

(No Model.)

A. HEINE.

CENTRIFUGAL FLOUR BOLT.

No. 316,968.

Patented May 5, 1885.

Fig. 1.

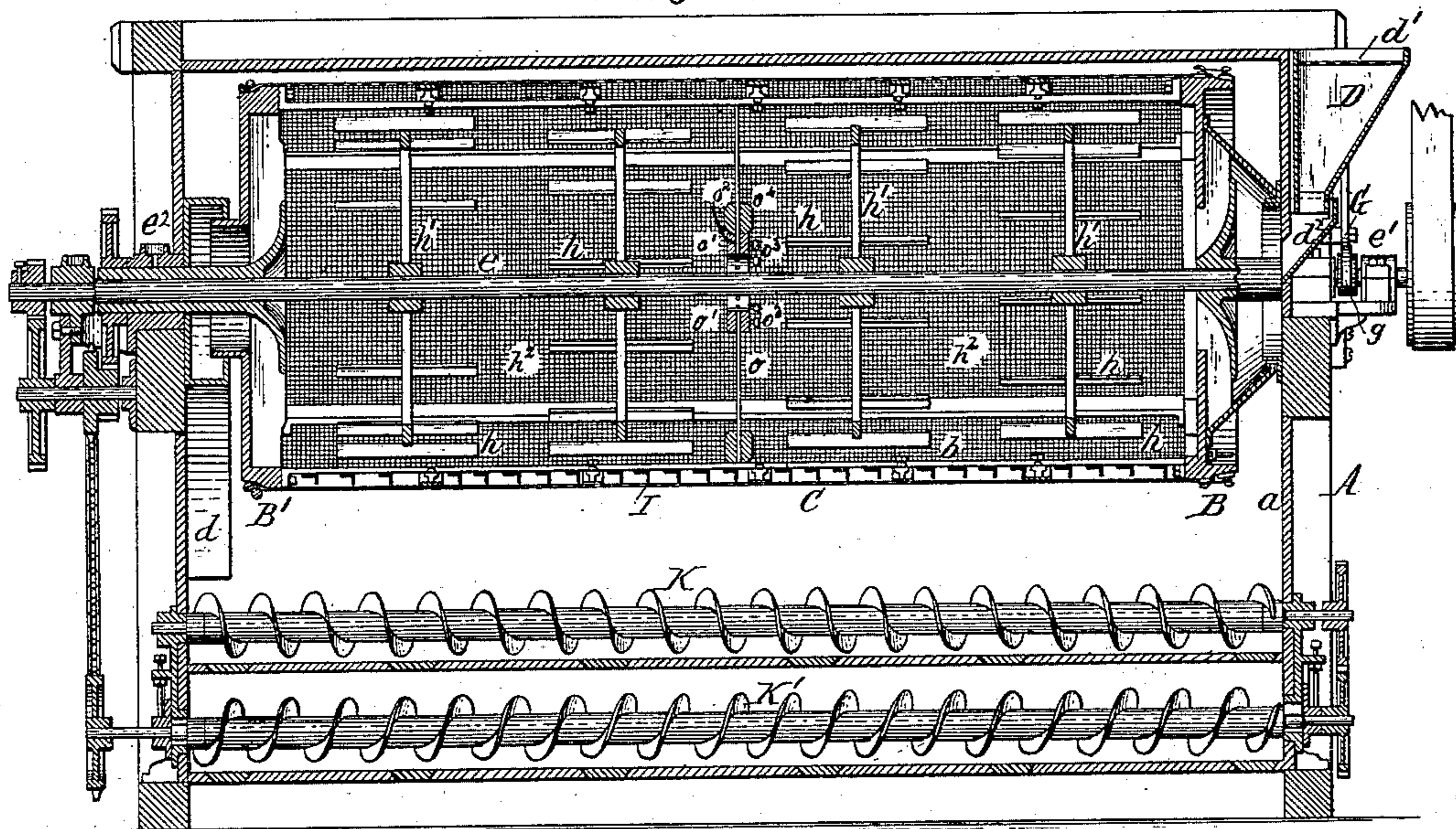


Fig. 2.

