(No Model.) 3 Sheets—Sheet 1.

N. J. BISHOPRICK.

AUTOMATIC MEASURER FOR FURS AND OTHER MATERIALS.

No. 273,340. Patented Mar. 6, 1883.

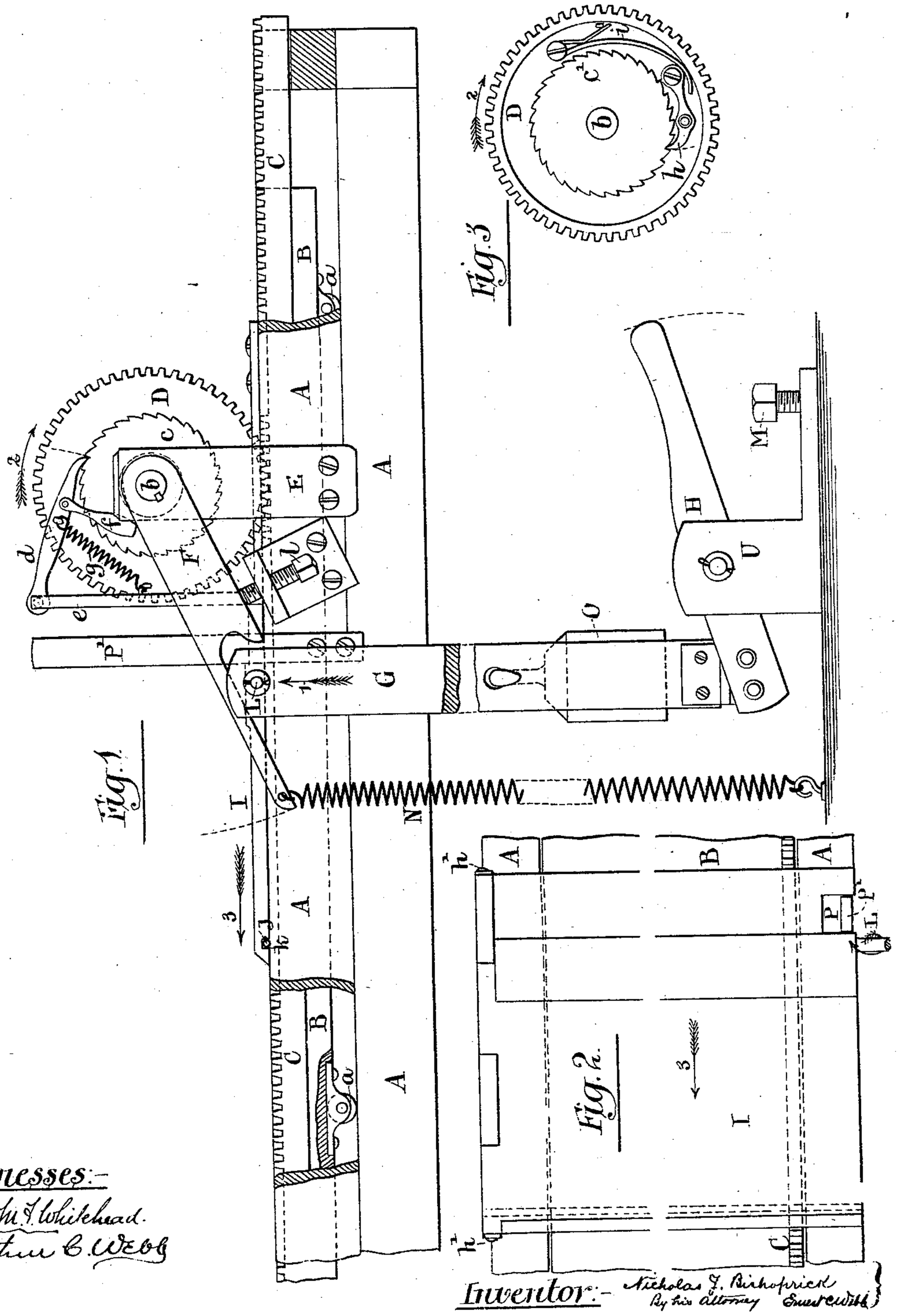

Fig. 1.

Fig. 3

Fig. 2.

