

(No Model.)

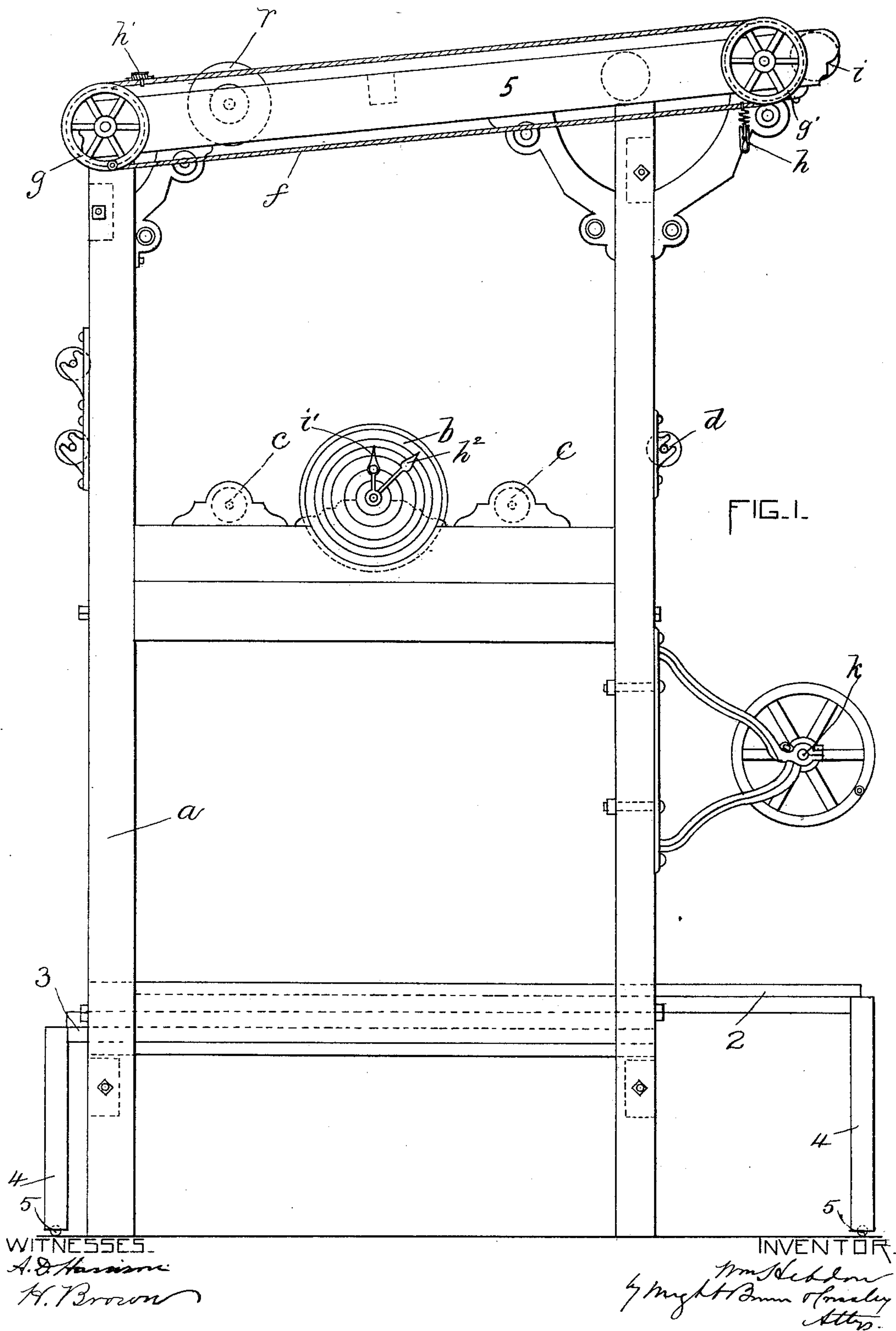
2 Sheets—Sheet 1.

