

(No Model.)

J. L. SEAVEY & J. N. GOODALL.

ELEVATOR CUP OR BUCKET.

No. 347,963.

Patented Aug. 24, 1886.

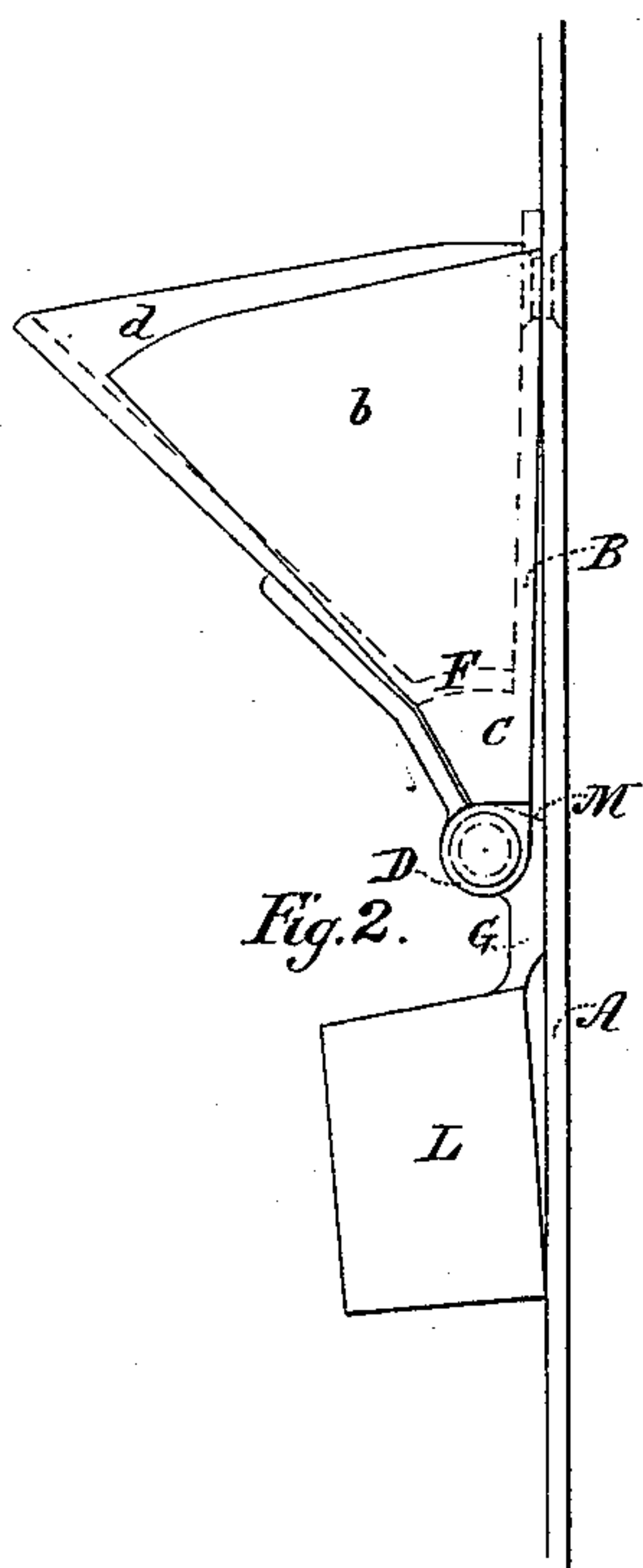
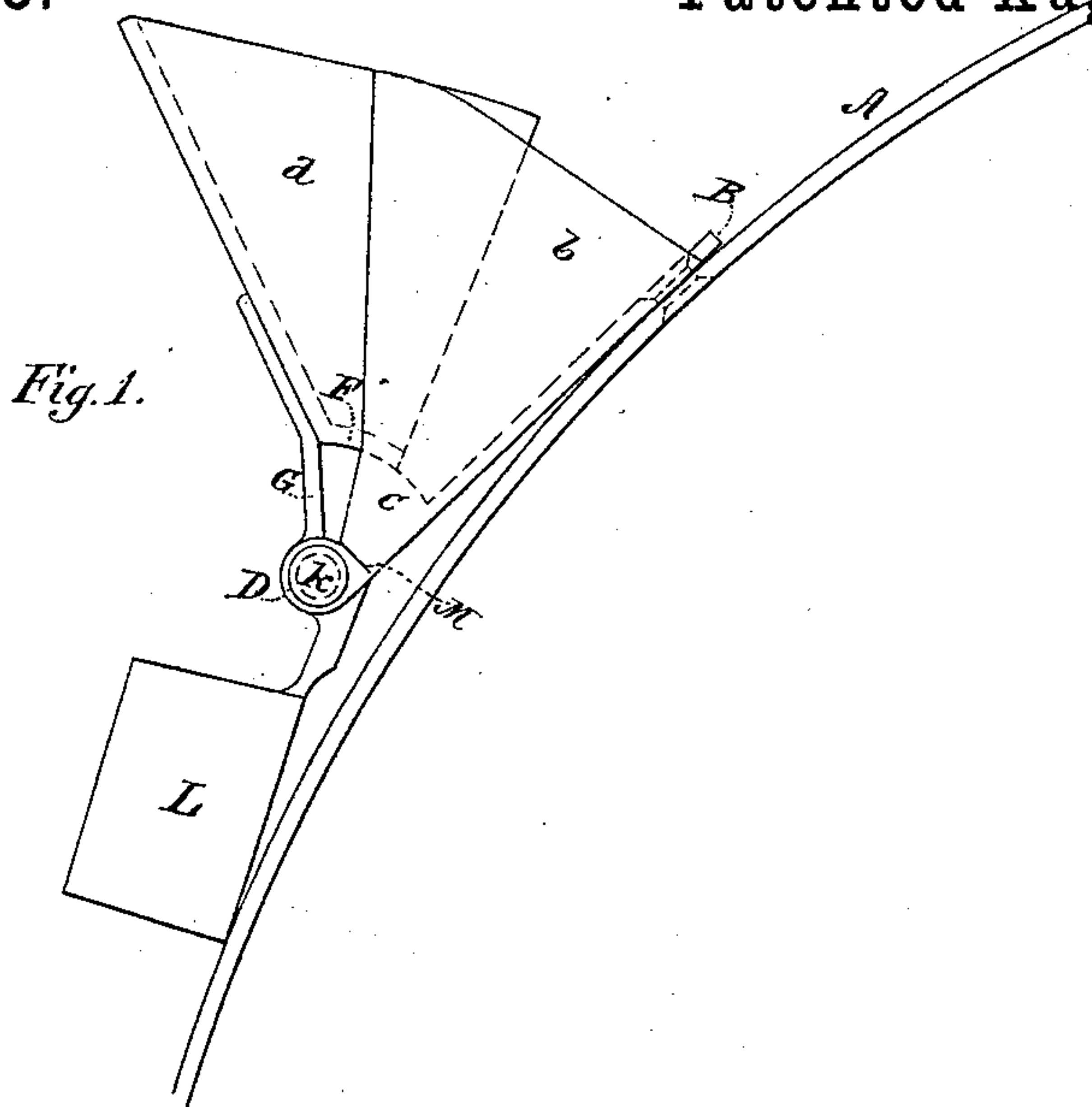
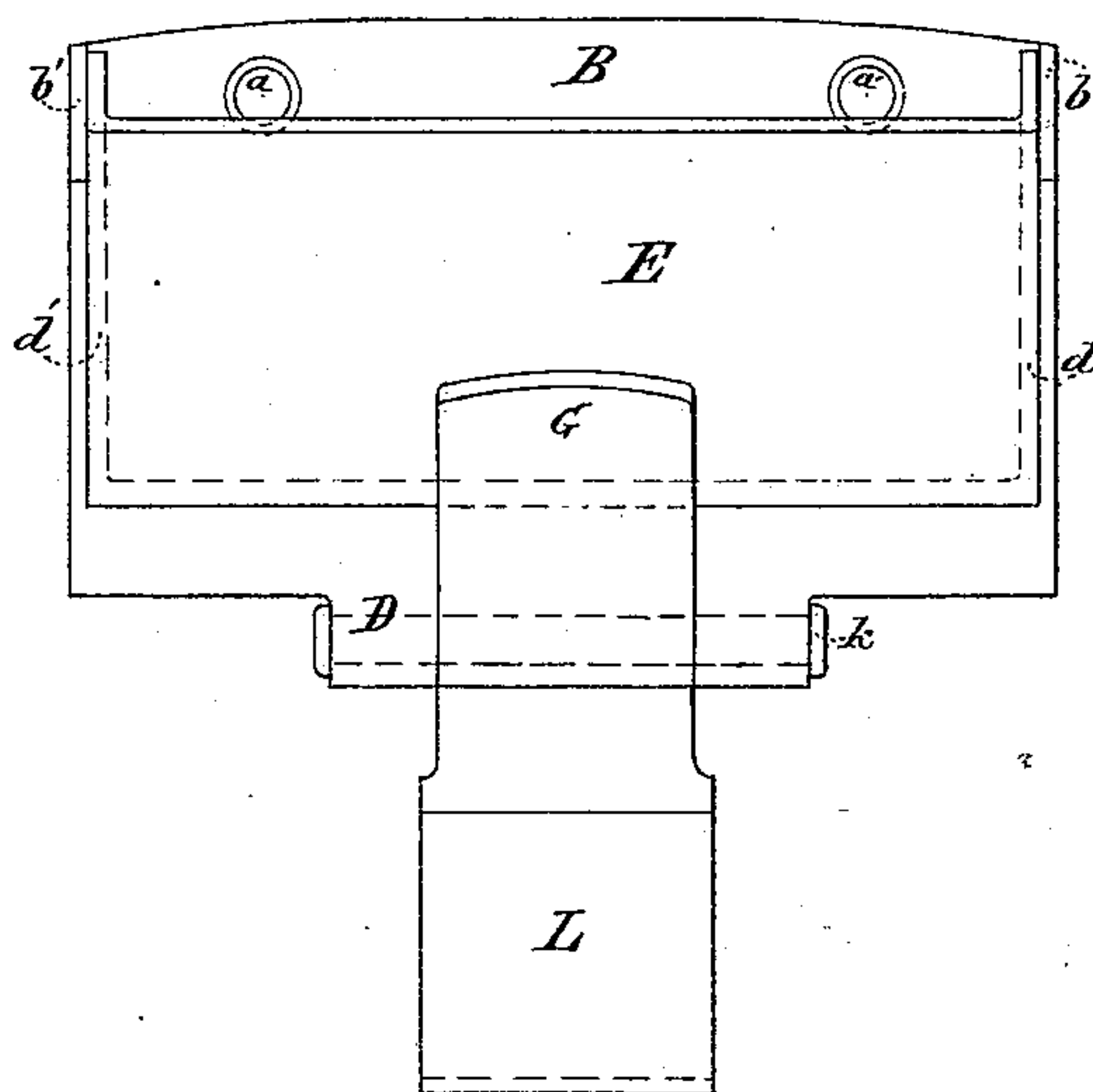