Witnesses:-
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Arthur C. Webb

Inventor:- Nicholas J. Bishopprick
By his attorney Ernest Wirth

(No Model.)

3 Sheets—Sheet 2.

N. J. BISHOPRICK.

AUTOMATIC MEASURER FOR FURS AND OTHER MATERIALS.

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Fig. 1.

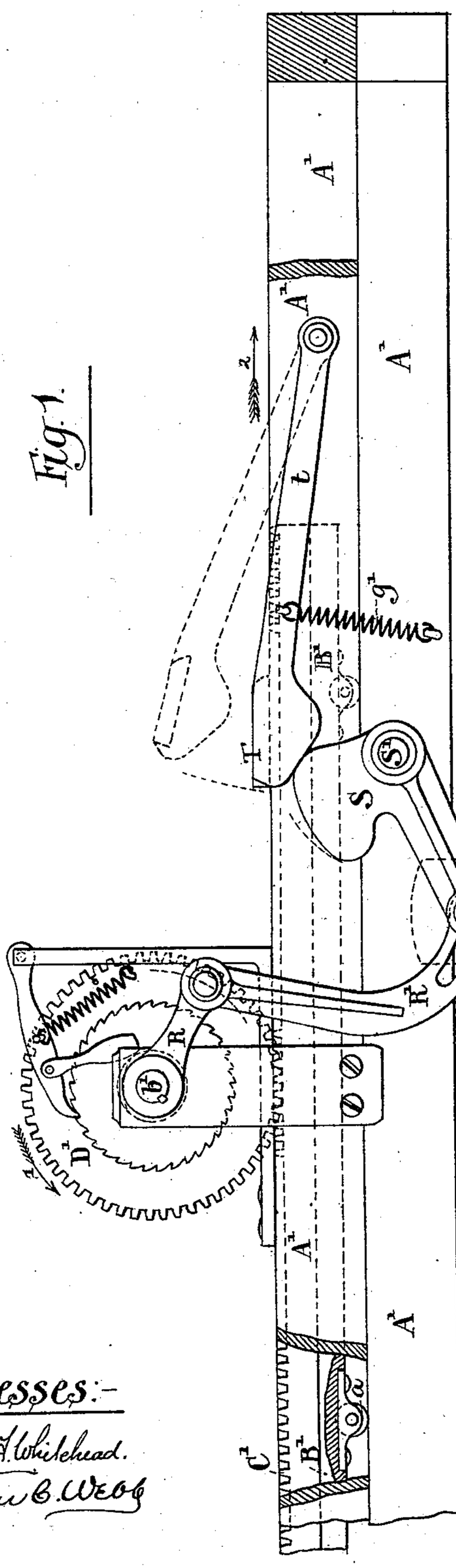


Fig. 2.

