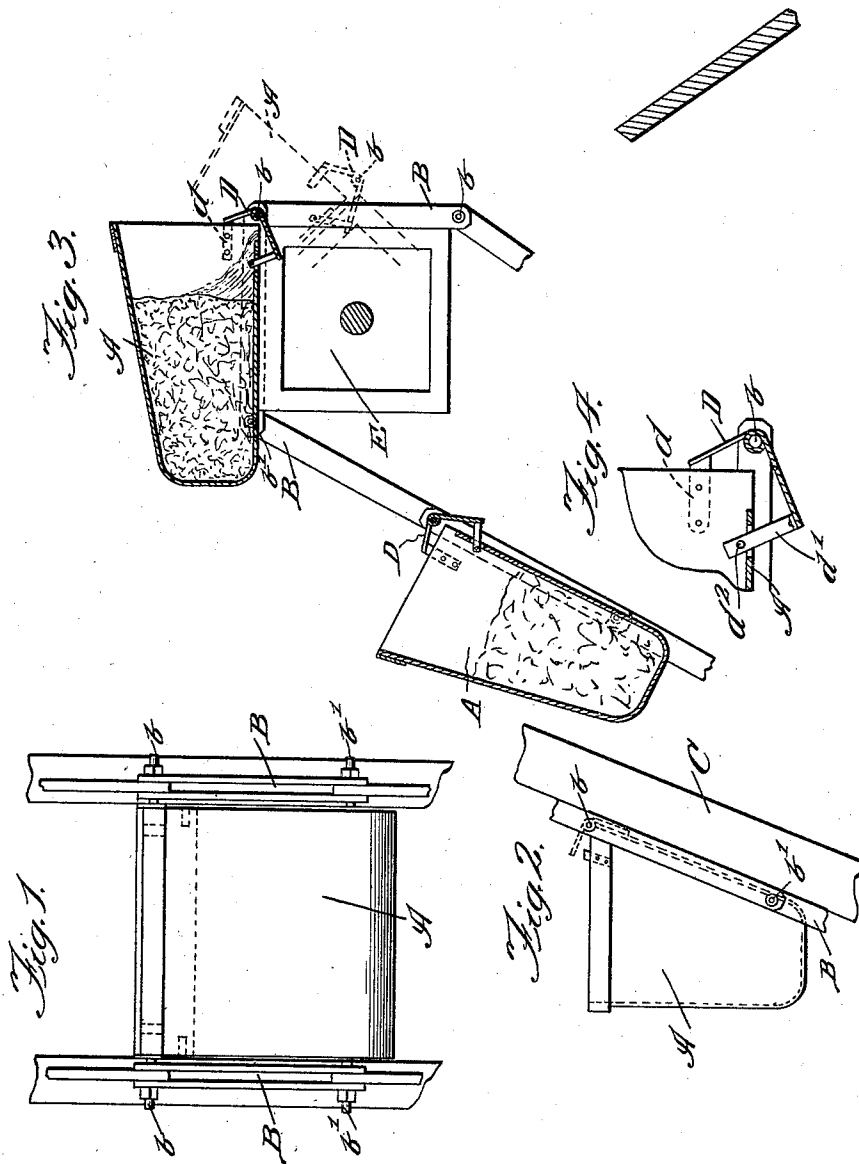


G. N. ST. CLAIR.
ELEVATOR BUCKET DEFLECTOR.
APPLICATION FILED APR. 30, 1910.

1,008,995.

Patented Nov. 14, 1911.

2 SHEETS-SHEET 1.



Witnesses:

Edw. Perry
Albert J. Sauer

Inventor:

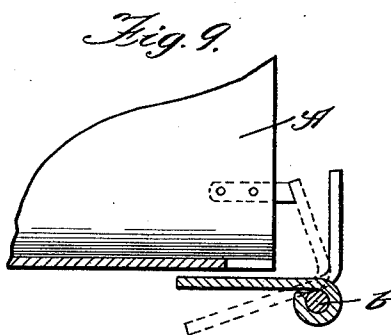
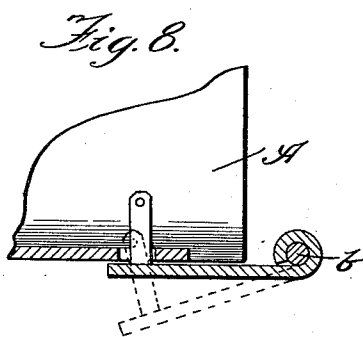
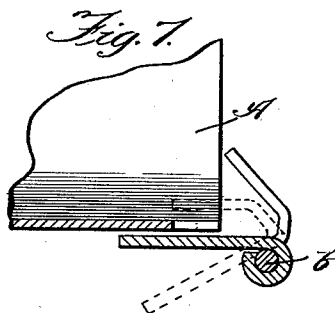
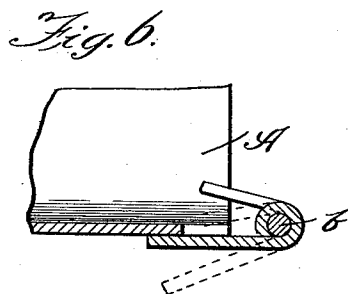
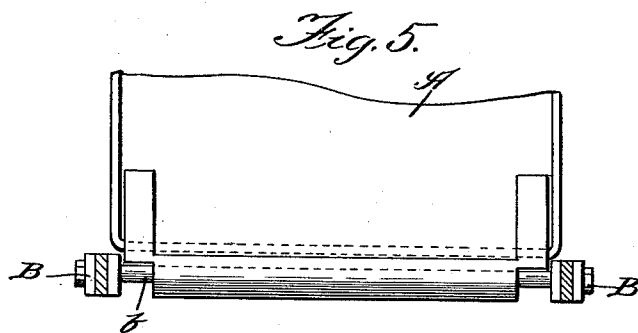
Guy N. St. Clair
By *Bullley, Durand & Drury*
Attys

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2 SHEETS-SHEET 2.