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN L. SEAVEY AND JOHN N. GOODALL, OF GREENLAND, NEW HAMPSHIRE.

ELEVATOR CUP OR BUCKET.

SPECIFICATION forming part of Letters Patent No. 347,963, dated August 24, 1886.

Application filed March 20, 1886. Serial No. 195,954. (No model.)

To all whom it may concern:

Be it known that we, JOHN L. SEAVEY and JOHN N. GOODALL, both citizens of the United States, and both residing at Greenland, in the county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Elevator Cups or Buckets, for use on endless belts in grain, flour, corn, and meal elevators in mills, elevators, and store-houses; and we do hereby declare that the following is a true and complete specification thereof.

In using elevator-cups attached to an endless belt moving on pulleys, for elevating meal, grain, and flour, it has been found heretofore that the sticking or adhering of the grain, meal, or flour to the sides, ends, or bottoms of the buckets was a serious inconvenience, causing buckets to clog and foul, and preventing them from carrying or containing a full load of grain or meal or flour, and necessitating frequent cleaning of the buckets, and suspension of operations to enable such cleaning to be done.

The object we have sought to accomplish by our invention is the construction of a cup for elevating grain, meal, or flour which will not permit the adhering or sticking of grain, flour, or meal to its bottom or sides, but which will always be clean, and always will carry its full load when attached to an endless belt and used for the purposes before stated. We attain this object by constructing an elevator-bucket of any suitable material, as shown and described in the accompanying drawings, in which—

Figure 1 represents a side view of the elevator-cup attached to an endless belt and nearly open as it is about to pass over the top pulley to be dumped. Fig. 2 represents a side view of the cup when attached to the belt and closed to receive its load. Fig. 3 represents a front vertical view of the bucket when detached from the belt.