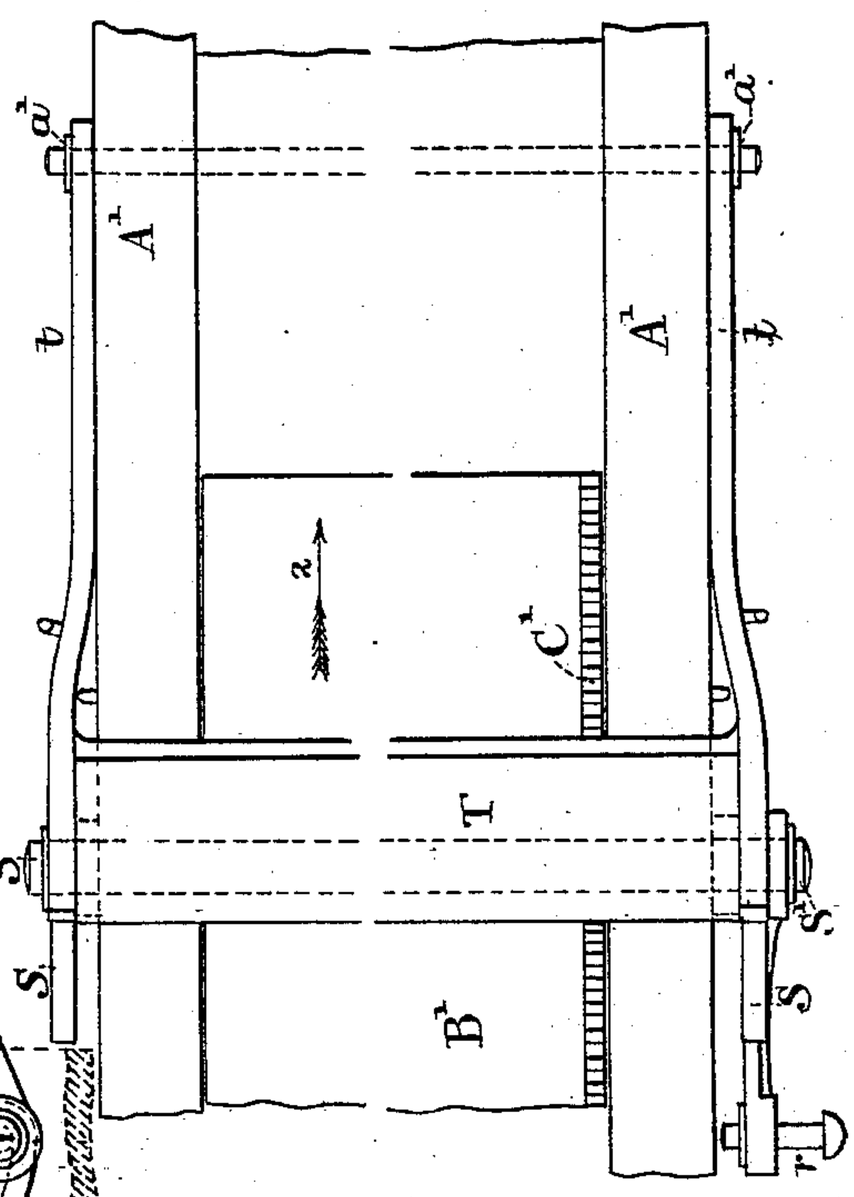
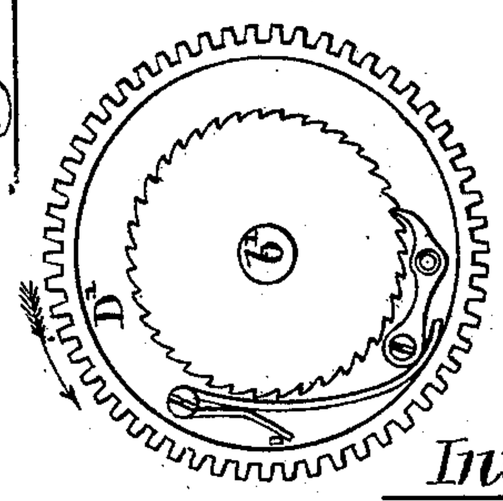


Fig. 3.



