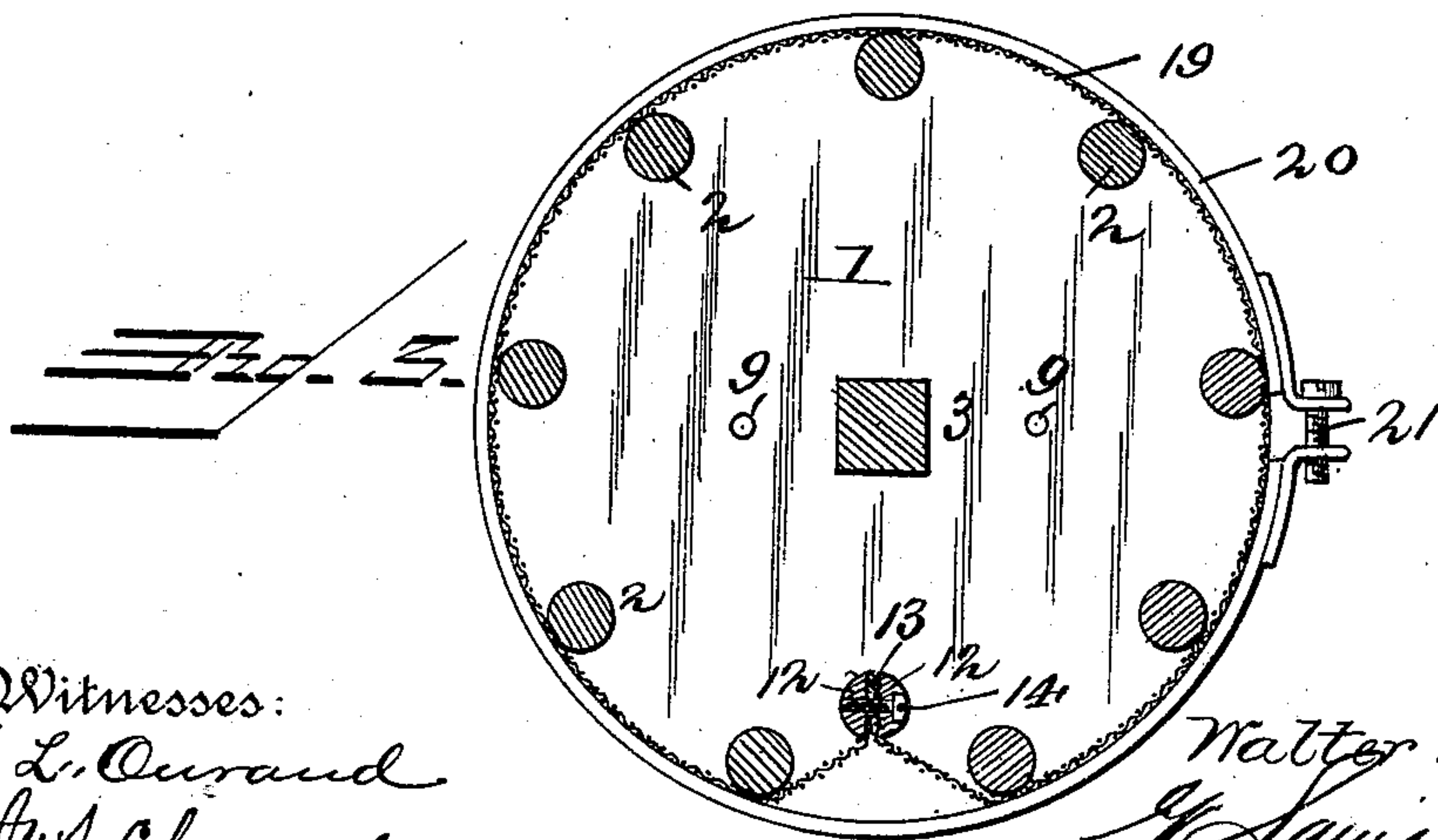
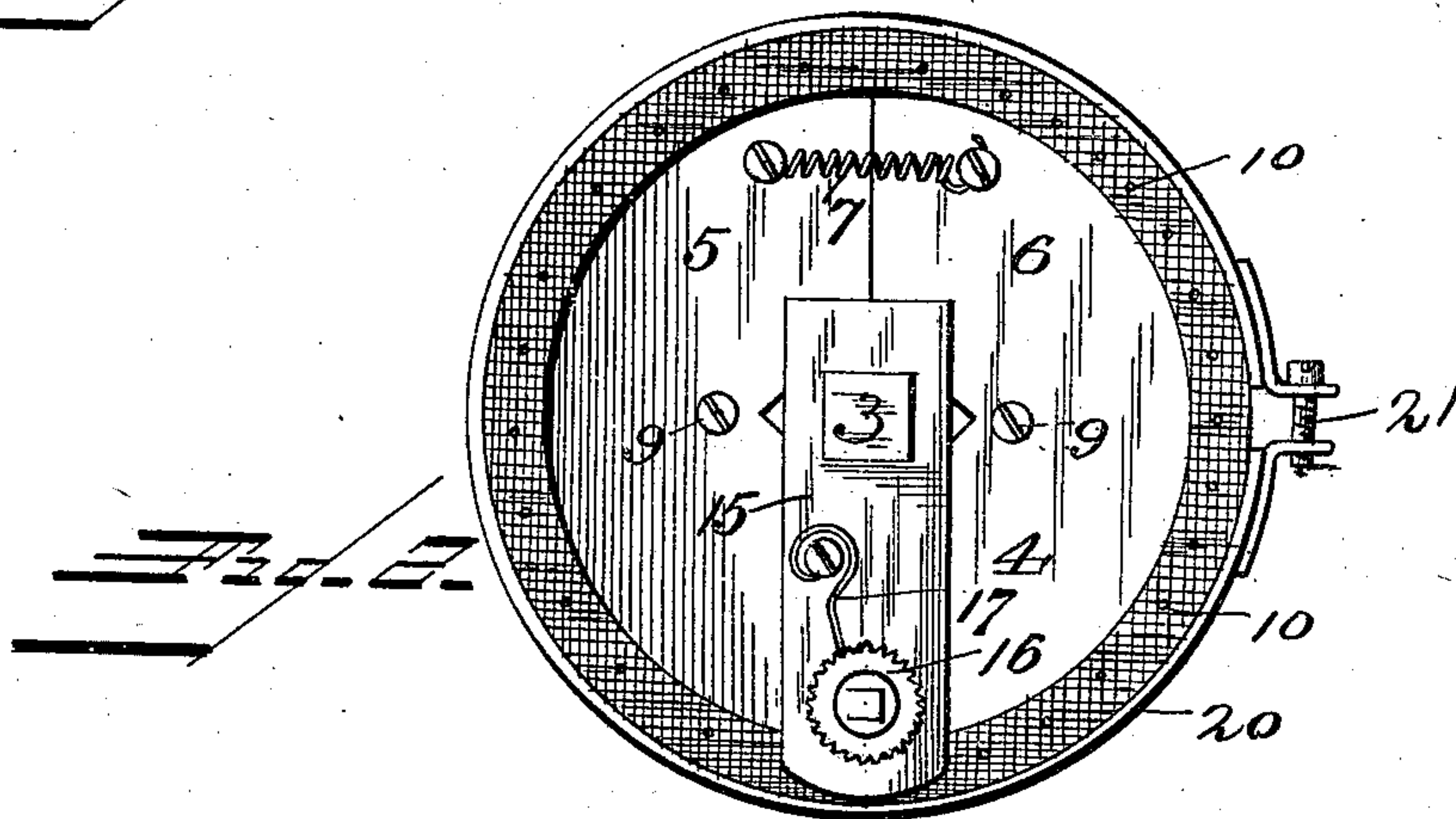
