

J. E. Whittemore,

Water Wheel,

N^o 10,299.

Patented Dec. 6, 1853.

Fig. 2.

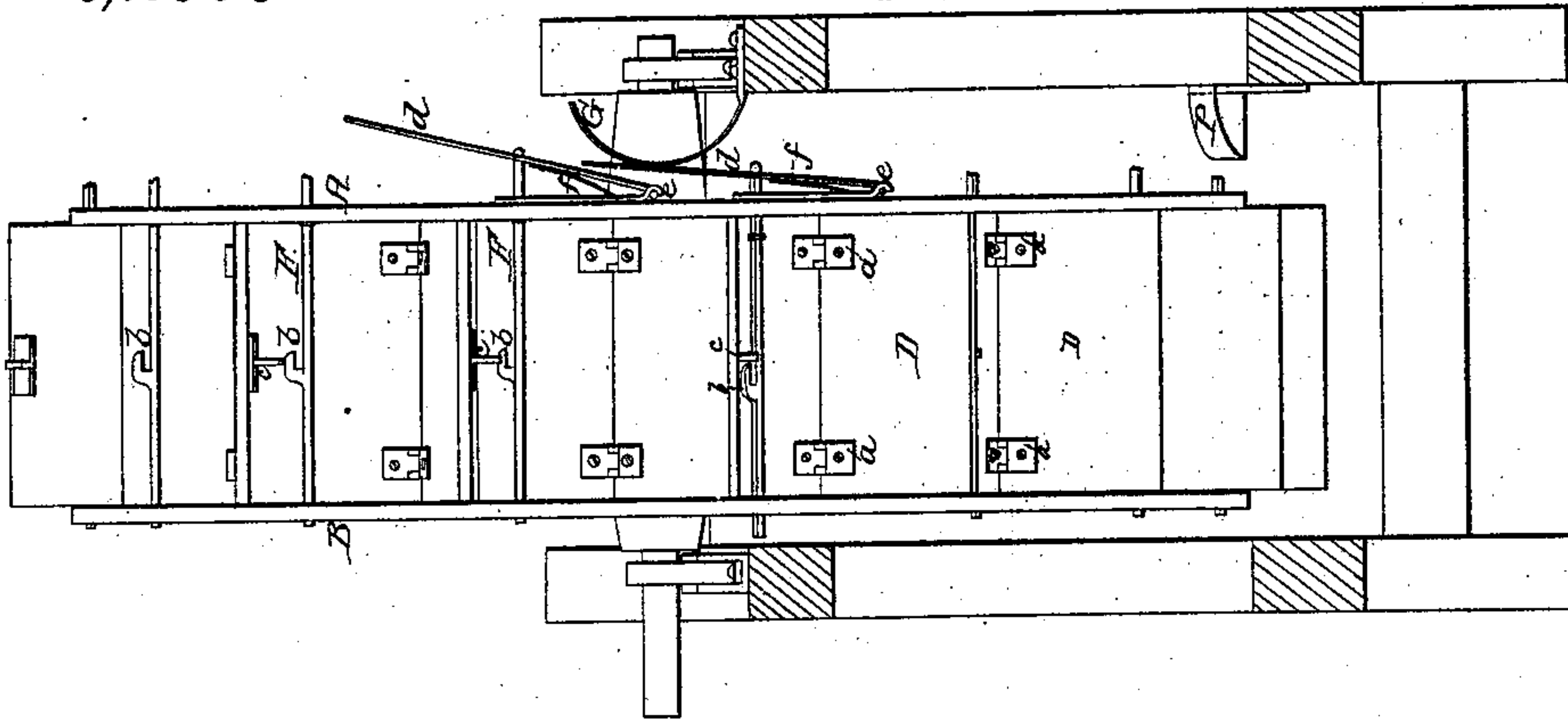
