

(No Model.)

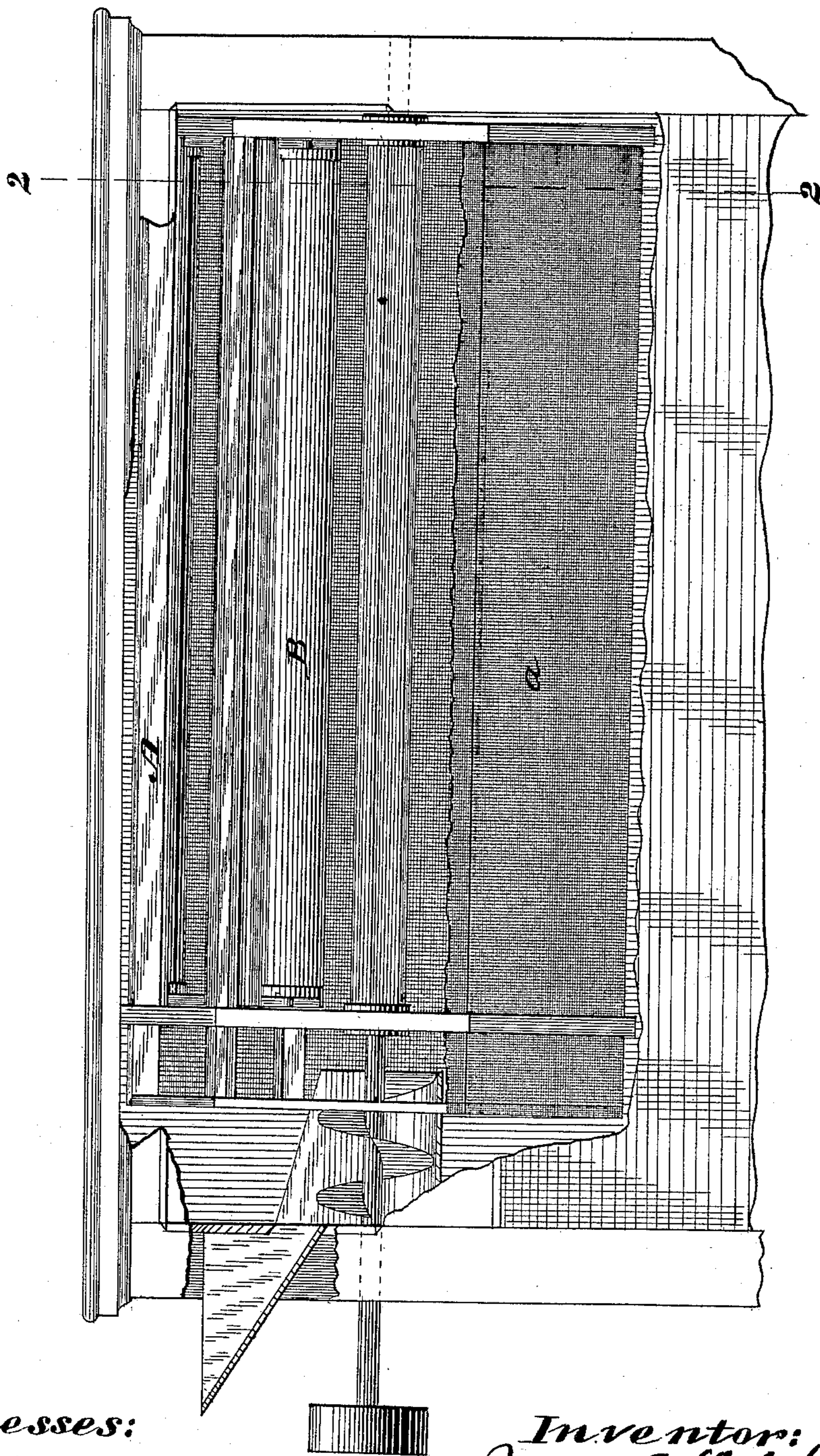
2 Sheets—Sheet 1.