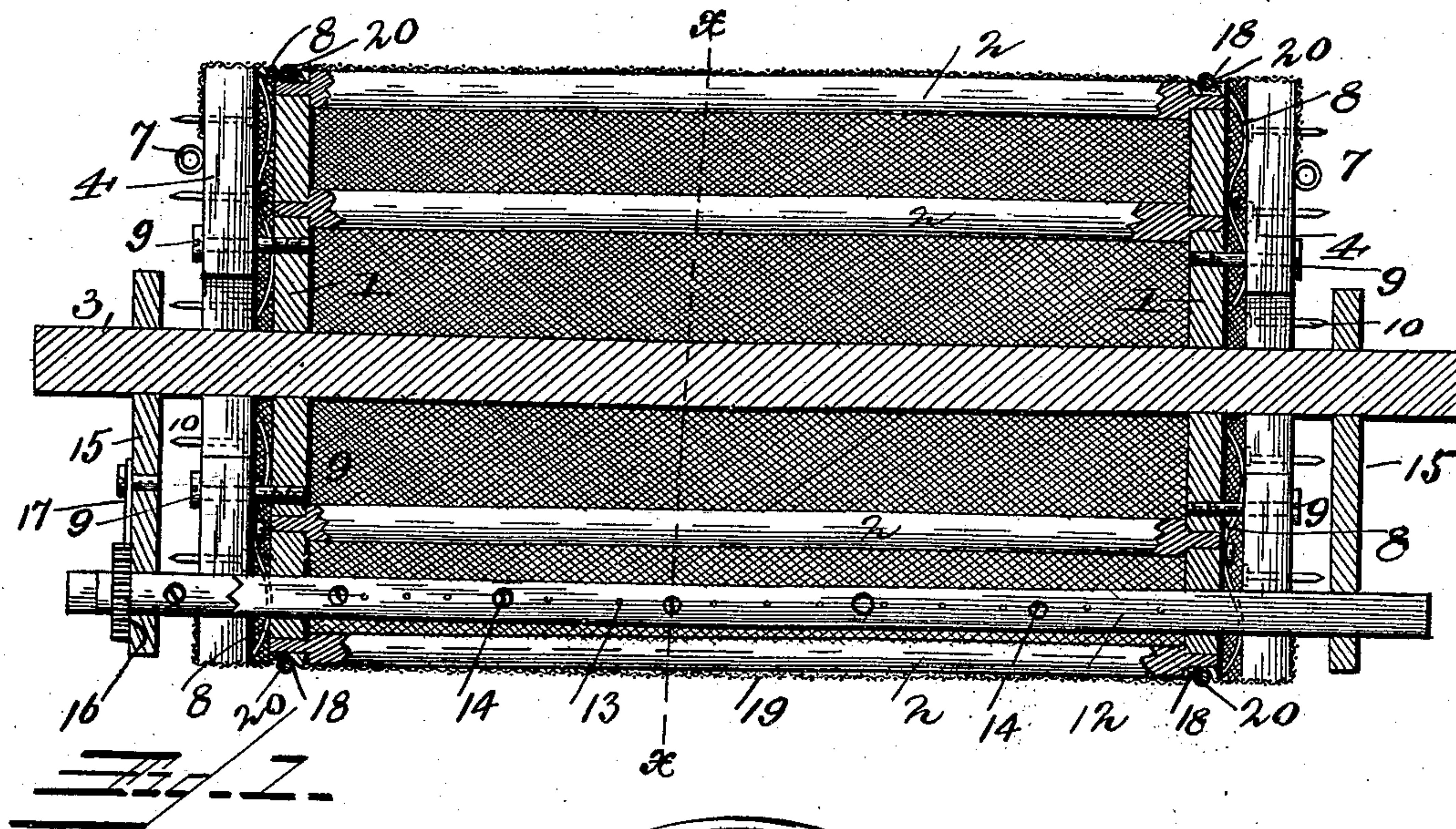


