

No. 630,969.

Patented Aug. 15, 1899.

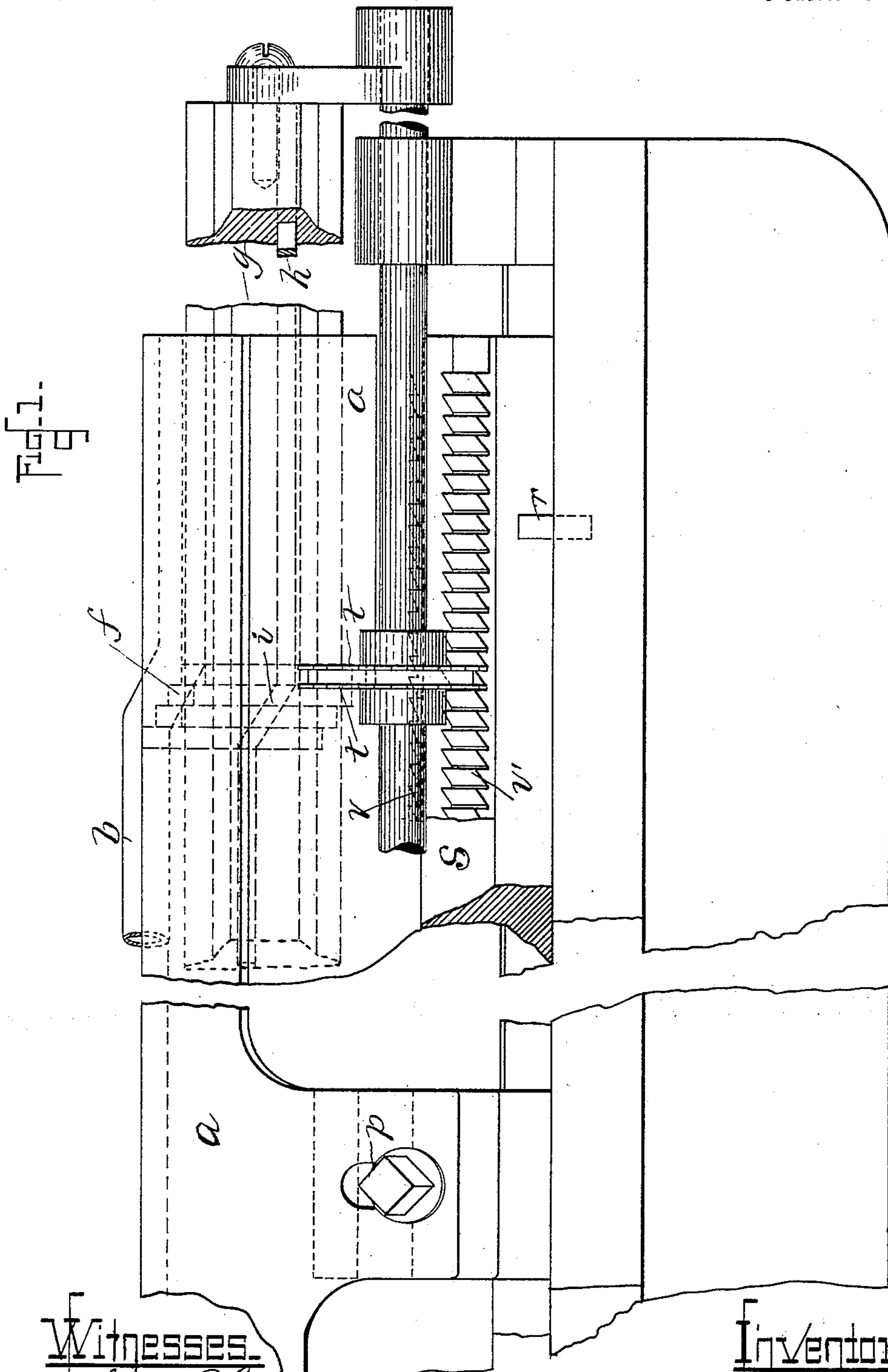
A. BROWN.

CLOTH REST FOR CLOTH SHEARING MACHINES.

(Application filed June 16, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses.