J. E. WELCH.
BOLTING REEL.

No. 415,688.

Patented Nov. 19, 1889.

Fig. 1.



Witnesses:
J. W. Hoke.
N. B. Anderson.

Inventor:
James E. Welch
by C. Purdy atty

(No Model.)

2 Sheets—Sheet 2.

J. E. WELCH.
BOLTING REEL.

No. 415,688.

Patented Nov. 19, 1889.

Fig.2.

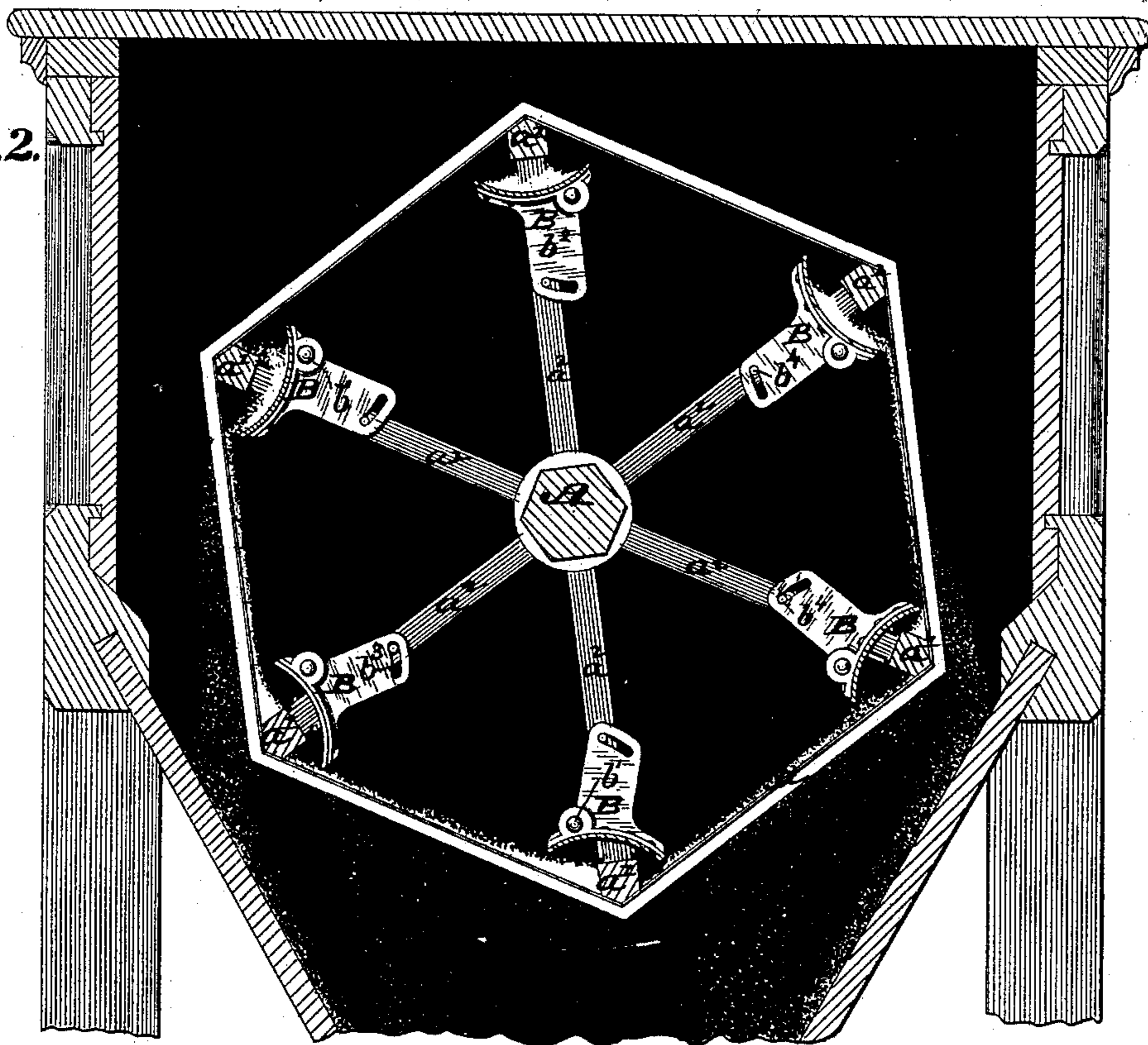


Fig.3.

