No. 776,980. PATENTED DEC. 6, 1904.

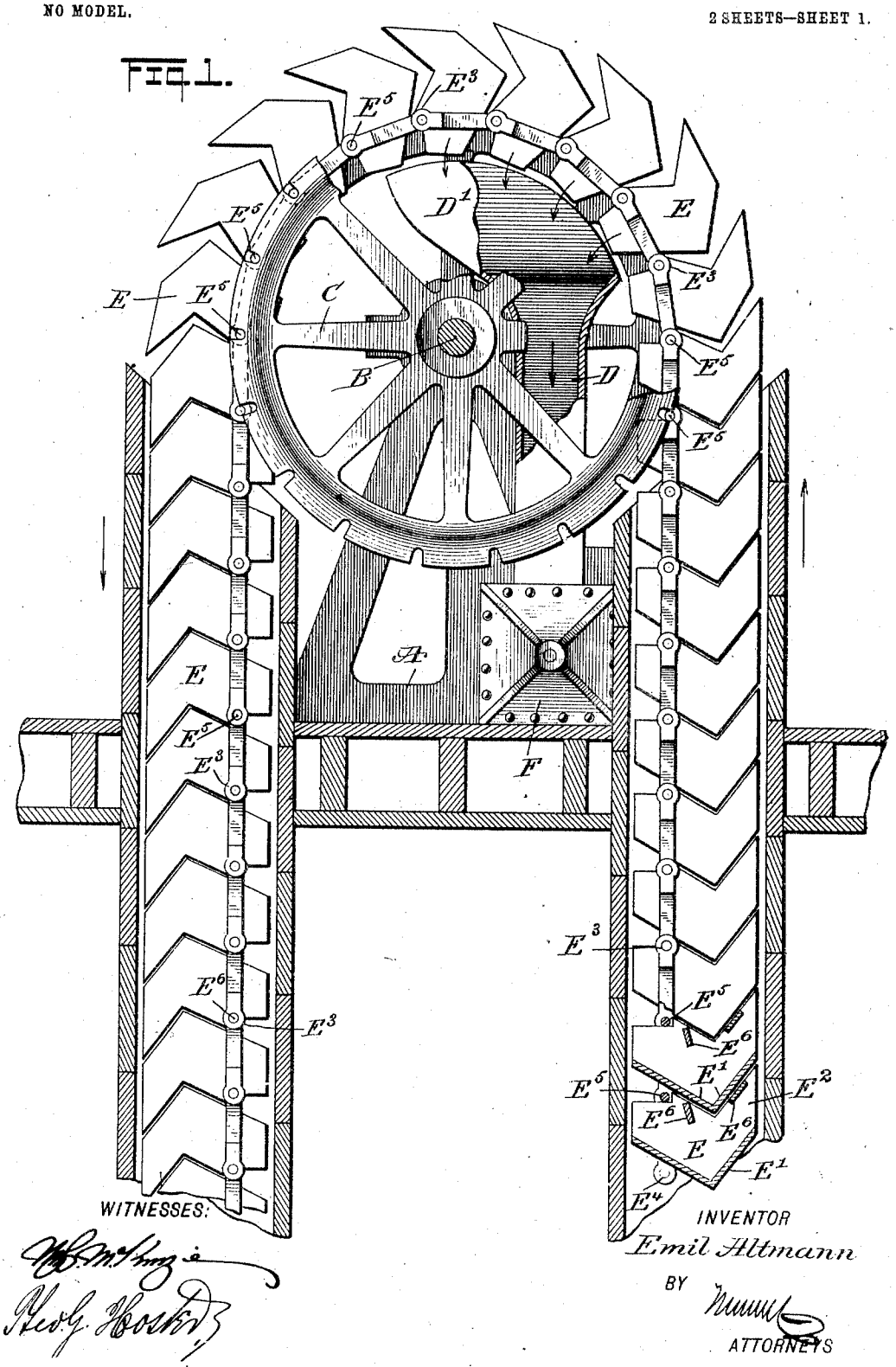
E. ALTMANN.

ELEVATOR.

