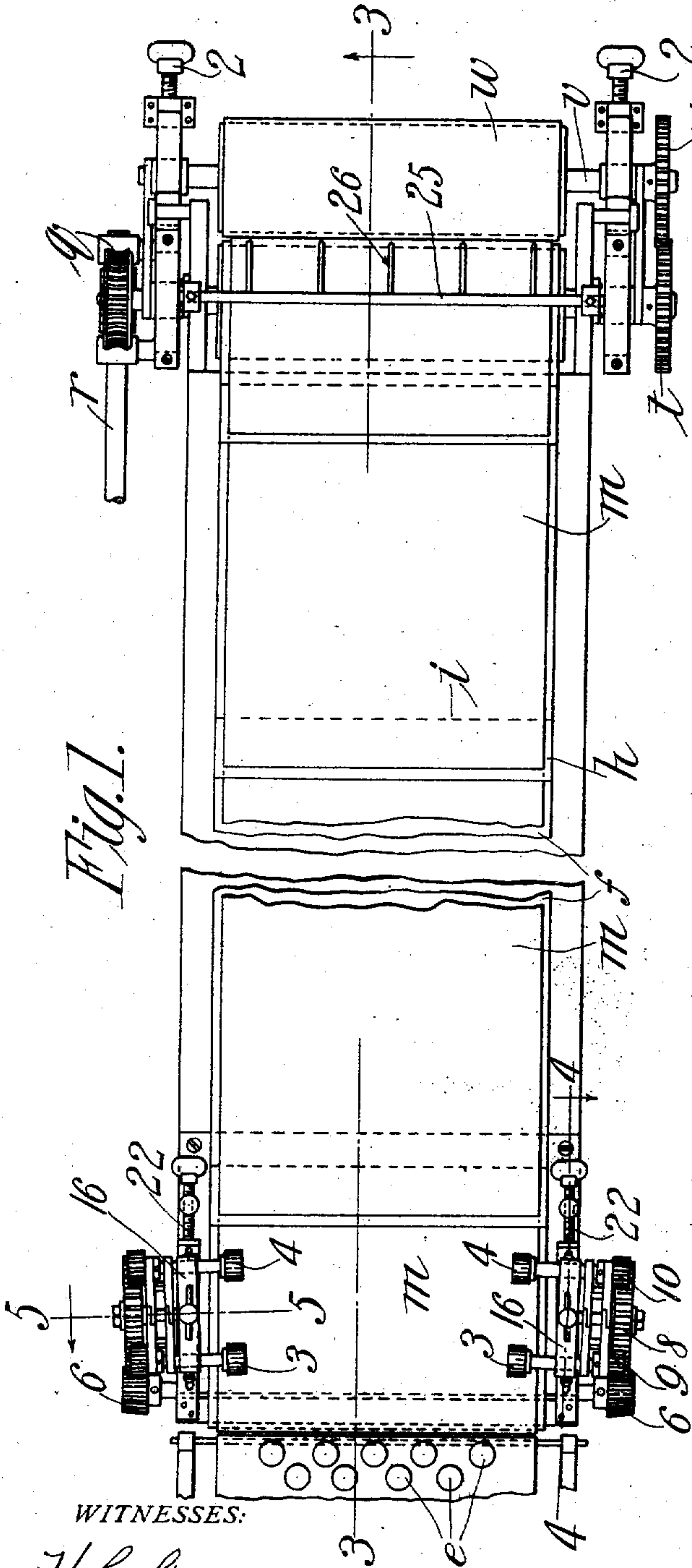


A. L. BAUSMAN.
 PLAQUE STRETCHING MACHINE.
 APPLICATION FILED DEC. 8, 1908.

927,928.