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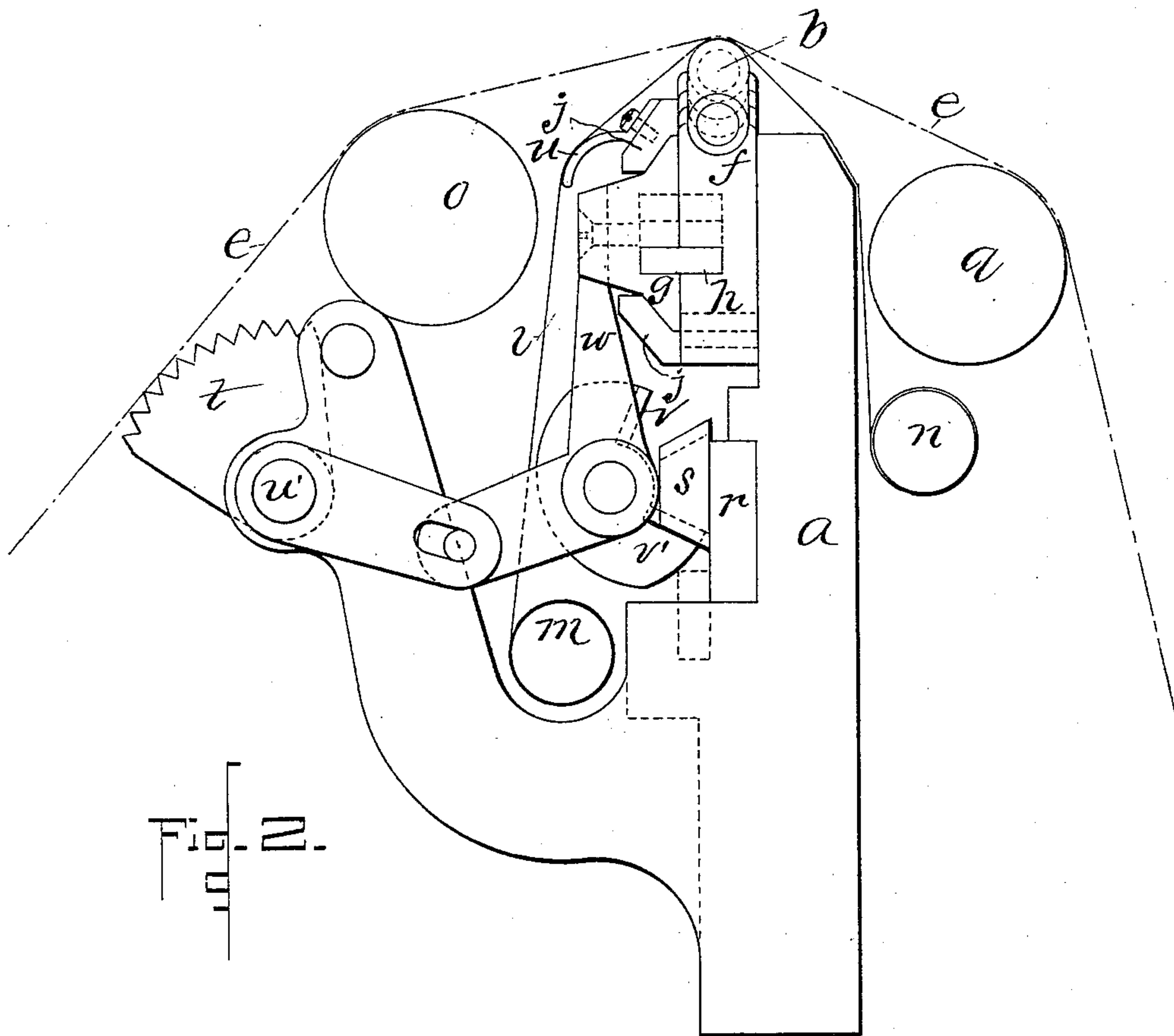


Fig. 2.