Witnesses:-

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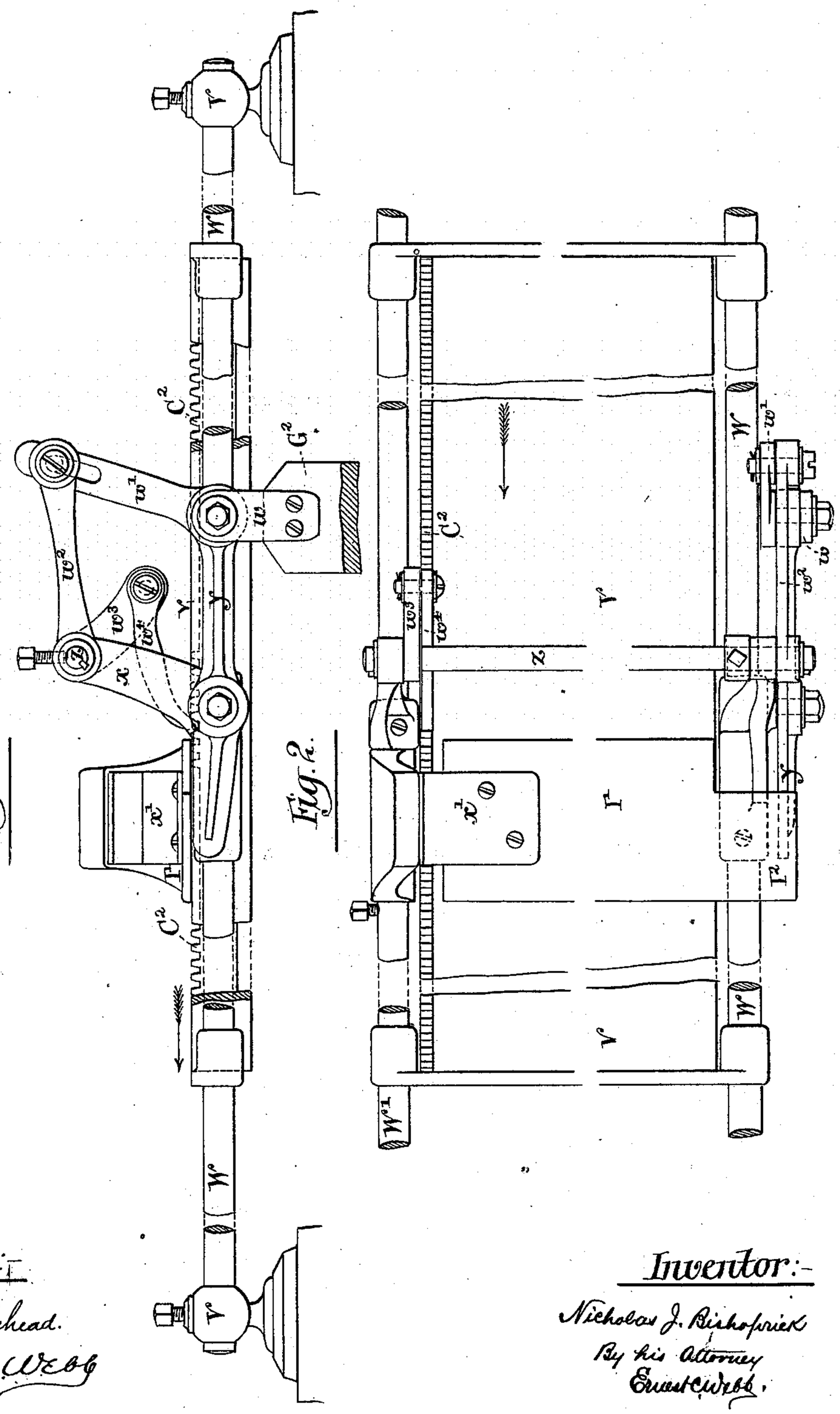
(No Model.) 3 Sheets—Sheet 3.

N. J. BISHOPRICK.

AUTOMATIC MEASURER FOR FURS AND OTHER MATERIALS.

No. 273,340. Patented Mar. 6, 1883.



Witnesses:-
Louis M. Whitehead.
Arthur C. Webb

Inventor:-
Nicholas J. Bishopprick
By his Attorney
Ernest C. Webb.

UNITED STATES PATENT OFFICE.

NICHOLAS J. BISHOPRICK, OF BROOKLYN, NEW YORK.

AUTOMATIC MEASURER FOR FURS AND OTHER MATERIALS.

SPECIFICATION forming part of Letters Patent No. 273,340, dated March 6, 1883.

Application filed November 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS J. BISHOPRICK, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a certain new and Improved Automatic Measurer for Furs and other Materials, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in machines for automatically measuring furs, leather, skins, paper, silk, and other textile fabrics, rubber, and other like substances, the object being to provide means whereby such materials can be accurately measured and firmly held in position until cut by one operation of the machine, thereby obviating the necessity of first measuring the precise width to be cut, and then holding the material by hand or in a press during the cutting operation.

My invention consists, first, in a movable cutting-table, on which the material to be measured and cut is carried, said table being adapted to be automatically moved forward to any desired distance and firmly held during the cutting operation, and being also arranged so that it can be pushed back as far as the frame will permit it to go.