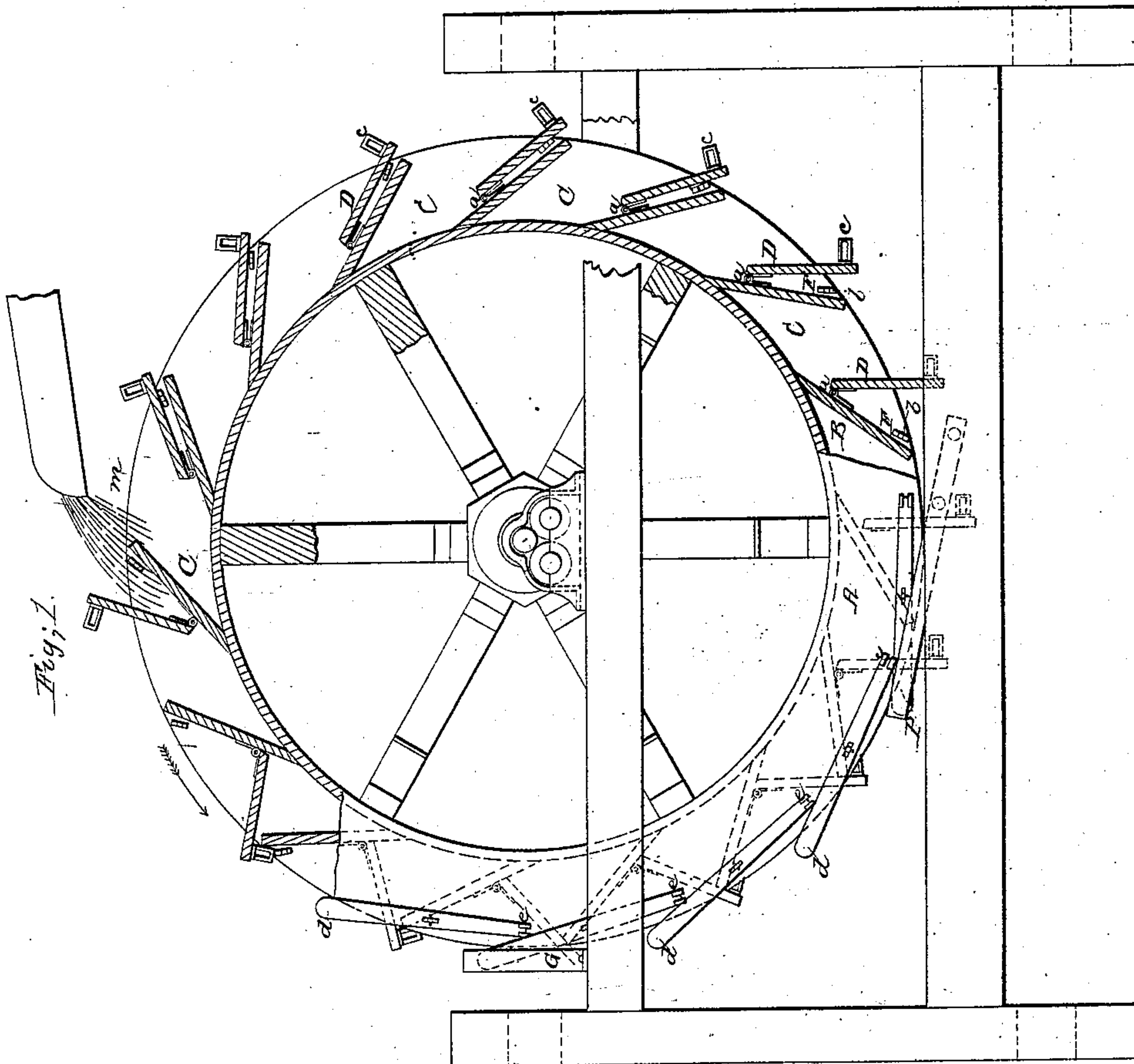


Fig. 1.



UNITED STATES PATENT OFFICE.