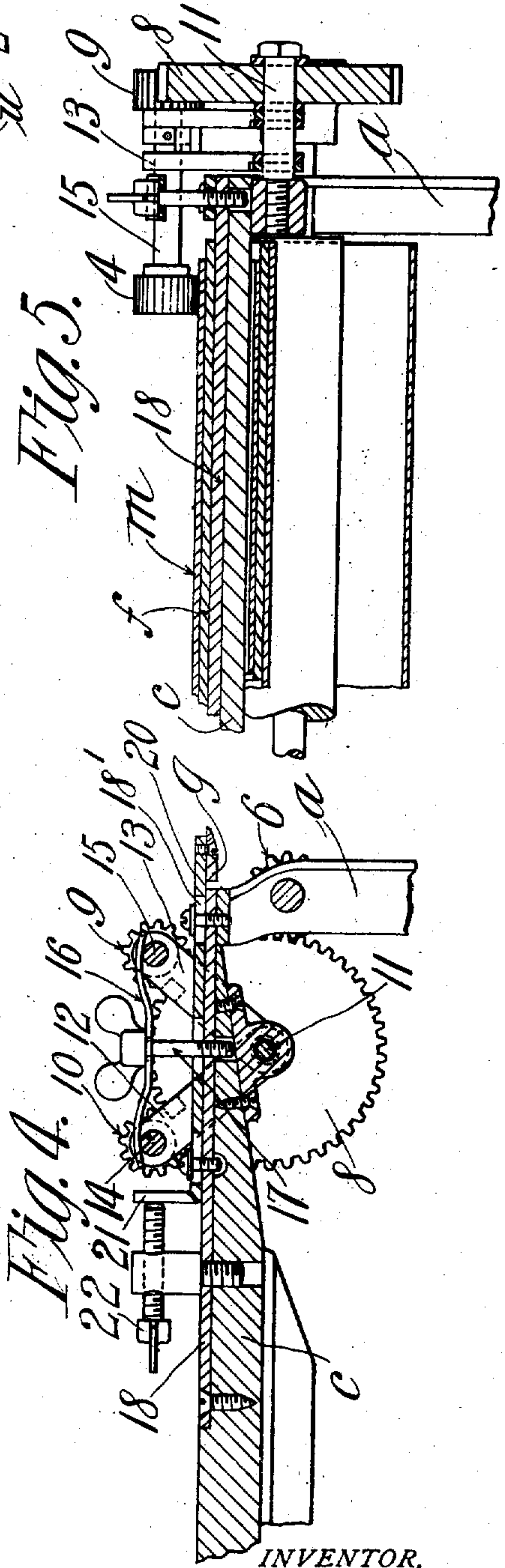
Patented July 13, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

H. L. Sprague
Harry W. Bourn.



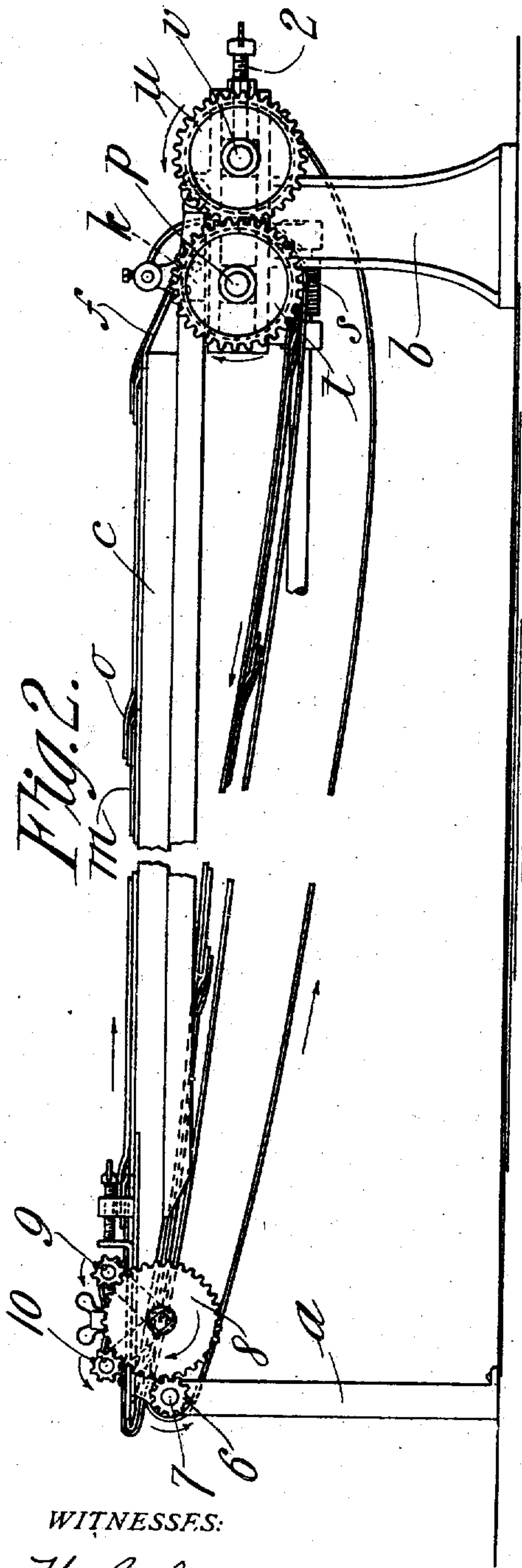
INVENTOR,
Alonzo L. Bausman
 BY *Chapin Red.*
 ATTORNEY