Secondly, the invention consists in a rack attached to one side of the cutting-table and bearing against one end thereof, said rack being arranged to engage with a spur-wheel, whereby when motion is imparted to said spur-wheel the table will be moved forward to any desired distance; also, in a spur-wheel having two ratchet-wheels fixed thereto, geared to a shaft supported in a standard, motion being imparted to said spur-wheel by means of a lever keyed to said shaft, and bearing against the upper end of a connecting-rod attached to and adapted to be raised by a treadle, whereby the cutting table is propelled by the engagement of the spur-wheel with the rack; also, in the arrangement of an adjustable-screw or pin under the treadle, whereby the exact distance necessary to move the cutting-table forward to cut any desired width can be regulated by the fall of the treadle; also, in the arrangement of a cutting-plate for holding the material during the cutting operation and serving as a rule to cut by, said plate extending across the cutting-table and being connected to the frame-work, and adapted to be raised out of contact with the material as the table moves forward, and lowered to bear against the material when the motion ceases; also, in grooving the under side of said plate longitudinally, and inserting in said groove a strip of rubber or other suitable material, so that a portion thereof will protrude from said groove and come in contact with the material on the cutting-table when the plate is lowered, thereby preventing the material from slipping during the cutting operation; and in the details of the invention, all as hereinafter fully set forth.

In the drawings two arrangements of mechanism for propelling the cutting-table and three methods of connecting and raising the cutting-plate are shown.

Figure 1, Sheet I, is a side view of one method of constructing my improved measurer, the frame being shown broken away to show the rollers under the cutting-table. Fig. 2 is a plan view, showing the connection of the cutting-plate to the frame. Fig. 3 is a side view of the spur-wheel, showing the ratchet-wheel to which the shaft is geared.

A designates the frame, in which the cutting-table B is arranged to slide on rollers *a*. Between one side of the frame A and the cutting-table B a rack, C, is arranged, said rack, being fastened to one side of said cutting-table, between it and one side of the frame A, and bearing against the forward end of the cutting-table, the other end of the rack extending beyond the cutting-table. The forward end of the cutting-table B is wider than the remainder of the table, thus forming a shoulder against which the forward end of the rack C bears.

D designates a spur-wheel supported to run loose on a shaft, *b*, journaled in a standard, E, bolted or otherwise secured to the frame. Fixed to said spur-wheel D are two ratchet-wheels, *c c'*, the ratchet-wheel *c* running loose on the shaft *b* and the ratchet-wheel *c'* being keyed to said shaft. A pawl, *d*, supported by an upright, *e*, and carrying a pin, *f*, engages with the ratchet-wheel *c*, said pawl being held to its place by a spring, *g*, and being lifted out

of contact with the ratchet-wheel *c* by a lever, F, bearing against the pin *f*. A pawl, *h*, engaging with the ratchet-wheel *c'*, is pivoted to the spur-wheel D, said pawl being held to its place, whether in or out of contact with the ratchet-wheel *c'*, by a spring, *i*.

G designates a connecting-rod the lower end of which is bolted or otherwise secured to a treadle, H, pivoted in an upright, U.

I designates the cutting-plate, having a longitudinal groove, *j*, in which a strip, *k*, of rubber or other material, is placed. One end of this plate I is hinged to the frame A, as shown at *h' h'*, Fig. 2, and the rod G is connected to the other end by means of a rod, L, one end of which is bolted or otherwise secured to the plate I, and the other end projects through a slot in the rod G, and is keyed thereto.

M designates an adjustable screw or pin set under the treadle H, by which the forward movement of the cutting-table to any desired distance may be regulated.

The operation is as follows: The operator first adjusts the screw M so that the fall of the treadle H will move the table B the exact distance necessary to cut the material in widths of a quarter of an inch, half-inch, or any desired width. Then he forces the treadle down until it touches the screw M. The rod G, being thereby lifted up in the direction of the arrow 1, raises the plate I, and as the upward movement of the rod G and plate I continues the rod L comes in contact with the under side of the lever F, lifting the free end of the lever F, the other end of which, being geared to the shaft *b*, turns the shaft *b* and ratchet-wheel *c'*, thereby imparting motion to the spur-wheel D and ratchet-wheel *c* in the direction of the arrow 2, and as the spur-wheel D meshes into the rack C the table B moves forward in the direction of the arrows 3, under the raised plate I, carrying the material to be cut with it. The operator then takes the pressure off the treadle H, and the several parts take the position shown in Fig. 1, and a strip of the material is then cut, the operator using the beveled edge of the plate I as a straight edge or rule; and in order to bring the parts in this position I employ a spring, N, attached to the lever F, and also a weight, O, attached to the rod G, although this weight may be dispensed with when the rod G is made of metal. This operation is repeated until the table B moves forward to the end of the frame; and in this connection it will be noticed that the extension of the rack C beyond the one end of the table B permits nearly the full length of the table to be used during the cutting operation.