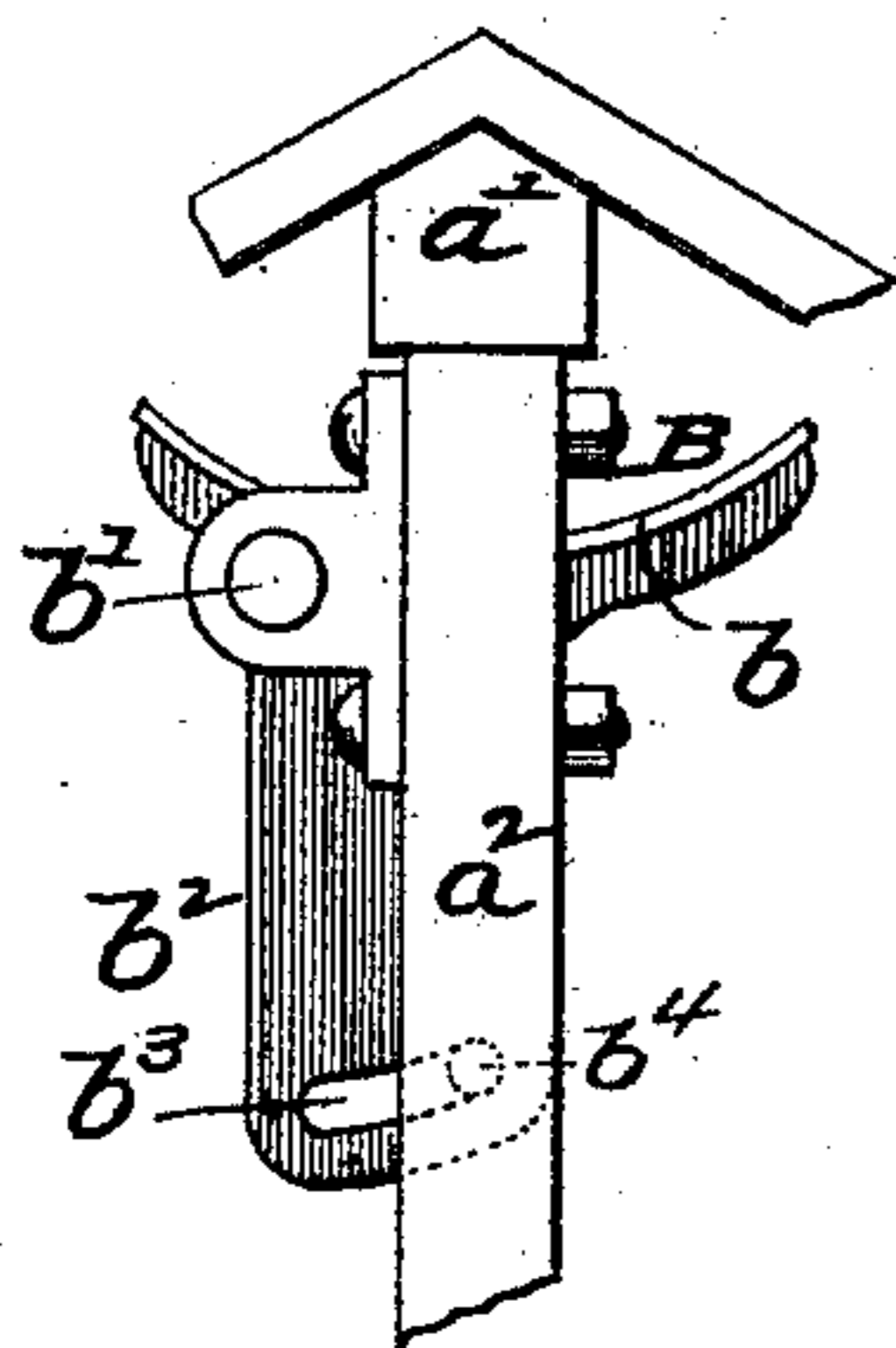
