(No Model.)

H. E. BEERLING.

CENTRIFUGAL REEL.

No. 338,466. Patented Mar. 23, 1886.

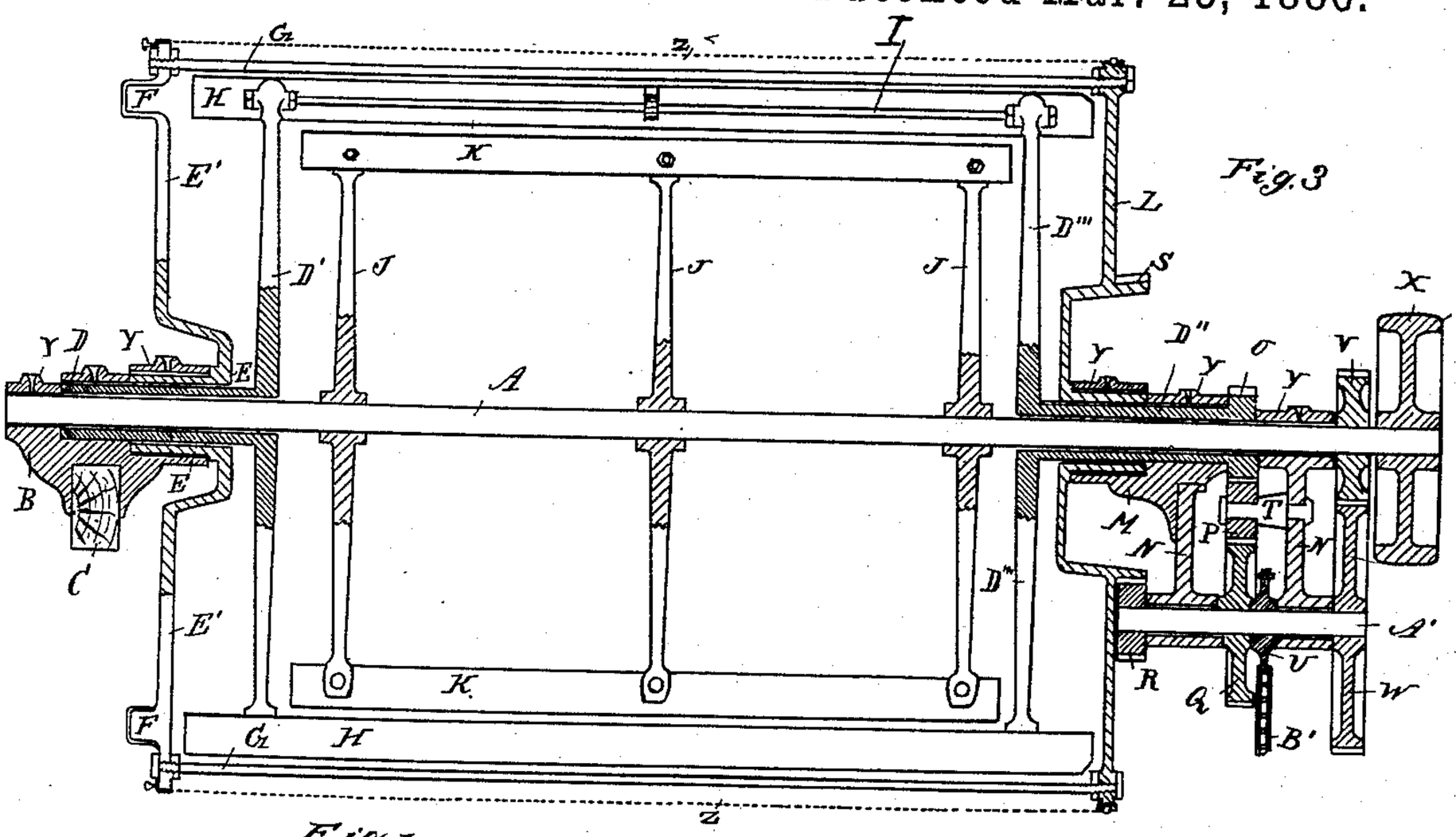


Fig. 3

Fig. 1

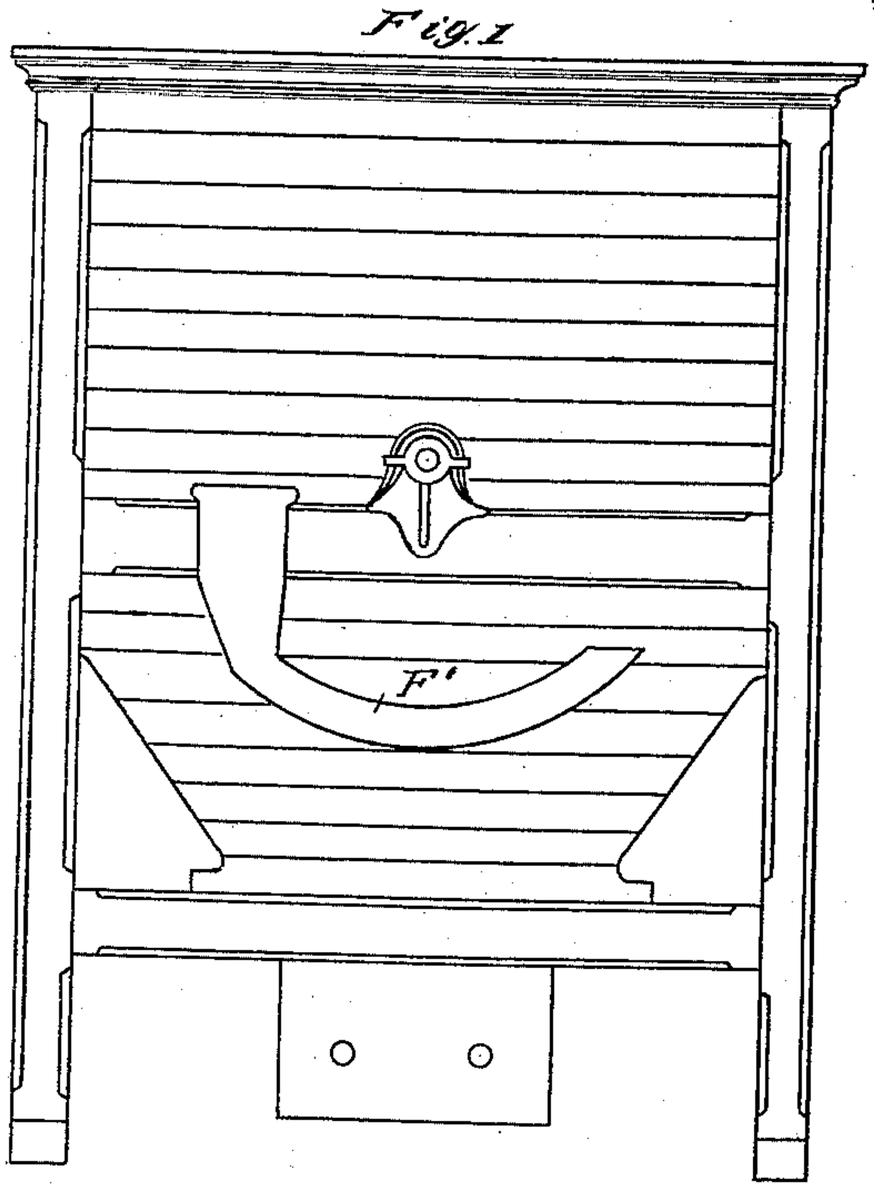
