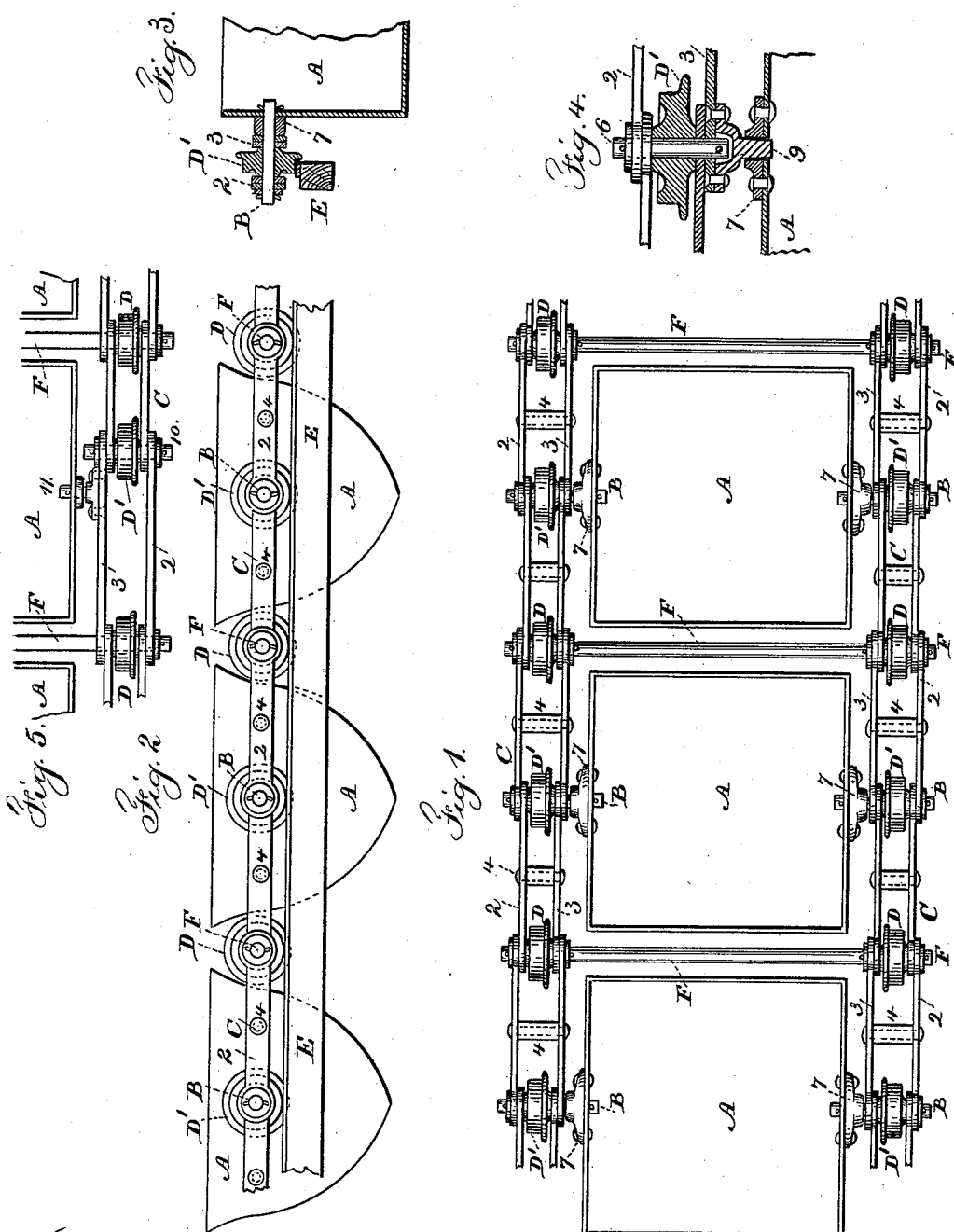


(No Model.)

C. W. HUNT.
CONVEYER.

No. 466,039.

Patented Dec. 29, 1891.



Witnesses
Char. A. Smith
J. Strub

Inventor
Charles W. Hunt.
Per Lemuel W. Ferrell
att

UNITED STATES PATENT OFFICE.

CHARLES W. HUNT, OF WEST NEW BRIGHTON, NEW YORK.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 466,039, dated December 29, 1891.

Application filed June 5, 1891. Serial No. 395,196. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HUNT, a citizen of the United States, residing at West New Brighton, in the county of Richmond and State of New York, have invented an Improvement in Conveyers for Coal and other Substances, of which the following is a specification.

Conveyers of coal and other substances have heretofore been made with buckets pivoted to endless chains, which chains are provided with rollers running upon tracks so that the chains can be used to carry the buckets up inclined tracks or rails and along to the place of delivery, and in apparatus of this character the pivot-pins of the chains have in some instances formed the axles upon which the supporting-wheels revolve; but as such axles have projected beyond the chain the weight of the buckets has tended to bend and break these axles, especially at the upper part of an inclined track, because in turning the curve from the inclined to the horizontal portion the pull of the chain, as the weight hangs nearly vertical, is taken almost entirely upon the pairs of rollers or wheels as they pass from the inclined to the horizontal portion of the track. Hence such shafts require to be large and strong to prevent being bent or broken. In my present improvements there are four times as many wheels as buckets, and double chains are provided so as to come at each side of each wheel, whereby the weight of the buckets as drawn up the incline does not act with a leverage to bend the shafts where the wheels support such weight.