(No Model.)

W. S. HILL.
BOLTING REEL.

No. 548,916.

Patented Oct. 29, 1895.



Witnesses:
F. L. Curand
W. L. Coombs

Inventor:
Walter S. Hill
J. Lewis Pugh & Co
Attorneys.

UNITED STATES PATENT OFFICE.

WALTER S. HILL, OF MOUNT VERNON, MISSOURI, ASSIGNOR OF ONE-HALF
TO JAMES OVERTON, OF SAME PLACE.

BOLTING-REEL.

SPECIFICATION forming part of Letters Patent No. 548,916, dated October 29, 1895.

Application filed June 7, 1895. Serial No. 552,030. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. HILL, a citizen of the United States, and a resident of Mount Vernon, in the county of Lawrence and State of Missouri, have invented certain new and useful Improvements in Bolting-Reels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

As is well known to persons familiar with the art to which my invention pertains, there is a great loss of time, labor, and expense in removing and replacing bolting-cloths on reels and also in repairing the cloths when they become injured; and the object of my invention is to provide an improved reel by which the bolting-cloth can be removed in a very short time and be readily replaced, thus effecting a great saving in the running of mills.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a bolting-reel constructed in accordance with my invention. Fig. 2 is an end view of the same. Fig. 3 is a transverse sectional view on the line $x-x$, Fig. 1.

In the said drawings the reference-numeral 1 designates two solid inner heads circular in form and connected together by ribs 2. These heads are provided with shafts 3, by which they are rotated, as usual.