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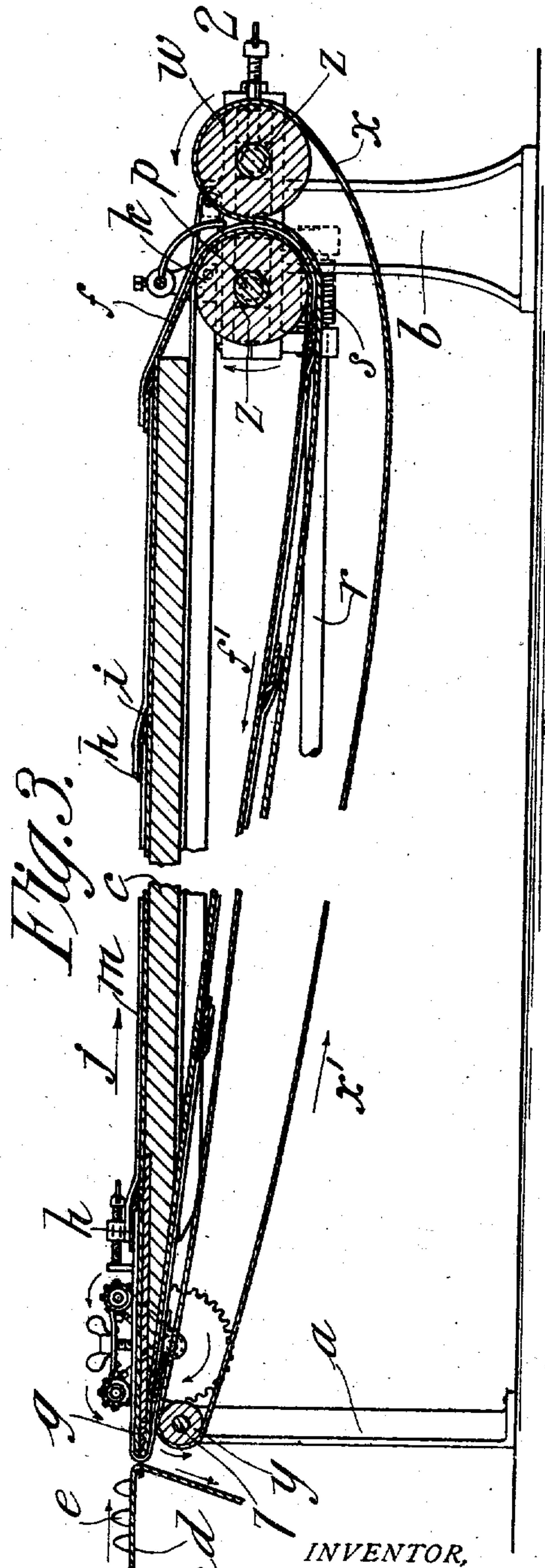
927,928.

Patented July 13, 1909.

2 SHEETS—SHEET 2.



WITNESSES:
H. L. Sprague
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UNITED STATES PATENT OFFICE.

ALONZO L. BAUSMAN, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO CONFECTIONERS' MACHINERY & MANUFACTURING COMPANY, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION.

PLAQUE-STRETCHING MACHINE.

No. 927,928.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed December 8, 1908. Serial No. 466,504.

To all whom it may concern:

Be it known that I, ALONZO LINTON BAUSMAN, a citizen of the United States of America, residing at Chicopee, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Plaque-Stretching Machines, of which the following is a specification.

This invention relates to improvements in machines for stretching plaques as used in connection with chocolate machines.

The objects of the invention are,—(1) to provide mechanism by means of which the ordinary paper plaques which receive the confections from the chocolate machine are held and retained in a flat and stretched position when they receive the chocolates or confections; (2) to provide means for retaining the paper plaques in position on the carrying belt and at the same time to readily permit placing the same on the belt and removing it therefrom during the operation of the machine, this result being accomplished by means of a series of flaps, whereby when the forward or advancing ends of the plaques are inserted under the free edge of the flaps they will be retained in place during the subsequent operations of the machine; and (3) to provide means for holding the endless carrier or apron in a stretched or taut position longitudinally, whereby the plaques are maintained in a smooth position on the carrier belt.