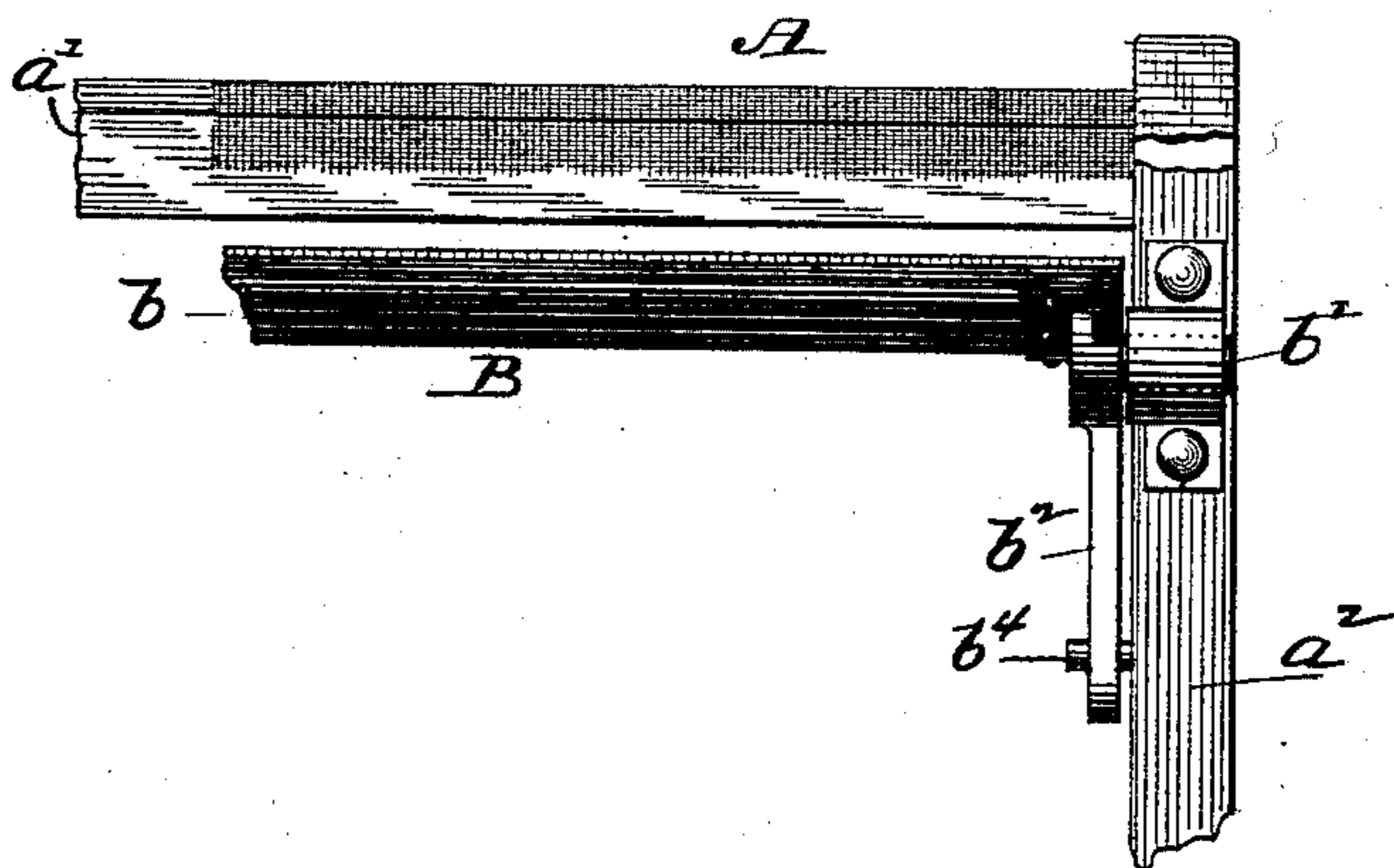


