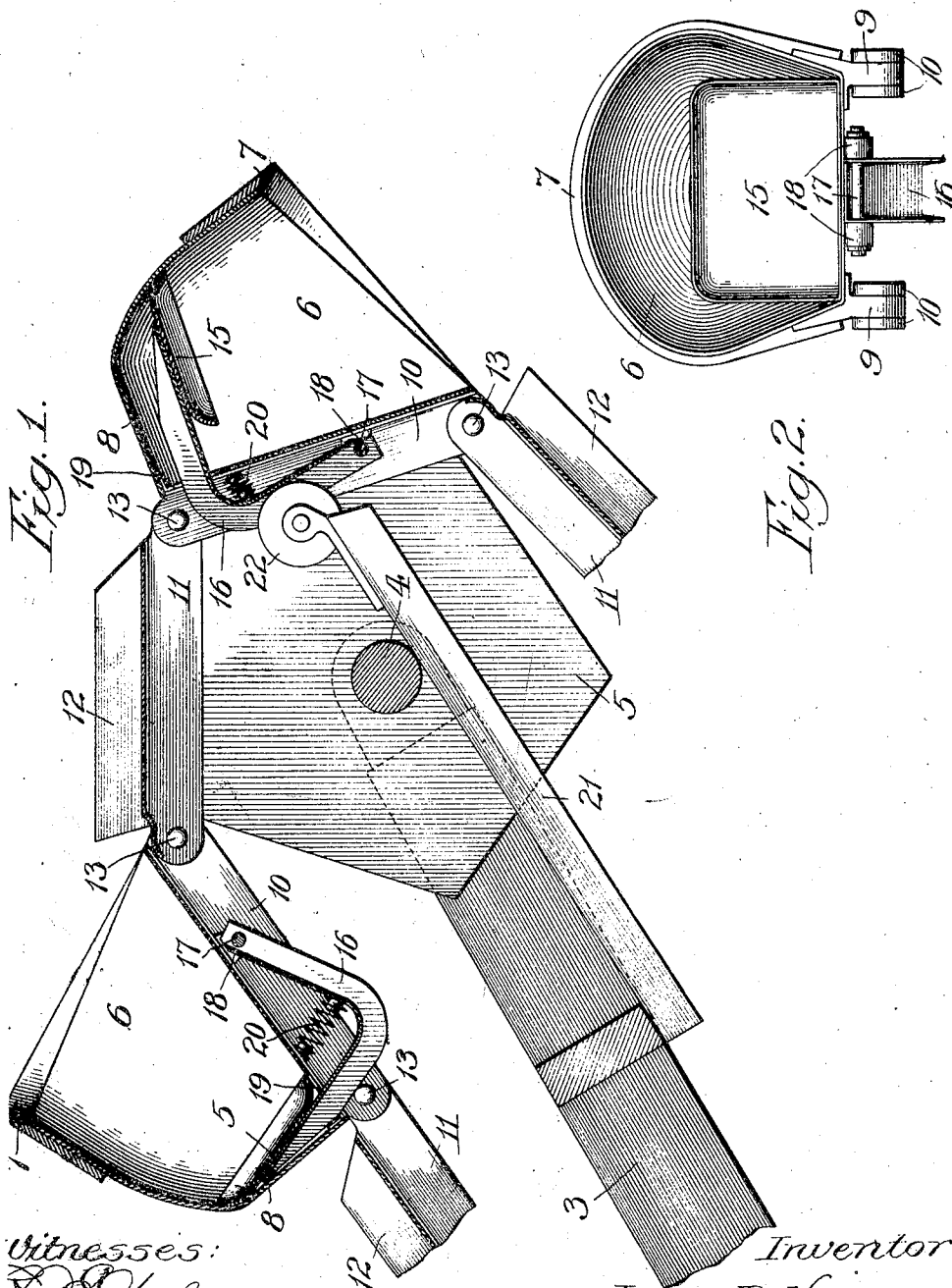


No. 857,396.

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I. B. HAMMOND.
DREDGE BUCKET.

APPLICATION FILED FEB. 12, 1907.



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ISAAC B. HAMMOND, OF PORTLAND, OREGON.

DREDGE-BUCKET.

No. 857,396.

Specification of Letters Patent.

Patented June 18, 1907.

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To all whom it may concern:

Be it known that I, ISAAC B. HAMMOND, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Dredge-Buckets, of which the following is a specification.

My invention relates to improvement in the construction of dredge buckets of the type which in practice are mounted in an endless chain to travel longitudinally about a dredge ladder and dig as they near the end of their outward course and dump their contents at the end of their inward course.