W. HEBDON.

MACHINE FOR MEASURING AND EXAMINING CLOTH.

No. 415,508.

Patented Nov. 19, 1889.



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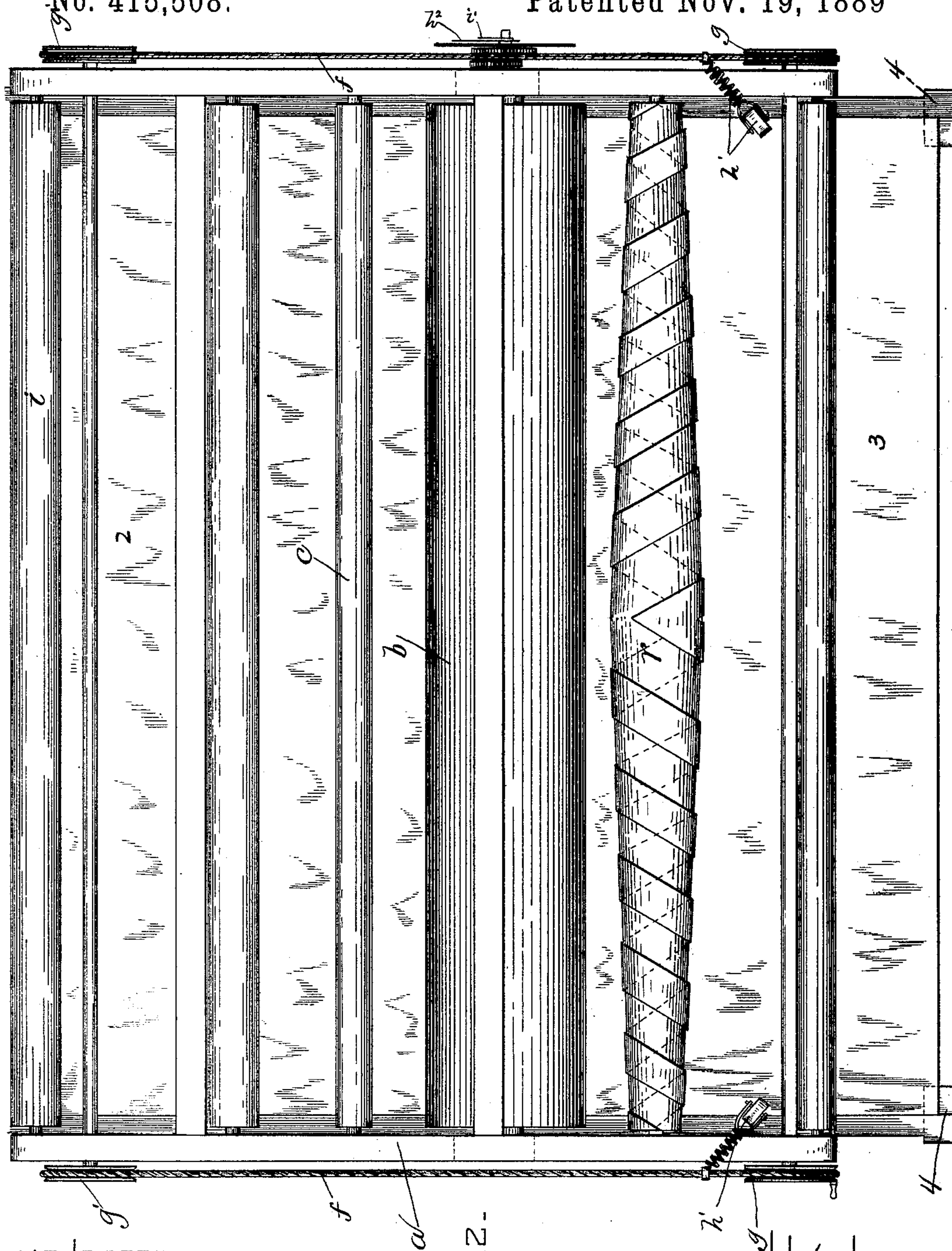


FIG. 2.