JOHN E. WHITEMORE, OF JOLIET, ILLINOIS.

OVERSHOT WATER-WHEEL.

Specification of Letters Patent No. 10,299, dated December 6, 1853.

To all whom it may concern:

Be it known that I, JOHN E. WHITEMORE, of Joliet, in the county of Will and State of Illinois, have invented a new and useful
5 Improvement in Overshot Water-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings,
10 forming part of this specification, in which—

Figure 1 is a side elevation of the wheel, having a portion of the shrouding removed to show the construction of the buckets.
15 Fig. 2 is a front elevation of the same showing the operation of the levers on the face of the wheel upon the bolt rods.

Similar letters of reference in the several figures refer to the same part of the machine.
20

My invention relates to an improvement in overshot water wheels, and consists in so constructing the buckets, that after receiving the impulsion of the water they are
25 closed by its action, and the covers fastened down by means of springs and levers on the face of the wheel, which latter by striking an exterior cam, throw forward the bolt rods connected with them, permitting the
30 catches of the covers to descend, when the spring beneath the lever draws the bolt into the catch and secures the cover; thus confining the water, and allowing its weight to act until the bottom of the wheel is
35 reached, when another cam striking the lever attached to the bolt rod, releases the catch from the bolt and permits the confined water to throw open the door, and fall from the wheel, contributing by its reactive
40 power on leaving the bucket to the propulsion of the wheel; the cover hanging loose during the remainder of its revolution, and presenting an open bucket to the action of the water when by the revolution of the
45 wheel it comes under the stream.

In the drawing A and B are the shrouds of the wheel, between which are the buckets C constructed as shown in Fig. 1, and having each the cover D movable about the
50 hinges *a*, and secured when down by the bolts *b* and catches *c*. The bolt rods F are

attached to the levers *d* on the face of the wheel, movable about the fulcrum *e* and pressed out by the springs *f*, so that the natural tendency of the bolts is to secure the
55 covers.

The operation of my improved wheel is as follows: The buckets when they first come under the influence of the water and receive the percussion, are open as seen at
60 *m* Fig. 1: as the bucket advances the water strikes the edge of the cover D and revolves it about the hinges *a*, closing the bucket; the upper surface of the cover then receives the impulsion while the water contained in the
65 bucket acts by its weight. As the wheel revolves the extremity of the lever *d* presses against the cam G, pushing forward the bar F and permitting the catch *c* to descend its full extent, so that the bolt *b* shoots into
70 it by the action of the spring *f* when the cam G is passed and the pressure on the lever *d* removed. The bucket continues locked, allowing the water to act by its weight, until the lever *d* reaches the lower
75 cam P, which pushing back the bar F as before, releases the bolt *b* from the catch *c* allowing the water confined in the bucket to throw open the door D and fall from the wheel, assisting by its reaction the rotation
80 of the wheel. The bucket thus opened, continues so during the remainder of the revolution, when it is again acted upon as above described. This arrangement causes the water received in the buckets, to act by its
85 weight to favor the rotation as long as it can be effectual, when by removing the bolt and allowing its escape its reaction on leaving contributes in a great degree to that end: thus forming a wheel by which the
90 water is made to expend its whole power in contributing to the desired result; acting first by percussion, then by its weight to the latest moment when it can be effective and finally by reaction on leaving the bucket,
95 thus combining advantages which require no enumeration to be appreciated.

What I claim as my invention and desire to secure by Letters Patent, is—

The construction of the buckets with the
100 covers D, operating substantially in the manner and for the purposes specified;

also, the levers *d*, springs *f*, and bolt rods
F as described, in combination with the cams
G and P or their equivalents, for closing
and opening the buckets substantially in
the manner and for the purposes herein
fully set forth.

In testimony whereof, I have hereunto

signed my name before two subscribing wit-
nesses.

JOHN E. WHITEMORE.

Witnesses:

GEO. PATTEN,
JNO. OBER.