

(No Model.)

J. W. HILL.
BOLTING REEL.

No. 332,396.

Patented Dec. 15, 1885.

Fig. 1.



Fig. 3.

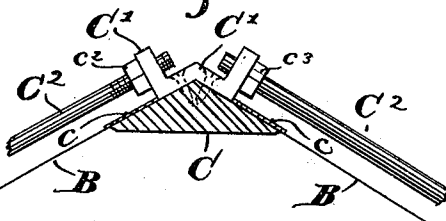


Fig. 2.

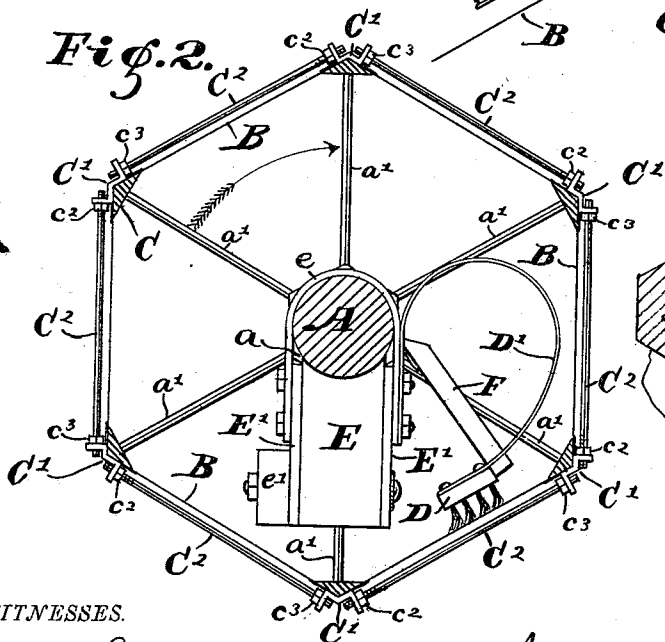
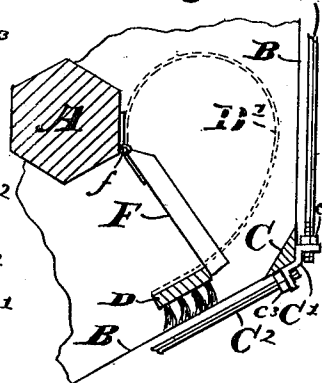


Fig. 4.



WITNESSES.

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BOLTING-REEL.

SPECIFICATION forming part of Letters Patent No. 332,396, dated December 15, 1885.

Application filed June 16, 1885. Serial No. 168,838. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HILL, of the town of Sandborn, county of Knox, and State of Indiana, have invented certain new and useful Improvements in Bolting-Reels, of which the following is a specification.

The objects of my said invention are to produce a bolting-reel capable of being provided with internal brushes, to provide brushes therefor, to provide means for holding said brushes in position, and to provide means for jarring said brushes, and thus keeping them from clogging.

The first object is accomplished by constructing the ribs of the reel with a flat inner side, which will not obstruct the passage of the brush over it, and trussing said ribs from the outside to maintain them in position.

The second object is accomplished by providing brushes which extend longitudinally of the reel and mounting the same upon springs which permit the necessary variation in position to keep the brush in contact with the flat sides of the reel.

The third object is accomplished by providing a weight, hanging it upon the reel-shaft in such a manner that the reel-shaft may freely revolve while the weight remains stationary, and securing the springs upon which the brushes are mounted to said weight or something attached thereto.

The fourth object is accomplished by hinging to the reel-shaft "knockers," which, as the shaft revolves, fall upon and jar the brushes.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a longitudinal sectional view of a portion of a reel embodying my invention, the inner portions being shown in elevation; Fig. 2, a transverse vertical section of the same on an enlarged scale; Fig. 3, a detail view, on a still further enlarged scale, of one of the ribs, showing the method of attaching the truss-rods thereto more plainly; and Fig. 4, a view, on the same scale as Fig. 2, showing a knocker more plainly.