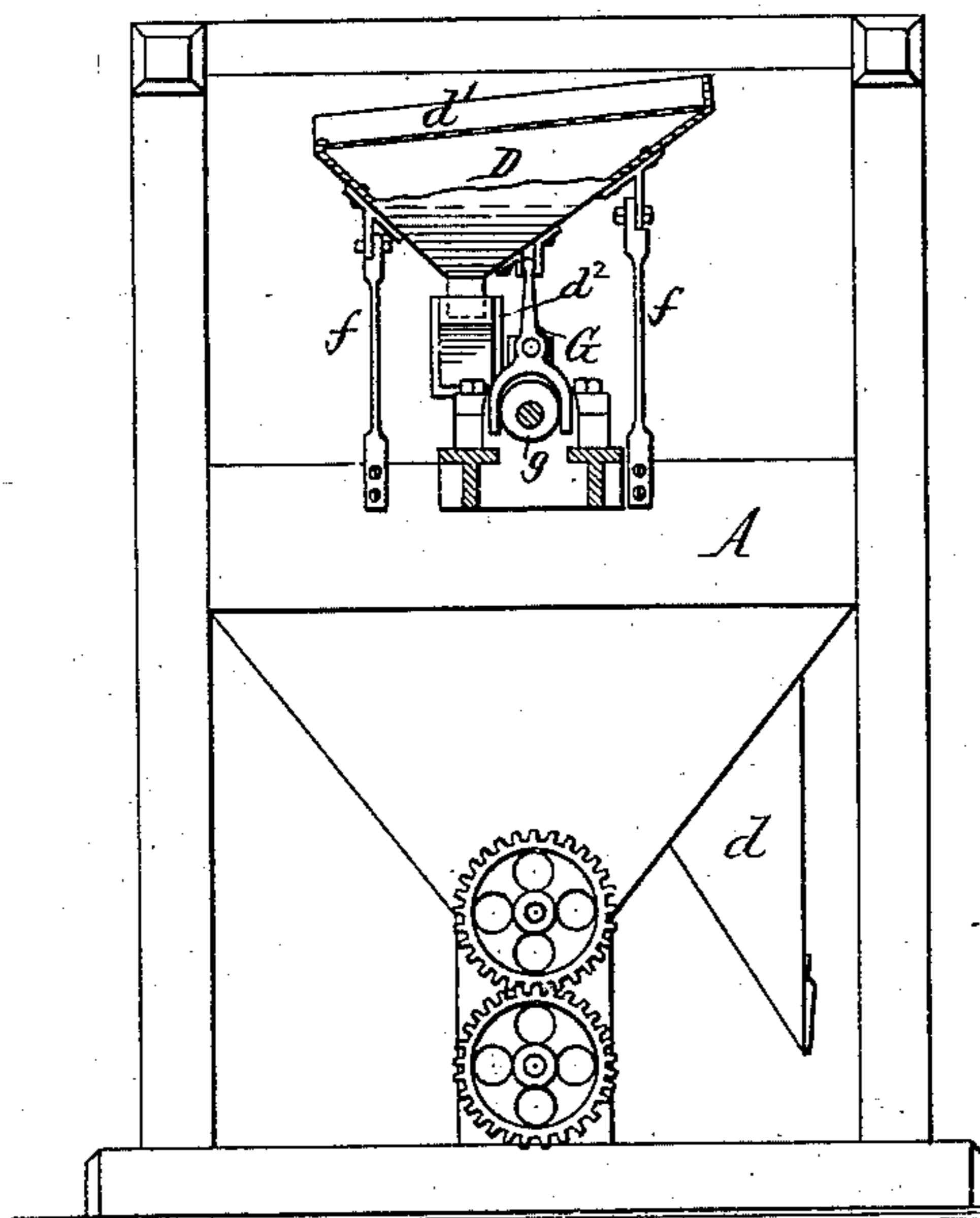