In the drawings forming part of this application,—Figure 1 is a plan view of my improvements showing the arrangement and location of the plaque-stretching rollers and the apron-carrying devices. Fig. 2 is a side elevation of Fig. 1 showing clearly the means for causing the two aprons to operate at different lineal speeds. Fig. 3 is a longitudinal vertical sectional view on line 3—3, of Fig. 1 looking in the direction of the arrow. Fig. 4 is a detail, vertical sectional view on the line 4—4 of Fig. 1, and illustrating the means for varying the tension or pressure of the stretching rolls which engage the plaques. Fig. 5 is a detail, vertical sectional view on the line 5—5 of Fig. 1 illustrating the relation of the apron or carrier belt and the plaque to the stretching rolls, and the means for operating the rolls.

Referring to the drawings in detail, *a* and *b* designate the supporting legs for the table

or platform *c* which is arranged so that the receiving end thereof is juxtaposed with relation to the carrier belt *d* of the chocolate-forming machine, the details of which form no part of this application.

The chocolates or pieces of confections are designated by *e* and are delivered from the belt *d* onto the platform or table *c*.

f designates an endless carrier apron that passes over or around the receiving end of the table *c*. This portion of the table, as will be noticed, is brought down to a comparatively thin edge so that as the apron *f* passes therearound it will be bent into a very small arc. Attached to the apron *f* are pieces of cloth or other suitable material *h* by means of the threads or stitching *i*. The direction of movement of the apron *f* is indicated by the arrow *j* so that as the apron is operated the forward end of the flaps *h* will readily pass around the thin edge *g* of the table and the supporting drive-roll *k*.

The paper plaques proper are designated by *m*, the forward edge of which is inserted under the flaps *h*, as clearly shown, and the rear edge thereof overlaps the flaps, as designated at *o*.

In order to drive the apron *f*, the roller *l* is secured to the shaft *p* which is provided with a worm gear *q* and driven by a longitudinally arranged shaft *r*, shown in plan view in Fig. 1, by means of a worm-thread *s* mounted thereon. The shaft *p* is provided on its opposite end with a gear *t* which meshes with a second gear *u* of slightly greater diameter whereby the second gear is driven at a slower rate of speed than the gear *t* and in practice the gear *u* will contain one or two teeth more than the gear *t*. The gear *u* carries on its shaft *v* a roller *w* around which passes a second belt or endless apron *x*, its opposite end being supported at the receiving end of the machine by means of a roller *y*.

It will be observed that the aprons *x* and *f* are in contact with each other during a portion of their lengths, that is to say, the apron *f* on its outer side is engaged by the apron *x* and also where the rollers *l* and *w* are adjacent each other.

The rollers *l* and *w* are suitably supported in bearing boxes *z* and suitable means, as a thumb-screw 2, are provided for moving the roller *w* toward and away from the roller *l*

thereby varying the pressure or frictional resistance of the apron x on the apron f whereby the requisite stretching or tension effect is produced by the apron x . It will be observed from the arrows f^1 and x^1 that these aprons travel in the same direction, and therefore a certain degree of frictional resistance will be imparted to the faster moving apron f .

Referring now to the means whereby the plaques m are maintained in a stretched and smooth position on the apron f : 3 and 4 designate rubber rollers that are arranged on the upper side of the platform c and at an angle to the direction of movement of the apron f . This angular arrangement of the rollers 3 and 4 serves the purpose of stretching the plaques m laterally of the machine. In order to rotate these rollers, a gear 6 is secured on the outer end of the shaft 7 of the roller y which is driven by the apron or belt x . This gear 6 meshes with a larger gear 8 which in turn meshes with the pinions 9 and 10.

Extending from the fixed stud 11 which carries the gear 8 are two links 12 and 13 pivotally connected to the stud 11, and spanning the space between the shafts 14 and 15, which carry the rubber rollers 3 and 4, is a flat spring 16. Extending through the center of this spring is a thumb-screw 17 that threads into the iron plate 18 which is attached to the table c whereby the tension of the rollers 3 and 4 on the plaques may be suitably varied.

In order to vary the position of the ends g of the table c with relation to the apron d , a movable plate 20 is provided having an upturned end portion 21 and a thumb-screw 22 for engaging the same. Thus, by rotating the thumb-screw 22, the end g of the platform may be varied with relation to the belt d . This plate 20 is retained on the plate 18 by means of the slot and screw connection 18¹.