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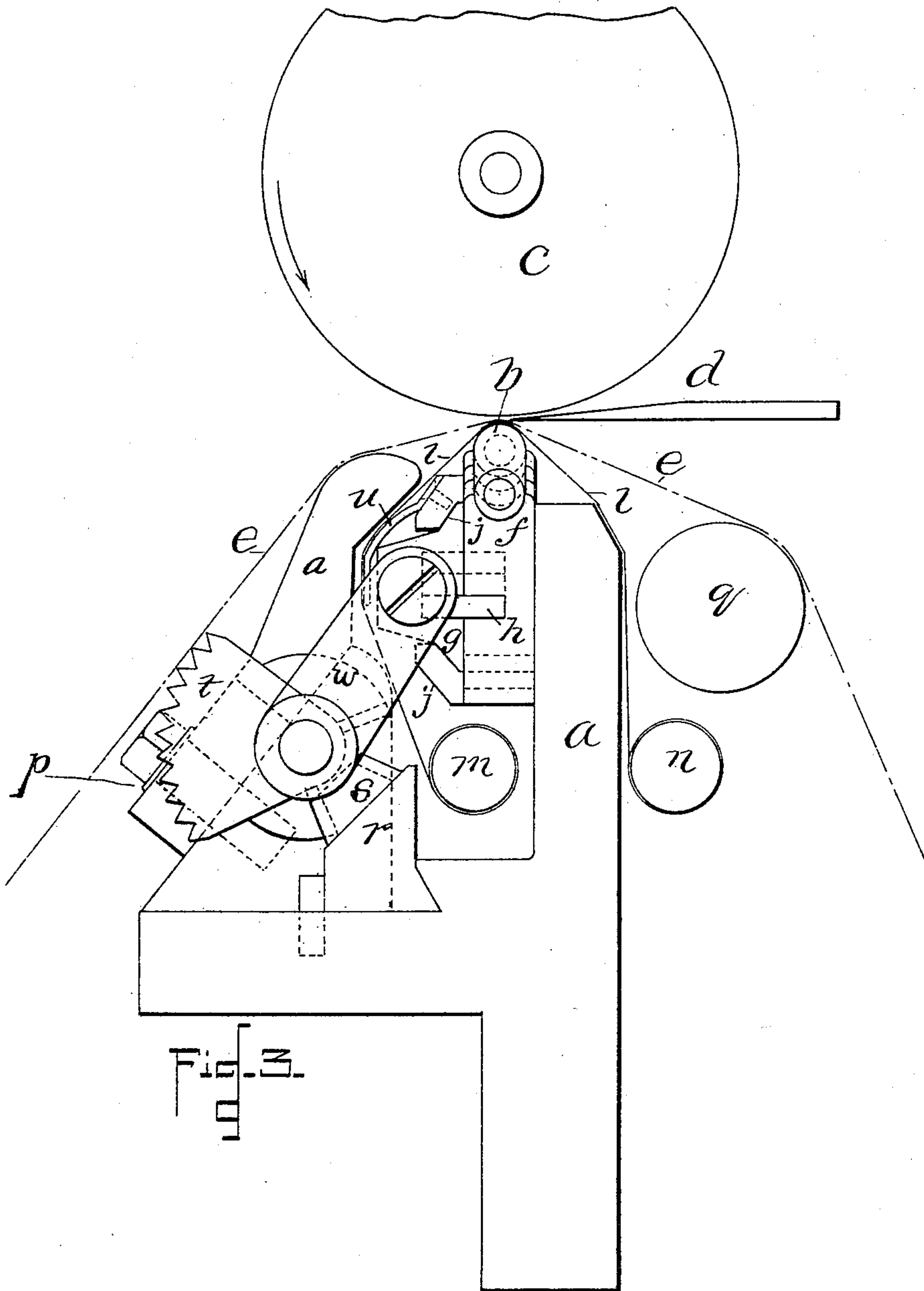
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CLOTH REST FOR CLOTH SHEARING MACHINES.

(Application filed June 18, 1897.)

(No Model.)

3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

ADNA BROWN, OF SPRINGFIELD, VERMONT, ASSIGNOR TO THE PARKS & WOOLSON MACHINE COMPANY, OF SAME PLACE.

CLOTH-REST FOR CLOTH-SHEARING MACHINES.

SPECIFICATION forming part of Letters Patent No. 630,969, dated August 15, 1899.

Application filed June 16, 1897. Serial No. 640,990. (No model.)

To all whom it may concern:

Be it known that I, ADNA BROWN, of Springfield, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Cloth-Rests for Cloth-Shearing Machines, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to make and use the same.

