

(No Model.)

G. A. GILBERT.

BOLTING REEL.

No. 387,872.

Patented Aug. 14, 1888.

Fig. 1.

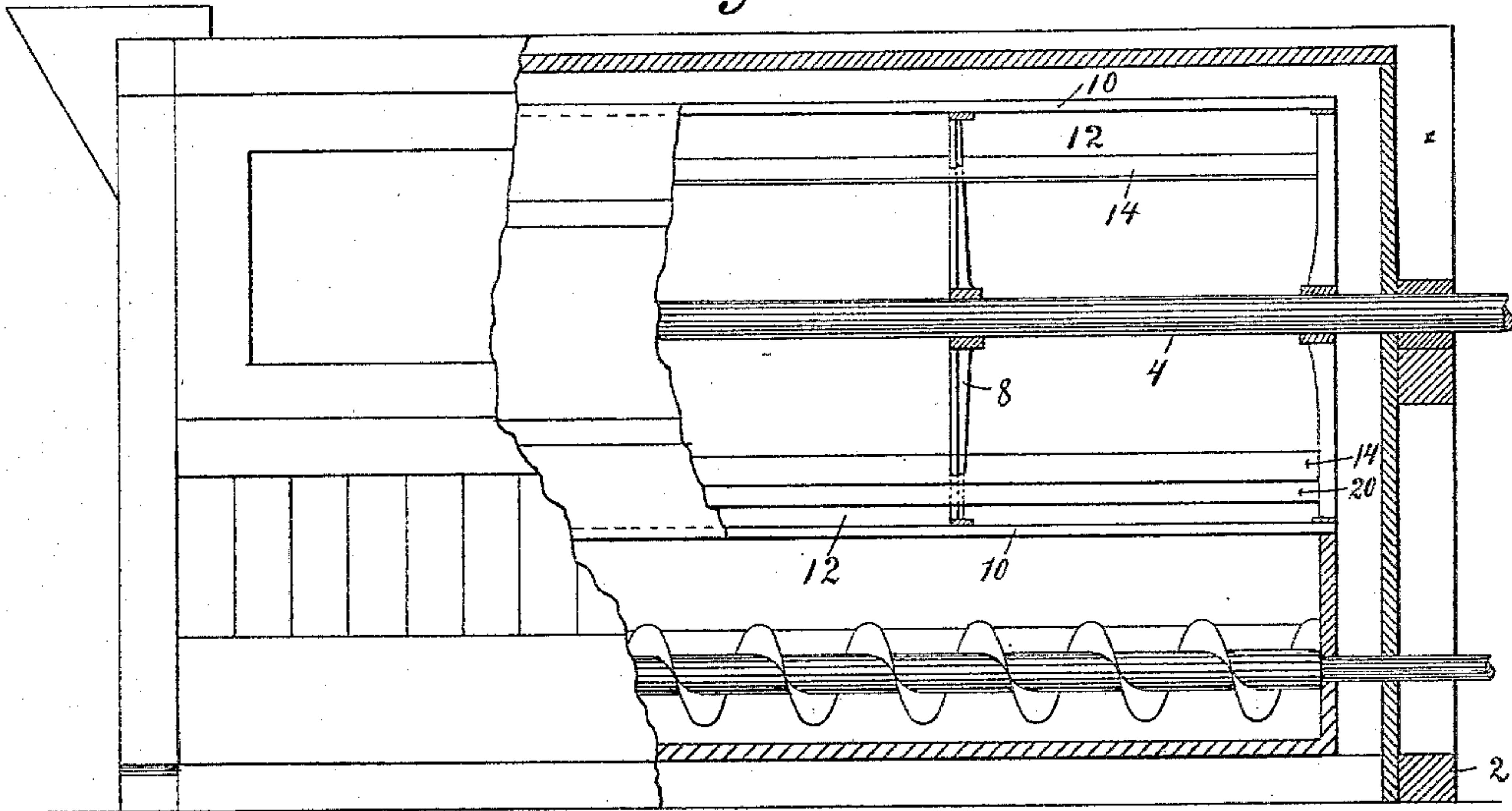


Fig. 2.