The numeral 4 designates two outside heads, each consisting of two semicircular sections 5 and 6, which are connected together by coiled springs 7. Interposed between the heads 1 and 4 are a series of springs 8, the object of which is to press the heads 4 outward and thus keep the bolting-cloth stretched taut. Passing through the sections 5 and 6 and engaging with the heads 1 are set-screws 9, by which the inner and outer heads are drawn together before putting on the cloth. The sections 5 and 6 are provided with pins 10,

which engage with and hold the bolting-cloth.

The numeral 12 designates two ribs, which are semicircular in cross-section, provided with teeth 13, and connected together by set-screws 14, the heads of which are countersunk in the outer rib. These ribs are journaled in cranks 15, connected with the shafts of the reel, and are located nearer to the center of the reel than the fixed ribs, so as to escape the brushes, but not so near as to interfere with the beaters. At one end these ribs are made triangular, so that they can be engaged by a wrench to operate the same, and they are provided with a ratchet-wheel 16, with which engages a pawl 17 on one of the cranks 15 to prevent backward movement of the ribs.

The numeral 18 designates a peripheral groove in the inner heads 1, in which the bolting-cloth 19 is compressed by wire hoops 20, the ends of each of which are connected together by means of set-screws 21.

The manner of attaching the bolting-cloth to the reel is as follows: The set-screws of the rotating rib are loosened and the outer half of said rib removed. The edge of the bolting-cloth is then connected with the inner half of the rib by means of the hooks thereon. The reel is then turned slowly and the side edges of the cloth are engaged with the pins on the outer heads. The reel is turned about half-way round and the cloth will be connected with all of the pins of one of the sections of said outer heads. The cloth is then allowed to bow up or slacken about an inch, when the reel is again rotated and the cloth engaged with the pins of the other sections, and when completed the end of the cloth is engaged with the pins on the inner half of the rotating rib. The outer half is then secured in place by the set-screws. The set-screws in the outer heads are then loosened, when the springs 8 will force the heads 4 outward, stretching the cloth longitudinally. During the above operation the tension of the cloth will cause the ends of the sections 5 and 6, adjacent to the two-part rib, to be spread apart a short distance. The two-part rib is then rotated, which will tighten the cloth, and the

opening between the heads or sections 5 and 6, adjacent to the two-part rib, will close and the opposite ends of the sections will spread apart, which will tighten the cloth in both directions from the center of the reel and take up the bow or slackened portion. The hoops are then applied to hold the cloth to the inner heads. The grooves on the said heads should be packed with some elastic material to make a tight joint and prevent the escape of flour under the cloth.

The manner of removing the cloth will be apparent, and no detailed description thereof is necessary.

The flour is to be conveyed to the reel and discharged as in the ordinary reels, and when the device is applied to a "scalper" when a "spider" is used the screws of the sections 5 and 6 can be made to work on the "spider-arm."

In a bolting-reel constructed as above the cloths can be removed and replaced with great rapidity, thus making a great saving in time and labor over the ordinary bolting-reels, which require considerable time to accomplish the same object.

Having thus fully described my invention, what I claim is—

1. In a bolting reel, the combination with the inner heads and ribs connected with the same, of the two-part outer heads connected together by coiled springs, the two-part rotatable ribs provided with hooks or pins and the set-screws connecting them together, substantially as described.

2. In a bolting reel, the combination with the inner heads, and the ribs connecting the same together, of the outer heads composed of two sections connected together by coiled springs, the springs interposed between the outer and inner heads, the set-screws, the pins, the two-part rotatable ribs, the hooks or pins and the set screws, substantially as described.

3. In a bolting-reel the combination with the inner heads, the ribs connecting the same, the stud shafts and the cranks, of the outer heads made in two sections connected together by coiled springs, the set-screws, the springs interposed between said inner and outer heads, the two-part rotating ribs journaled in said cranks, the hooks or pins, and set screws; substantially as described.

4. In a bolting reel, the combination with the inner heads having peripheral grooves, the stud-shafts, and the cranks, of the outer heads made in two sections connected together by coiled springs, the set-screws, the springs interposed between said inner and outer heads, the pins, the two part rotatable ribs journaled in said cranks, the ratchet wheel and crank, the bolting cloth and the wire hoops; substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WALTER S. HILL.

Witnesses:

JAMES M. HUNT,
JOHN C. TURK.