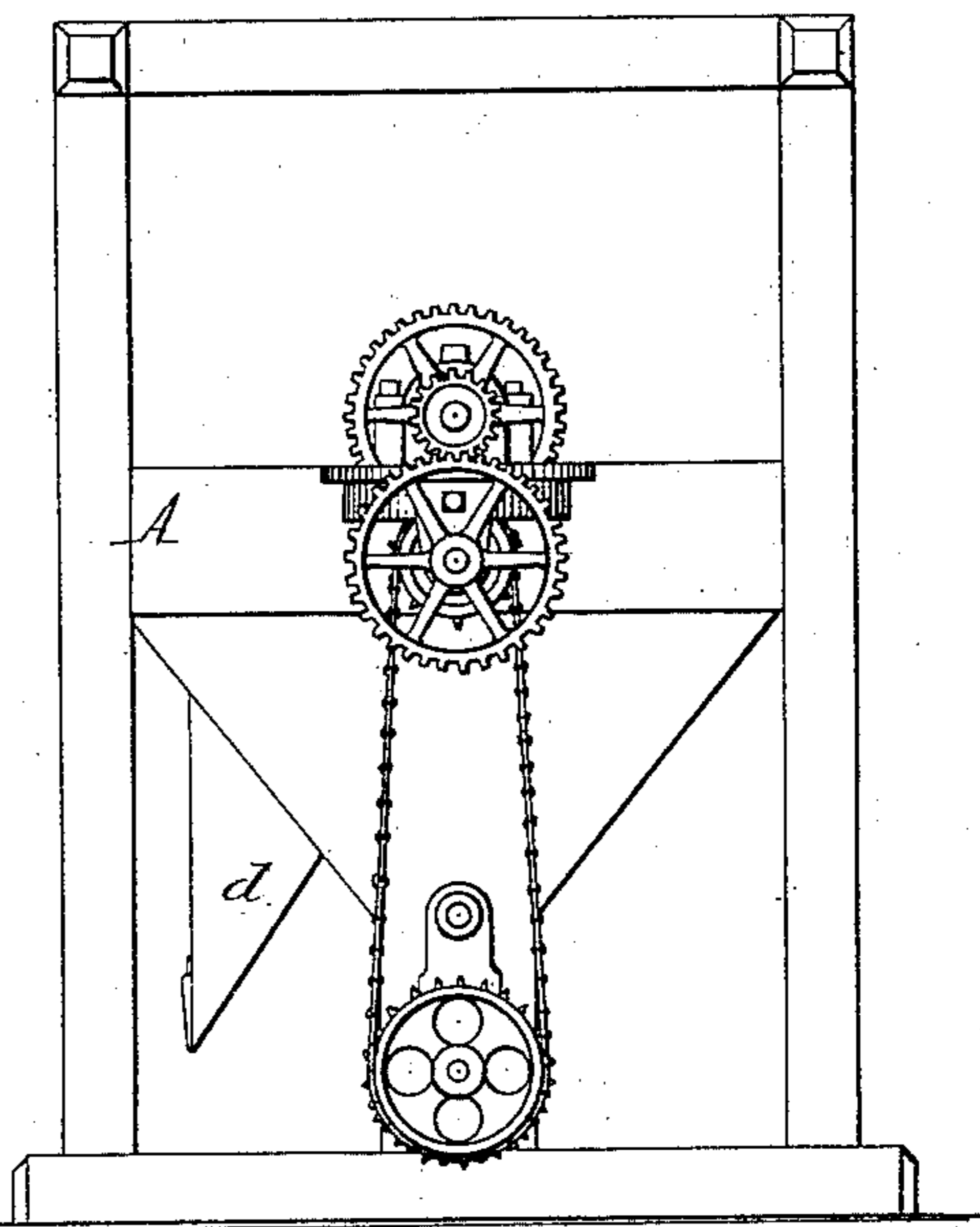