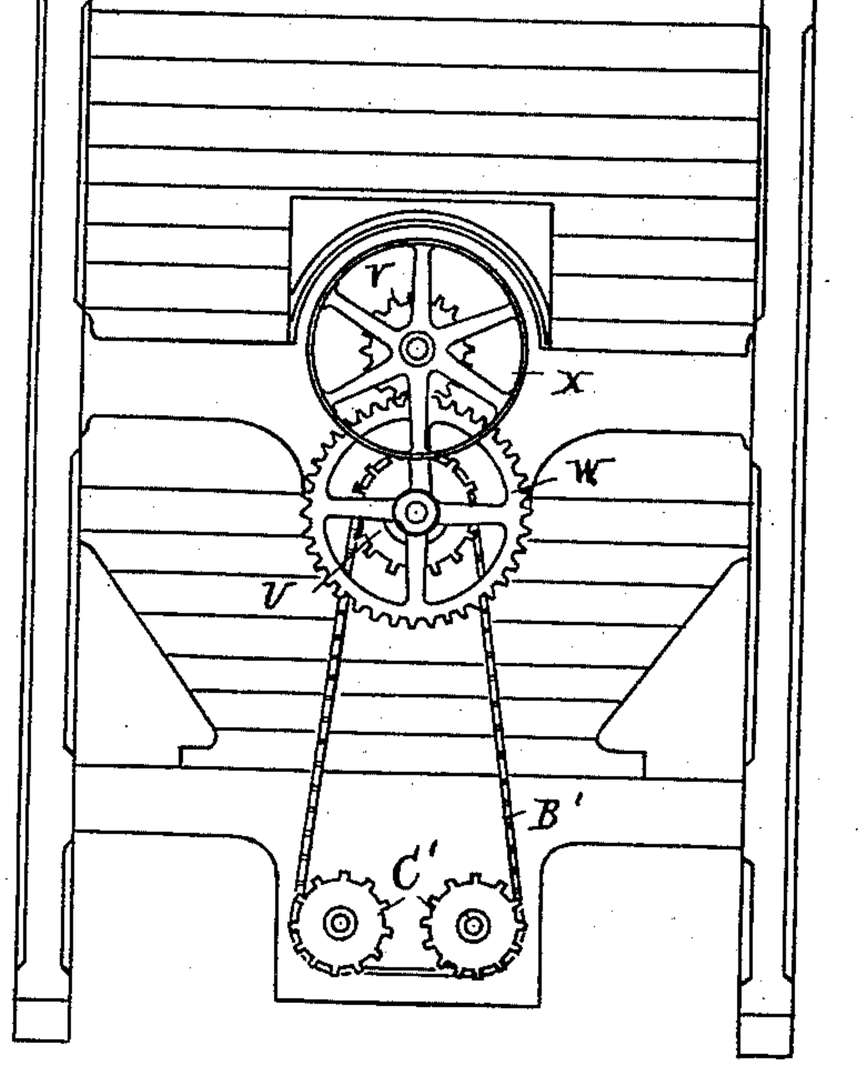


Fig. 2



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HENRY E. BEERLING, OF JACKSON, MICHIGAN.

