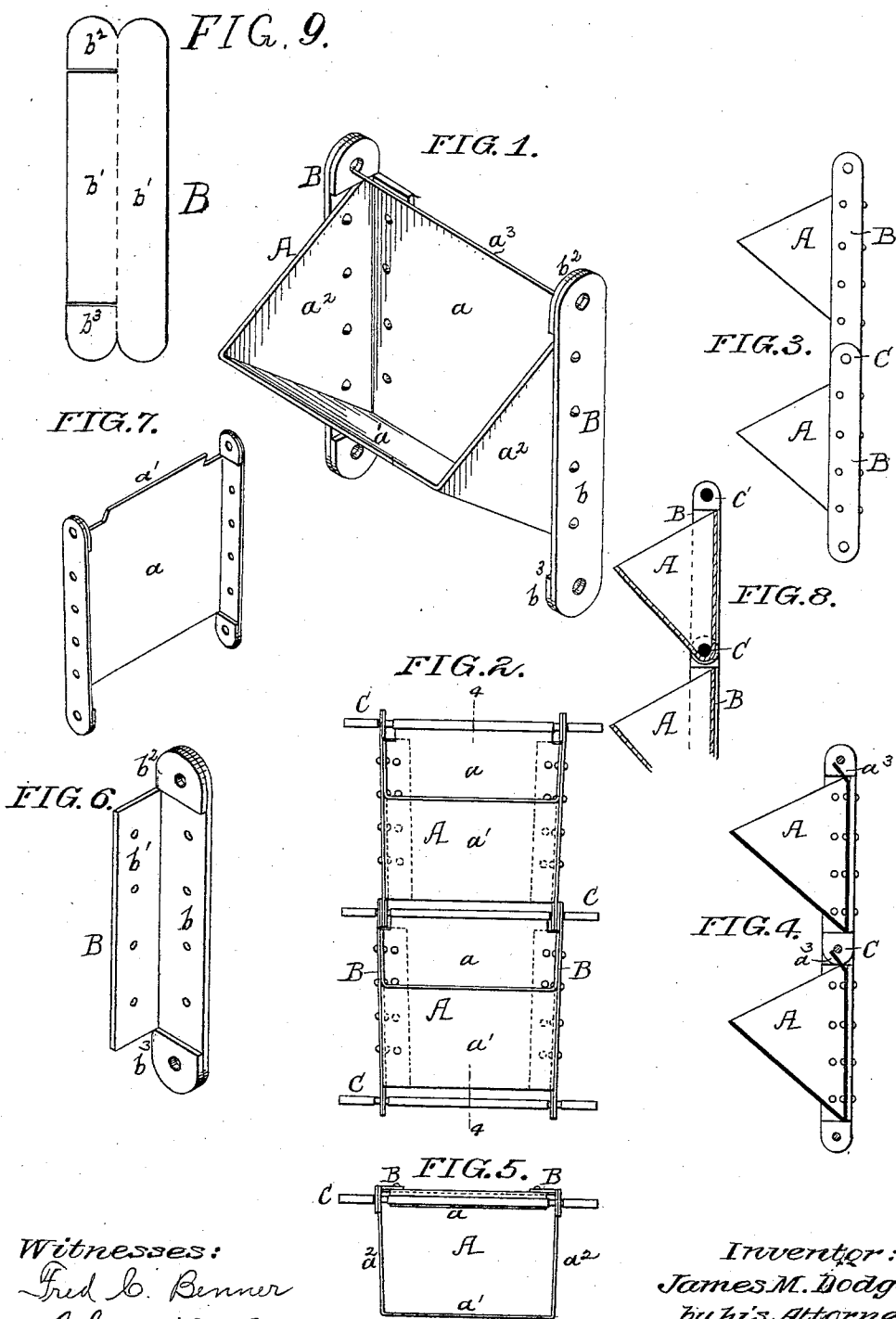


(No Model.)

J. M. DODGE.
BUCKET ELEVATOR.

No. 578,221.

Patented Mar. 2, 1897.



Witnesses:

Fred C. Benner
Chas. De Cou

Inventor:
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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 ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 578,221, dated March 2, 1897.

Application filed September 3, 1895. Serial No. 561,292. (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
5 Improvements in Bucket Elevators, of which the following is a specification.

