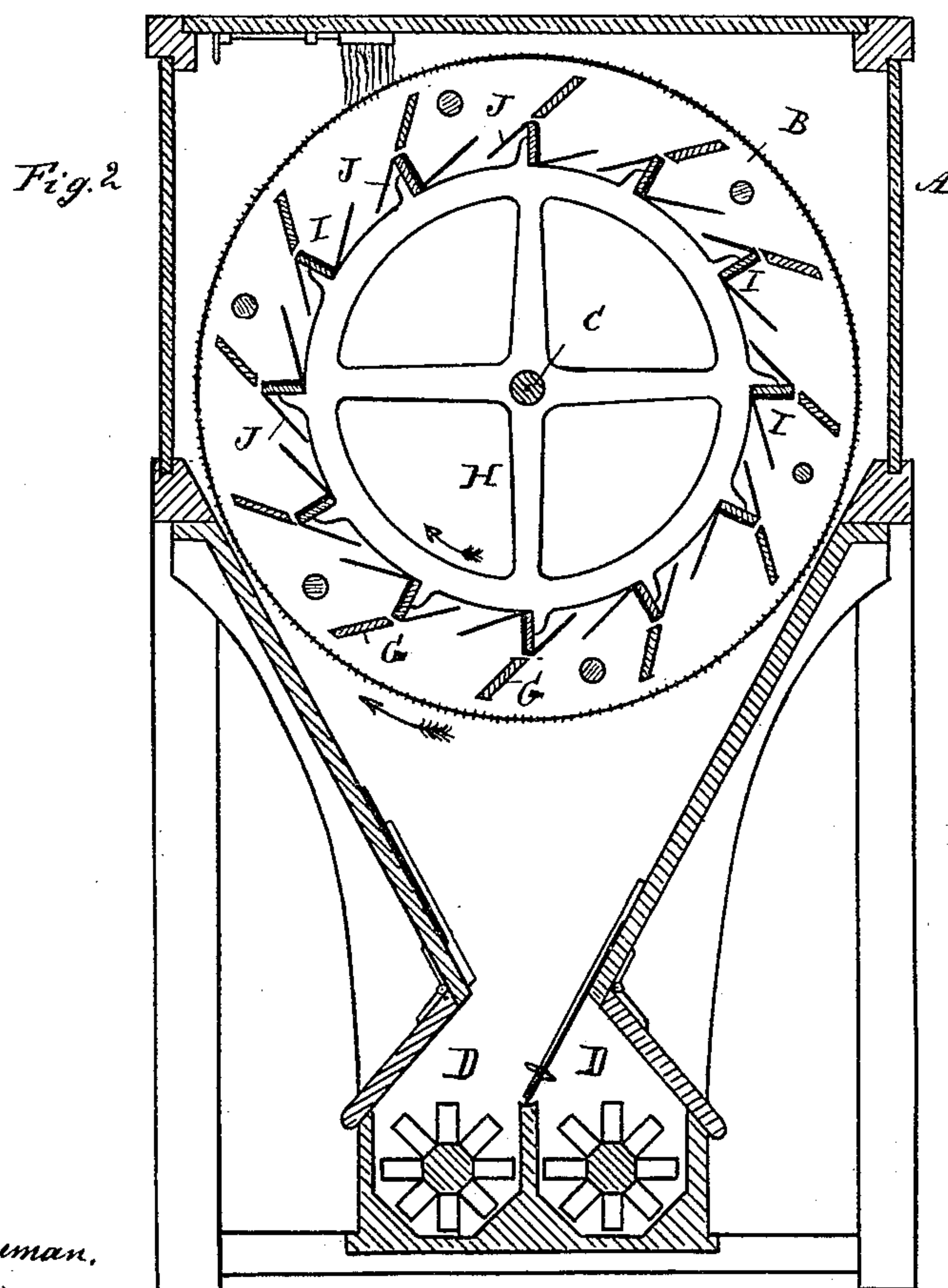