This invention has relation to machines through which cloth is passed after leaving the napping-machine or gig-mill to shear the nap, so as to shorten it evenly and secure a smooth fine finish to the surface of the cloth.

It is the object of the invention to provide various improvements in machines of the kind mentioned, which improvements relate for the most part to the rest and the control of the same over which the cloth passes when it is acted upon by the immediate shearing means.

The invention consists of a yielding rest—that is, of a rest capable of yielding or being depressed for the passage of knots, flocks, or slugs on the face of the cloth and for other purposes—and means for depressing the said rest at certain points or along certain lines in order that it may not support that portion of the cloth passing over it, whereby said non-supported portion of the cloth is prevented from being acted upon by the shears, the depression of the rest being effected by any suitable means which will accomplish the result or function—as, for instance, by means accomplishing the depression of the immediate support for the yielding rest—or by what would be deemed equivalent means—namely, movable fingers which may be made to bear upon the yielding rest and depress or lower it or move it out of or away from the shearing-line.

The invention also consists of other improvements having a more or less close relationship to the foregoing, all as I will now proceed to describe and claim.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a front view of the right-hand end of a part of a cloth-shearing machine embodying the greater part of one form of my improvements, parts being represented as broken away. Fig. 2 is a right-hand end view of so much of a machine as it is necessary to show in order to fully explain my invention, a modified form of the front rest being shown. Fig. 3 is a view similar to Fig. 2, but showing a modified form of some of the means illustrated in the last-mentioned figure.

In the drawings, *a* designates the main casting or frame, in a groove in the upper portion of which the yielding rest *b* is supported.

c is the “fly-blade,” and *d* is the ledger-blade. The effective part of the rest and the fly and ledger blades have a relationship as to position and arrangement so as to effect the shearing of the nap on the cloth *e* passing over the rest, all as is well known to those skilled in the art and needing no description herein.

The rest *b* may consist of a rubber tube or rod or any other yielding and elastic substance. In the present instance the end portion of the support for the rest *b*, to the extent of, say, ten inches, is made up of separate joints or sections *f*, movable toward and from the shearing-blades in order that the flexible and yielding rest may for its entire length be held up into effective or operative position or be allowed at its end portions to drop or spring away from such position for a greater or less distance, and the description hereinafter given will have reference for the most part to this form of means, notwithstanding the fact that I contemplate the use in some cases, what I consider equivalent means, of movable fingers for bearing upon a part of the yielding and elastic rest to press it away from operative relationship with the blades and by removing the said fingers allow the depressed part of the rest to spring back to place.

g is a slide movable along the machine and provided with a rib *h*, which has at a particular point along its length an inclined part *i*, serving in a cam-like manner to join two parts of the rib extending in different planes on the slide. The said rib extends into a

groove or notch formed in each joint or section, so that as the slide is moved to or from the cam part *i* of the rib will raise or lower the joints or sections, and consequently raise the ends of the rest *b* or allow said ends to be lowered or depressed or carried away from the blades. The slide *g* is suitably supported by the frame—as, for example, by the projecting parts *j j*. (Best seen in Figs. 2 and 3.) The joints or sections may be suitably supported by the frame and slide, as shown also in said last-mentioned figures.

l designates an apron which passes over the yielding and elastic rest, so as to avoid undue wear by the cloth of the latter. The apron is wound at its ends upon rolls *m* and *n*, so that the part bearing immediately upon the rest opposite the shears may be changed from time to time, as circumstances may suggest.

u is a guard of sheet-steel or other suitable material, which guard controls the position of the apron in front of the machine and guides it from the said guard in a straight line to the point or line where it bears upon the rest.

a designates the front rest and guide for the cloth, which guide is adjustable up and down by a slot-and-screw connection, as seen at *p* in Fig. 1, and *q* is a rear cloth-guide, also adjustable up and down by means (not shown) similar to that of the front rest. The adjustment of the said cloth-guides serves to vary the tension of the cloth on the cloth-rest *b*, it being obvious that when the guides are raised the cloth will bear with less force on the rest *b*, and when they are lowered it will bear with greater force thereon. I have indicated in Fig. 2 a modified form of front rest consisting of a cylinder *o*.