WITNESSES.
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by night / Am. Pressing
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UNITED STATES PATENT OFFICE.

WILLIAM HEBDON, OF BOSTON, MASSACHUSETTS.

MACHINE FOR MEASURING AND EXAMINING CLOTH.

SPECIFICATION forming part of Letters Patent No. 415,508, dated November 19, 1889.

Application filed April 16, 1889. Serial No. 307,452. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HEBDON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Measuring and Examining Cloth, of which the following is a specification.

This invention has for its object to provide a simple, compact, and efficient machine for measuring, examining, and spreading double-width cloths; and it consists in the several improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 is an end elevation of my improved machine. Fig. 2 is a top view of the same.

The same letters of reference indicate the same parts in both the figures.

In the drawings, *a* represents a supporting-frame composed of suitable uprights and cross-bars and provided with bearings to support the several shafts and rolls hereinafter described. At the lower portion of said frame is an extension-table composed of sections 2 3, which are adapted to slide in guides attached to the frame, so that said table may be folded within the length of the frame or may be extended from both sides of the frame. The outer ends of the sections 2 3 are provided with legs 4 4, having casters 5, which rest upon the floor and support the outer ends of the sections when they are drawn outwardly.

b represents a cylinder journaled in bearings at about the center of the frame *a* and provided with suitable hands or indicators *h*² *i*² and mechanism to operate the same, whereby the number of rotations of the said cylinder is indicated.

I have not shown and do not describe any particular indicating mechanism, as any of the well-known forms of registers or indicators adapted to show to the eye the number of rotations of the cylinder may be employed.

The cylinder *b*, which I term a "measuring-cylinder," is located between two rolls *c c*, and is used to measure cloth in double thickness, or before it is unfolded, the cloth being drawn from the roll in double thickness and passed under the first roll *c*, over the meas-

uring-cylinder *b*, under the second roll *c*, and over a roll *d*, which is journaled at one side of the frame, the cloth passing from the roll *d* to the section 2 of the table and being there deposited as fast as it is measured. In case it is found that the cloth has the proper measurement and is not lacking in quantity, the section 2, which was drawn outwardly to receive the cloth from the roll *d*, is pushed inwardly, thus carrying the cloth deposited upon it toward the back of the frame, so that it can be conveniently reached by an attendant and opened or unfolded and carried upwardly to the devices that expose the cloth for examination. Said devices consist of two belts *f f*, which run upon pulleys *g g'*, the shafts of which are journaled in the upper portion of the frame, the pulleys *g* being located at the back and the pulleys *g'* at the front of the frame. The two belts are located a sufficient distance apart to correspond to the width of the unfolded cloth, and each belt is provided with two spring-actuated clamps, clasps, or clips *h h'*, which are constructed to grasp the ends of the piece of cloth. The clasps are located at corresponding points on the two belts, so that they act conjointly in holding the end of the piece of cloth—that is to say, the clasps *h h* act to grasp the first end of the piece of cloth as it is carried up from the table 3 below and carry the said end along to the front of the machine. When the advancing end of the cloth reaches the pulleys *g g'*, it is detached from the clasps *h h* by an attendant and its end is allowed to hang down over the roll *i*, which is journaled in the front of the machine. After the detachment of the first end of the piece from the clasps *h* the belts are stopped, and the operator draws the cloth along by hand as fast as he can inspect the portions that have passed over the roll *i* and extend downwardly to a winding spit or mandrel *k*, which is journaled in bearings at the front of the machine. The cloth passes vertically from the roll *i* to the spit or mandrel *k* and is spread out therebetween, so that it can be conveniently viewed or inspected by the operator before it is wound up. The roll *i* is journaled in the ends of the cross-bars 5, which project from the front of the frame far enough to enable an observer to be

stationed between the frame and the portion of the cloth that is stretched between the roll *i* and mandrel *k*, so that the cloth can be examined by looking through it or from its back toward the light, this operation being known as examining the ground of the cloth. This arrangement, whereby the operator is enabled to conveniently examine the ground of the cloth, is an important feature of my invention, as a large proportion of cloths require to be examined in this way.

