No. 637,716. Patented Nov. 21, 1899.

J. M. DODGE.

BUCKET CONVEYER.

(Application filed Dec. 31, 1897.)

(No Model.) 2 Sheets—Sheet 1.

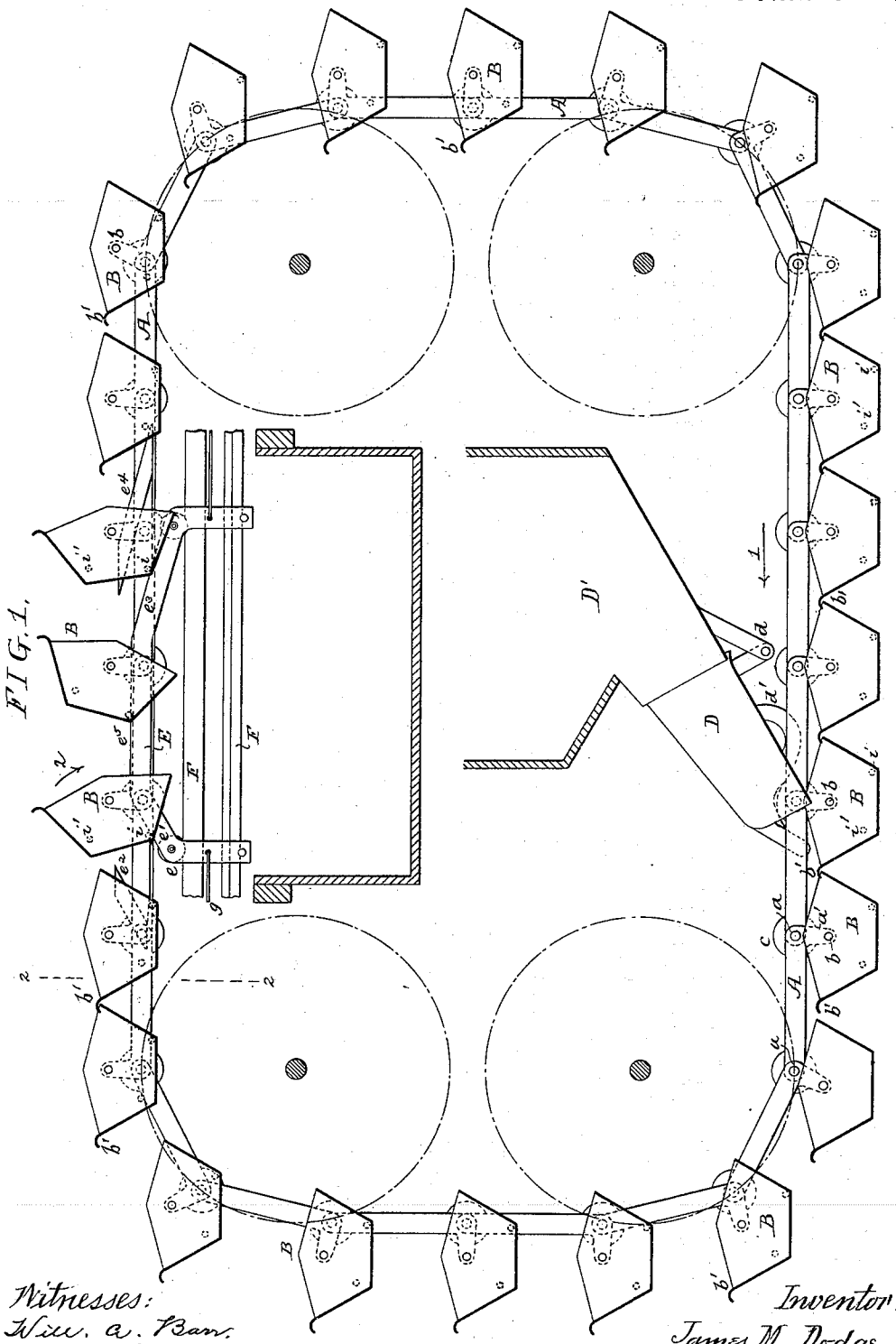


FIG. 1.

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FIG. 4.