To guide the plate I, and prevent any lateral movement thereof as it is raised or lowered, and during the cutting operation, I form an open slot, P, in one end of said plate, and in this slot I set an upright, P', said upright being rigidly secured to the frame A. The lever F rests against a set-screw, *l*, which is adjusted to keep said lever above the rod L, so that when the operation commences the plate I will be lifted to clear the material on the cutting-table before the lever F is raised. Thus when the forward motion of the cutting-table begins the plate I is above the material, and the latter is free to move with the table.

When necessary to move the table B back to the starting-point the operator lifts the pawls *d* and *h* out of engagement with the ratchet-wheels *c c'*, respectively, the pawl *d* being held out of contact by the pin *f* being lifted up until it bears against the top of the standard E, and the pawl *h* by the spring *i*. The table B is then pushed back by hand. It will be seen that when the cutting-table is moving forward, and also when the operator is cutting the material on the table, the engagement of the pawls with the ratchet-wheels prevents any backward movement of said table.

Fig. 1, Sheet II, of the drawings is a side view of another method of construction of my improved measurer, the difference from that just described being in the construction of the cutting-plate and in the mechanism for raising it. Fig. 2 is a plan view of the cutting-plate and a portion of the table and rack, and Fig. 3 is a side view of the other side of the spur-wheel.

R designates a crank-arm geared to the shaft *b'*, the other end being pivoted to a curved lever, R', having a slot, *s*, in which is set a pin, *r*, connecting a cam, S, and connecting-rod G to said lever R'. This cam S is geared to a shaft, S', which extends across the machine under the table B', and has another cam geared to its other end, both said cams being outside of the sides of the frame A'. The cutting-plate T is similar in construction to the cutting-plate I shown in Sheet 1 of the drawings, excepting that it is provided with cam-shaped arms *t t*, pivoted, as shown at *a' a'*, to the sides of the frame A'.

The operation is as follows: The connecting-rod G being forced up by the pressure of the operator's foot on a treadle connected thereto, the pin *r*, connecting the cam S, rod G, and curved lever R', working in the slot *s*, forces the crank-arm R up and lifts the cam S, imparting motion to the spur-wheel D' in the direction of the arrow and lifts the plate T by means of the cams S bearing against the cam-shaped arms *t t*, as shown by dotted lines in Fig. 1, the forward motion of the table B' in the direction of the arrows 2, as the spur-wheel D' meshes into the rack C', being the same as hereinbefore described. When the pressure is taken off the treadle the springs *g'* force the cutting-plate T back into the position shown by full lines in Fig. 1.

In Fig. 1, Sheet III, of the drawings, a side view of another method of carrying out my invention is shown. Fig. 2 is a plan view thereof, showing the connection of the cutting-plate.

V V designate uprights, to which are secured parallel horizontal bars W W', forming the sides of the machine. To these bars W

W′ is secured by collars or like devices a cutting-table, *v*, having a rack, C², secured thereto and bearing against one end thereof.

G² designates a connecting-rod, to the lower end of which a treadle is attached. The upper end of the connecting-rod G² is fastened to a lever-arm, *w*, pivoted to a lever, *y*, and lever-arm *w′*. The upper end of the lever-arm *w′* is slotted, and in this slot is pivoted a lever-arm, *w²*, the other end of which is geared to a shaft, *z*, supported by uprights *x* at each side of the machine. To the other end of the shaft *z*, which extends across the machine, is geared a crank-arm, *w³*, carrying a dog, *w⁴*.

I′ designates the cutting-plate, secured to the frame by a swan-neck hinge, *x′*, and having a shoulder, I², extending over the outer edge of the bar W′, against the under side of which the lever *y* bears.