The operation of my improved machine is as follows: When it is desired to ascertain whether a piece of cloth has the full quantity without going to the trouble of unfolding it, the operator passes it over the measuring-cylinder *b* and deposits it, as it passes the said cylinder, upon the extended section 2 of the table. If it appears that the roll or piece of cloth has not the full quantity represented, it is rewound, and the operator does not examine or test it. If the quantity is correct, the section 2 of the table is pushed in to carry the cloth toward the back of the frame, and the operator, taking the end of the piece, unfolds it and secures it to the belts *ff* by means of the clamps *h h*, this being the commencement of the opening or spreading of the cloth. The belts are then set in motion by rotating the pulleys *g g* by hand or otherwise, and the cloth is thus carried along to the front of the machine, and after reaching the front the end of the cloth is released and allowed to descend over the roll *i* to the winding spit or mandrel. As fast as the cloth is examined, either from the front or from the back, it is wound upon the mandrel. When the last end of the piece reaches the belts *ff*, it is secured thereto by means of the clamps *h' h'*, which are at this time at or near the pulleys *g g*, the clasps *h'* being left at this point when the movement of the belts was stopped. Said clamps *h'* hold the last end of the cloth and prevent it from falling from said belts and the roller *i* until it is released by opening the clamps *h'*. Time is thus afforded for the examination of the last end of the cloth. If said end were not attached to the belts, as described, it would fall bodily from the belts as soon as it reached a point near the pulleys *g'* without giving the observer or examiner a proper view of said end.

If desired, a smoothing-roll *r*, having spiral

ridges or strips secured to its periphery and arranged like right and left screw-threads, may be journaled in the upper portion of the frame *a* and arranged to act upon the cloth between the pulleys *g g*, so as to remove wrinkles from the same, the spiral strips acting to carry any wrinkles or fullness in the cloth toward the outer edges thereof.

I claim—

1. The combination of a supporting-frame, a sectional table, the sections of which are adapted to slide horizontally in guides at the lower portion of said frame, a measuring-cylinder, and guide-rolls co-operating therewith, whereby the cloth, after passing the measuring-cylinder, is permitted to fall upon a section of the table to be carried by a sliding movement of the latter to the back portion of the frame, as set forth.

2. In a cloth opening and measuring machine, the combination of a supporting-frame having the extended cross-bars 5 and the cloth-supporting table, the pulleys *g g g' g'*, the latter being journaled in the outer ends of said cross-bars, the belts *ff* on said pulleys, having the cloth-clamps *h h* and *h' h'*, the clamps *h' h'* being located at a distance from the clamps *h h*, whereby the said clamps *h' h'* are enabled to support the last end of a piece of cloth when it reaches the pulleys *g' g'*, all arranged and operating substantially as set forth.

3. In a cloth opening and measuring machine, the combination of the sectional table, the cloth-measuring devices, the cloth opening and feeding belts having clamps or clips, and a rewinding spit or mandrel arranged below the delivering portions of said belts, whereby the cloth passing from the belts to the mandrel is exposed to view, as set forth.

4. The cloth opening and feeding belts *ff*, combined with supporting-pulleys *g g g' g'* and cloth-clamps *h h h' h'*, applied to said belts, the said clamps *h' h'* being located at a distance from the clamps *h h*, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 4th day of April, A. D. 1889.

WILLIAM HEBDON.

Witnesses:

C. F. BROWN,
A. D. HARRISON.