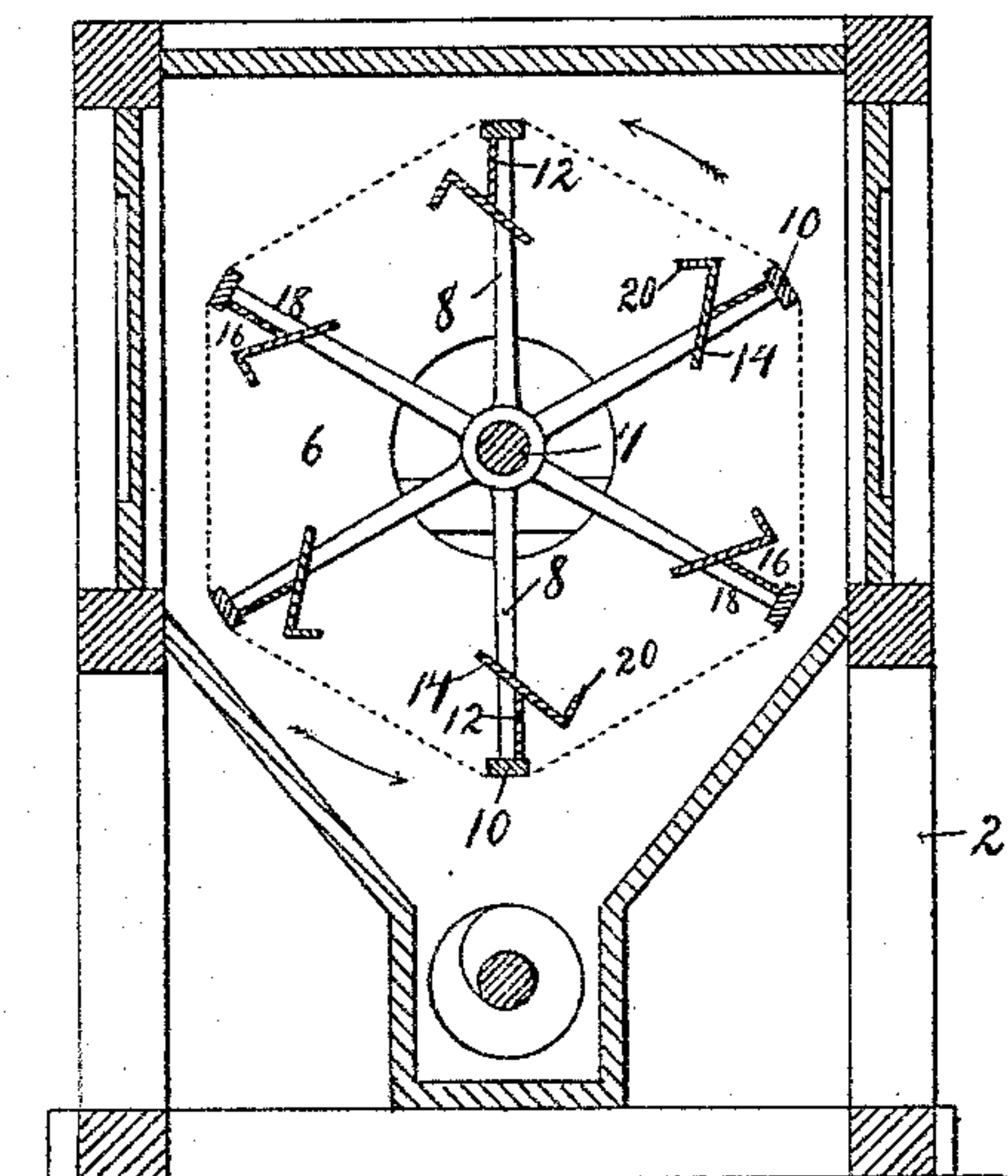