APPLICATION FILED JAN. 15, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES:

INVENTOR

Emil Altmann

BY

ATTORNEYS

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

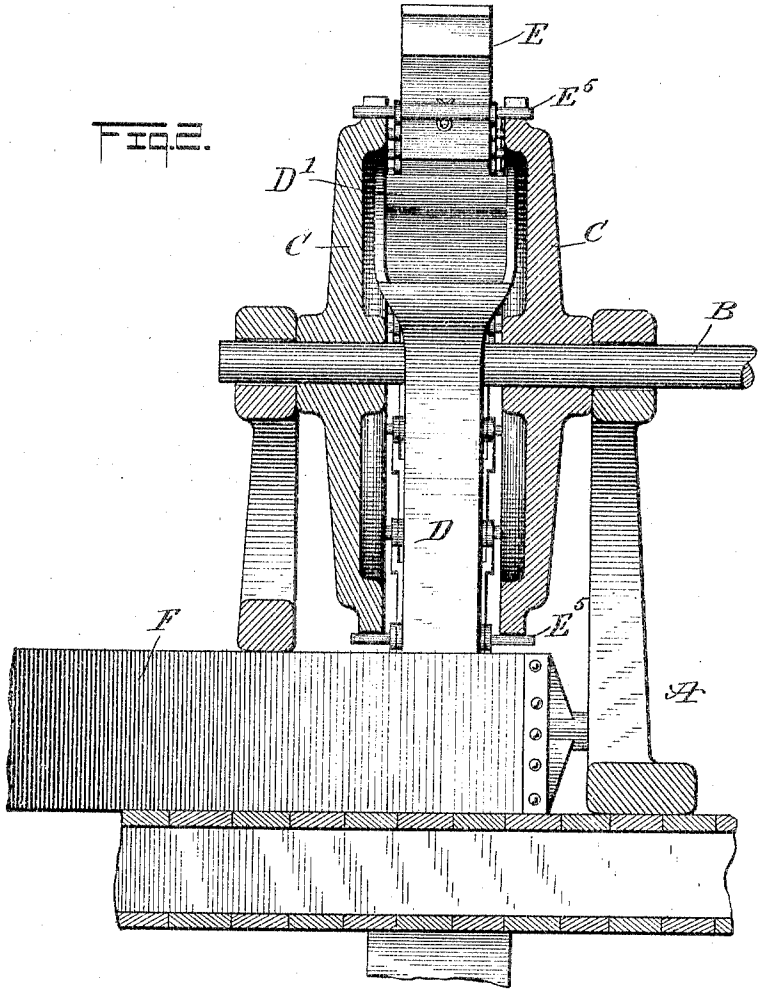
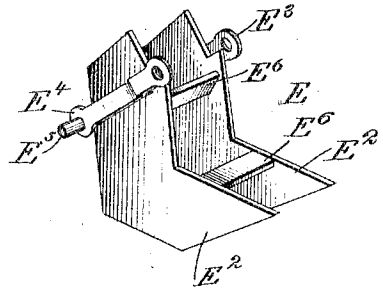


Fig. 3.



WITNESSES:

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No. 776,980. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

EMIL ALTMANN, OF HELENA, MONTANA.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 776,980, dated December 6, 1904.

Application filed January 15, 1904. Serial No. 189,126. (No model.)

To all whom it may concern:

Be it known that I, EMIL ALTMANN, a citizen of the United States, and a resident of Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and Improved Elevator, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved elevator more especially designed for elevating grain and the like and which is simple and durable in construction, very effective in operation, and arranged to take up comparatively little room, to allow of conveying a large amount of material without requiring the running of the elevator at a high rate of speed, thus insuring long life to the elevator.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter, and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement, parts being broken out. Fig. 2 is a transverse section of the same, and Fig. 3 is a perspective view of one of the buckets.

On a suitably-constructed framework A is journaled a shaft B, connected with other machinery for imparting a rotary motion to the said shaft B, and on the latter are secured spaced sprocket-wheels C, between which extends a chute D, having its mouth D′ in close proximity to the inner open ends of elevator-buckets E, passing around the sprocket-wheels, so as to discharge their load into the mouth D′ of the chute D, connected at its lower end with a conveyer F of any approved construction for carrying the material to the side of the elevator.