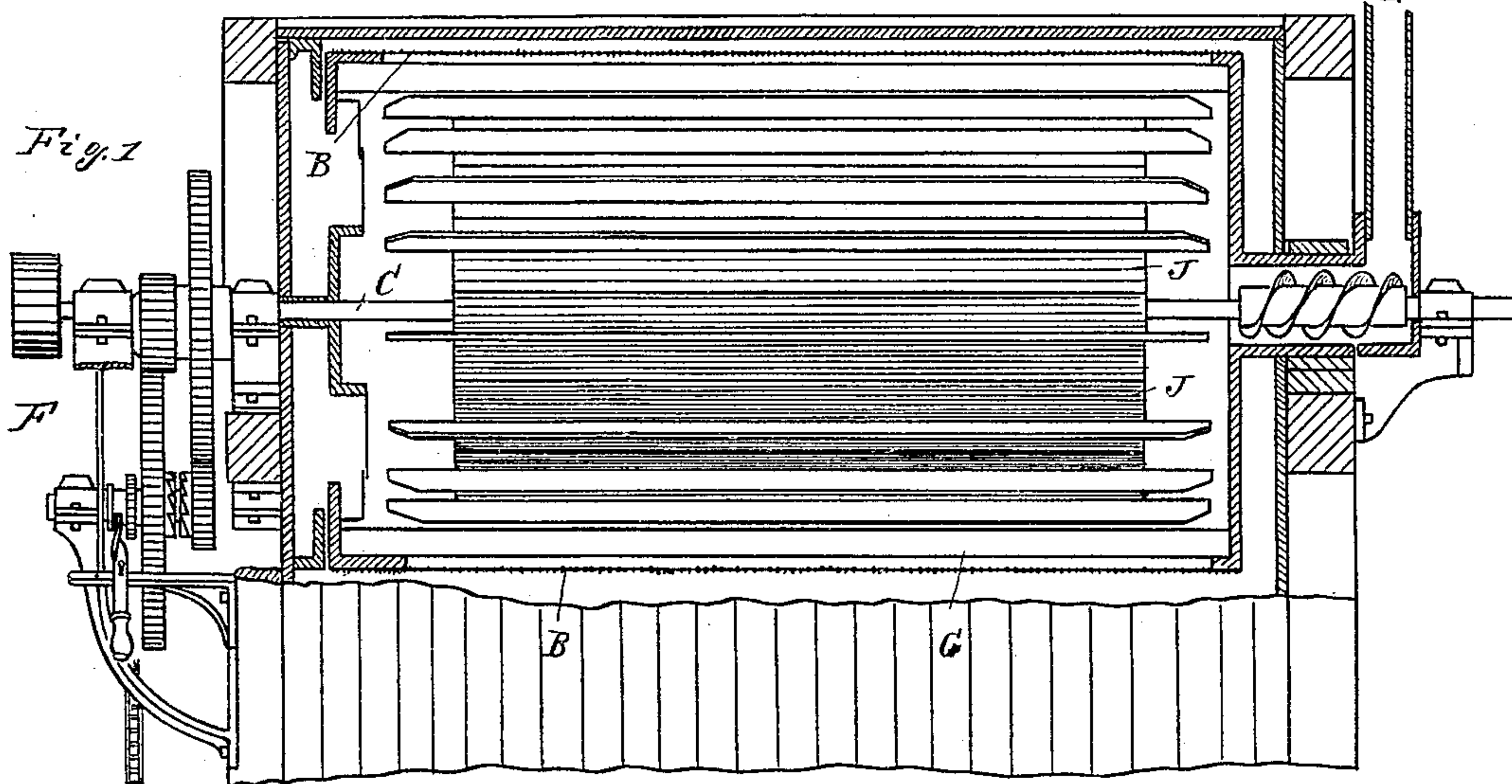