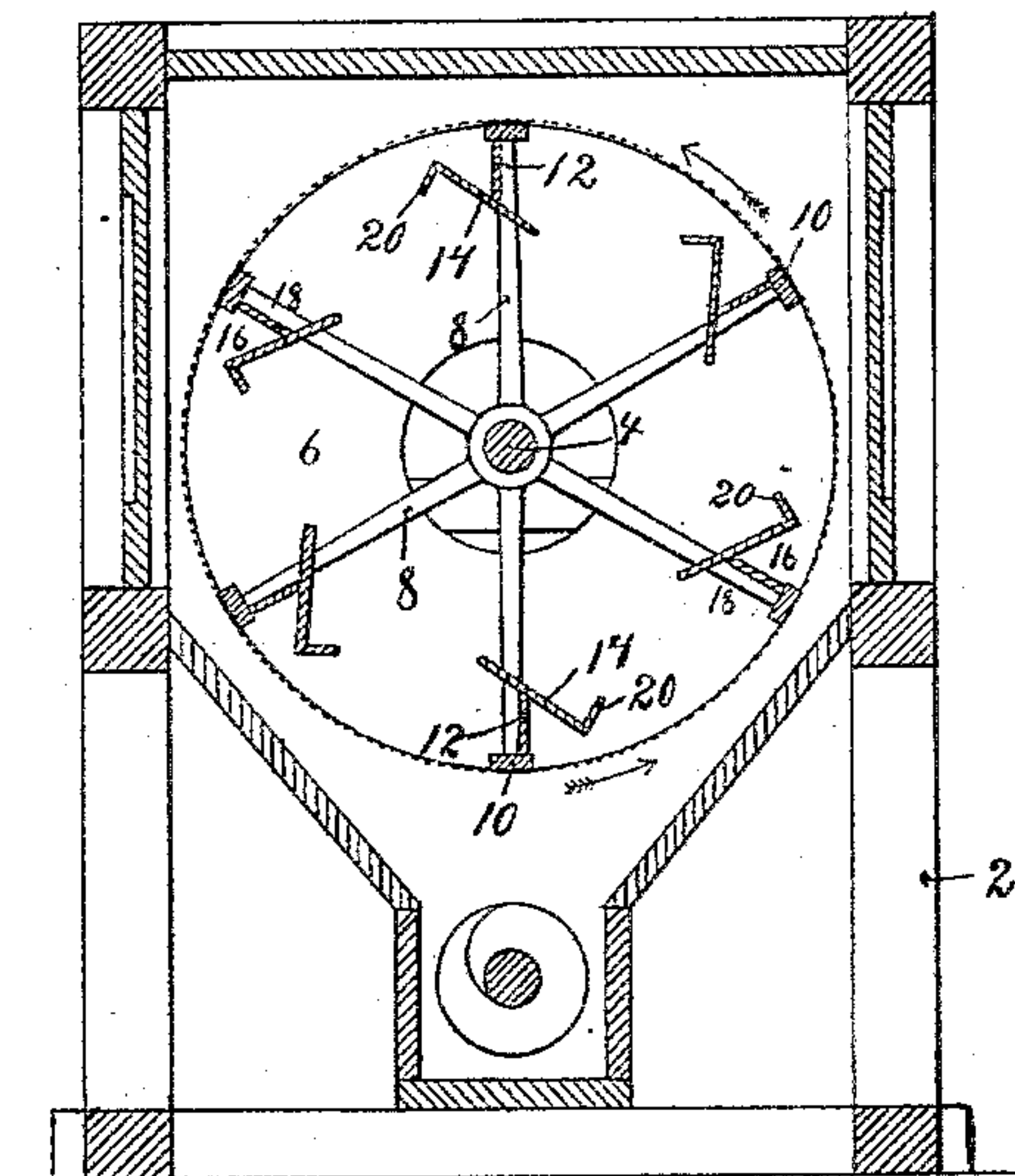