In said drawings the portions marked A represent the shaft of the reel; B, the bolting-cloth; C, the ribs; D, the brushes; E, the weights, and F the knockers.

The shaft A carries the reel in the ordinary manner, which reel is provided with the ordinary heads, A', and a portion of the ordinary arms or spokes, a'. This shaft, which is generally a hexagon or octagon in cross-section, has bearings a turned thereon at suitable intervals, to carry the weights to which the brush-springs are secured.

The cloth B is stretched upon the ribs in the ordinary manner.

The ribs C, instead of extending inwardly some distance, as in ordinary bolting-reels, are made triangular, the two outer sides corresponding in inclination to the direction of the bolting-cloth, and the inner side being flat, and to the extent of its width forming one of the sides of the internal surface of the reel, thus doubling the ordinary number of sides and converting, for instance, a six-sided reel into a twelve-sided one, six of the sides being formed by the inner sides of these ribs. At each outer edge these ribs are preferably chamfered somewhat, as shown in Fig. 3, to prevent any of the material being bolted from getting between the ribs and the bolting-cloth, and this purpose is furthered by the strips c, which are secured to the outside of the ribs over the bolting-cloth after it is applied thereto, and project slightly over the edges of the ribs, as shown. As it is desirable that the ordinary distance between the arms or spokes of the reel should be materially increased in order that the brushes may be of suitable length, and, especially as the ribs by the described formation are much reduced in rigidity, it is necessary to the successful operation of the reel that they be stiffened or trussed. I do this by securing to each rib at suitable intervals projections C', and extending between the projections on the several ribs braces or truss-rods C², which are screw-threaded to pass through holes in the projections C', which holes may be either correspondingly screw-threaded, or there may be nuts c² upon the brace-rods, the latter being preferable. By having a solid collar, c³, at one end, or by threading the two ends of the rods with right and left hand threads, respectively, it will be seen that the ribs can be braced or supported to any desired extent by simply turning these rods, and the absence of arms

or spokes and the reduction in size of the ribs thus compensated for.

The brushes D are preferably constructed of considerable length, and are supported by being secured to the weights E by springs D'. The springs are so adjusted as to keep the brushes continually in contact with the bolting-cloth or ribs as the reel revolves.

The weights E may be of any suitable form, and are secured (generally by a strap, *e*) upon the shaft A in the bearings *a*, provided therefor. They are sufficiently heavy to counteract the force exerted upon the brushes by the revolving reel, (generally having an extra weight, *e'*, at the side opposite the brush,) and thus hold said brushes in substantially the same position at all times, a pendulous motion only being permitted. They are connected together throughout each section of the reel by stays E', which may be simply light boards or bars, and any endwise movement or swaying is thus prevented.

The knockers F are simply pieces of wood or other suitable material hinged to the revolving shaft, and as said shaft reaches a certain position in its revolution they fall by their own gravity and strike upon the brushes, thus jarring loose any material which may have adhered thereto. They may be secured to the shaft by ordinary hinges, *f*, or by any other suitable means.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a bolting-reel, an internal non-revoluble portion, springs secured

to said portion, and brushes mounted on said springs.

2. The combination, with a bolting-reel, of a weighted bearing supported by the reel-shaft, springs secured to said weighted bearing, and brushes secured to said springs and adapted to operate against the internal surface of the reel.

3. The combination of the reel-shaft, the reel, the weights, and the spring-mounted brushes secured thereto.

4. The combination, with a bolting-reel, of internal brushes and knockers hinged to the shaft and adapted to fall upon and jar said brushes.

5. The combination, in a bolting reel provided with ribs having flat inner sides, of an internal spring-mounted brush and means for holding the same in position.

6. The combination of a bolting-reel, an internal brush therefor, means for holding the same in position, and a knocker for jarring material free from said brush.

7. The combination of a bolting-reel, an internal brush, spring-arms on which the brush is mounted, means for holding the same in position, and knockers for freeing the brush of material which may adhere thereto.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 10th day of June, A. D. 1885.

JOHN W. HILL. [L. S.]

In presence of—

C. BRADFORD,
CHARLES L. THURBER.