r is a base-bar to which is secured the double-flanked ratchet or rack bar *s*.

t is a feeler or dog mounted so as to be vibrated or oscillated on the rod *u'*. The said feeler is provided at its rear or inner part with teeth *v* and *v'*, one of which is adapted to engage one of the flanks of the rack-bar and the other to engage the other flank, according as to whether the feeler is rocked or moved upward or downward. As is seen in Fig. 2, if the edge of the cloth in its passage to the shears should engage the feeler and raise it so as that the tooth *v* should engage the upper flank of the ratchet or rack then the feeler would be pushed or moved to the right, together with the rod *u'*, which is fixed to the slide *g*, through the means of a part *w*, thus carrying the said slide with it, which will operate, as before described, through the medium of its cam-rib, upon the sections or joints to raise the same or one or more of the same. This will operate to lengthen the raised portion of the support for the yielding elastic rest *b* and so extend the efficient or operative length of the latter with reference to the shearing means. Should the cloth move or sway to the left, the opposite result or mode of operation

will occur, as will be understood without further description. As the feeler is adjustable along the rod *u'*, it will be seen that as wide a margin as is wished of the cloth may be left unsupported by the rest *b* in operative position with respect to the shears.

The yielding elastic tube or other form or rest *b* is secured at each end to the extreme outer joint at the end of the machine, so that the end of the rest may not slip or be dragged out of the grooves in the upper end of the joints, and the said yielding elastic rest is cemented at its central or body part to its support for the same purpose.

In Fig. 3 the rack-bar and means operating thereon from the feeler are shown back of the apron *l*, so that the teeth *v v'* of the feeler are connected with the latter through intermediate means, as shown. In Fig. 2 the rack-bar and the feeler and its teeth are in front of the apron.

The variations in construction shown and described are only instances of the changes that may be made to effect the raising and lowering of the yielding elastic rest *b* by the means illustrated. Indeed, so far as the raising and lowering of the support for the ends of the rest are concerned the invention is not confined to any particular means, nor is it confined to any particular form or arrangement of parts, since these may be greatly varied within the scope of mechanical skill without substantially varying the construction or mode of operation of the invention.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

1. A cloth-shearing machine embodying in its construction a yielding and elastic rest to permit the passage of knots and flocks in the cloth, a sectional support for said rest, means for automatically lengthening and shortening the operative or effective portion of said rest-support to leave unshorn the edge of the cloth passing thereover, said rest being secured along its middle portion and at its outer ends to said sectional support.

2. A cloth-shearing machine embodying in its construction a yielding and elastic rest, a sectional support, means for raising and depressing a greater or less portion of the end section of said support to vary the length of the effective or operative part of said rest, said rest being secured to the middle portion of the support and to the outer portions of the end section thereof.

3. A cloth-shearing machine embodying in its construction a yielding and elastic rest, a support therefor having fixed and movable parts, and means for automatically depressing and raising the immediate support therefor at its ends to lengthen and shorten the effective or operative portion of the rest, the said rest being secured to the fixed part of

its support and to the extreme ends of the shortening and lengthening portions.

4. In a cloth-shearing machine the combination of a yielding and elastic rest, a protecting-apron overlying said rest and having means to move it over said rest from time to time, a sectional support underlying said rest to which the rest is secured, and means for automatically lengthening and shortening the support of said flexible rest to leave unshorn the edge of the cloth being sheared.

5. A rest for cloth-shearing machines, constructed and arranged to have its ends raised and depressed to a greater or less extent along its length, to lengthen and shorten the effective or operative portion of the rest, in combination with an apron extending over said rest as a means of protecting the rest proper against undue wear, and rollers *m n* on opposite sides of and below the rest, upon

which the ends of the apron are wound, whereby any line or point of the apron may be adjusted to bear upon the rest, as set forth.

6. An elastic and yielding rest for cloth-shearing machines, combined with means for raising and depressing the same at its end portions to lengthen and shorten its effective portion, and a support for said rest, the latter being secured at its extreme ends and central or body part to said support and loose or free from the same from its attached end parts to a considerable extent inward.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of June, A. D. 1897.

ADNA BROWN.

Witnesses:

C. G. RICHARDSON,
JOHN H. HART.