Fig. 3.



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UNITED STATES PATENT OFFICE.

AUGUST HEINE, OF SILVER CREEK, NEW YORK.

CENTRIFUGAL FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 316,968, dated May 5, 1885.

Application filed July 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUGUST HEINE, of Silver Creek, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Centrifugal Flour-Bolts, of which the following is a specification.

This invention relates more particularly to an improvement in that class of flour-bolts which are provided with interior beaters, whereby the material is driven against the bolting-surface; and it has for its object to render the operation of the machine more efficient and satisfactory than heretofore in separating the valuable parts of the material from the offal.

My invention consists of the improvements which will be hereinafter fully set forth, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a flour-bolt provided with my improvements. Fig. 2 is an elevation of the feed end of the machine. Fig. 3 is an elevation of the tail end of the machine.

Like letters of reference refer to like parts in the several figures.

A represents the stationary frame of the machine provided with an inclosing-casing, *a*, of the usual construction.

B B' represent the heads of the bolting-reel, *b*, the longitudinal ribs connecting the heads B B'.

C represents the bolting-cloth stretched over rings which are attached to the ribs *b* in a well-known manner.

D represents the feed-hopper from which the material is delivered into the head of the reel, and *d* represents the discharge-spout through which the tailings are carried off.

e represents the beater-shaft arranged axially within the reel, and supported in bearings *e'* *e''*, secured to the main frame A. The feed-hopper D is provided near its top with an inclined screen, *d'*, upon which the material to be bolted is delivered, and which separates the coarse impurities from the material which is fit to be delivered to the reel. The hopper D is supported upon flexible bars or springs *f*, which are secured with their lower ends to the main frame A, and receive a reciprocating motion by means of an eccentric, *g*, mounted on the beater-shaft *e*, and en-

gaging with a bifurcated pivoted lever, G, which is connected at its upper end with the hopper D. The discharge-spout of the hopper D plays in a stationary discharge-spout, *d''*, secured to the casing *a*. This construction constitutes a very simple and efficient device for separating sticks, stones, nails, and other coarse impurities from the material before it is fed into the reel.

h represents the beaters arranged within the reel, and secured to the arms or spiders *h'*, which are attached to the shaft *e*. The beaters are arranged in several successive annular series or groups with intermediate spaces, *h''*, in which no beating action takes place, so that the material in moving through the reel encounters alternately the action of the beaters, which drive the material against the bolting-surface, and the quieting effect of the intermediate spaces, in which no beating action takes place, and in which the material is permitted to descend by the force of gravity and come in contact with the bolting-surface.

It is found in practice that when the beaters extend throughout the reel the light material which contains valuable fine flour accumulates or floats near the axis of the reel, and passes off to a considerable extent with the tailings, which are discharged near the axis at the tail end of the reel. The open spaces between the several sets of beaters in my improved reel interrupt the eddies or currents which are produced by the action of the beaters, and permit the fine material to commingle with the coarser material and come in contact with the bolting-surface, whereby the greater portion of this fine material, which would otherwise be wasted, is bolted out and collected with the flour.

I represents cant-boards or guide-plates, which are pivoted to the outer side of one of the ribs *b* of the reel-frame, and arranged between the rib and the bolting-cloth.

o represents a series of radial bars or rods secured with their outer ends in the ribs *b*, and connected at their inner ends to a ring, *o'*, which is provided with radial openings *o''* for the reception of the inner ends of said rods, and in which openings said rods are secured by set-screws *o'''*.

o'' represents sliding weights applied to the rods *o*, so as to move on said rods between the

ribs *b* and the ring *o'*. As the reel rotates the weights are caused to descend on the rods and strike the ribs *b* or the ring *o'* with sufficient force to jar the bolting-cloth of the reel and
5 dislodge any material which may adhere to the same.

K K' represent screw-conveyers arranged beneath the bolting-reel within the casing *a*, and driven from the beater-shaft in any ordinary or well-known manner.
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I claim as my invention—

The combination, in a centrifugal bolting-

reel, of a bolting-cylinder and several annular sets or series of revolving beaters arranged within the bolting-cylinder, with intermediate
15 quieting-spaces in which the material is permitted to settle before being acted upon by the next succeeding set of beaters, substantially as set forth.

Witness my hand this 25th day of June, 1884.

AUG. HEINE.

Witnesses:

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