Fig. 3.



Witnesses,

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UNITED STATES PATENT OFFICE.

GEORGE A. GILBERT, OF MILWAUKEE, WISCONSIN.

BOLTING-REEL.

SPECIFICATION forming part of Letters Patent No. 387,872, dated August 14, 1888.

Application filed December 19, 1887. Serial No. 253,232. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. GILBERT, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Bolting-Reels, of which the following is a specification.

My invention relates to improvements in reels for flour-bolting machinery; and it consists, generally, in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation and partial section of a bolting-reel embodying my invention. Fig. 2 is a cross-section showing my improvement adapted to a hexagonal reel. Fig. 3 is a cross-section showing my improvement adapted to a round reel.

In the drawings, 2 represents the frame of the machine, constructed in the ordinary manner, being provided with bridge-trees at each end, which support the journal-boxes of the shaft 4, upon which the reel or bolt is mounted and by which it is revolved. This reel or bolt is preferably constructed with suitable heads, 6, and spiders 8, which are secured to the shaft and support the ribs or bars 10 forming a frame over which the bolting-cloth is stretched. A number of radial division-boards, 12, are placed longitudinally of the reel, preferably in connection with each of the ribs 10, and supported by the spokes of the spiders 8. These division-boards may be of any suitable width, and each at its inner extremity intersects a gather-board, 14, preferably at an angle with the said division-board, converging toward the circumference of the reel. These two boards thus placed form the two recesses or pockets 16 and 18, for receiving and distributing the stock. The pocket 16 has the converging walls upon the advance side of the division-board and the pocket 18 the diverging walls upon the opposite side of the said board. An angle-strip, 20, may be placed at the outer extremity of the gather-board, forming a hopper-shaped opening for the pocket 16, for collecting the stock as it slides back over the cloth or screen and directing it into the said pocket.

The operation of the device is as follows: The stock is passed to the machine in the usual way and enters the interior of the reel

at the head, and the middlings or unbolted stock is carried off at the tail of the machine in any convenient manner. The reel is revolved in the direction denoted by arrows in Figs. 2 and 3. As the stock strikes the bolting-cloth, it will be carried by gravity across one section of the said cloth between the ribs 10, or until it comes in contact with the division-board 12. As the reel is revolved, the stock will be retained within the pocket 16 and carried upward, over, and past the top of the reel, when it will slide out of this pocket and slide downward over the cloth of the reel-section and be subjected in its downward passage to a bolting process. The unbolted stock will lodge in the pocket 18 at the opposite side of the section, and will be carried in this pocket until it begins to ascend on the other side of the reel, when it will slide over the section again, and the unbolted portion will be collected again in the pocket 16. This operation will be continued, the stock sliding on the "up" side of the reel from one set of pockets over the reel-sections into the other set of pockets and sliding back again on the "down" side of the reel.

Each section is supplied with stock at the head end of the machine, and in each the same operation of passing the stock back and forth over the silk between the pockets 16 and 18 is maintained as described. The advantages of this construction are that the stock is more thoroughly and evenly distributed over the bolting medium and prevented from massing at any one point, thereby forming an evenly-balanced reel. The stock is also kept against the bolting-cloth and does not drop through the center of the reel as it does in the common open reel. I thus obtain in an open reel all of the advantages of a reel having an interior drum or cylinder.

The device can be easily attached to an old reel, in which case the division-boards can be easily secured by bolts or clamps to the arms of the spiders and fastened at their outer edges to the ribs or bars without the necessity of any material change to the reel. A hexagonal or octagonal reel repaired in this way will give as good results as the ordinary round reel, for the reason that a sliding movement is obtained both upon the up and down side of the reel.

The angle of the gather-boards may be in-

creased or diminished for different speeds and for different sized-reels, so as to give the proper discharge during the downward movement.

5 In Fig. 3 I have shown the improvement adapted to a round reel. The advantages of the improvement are in this construction as in the form already described, and the application is substantially the same.

I claim as my invention—

10 1. The combination, in a bolting-reel, of the division-boards forming longitudinal partitions in said reel and the inclined gather-boards arranged upon the inner edges of said division-boards and projecting in both direc-
15 tions therefrom, and forming the converging pockets upon one side of said partition and the diverging pockets upon the other for receiving and distributing the stock, substantially as described.

20 2. The combination, in a bolting-reel, of the longitudinal division boards 12, the inclined gather-boards 14, secured upon the inner edges of said division-boards and projecting there-

from on both sides of the board, converging at one side toward the surface of the reel, 25 and forming the pockets 16 upon that side, and the strips 20, secured to said gather-boards and forming a hopper-shaped opening for the pocket 16, substantially as described.

3. The combination, in a bolting-reel, of the 30 longitudinal ribs 10, the cloth secured over said ribs, the longitudinal division-boards extending inwardly from said ribs toward the center of the reel, and the inclined gather-boards 14, arranged upon the inner edges of 35 said division-boards and forming the converging and diverging pockets 16 and 18 upon the opposite sides of said division-boards, substantially as described.

In testimony whereof I have hereunto set 40 my hand this 12th day of December, 1887.

GEORGE A. GILBERT.

In presence of—

R. H. SANFORD,
A. C. PAUL.