Witnesses:

Edw. D. Perry
Albert J. Lander

Inventor:

Guy N. St. Clair
By Buckley, Durand & Dwyer
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UNITED STATES PATENT OFFICE.

GUY N. ST. CLAIR, OF PANA, ILLINOIS.

ELEVATOR-BUCKET DEFLECTOR.

1,008,995.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed April 30, 1910. Serial No. 558,585.

To all whom it may concern:

Be it known that I, GUY N. ST. CLAIR, a citizen of the United States of America, and resident of Pana, Christian county, Illinois, have invented a certain new and useful Improvement in Elevator-Bucket Deflectors, of which the following is a specification.

My invention relates to elevators or conveyers in general, but more particularly to elevators which employ buckets on endless traveling chains, and especially to elevators of the kind which are used where water is liable to be present, more or less, with the material which is being handled by the elevator.

Broadly considered, the object of my invention is to provide means for automatically separating the water from the load at each discharge of a bucket during the operation of an elevator of this general character.

A special object of my invention is to provide a deflector for the buckets of an elevator of this character, in any suitable manner, such as one for each bucket, or the equivalent thereof, whereby the water will be dumped first from each bucket, being deflected back into the elevator chute, and whereby the material will then be dumped in a practically dry condition, whereas formerly the water and material were dumped together into a chute or bin.

To these and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings—Figure 1 is a front elevation of a bucket and adjacent portions of the elevator chains, showing the bucket equipped with a deflector embodying the principles of my invention. Fig. 2 is a side elevation of the parts and devices shown in Fig. 1. Fig. 3 is a sectional view illustrating the manner in which the deflector operates at the time the bucket passes around the head drum of the elevator. Fig. 4 is an enlarged detail view of the deflector shown in Fig. 3. Fig. 5 is a front elevation of Fig. 7. Figs. 6, 7, 8 and 9 are enlarged detail views, similar to Fig. 4, but showing different forms of my invention.

As shown in Figs. 1 to 4, inclusive, the bucket A is of the usual shape and construction and is mounted on the chains B which travel on the elevator chute C. The chains are connected by pivot rods *b* and *b'* to which the said bucket is attached. The

deflector D is a piece of sheet metal bent at right angles and mounted at its elbow upon the rod *b*. Stops *d* on the bucket engage the upper part of the deflector when it tilts to the position shown in Figs. 3 and 4. The lower portion of the deflector D has the portions *d'* that work in openings in the wall of the bucket and are provided with pins *d''* that limit the tilting motion. The chains B travel over the head drum or tumbling head E, and when the bucket arrives at the position shown in Fig. 3 the deflector drops down and deflects the water back into the chute C. At this time the back wall of the bucket extends horizontally above the deflector and at an angle thereto. The water, of course, is at the top of the bucket, and the heavier material, such as coal, is at the bottom. Hence the water escapes first, and by the time the material has started to move, the bucket is farther over and in position to dump the load onto a chute or into a bin. This is shown in dotted lines in Fig. 3, and in this position the deflector cannot interfere with the dumping operation. The deflector can only operate when the bucket first reaches the position shown in full lines in Fig. 3, at which time it directs the water in one direction; and when the bucket moves on, the load is then dumped in another direction.

The deflector may be of any suitable shape or construction, Figs. 5 to 9 showing other different forms.

So far as I am now aware, I am the first to provide a bucket elevator with means whereby the water will be dumped first and in one direction and the load afterward and in another direction. I do not, therefore, limit myself to the construction shown and described.

What I claim as my invention is:

1. In an elevator, a traveling bucket, and a pivoted deflector at the mouth thereof, which deflector is adapted to separate the water from the load.

2. In an elevator, a traveling bucket, and means on said bucket, mounted at the mouth of the bucket, adapted to travel therewith, for effecting a separation of the water from the load in dumping, whereby the load falls one way and the water another.

3. In an elevator, a traveling bucket, and a deflector at the mouth of said bucket, said deflector disposed in position to throw the water back under the bucket, when the latter

is tilted to a horizontal position, and to allow the load to pass over and forward, when the bucket moves farther over and turns upside down.

5 4. A tilting receptacle, and a deflector carried at the mouth of said receptacle, said deflector disposed in position to deflect the water away from the path of discharge of the load.

10 5. In an elevator, a traveling bucket, means for upsetting the bucket to discharge the load, and a plate which, when the bucket is upset, is in position to deflect the water away from the path of the falling
15 load.

6. In an elevator, a traveling bucket having an inner wall, means for upsetting the bucket to discharge the load, and a plate
20 tion to deflect the water away from the path

of the falling load, said plate being secured to the bucket at the mouth thereof, and said means being adapted to bring said wall into a position above and at an angle to said plate.

25 7. In an elevator, a traveling bucket, a tumbling head for upsetting the bucket to discharge the load, a plate which, when the bucket is upset, is in position to deflect the water away from the path of the falling
30 load, and an endless member upon which the bucket is mounted, whereby the bucket travels around in one direction only.

Signed by me at Pana, Illinois, this second day of April 1910.

GUY N. ST. CLAIR.

Witnesses:

C. P. BALDWIN,
G. L. BALDWIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."