The object of my invention is to dispense with the chain-links usually employed in the construction of bucket elevators; and this object I attain by coupling the buckets together
10 directly, as fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of one of my
15 improved buckets. Fig. 2 is a front elevation showing two buckets coupled together. Fig. 3 is a side view of Fig. 2. Fig. 4 is a section on the line 4 4, Fig. 2. Fig. 5 is a plan view. Fig. 6 is a detached perspective view of one
20 of the side braces. Figs. 7 and 8 are views of modifications of my invention, and Fig. 9 is a view of one of the side braces before bending.

Heretofore in the manufacture of elevator-buckets it has been customary to build a chain
25 of a series of links and to secure the buckets to certain of these links, the elevator having either a single run of chain or a double run, according to the method of attaching the buckets to the chains.

30 By my invention I dispense entirely with the independent links and couple the buckets directly one to another, as illustrated in the drawings.

A is a bucket, in the present instance having a back wall a , front incline wall a' , and side walls a^2 , but it will be understood that the shape of the buckets may vary without departing from the essential feature of my invention. Secured at the corners formed by
40 the back and side walls are angle-plates B, one at each side. The leaf b of each angle-plate is secured to the side walls a^2 of the bucket by rivets or other fastenings, and the leaf b' of each plate is secured in a like manner to the back wall a . Thus the angle-plates
45 form strengthening members of the bucket.

The plates B extend beyond the bucket both above and below, as indicated in Figs. 1 and 3, and by preference the leaf b' is cut
50 some distance from each end, forming por-

tions b^2 b^3 , which are bent over upon the projecting portion of the leaf b . These end portions of the plate are perforated for the passage of the pivot-bars C, so that the end portions of the plate act as hinge-pintles.

The bars C, as shown clearly in Figs. 2 and 5, are simply sections of plain rods reduced slightly in diameter at the points where the buckets hinge, so as to form shoulders which prevent the bar from being accidentally detached, but this construction may be modified, if desired.

The perforations in the buckets for the pivoted bars are of the same diameter as the main portion of the bars, so that the bars can be
65 slipped in place, and the slight reduction of the bars is not sufficient to interfere with the proper working of the elevator, but will prevent the lateral displacement of the bars.

The back plate of each bucket extends above
70 the top of the bucket, forming a shield a^3 , which prevents the material accumulating between the top of the bucket and the pivot-bar C when the buckets are being discharged.

It will be seen by bending the sections b^2
75 and b^3 onto the portion b of the angle-plate B that I increase the bearing-surface of the buckets and thus extend the life of the pivot-bars without materially increasing the cost of construction.

The pivot-bar may be reduced to form the groove by turning or the groove may be formed by compression, as a very small shoulder is required to prevent the accidental displacement of the pin.

In some instances the extension may be formed directly on the plates of the bucket, and I have shown in Fig. 7 one form where the bearings are simply extensions of the back plate, the plate being cut and bent as indicated.

In some instances the projections may be on one end only of each bucket and the pivot-bar may pass through the projections and through the bucket, as shown in Fig. 8, but
95 I prefer the construction shown in Fig. 1.

I claim as my invention—

1. The combination in an elevator-bucket, of the body, perforated projections at each side and extending above and below the body, 100

said projections being increased in thickness at the perforations, substantially as and for the purpose set forth.

2. The combination in an elevator-bucket, 5 of the body, the angle-plates secured at the corners formed by the back and sides of the body and extending above and below the bucket, substantially as described.

3. The combination in an elevator-bucket, 10 of the body, angle-plates at the corners formed by the back and sides of the body, said angle-plates extending above and below the body, and a portion of the back section on each angle-plate being bent over upon the side portion so as to form a double bearing for the 15 pivot-bars, substantially as described.

4. The combination in a bucket elevator, of the buckets, perforated projections extending above and below the buckets, pivot-bars adapted to pass through the perforations and 20 to secure the buckets together, said pivoted bars being reduced at the bearing-points of the buckets whereby shoulders are formed to prevent the accidental displacement of the bars, substantially as described. 25

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

JAMES M. DODGE.

Witnesses:

WILL. A. BARR,
F. C. BENNER.