The operation is as follows: The connecting-rod G² being forced down by pressure exerted upon a treadle connected thereto, the lever-arm *w* raises the lever *y*, which in turn lifts the plate I′ above the material to be cut, and the lever-arm *w′* is at the same time drawn down until the lever-arm *w²* turns the shaft *z*, thereby causing the dog *w⁴* to push forward in the rack C², by means of the crank-arm *w³*, as far as the crank-arm will permit it to go, then being lifted back to the position shown in Fig. 1, Sheet III, and continuing the forward push until the motion ceases. Thus the table *v* is moved forward under the cutting-plate in the direction of the arrows, the cutting-plate being raised at the same time before the table moves, to permit the material to pass under it, and then, when the motion ceases, dropping onto the material and holding it firmly during the cutting operation.

I have shown these several constructions in order to disclose the different methods by which my invention may be carried into practical effect. The chief advantage of this invention is that furs and other materials can be automatically measured and then cut in strips of any desired width with much greater rapidity and at much less expense than when done by hand, one of my machines doing the work of several persons, and doing it fully as well as if not better than it could be done by skilled workmen.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for measuring furs and other materials to be cut, a cutting-table adapted to be automatically moved forward any desired distance, whereby materials placed on said table can be accurately measured, so as to be cut by the operator in strips of a width corresponding to the distance the table moves forward, substantially as herein shown and described.

2. In a machine for measuring furs and other materials to be cut, a cutting-table adapted to be automatically moved forward any desired distance, in combination with a cutting-plate adapted to be raised to clear the cutting-table before the table moves forward and lowered onto the material to be cut when the motion ceases, whereby materials can be accurately measured and cut by the operator in widths corresponding to the distance the table moves forward, substantially as herein shown and described.

3. In a machine for automatically measuring furs and other materials to be cut, a cutting-table supported in a frame, and having a rack secured thereto and bearing against one end thereof, in combination with a spur-wheel or cog meshing into said rack, and adapted to move the table forward when motion is imparted to said spur-wheel or cog, substantially in the manner and as herein shown and described, for the purposes specified.

4. In a machine for automatically measuring furs and other materials to be cut, a treadle adapted, when pressure is thereto applied, to raise a connecting-rod attached to the cutting-plate, thereby lifting said cutting-plate above the cutting-table and raising the free end of a lever, the other end of which is geared to the shaft on which the spur-wheel hangs, thereby imparting motion to said spur-wheel, which in turn meshes into a rack attached to the cutting-table and moves the cutting-table forward, substantially in the manner and as herein shown and described, for the purposes specified.

5. In a machine for automatically measuring furs and other materials to be cut, the combination of a cutting-table, B, supported in a frame, A, on rollers *a a*, and having a rack, C, attached thereto and bearing against the forward end thereof, with the spur-wheel D, and its ratchet-wheels *c c′*, having pawls *d h* and springs *g i*, pin *f*, shaft *b*, lever F, connecting-rod G, and treadle H, pivoted in a standard, U, all arranged and connected substantially as herein shown and described, for the purposes set forth.

6. In a machine for automatically measuring furs and other materials to be cut, the combination of the cutting-table B, rack C, spur-wheel D, and its ratchet-wheels *c c′*, having pawls *d h* and springs *g i*, pin *f*, shaft *b*, lever F, set-screw *l*, and spring N, with the cutting-plate I, rod L, connecting-rod G, treadle H, standard U, and adjustable screw M, all arranged and connected substantially as herein shown and described, for the purposes set forth.

7. In a machine for automatically measuring furs and other materials to be cut, the cutting-plate I, hinged to the frame A and having a slot, P, in one end thereof, in which an upright, P′, is set, whereby when said plate is raised and lowered, and during the cutting operation, lateral motion thereof is prevented, substantially as herein shown and describe.

8. In a machine for automatically measuring furs and other materials, the cutting-plate I, having a longitudinal groove, *j*, in the under side thereof, and a strip, *k*, of rubber or

other material, set in said groove, whereby when said plate is lowered onto the material to be cut the strip *k* will come in contact therewith, thereby preventing the material from slipping during the cutting operation, substantially as herein shown and described.

9. In a machine for automatically measuring furs and other materials to be cut, constructed substantially as herein shown and described, the adjustable screw or pin M, whereby the forward motion of the cutting-table, at each operation, can be regulated by the fall of the treadle, substantially as herein shown and set forth.

In testimony whereof I have hereunto set my hand.

NICHOLAS J. BISHOPRICK.

Witnesses:

ARTHUR C. WEBB,

ERNEST C. WEBB.