Each of the buckets E has a V-shaped bottom E′ and sides E^2, the top edges of which are V-shaped for receiving the bottom of the next adjacent bucket to allow of nesting the buckets while on the up or down run, as plainly illustrated in Fig. 1. The sides E^2 of each bucket are provided near the inner ends with top and bottom eyes E^3 and E^4, of which the bottom eyes E^4 of a bucket fit against the eyes E^3 of an adjacent bucket, and the registering eyes E^3 and E^4 of adjacent buckets are connected with each other by a pivot E^5, extending transversely and projecting beyond the eyes E^3 to engage the sprockets on the sprocket-wheels C for the latter to move the buckets around the sprocket-wheels and to cause the buckets to assume such angular position relative to the mouth D′ as to discharge their loads as the buckets pass into an uppermost position. (See Fig. 1.)

By constructing the buckets in the manner described and connecting the same by the pivots E^5 it is evident that an endless bucket-chain is provided in which the buckets nest in both the up and down runs, but in reversed position on the down run, as will be readily understood by reference to Fig. 1.

When the elevator is in operation, the material is contained in the buckets on the up run by having the buckets formed with V-shaped bottoms E′, and when such a loaded bucket reaches the sprocket-wheels C then the two pivots E^5 on each bucket, by engaging corresponding sprockets on the wheels C, cause the corresponding bucket to assume gradually such position that one arm of the V-shaped bucket extends horizontally while the other extends vertically, and when this position is reached the bucket is with its inner end opposite the mouth D′ of the chute D, so that the material in the bucket can begin to discharge into the mouth D′. As the bucket advances the inclination of the bottom increases, so that all the material readily discharges into the mouth D′, which extends somewhat beyond the center line of the sprocket-wheels C to receive all the material that is in the buckets.

From the foregoing it will be seen that but a few parts constitute the endless bucket-chain, as the buckets themselves with the pivots E^5 form the connecting members of the chain, and hence the bucket-chain is not liable to easily get out of order.

In order to strengthen each bucket, suitable

cross-bars E^6 may be employed for connecting the sides E^2 with each other near the top thereof, as plainly indicated in Figs. 1 and 3. By having the buckets open both at the inner and outer sides it is evident that the buckets can be readily charged at the outer sides while on the up run, and the inner open sides allow convenient discharge of the material into the mouth D′ of the chute D, as above explained. As the buckets are nested one in the other, it is evident that a large quantity of grain or other material can be carried by the elevator without running the elevator at a high rate of speed, hence insuring long life to the elevator.

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

1. An elevator having buckets with **V**-shaped bottoms, and sides, the top edges of the sides of each bucket being also **V**-shaped to fit the bottom of the bucket next above it, the inner side of each **V**-shaped bucket having near its inner end eyes above and below its side edges, the upper eyes of each bucket registering with the lower eyes of the bucket next above it, transversely-extending pivots connecting the registering eyes of adjacent buckets with each other to form the buckets into a chain, said pivots projecting beyond the sides of the buckets, the relative position of said upper and lower pivot-points being such as to hold the buckets normally in a horizontal position, spaced sprocket-wheels engaging the projecting ends of the pivots for carrying the bucket-chain around and for causing the buckets to assume a discharge position, and a receiving-chute having its mouth extending between the wheels and into which chute said buckets discharge.

2. An elevator having a bucket-chain formed of buckets with **V**-shaped bottoms and sides, the top edges of the sides of each bucket being also **V**-shaped to receive the bottom of the bucket next above it, said buckets being nested together and held in horizontal position and pivots connecting said buckets together.

3. An elevator-bucket having a bottom **V**-shaped in cross-section, sides **V**-shaped at their lower edges to conform to the bottom, and having **V**-shaped recesses in their upper edges to render the upper edges of the sides parallel with the lower edges thereof, cross-bars at the upper sides of the bucket to brace the same, and pivots for connecting a series of buckets together to form a bucket-chain.

4. An elevator-bucket having a bottom **V**-shaped in cross-section, sides **V**-shaped at their lower edges to conform to the bottom, and having **V**-shaped recesses in their upper edges to render the upper edges of the sides parallel with the lower edges thereof, opposing top and bottom eyes near the inner ends of the bucket, and transverse pivots carried by said eyes and projecting beyond the sides of the bucket.

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

EMIL ALTMANN.

Witnesses:
ANDY U. HOLM,
MALCOLM D. BOARDMAN.