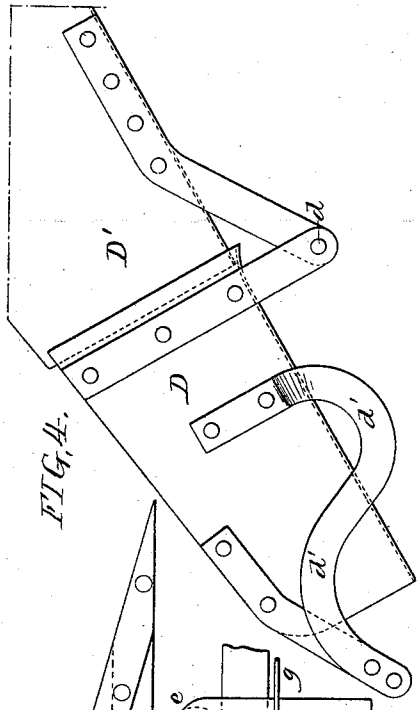


FIG. 3.

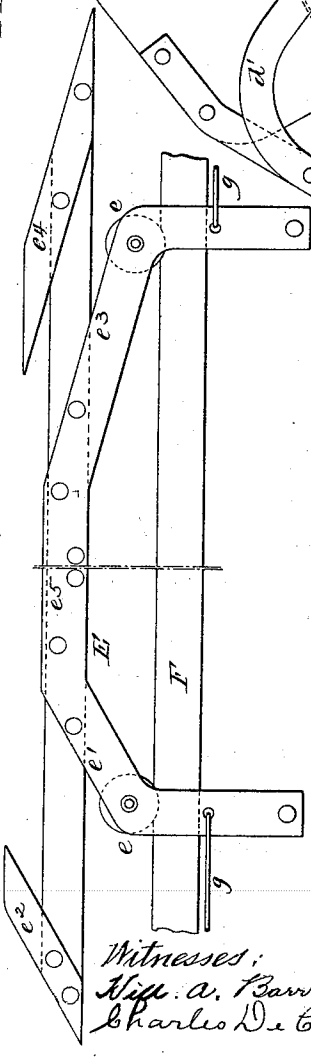


FIG. 5.

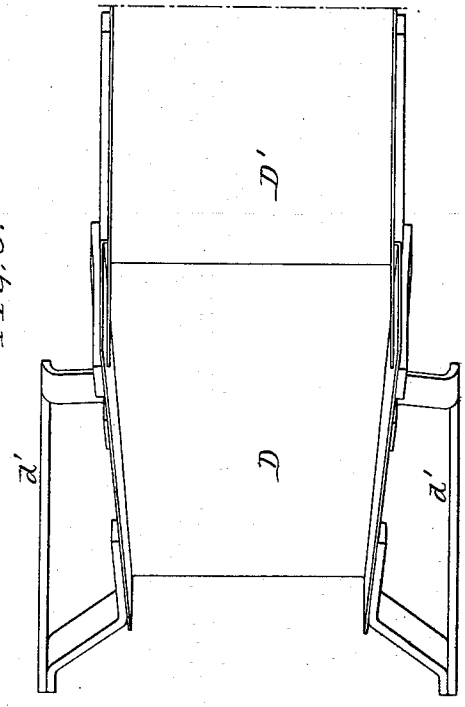
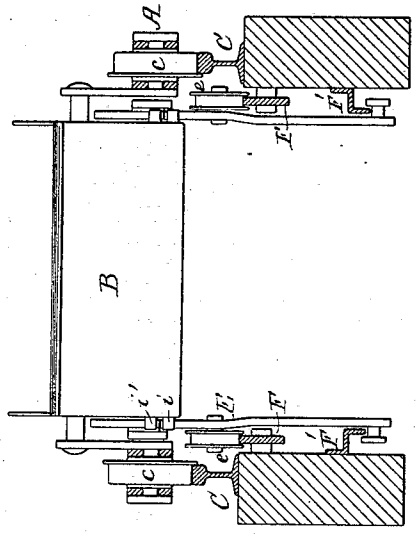


FIG. 2.



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UNITED STATES PATENT OFFICE.

JAMES M. DODGE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE LINK-BELT ENGINEERING COMPANY, OF SAME PLACE.

BUCKET CONVEYER.