25 designates a frame with fingers 26 for maintaining the apron f in close contact with the roller k .

Referring now to the operation of the machine: The operator inserts the forward end of the plaque m , preferably of paper, beneath the flaps h before they pass around the roller k and as they pass around this roller they are brought into contact with the lower apron x which serves the double purpose of holding the plaques m in position against the apron f and also beneath the flaps h and further in keeping the apron f taut or smoothly stretched longitudinally, since the apron x moves at a slower surface speed than the apron f , as described. When the plaques m reach the position of the roller y they are tightly held against the apron f and smoothly pass around the thin edge of the platform and to the upper surface thereof.

The forward edge of the plaques at the same time being held down and stretched laterally by means of the rubber rollers 3 and 4, the position of which is such that there is no danger of the plaques being withdrawn from the flaps h during their passage around the narrow portion g of the platform. It will therefore be seen that by means of my improvement, when the chocolates or other confection are transferred from the belt d to the plaques m , they will pass onto a surface that is maintained at all times in a smooth and unwrinkled condition by means of the action of the rollers 3 and 4, and after one plaque has been entirely filled or covered with the confections e and is moved forward through to the center portion of the machine, it is removed by the operator from beneath the flaps h and a second plaque inserted in its place. Thus the operation becomes continuous and all that is required of the operator is simply to insert and remove the plaques from beneath the flaps h as they are filled from the belt d of the chocolate machine.

The position of the belts is exaggerated in the drawing for the purpose of clearness in showing the construction and operation of the machine; that is to say, more sag or space is shown between the belts f and x than is used in practice: Also the relative rate of travel between the two belts is very slight and not enough to draw the plaques away from the flaps. It may be stated that the roller k is rubber covered, causing the belt f to tightly grip the same, while the surfaces of the belts f and x , in contact with each other, are canvas and would produce little, if any frictional resistance. In fact the calendered surface of the plaques is the surface upon which the slower moving belt acts with a very slight drag.

What I claim, is:—

1. A plaque-stretching machine having in combination, a platform or table, aprons, one of which engages the upper surface of the table and provided with a series of flaps, a second apron located wholly below the table and having a portion of its surface arranged for engagement with the other apron, means for effecting the engagement, and means for causing the lineal speeds of the aprons to vary, whereby the first apron is maintained in a taut or stretched position, and whereby, when a series of plaques are inserted under the flaps they will be prevented from displacement.

2. A plaque-stretching machine having in combination, a suitable table, a plurality of traveling aprons supported thereby, one of said aprons being provided with a series of flaps, rollers arranged at an angle to the longitudinal line of movement of the aprons whereby, when a series of plaques are inserted beneath the flaps, said plaques will have

imparted thereto a lateral stretching, means for maintaining the second apron in contact with the first apron, and means for operating the aprons and rollers.

5 3. A plaque-stretching machine having in combination, a table, aprons supported by the same, means for operating the aprons, means for causing one apron to retard the movement of the other, rollers arranged at
10 an angle to the line of travel of the aprons and engaging one of them, means for operating the rollers, whereby both a transverse and a longitudinal stretching or smoothing effect is imparted to one of said aprons.

15 4. A plaque-stretching machine having in combination, a table, aprons supported by the same, means for operating the aprons, one of the aprons being provided with a series of flaps attached thereto by one edge
20 for receiving an end of a plaque, as described, means for causing one apron to retard the movement of the other, rollers arranged at an angle to the line of travel of the aprons and engaging one of them, and
25 means for operating the rollers whereby both a transverse and a longitudinal stretching or smoothing effect is imparted to one of said aprons.

5. A plaque-stretching machine comprising a table, an apron having flaps attached thereto, a second apron engaging a portion
30 of the first apron, means for operating the aprons, stretching rollers located at one end of the table and on opposite sides of the same, whereby when a series of plaques are
35 inserted under the flaps the same will be stretched and smoothed out, both laterally and longitudinally into contacting engagement with the first mentioned apron.

6. A plaque stretching machine having in combination with a supporting table, a belt
40 engaging the upper surface of the same and provided with flap elements attached thereto for receiving an edge of the plaque, rollers arranged at an angle to the line of travel of
45 the belt for engaging and stretching the plaques, means for operating the rollers and belt, and a roller located at one end of, and below the end of the table, whereby when the plaques are engaged by said rollers they
50 will be longitudinally stretched while passing around the end of the table as described.

ALONZO L. BAUSMAN.

Witnesses:

K. I. CLEMONS,
H. W. BOWEN.