(No Model.)

B. KNIFFLER.
FLOUR BOLT.

No. 328,789.

Patented Oct. 20, 1885.



Attest:
John Schuman.
[Signature]

Inventor:
Bruno Kniffler.
By his Atty
Thos. J. Sprague

UNITED STATES PATENT OFFICE.

BRUNO KNIFFLER, OF CLEVELAND, OHIO.

FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 328,789, dated October 20, 1885.

Application filed June 25, 1885. Serial No. 169,752. (No model.)

To all whom it may concern:

Be it known that I, BRUNO KNIFFLER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Flour-Bolts; 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 a new and useful improvement in "flour-bolt," as commonly called.

The object of my invention is to modify the operation of the well-known centrifugal reel as far as regards the operation of the beaters. In the centrifugal reel, which consists substantially of a slowly-revolving outside bolting-cylinder and of a beater or flier revolving inside of it at a comparatively high speed, the material to be bolted is more or less harshly thrown or whipped against the bolting-cloth by the centrifugal action of the fliers. In my improved machine the beater or flier acts in a less forcible manner. It is not run fast enough to throw the material against the bolting-cloth by centrifugal action; but instead of this it is provided with a sort of buckets which in the revolution of the flier alternately fill with material and then empty it again in such a manner that it falls against the bolting-cloth and gently slides thereon until it is again picked up or filled into the buckets. The beaters or fliers thus may lose their character as such altogether and become merely a scoop or bucket-reel.

In the drawings which accompany this specification, Figure 1 is a vertical central longitudinal section of my improved flour-bolt. Fig. 2 is a cross-section thereof.

A is the chest in which the bolting-reel is inclosed. B is the outside bolting-cylinder. C is the main shaft, which revolves the inner reel. D are the conveyers below the reel. E is the feed-spout, and F is the intermediate gear, which transmits motion from the main shaft to the outside bolting-cylinder, all these parts being of known construction and operation, except as hereinafter set forth.

The outside bolting-cylinder is provided on the inside with a series of deflectors, G, which

are set near the bolting-cloth, at a little distance from it—say about three-quarters of an inch.

H is a reel secured to the main shaft C, and revolving within the bolting-cylinder. In the ordinary centrifugal bolting-reel it constitutes the beater or flier; but I will call it now, as more in accordance with its construction and operation, a "bucket-reel," as it carries a number of buckets, I, which closely approach the deflectors G. These buckets are constructed in any suitable manner, substantially in the form shown, and are provided with the deflectors J.

In practice the difference between the operation of the well-known centrifugal bolting-reel or flour-dresser and this improved form is this:

The outside bolting-cylinder and the inside bucket-reel revolve in the same direction; but the bucket-reel makes only about thirty revolutions per minute to twenty of the outside bolting-cylinder. While the parts are thus revolving, the material, which is fed into the outside bolting-reel in the usual manner, is filled by the deflectors G into the buckets I when the deflectors G are moving toward the top. The buckets thus filled empty again after they pass the top and move toward the bottom, letting the material fall against the bolting-cloth, assisted by the deflectors J of the preceding bucket. The material thus gently thrown against the bolting-cloth slides along the same to the bottom until it is again emptied into the buckets, and the operation of bolting repeated.

To provide greater facility for the material to feed into the bolting-cylinder, and for the discharge of the tailings, I do not extend the buckets and deflectors quite to the head and tail ends of the cylinder.

The different constructions of centrifugal flour-dressing machines now in use may be easily altered in accordance with my improvement.

The construction of the other parts of the machine shown in the drawings, but not described in connection with my improvement, form the subject-matter of a concurrent application filed by me June 25, 1885, Serial No. 169,753.

My improvement is applicable to dressing all kinds of flour. Its advantage over centrifugal reels is that while it has a less disintegrating action than the latter, it produces
5 by its more gentle and sifting action a cleaner flour and gives the impalpable flour a better chance to bolt.

I am aware of the reissued patent of Holt, No. 10,617, and make no claim to the construction shown therein as forming part of my
10 invention.

What I claim as my invention is—

1. In a flour-dressing machine, the combination of the outside bolting-cylinder having
15 deflectors G with the inside bucket-reel, H,

having buckets I and deflectors J, all arranged and operating substantially as described.

2. In a flour-dressing machine, the combination, with the outside bolting-cylinder, B, having inclined deflectors G, secured to the
20 inside thereof, of the inside bucket-reel, H, provided with V-shaped buckets I, and deflectors J, formed integral with said buckets, substantially as herein shown and for the purpose specified.

BRUNO KNIFFLER.

Witnesses:

A. W. J. NEWBERRY,
M. KOHRHEIMER.