Fig.4.



Witnesses:
J. W. Hoke,
W. B. Anderson.

Inventor:
James E. Welch
by C. D. Moody atty

UNITED STATES PATENT OFFICE.

JAMES E. WELCH, OF PETERSBURG, ILLINOIS, ASSIGNOR OF ONE-HALF TO
ALBERT B. BOWMAN, OF ST. LOUIS, MISSOURI.

BOLTING-REEL.

SPECIFICATION forming part of Letters Patent No. 415,688, dated November 19, 1889.

Application filed July 19, 1886. Serial No. 208,484. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. WELCH, of Petersburg, Menard county, Illinois, have made a new and useful Improvement in Bolt-
ing-Reels, of which the following is a full, clear, and exact description.

The improvement is exhibited in the annexed drawings, making part of this specification, in which—

10 Figure 1 is a side sectional elevation showing a reel provided with the improvement. Fig. 2 is a vertical cross-section on the line 2
2 of Fig. 1. Fig. 3 is an end elevation of one of the carriers and its support, and Fig. 4 is
15 a side elevation of the parts of Fig. 3.

The same letters of reference denote the same parts.

20 The reel A exhibited is of the familiar hexagonal type, and it is operated in the customary manner, saving as the construction and operation are modified by the improvement in question.

B B represent a series of what may be termed "carriers," which rotate with the reel.
25 The carriers consist each of a concave strip of sheet-iron b , arranged longitudinally in the reel opposite and near the reel-rib a' , with its concave side turned toward the reel-rib and pivoted at b' to the reel-arms a^2 , and so
30 as to bring the (then) upper edge of the strip b nearer than its lower edge to the reel-cloth in the first portion of the up movement of the strip, then to turn on the pivot b' to bring the first-named edge farther from the reel-cloth in
35 the last portion of the up movement, in which position of the strip both of its edges are nearly, if not quite, equidistant from the reel-cloth. The strip remains in this relative position to the reel-cloth as the reel turns
40 around into the first portion of the down-movement of the strip, after which the strip turns on its pivot b' into its first-named po-

sition. All of the carriers similarly success-
sively turn on their respective pivots b' as the reel rotates, and the result is the bolting 45
of the material through the bottom and sides of the reel and the prevention of the dropping of the material violently onto the bottom of the reel. By reason of the pivot b' being at one side of the center of the strip, one side 50
thereof is heavier than the other, and hence the described movement of the strip upon its pivot is more effectually accomplished. The movement of the strip upon its pivot is conveniently limited by means of the arms b^2 , 55
which extend beyond the pivot b' , and are slotted at b^3 to receive the pin b^4 , which projects from the arm a^2 , and thereby serves as a stop to the arm b^2 as the strip is vibrated. I desire, however, not to be confined to this 60
mode of pivoting and operating the strip. The pivot may be at its center, and the strip may be weighted at one side thereof.

I claim—

1. The combination of the reel-arms, the 65
pins b^4 , the strips b , the pivots b' , and the slotted arms b^2 , substantially as described.

2. A bolting-reel frame having a central shaft, a head, a tail-spider, and the bolting-cloth attached thereto, in combination with 70
two opposite spider-frames mounted on the shaft at the opposite ends of and within the reel, having stop-lugs on their inner faces, and a series of longitudinal elevator-buckets mounted between said spiders and limited in 75
their inward movement by said lugs and adapted to carry the material being bolted up and dash it against the descending side of the cloth and to jar the cloth at the same time.

JAMES E. WELCH.

Witnesses:

THOS. W. BRADY,
FRANCIS VALLÉ.