts c³ are provided near the top of each bail, on which are journaled the flanged track-wheels c⁴, which track on the upper flanges of said channel-bars and on which the buckets are supported in a vertical position when moving along the upper lap of the conveyer. The extremities of said shafts c³ engage in parallel conveyer-chains D, which serve to connect said bucket and to communicate motion thereto. Also pivoted on each of said shafts c³ is a latch c⁵, comprising an arm provided with a hooked end adapted to engage a part on the bucket and acting to hold the same rigidly with respect to the bail in carrying position. An arm c⁶, provided at its outer end with a roller integral with the latch c⁵ at the pivot, provides means for actuating said lever, and a spring c⁷ is engaged on the bail, presses against said arm c⁶, and acts to hold said latch in its engaging position.

The tripper consists of a carriage having side standards E, provided at their lower ends with the inwardly-directed stud-shafts e, on which is journaled the flanged track-wheels e' e', which track on the inner surfaces of the lower flanges of the channels B,

as shown in Fig. 3. As shown, two of said track-wheels e' are provided on each side of the carriage and are of a diameter slightly less than the width between the flanges of the channel-bars. Integral ribs e^2 are provided on the inner side of said side walls, which extend transversely of the track and are relatively broad at their upper ends to support transverse I-beams $F F'$, which are rigidly bolted or riveted at their ends on the side walls E and braces e^2 , and afford attachment for the bars G , one of which is secured at each side of the carriage and which is curved downwardly, and the under side of which forms a cam-surface in the path of the lever c^6 in position to be engaged by the roller thereon as the bucket passes beneath said carriage. The operation is as follows: Said cam-surface acts to force said lever c^6 downwardly, lifting the latch c^5 and permitting the bucket to immediately dump its load by gravity, as shown in Fig. 1. After the roller has passed beyond said cam-surface the latch under the action of the spring assumes its normal position, and the bucket may be returned to an upright position by any desired means and is again engaged by the latch. To enable said tripper to be adjusted at any desired point along the tracks formed by the channels B , a sheave H is provided at each end of said track centrally thereon, and a wire or othersuitable cable h is passed around said sheaves and secured at its ends centrally of the I-beams $F F'$ of the tripper and rigidly holds said tripper upon the track in the required position to dump the bucket. Said lines permit ready adjustment of the tripper along the track to any desired position. The channel-bars B forming the tracks being located sufficiently within the post, permit the sides of the carriage to extend downwardly between the channel-bars and said posts, as shown in Fig. 3, while the upper flange of each channel-bar acts to hold the carriage from lifting when engaged by the arm c^6 .

Obviously the construction herein described may be used with many types of buckets, and the construction of the carriage may be varied, as well as the method of adjusting the same longitudinally of the track, and many details of construction may be varied without departing from the principles of my invention.

I claim as my invention—

1. A tripper for the purpose specified comprising in combination a track, a truck movable on the track, a downwardly-inclined cam-surface thereon and a part carried on a bucket adapted to engage beneath the cam and dump the bucket.

2. In a device of the class described the combination with an upper and a lower track, of a conveyer movable along one track comprising a plurality of pivoted buckets, a latch on each, a truck movable on the outer track,

a downwardly-curved surface on the under side of the truck in position to be engaged by and to release the latch from each bucket as the buckets pass beneath the same.

3. In a tripper, the combination with a track formed of outwardly-directed channel-bars, of a tripper comprising a truck, inwardly-directed track-wheels on each side of the truck adapted to engage in said channels and to run on the lower flange thereof, a downwardly-curved cam-track on the truck and means for moving said tripper along the track and securing the same at a predetermined point.

4. The combination with an upper and a lower track, of a conveyer movable along one of said tracks and comprising a plurality of pivoted buckets each provided with a latch adapted to support the same in carrying position, a tripper movable on the other track and comprising side members and transverse members rigidly connecting the side members, a down-curved cam-track secured below the transverse members, inwardly-directed track-wheels on the side members adapted to engage on one of said tracks and means for preventing displacement of the tripper from the track.

5. A tripper comprising integral side members, inwardly-directed track-wheels journaled on each side member and adapted to engage in outwardly-directed channel-bars and track on the lower flange thereof, transverse I-beams connecting the side members, a downwardly-curved cam-surface between said I-beams in position to be engaged by and to release a trip mechanism passing beneath the same.

6. The combination with a track comprising outwardly-directed parallel channel-bars, of a bucket conveyer adapted to move on the upper flanges of the channel-bars, a latch on each bucket holding the same in carrying position, a tripper for releasing the latch comprising a car provided with inwardly-directed track-wheels movable in the channels on the lower flanges thereof, transverse I-beams connecting the two sides of the car and a downwardly-curved bar carried below the I-beams and in position to be engaged by a part on the latch of each bucket and acting to release the latch and permit the bucket to dump.

7. A tripper for the purpose specified comprising side members, an integral inwardly-directed bracket on each, transverse I-beams permanently secured on the brackets, hubs at the bottom of said side members, inwardly-directed track-wheels journaled therein and positioned to engage in outwardly-turned channel-bars forming a track, a bar connected below the I-beams and extending longitudinally of the track and affording a cam-surface adapted to be engaged by a trip mechanism movable beneath the same, a sheave

at each end of the track and a line or cable
passing through said sheaves and connected
at its ends on opposite sides of the tripper
and affording means for adjusting said trip-
5 per on the track and for securing the same
in adjustment.

In testimony whereof I have hereunto sub-

scribed my name in the presence of two sub-
scribing witnesses.

EUGENE BIVERT.

Witnesses:

A. C. ODELL,

W. W. WITENBURY.