SPECIFICATION forming part of Letters Patent No. 637,716, dated November 21, 1899.

Application filed December 31, 1897. Serial No. 664,962. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. DODGE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Bucket Conveyers, of which the following is a specification.

My invention relates to that class of pivoted bucket conveyers in which the buckets are arranged to overlap, so as to prevent the waste of material in charging the buckets.

One object of my invention is to so construct the mechanism that the buckets will draw away from each other as they pass from a horizontal run to a vertical run or pass around a wheel and relap as they assume the position on a horizontal run.

My invention relates, further, to the construction of the feed-chute and also to the discharging apparatus.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved pivoted bucket conveyer. Fig. 2 is a transverse section on the line 2 2, Fig. 1. Fig. 3 is a side view of the discharging mechanism. Fig. 4 is a side view of the feed-chute, and Fig. 5 is a plan view of the feed-chute.

A are the links of an endless chain pivoted at a, and each link has an arm a', projecting, preferably, at right angles to the link, and from this projection is suspended the pivoted bucket B at b. This pivoted bucket has a lip b' at one end, and the buckets are so proportioned in respect to the links that when on either the upper or lower horizontal run the lip of one bucket will overlap the opposite end of an adjoining bucket, as illustrated in the drawings, so that when material is fed from the chute D the overlapping lips of the buckets will prevent the material from escaping between the buckets.

The conveyer moves in the direction of the arrow 1 and the buckets are discharged in the direction of the arrow 2, so that the lip on the upper run is at the rear of the bucket, and thus the bucket can be dumped without interfering with the one following.

It will be noticed that as the chain passes around the curve in going from a horizontal to a vertical run the bucket pivoted to the link is drawn away from the adjoining bucket owing to the fact that it is hung to the link at one side of the center line of the link, in the present instance being pivoted to the arm a'. By this means the buckets will free themselves automatically without complicated mechanism and will again overlap as soon as they return to the horizontal run from a vertical run.

I have shown in the drawings the feed-chute D pivoted at d to the hopper D', and on the feed-chute are curved plates d', which rest upon the wheels c of the conveyer-chain. These wheels are adapted to the rails C C on the horizontal runs, as shown in Fig. 2. By means of the curved plates on the chute D a rising-and-falling motion is given to the chute, so that the material will be intermittently fed to the several buckets as they pass under the chute.

In the present instance the buckets are discharged by means of the device shown in detail in Fig. 3, which consists of a carriage E, having wheels e adapted to the rail F. This carriage is guided by rails F', preventing its lifting off the main rail by the action of the buckets. The carriage has inclined ways e' e^2 e^3 e^4, and on the buckets are projections i i', which come in contact with the inclined ways. The pin i' first strikes the inclined way e^2, tilting the bucket a portion of the distance, and then the pin i strikes the inclined way e', discharging the entire contents of the bucket. This pin i rides upon the surface of the way e^5 until it reaches the inclined way e^3, when the bucket commences to assume its normal position. The projection i' will then strike the way e^4, and the bucket will be guided by it until released therefrom, when it assumes its normal position.

The carriage can be moved along the upper run of the conveyer by means of a rope g, so as to discharge material at any point through the run.

I claim as my invention—

1. The combination in a conveyer, of an endless chain made up of a series of links, arms projecting from the links, buckets pivoted to said arms, each bucket having a lip adapted to overlap the edge of an adjoining bucket, substantially as described.

2. The combination in a pivoted bucket conveyer of a chain, buckets pivoted thereto, a feeding-chute, curved plates on the feed-

ing-chute adapted to engage projections on the conveyer as it passes under the chute, so that the chute will be raised and lowered, substantially as described.

3. The combination in a conveyer of an endless chain, wheels thereon, buckets pivoted to the said chain, a pivoted chute, curved plates on the chute with which the wheels on the conveyer come in contact so that as the buckets pass under the chute, the said chute will be raised and lowered, substantially as and for the purpose set forth.

4. The combination of an endless-chain conveyer, buckets pivoted thereto, a discharge device having inclined ways e' e^2 e^3 and e^4 with pins on the buckets adapted to the inclined ways, substantially as set forth.

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

JAMES M. DODGE.

Witnesses:

CHAS. H. BANNARD,

WILL. A. BARR.