In the drawings, Figure 1 is a plan view illustrating the said improvements. Fig. 2 is an elevation. Figs. 3 and 4 are sectional views, and Fig. 5 a plan view representing variations in the manner of hanging the buckets.

The buckets A are of suitable form and dimensions, and these buckets are pivoted at B upon opposite sides of their centers, and the chains C are endless and double-linked at each side of the buckets, and the wheels D are between the links of each chain, and such wheels D run upon the tracks E, and such tracks may be horizontal or inclined more or less, and such tracks may be supported in any suitable manner and the chain moved

along progressively, as illustrated in my patent, No. 425,798, granted April 15, 1890, and the material may be supplied to the buckets in any suitable way, an illustration of which may be found in my patent, No. 442,976.

In an application of like date herewith I have represented the links of the chain as extending from one cross shaft or axle to the other and the pivots of the buckets applied at the centers of such links. The present invention relates especially to the features of construction hereinafter set forth, whereby the links are divided, so that the pivots of the links form the axles of the wheels and the alternate ones come in line with the pivots of the buckets or nearly so.

In carrying out my invention the wheels D are upon the cross-shaft F, between one bucket and the next, and such cross-shaft F also forms the pivots for the links 2 and 3 and axles for the wheels D, the range of links 2 coming outside of the wheels D and the range of links 3 coming inside of such wheels D, and the links are sufficiently short to be united at or near the pivots B, upon which the buckets A swing, and such pivots B are also the axles or in line with the axles of the supporting-wheels D', and it is preferable to unite the links 2 and 3 in each chain by studs or cross bolts or rivets at 4, passing through tubular washers, so that the links are firmly held in their proper relative positions in pairs. It is now to be understood that in consequence of the links being only half the length of either bucket the joints are sufficiently numerous to allow the chain to conform easily to the curvature in the track between a horizontal or nearly horizontal portion and inclined or nearly vertical portion of such track, and the wheels of the endless chain travel upon such track with greater facility, and each bucket is supported directly by its pair of wheels D', thereby lessening the weight and strain upon the cross-shafts F. The pivots for the buckets A may be separate from but in line with the pivots or axles of the wheels D', in order that the buckets may hang vertically without any tendency to swing the buckets by the turning action of the wheels D' as they revolve upon the track.

In Fig. 3 I have represented the axle or pivot B as passing through the links 2 and 3

of the chain, and through the wheel D' and into a pivot-block 7, fastened upon the bucket and provided with keys or cross-pins, so that such axle B will be prevented from rotating, and the wheel D' will be free to rotate around the same, and the pivot-block 7 and bucket will swing freely upon the inner ends of such pivot-pins 6.

In Fig. 4 I have represented the axle 6 as passing through the links 2 and 3 of the chain and through the wheel D' and fastened at its respective ends, and the pivot 9 is provided with a base fastened to one side of the link 3 and projecting through the pivot-block 7 upon the bucket A. In this instance it is important that the links 2 and 3 of the endless chains should be connected together, so as not to be distorted by the weight hanging upon the projecting pivots 9. It will be apparent that the links may be unequal in length, as represented in the plan view, Fig. 5, in which the axis 10 of the wheel D' is not in line with the pivot 11 of the bucket, such pivot of the bucket projecting from the inner side of the inner longer link. In other respects the construction and mode of operation corresponds to the foregoing description.

In my application Serial No. 395,197 I have represented double chains at each side of the buckets, the links being longer than the buckets, so that the axles of the chain-links cross between the buckets.

I claim as my invention—

1. The combination, with the conveyer-buckets and their supporting pivots, wheels, and axles, of two chains, each chain having links that are connected to each other alternately by the axles and by the pivots, forming the pins of the chain, the links having bearings

at both sides of each wheel, substantially as specified.

2. The combination, with the conveyer-buckets and their supporting wheels and axles, of links connecting the respective axles and having bearings at both sides of each wheel, and pivots for the buckets, there being axles between the buckets and axles in line with the pivots of the buckets, substantially as set forth.

3. The combination, with the conveyer-buckets and their supporting wheels and axles, of links connecting the respective axles and having bearings at both sides of each wheel, and pivots separate from the axles, said pivots being in line with each alternate pair of supporting-wheels, substantially as set forth.

4. The combination, with the conveyer-buckets and their supporting wheels and axles, of links connecting the respective axles and having bearings at both sides of each wheel, there being four pairs of links and their wheels for each bucket, and pivots for the buckets separate from the axles and connected with the links of the chain, substantially as set forth.

5. The combination, with the track, the pivotal conveyer-buckets and their supporting wheels and axles, of links connected together in pairs and having bearings at each side of each wheel, the alternate axles extending across between the buckets and the intermediate axles being in line with the pivots of the buckets, substantially as set forth.

Signed by me this 2d day of June, 1891.

CHAS. W. HUNT.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.