Similar letters refer to similar parts throughout the several views.

The terms "cup" and "bucket" are used as synonymous throughout the application, specification, and claims.

The back section, B, of the bucket rests on and is firmly attached to the belt A by rivets passing through the rivet-holes $a\ a'$, and has an outstanding flange or lip, C, at the bottom,

and triangular sides $b\ b'$, of the same height as the back section, B. Underneath said flange C, and attached to the bottom of said back section, B, and running parallel with said back section, B, is a hinge, D, with aperture for a hinge-bolt to pass through. Said back section, B, when attached to the belt, is rigid and does not move.

The front end of our elevator-bucket has the front section, E, sloping inward at an angle of about forty-five degrees, with triangular sides $d\ d'$, of the same height as the end E. The front end, E, should be of the same, or very nearly the same, height as the back section, B. The end E is to be and is made enough shorter than the end B to allow the sides $d\ d'$ of said end E to move closely against the inner faces of the sides $b\ b'$ of the end B, as shown in Figs. 1 and 2. When the cup is closed, as in Fig. 2, for receiving meal, grain, or flour, the front edge faces of the sides $d\ d'$ of the end E will touch the front face of the end B. These sides $d\ d'$ must be made of such dimensions that when the bucket is open, as in Fig. 1, they will be partly inclosed or hugged by the sides $b\ b'$ of the back section, B, thus preventing the escape of any flour or meal or grain at the sides.

The front section, E, has at its bottom, as shown in Figs. 1 and 2, an inwardly-projecting curved flange or lip, F, with a sharp edge, which said flange F moves closely over and upon the flange C of the back section, B, as shown in Fig. 1, when the bucket opens and shuts, but never moving wholly off said flange C, for should it do so a portion of the contents of the cup would escape at the opening thus made in the bottom of the cup. The action of this flange F prevents any accumulation of grain, flour, or meal at the bottom of the cup, and in combination with flange C of the section B prevents an opening being made at the bottom of the bucket when the bucket opens. This front section has attached to it near the bottom of its front face, as shown in all the drawings, a lever or bar, G, which extends downward, bulging opposite the hinge D, as shown in Figs. 1 and 2, and having at the bulge a transverse aperture or bolt-socket to admit the bolt k , which passes through the hinge D, and through the aperture or bolt-socket in the bulge of the lever G. The hinge and rivet or bolt thus unite the back and front

ends of the bucket, allowing the front section to oscillate on the hinge D, when the elevator-bucket passes on the belt over the belt-pulley at the top to be dumped. The action of the front section, E, is shown in Fig. 1. Said bar or lever G then extends farther downward on the line of the belt, and has attached to it near its end, and on its upper side and extending to its end, the counterbalance-weight L, which is made or cast on the bar of sufficient weight, the weight of course varying with the size of the cup used. The counterbalance-weight L adds considerably to the force with which the bucket will be closed after passing over the top belt-pulley to dump. The weight also aids in the forcible opening of the bucket as it passes over the top pulley, and always drags on the belt, except when the bucket passes over the pulley at the top or bottom of the belt.

The shoulder M on the back of the lever G controls the front oscillation of the front section, E, when the cup goes over the pulley, by engaging with the bottom of the back section, B, when the bucket opens, as in Fig. 1, thus preventing the cup from opening too far, so as to spill any of its contents.

The operation of the cup is briefly as follows: When ready to receive its load, it is in the shape shown in Fig. 2, and after receiving its load it passes up on the belt, remaining

closed until it commences to near the top pulley, when it begins to open on the incline, and when ready to pass over to be dumped it is in the shape shown in Fig. 1. As it dumps, the cup flies or snaps together, effectually throwing out all adhering particles or grains of its contents. It opens again as it passes around the bottom pulley, and then closes to receive another load.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In an elevator-bucket, the combination of the fixed section B, attached to the belt, and having triangular sides $b\ b'$, bottom 'outstanding flange, C, hinge D, and oscillating front section, E, with triangular sides $d\ d'$, inwardly-projecting flange F, lever G, and counterbalance-weight L, substantially as described and set forth.

2. In an elevator-cup, as above described, the combination, with the back section, of the front oscillating section, E, having the lever or bar G and shoulder M, substantially as described and set forth.

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Witnesses:

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