CENTRIFUGAL REEL.

SPECIFICATION forming part of Letters Patent No. 338,466, dated March 23, 1886.

Application filed May 13, 1885. Serial No. 165,342. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. BEERLING, of Jackson, in the county of Jackson and State of Michigan, have invented new and useful Improvements in Centrifugal Reels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in that class of flour-dressing or bran-dusting reels usually known as "centrifugal" reels. Such reels as usually constructed consist of a cylinder or drum, inside of which, fastened at the ends of radial arms or supports, are a series of longitudinal beaters or blades which revolve around the central shaft, for the purpose of throwing the material under treatment violently against the inner surface of the bolting-cloth, which is secured to the heads of the drum and to an intermediate series of hoops, which are usually covered with some soft material—such as cotton-flannel—in order to prevent too great wear upon the bolting-cloth.

My improved reel differs from others in having two series of beaters instead of one, and each running in an opposite direction to the other, by which means I propose to increase the capacity of the reel, as well as the quantity of flour extracted from the chop under treatment.

The invention consists in the peculiar combinations and the construction and arrangement of parts, as more fully hereinafter described and claimed.

Figure 1 is an elevation of the front end of my improved machine. Fig. 2 is an elevation of the rear end of the same. Fig. 3 is a vertical central section of the same.

In the drawings, A represents the main shaft, running horizontally through the center of the machine and projecting beyond the ends of the same, rear and front. The front end of this shaft is supported in a suitable box, B, which in turn is supported by the bridge or girt C, the ends of which are supported by the frame of the machine.

D is a hollow journal, sleeved on the shaft A, and carrying the radial arms D′, to the outer ends of which the front ends of the outside beater-blades, H, are secured.

E is another hollow journal sleeved upon the hollow journal D, and carrying the front head, E′, of the reel-cylinder, and to the periphery of this head E′ the bolting-cloth Z is attached in any of the known and preferred ways.

J are radial arms secured to the main shaft A, and to their outer ends are secured the ends of the blades K of the inner beaters. At the opposite end of the case, inclosing the reel-cylinder and the beaters, is a bridge-tree, N, supporting the box M, which in turn supports this end of the main shaft A.

D″ is a hollow journal sleeved on the shaft A, and carrying the radial arms D‴, to the outer ends of which the rear ends of the beater-blades H are attached.

I are rods tying together the radial arms which carry the outer beater-blades.

L is the rear head of the reel-cylinder, upon which a toothed or spur gear, S, is cast or otherwise secured. This gear engages with the pinion R, which is secured at the end of the counter-shaft A′. Motion is given to this counter-shaft A′ by means of the gear-wheel V upon the shaft A, engaging with a similar wheel, W, on said shaft A′, and this motion is communicated to the reel-cylinder through the engagement of the gears R and S. A gear-wheel, Q, is also secured to said shaft A′, and this gives motion to another gear, P, journaled on the stub-shaft T, which in turn engages with the pinion O, which is secured upon the end of the hollow journal D″, and thereby gives a rotary motion to the outer series of beater-blades H.

U is a sprocket or chain wheel, also secured to said counter-shaft A′, over which runs a suitable chain, B′, to communicate motion to the conveyers C′, below the reel-cylinder, and which may be of any of the known styles of construction.

X is the main driving-pulley secured upon the shaft A, and adapted by means of a belt to receive power from any convenient source.

Y represents the boxes and caps, within which the hollow journals, hereinbefore described, run.

F are a series of pockets secured to the head E′ of the reel-cylinder, which, one after the other, in succession, as such reel rotates, are brought into the proper position to receive a

proportion of the "chop" to be treated from the trough F'.

By this construction of reel the agitation of the material within it and under treatment is so great that a much larger quantity of flour is extracted from the chop than can be obtained by the employment of reels as ordinarily constructed, thereby increasing the efficiency of the machine.

What I claim as my invention is—

1. In a flour-bolt, a reel-cylinder rotating in one direction in combination with rotating beaters rotating in opposite directions, and means for driving all from the same shaft, substantially as and for the purposes described.

2. In a centrifugal reel, the main drive-shaft, inside beaters secured upon said main drive-shaft, outside beaters provided with hollow trunnions journaled upon said shaft, one of said trunnions having a drive-pinion, O, and a reel-cylinder provided with hollow trunnions journaled upon the trunnions of the outside beaters, and having the drive-gear S secured to one of its heads, in combination with the counter-shaft A' and suitable intermediate gearing connecting the same with the main shaft, with the outside beaters, and with the cylindrical reel, all substantially as described.

H. E. BEERLING.

Witnesses:
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