Much difficulty has been experienced hitherto in the operation of dredges of this class, when digging clay or material of a clayey nature, on account of the failure of the buckets to discharge their contents.

The sticky nature of the material often causes it to adhere so tenaciously to the inner surfaces of the buckets that it will not free itself by its own weight when the buckets are overturned. My object is to overcome this difficulty by providing the buckets of a construction which renders them self-cleaning as they upset in passing over the end of the dredge ladder.

In the accompanying drawing I have shown only enough of a dredge of the well known traveling bucket type to illustrate the preferred construction and mode of operation of my improved self-cleaning bucket.

Referring to the drawing: Figure 1 is a broken longitudinal section of the upper, pivoted end-portion of a swinging dredge-ladder, with my improvements applied thereto; and Fig. 2 a plan view of my improved bucket.

In practice, the ladder-frame 3 may be pivoted at its upper end upon a drive-shaft 4, which is journaled in the main frame, not shown, of the dredge, and carries a pair of similar chain-driving tumblers 5, all the parts mentioned being of well known construction. Each bucket 6 is of outwardly flaring shape reinforced with a cutting-edge plate 7 and having a base or bottom 8. Extending approximately the full length of each bucket and firmly secured thereto are parallel backward extending lugs 9 held between companion links 10 of parallel endless chains. The links 10 are pivotally connected at their opposite ends by means of pins 13 to similar

links 11 carrying flanged plates or overflow trays 12, as shown. In each bucket is a plunger or false-bottom 15 on the end of a curved channel bar or lever 16. The lever at its opposite end is pivoted upon a pin 17 passing through bearing ears 18 on the back of the bucket; and between its ends the lever passes through a slot or opening 19 in the back of the bucket near the base. A spring 20 confined between the lever and back of the bucket tends normally to press the lever outward, at its curved portion, and thus force the plunger or false-bottom 15 against the base 8. Mounted on a central extension 21 of the ladder is a roller 22 forming a shoulder in the path of the levers 16 to engage and swing them against the resistance of their springs as the buckets are upset in passing over the tumblers.

In operation, as a bucket with its contents moves around the discharge end, of the ladder shown, contact of a lever 16 with the roller 22 causes the lever to be swung on its pivot, as stated, and force the plunger or false-bottom 15 in the direction of the mouth of the bucket. This causes the contents to be forced bodily outward, against the resistance of any tendency it may have to adhere to the flaring surfaces of the bucket. But slight movement of the plunger is necessary to so loosen a mass of sticky clay that it will fall bodily from the bucket and leave the latter clean.

If desired the spring 20 may be dispensed with, because in the digging operation the material entering the bucket will naturally tend to seat the false bottom.

What I claim as new and desire to secure by Letters Patent is:—

1. In a dredge, the combination with a traveling bucket formed with an outwardly flaring surrounding wall, of a bodily-movable, bucket-contents loosening, plunger in the base-portion of the bucket surrounded by said wall, an actuating lever for the plunger carried by the bucket, and a shoulder in the path of travel of the lever, for the purpose set forth.

2. In a dredge, the combination with a traveling bucket formed with a bottom and an outwardly flaring surrounding wall, of a bodily-movable bucket-contents loosening, plunger in the base-portion of the bucket surrounded by said wall, an actuating lever for

the plunger carried by the bucket, and a shoulder in the path of travel of the lever, for the purpose set forth.

3. In a dredge, the combination of a
5 dredge bucket, movable spring-retained dis-
charging-mechanism extending into the base
portion of the bucket, means for moving the
bucket to its discharging position, and actuat-
ing means for said discharging-mechanism
10 in the path of movement thereof.

4. In combination, a traveling and upset-
ting dredge-bucket, having an outwardly
flaring surrounding wall, a movable plunger
in the base of the bucket, surrounded by said
15 wall, a curved lever pivoted at one end to one
side of the bucket outside the same and oper-
atively connected at its opposite end with the

plunger, and a shoulder in the path of the
curved portion of the lever, substantially as
and for the purpose set forth.

5. In combination, a traveling and upset-
ting dredge-bucket, a movable plunger in the
base of the bucket, a curved lever pivoted at
one end to one side of the bucket and opera-
tively connected at its opposite end with the
25 plunger, a spring confined between the lever
and side of the bucket, and a shoulder in the
path of the curved portion of the lever, all
constructed to operate substantially as and
for the purpose set forth.

ISAAC B. HAMMOND.

In presence of:

J. W. DYRENFORTH,

II. E. COWGILL.