

No. 698,835.

Patented Apr. 29, 1902.

F. L. HERRINGTON.
CIGAR BUNCH WRAPPING MACHINE.

(Application filed Nov. 27, 1901.)

(No Model.)

3 Sheets—Sheet 1.

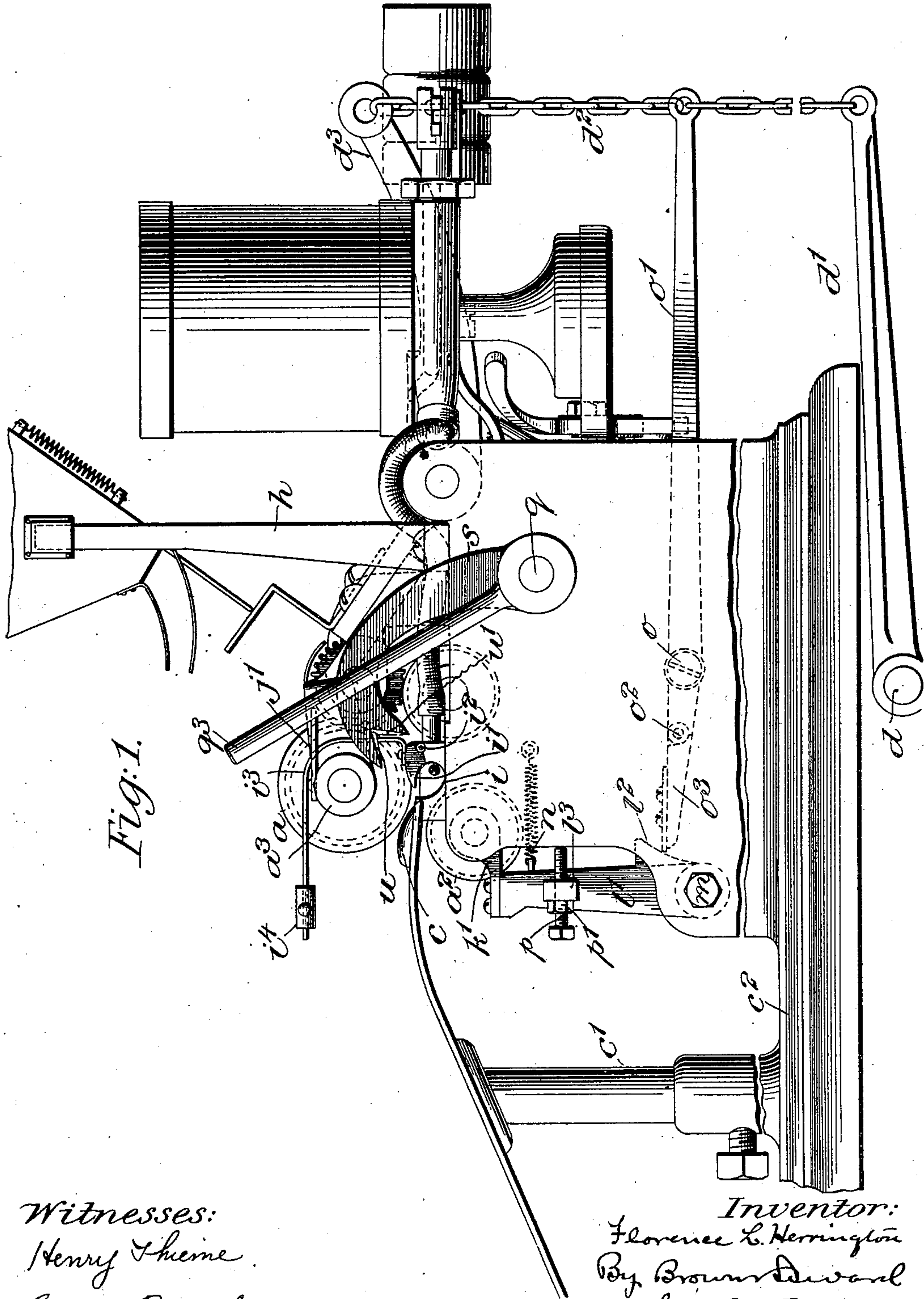


Fig. 1.

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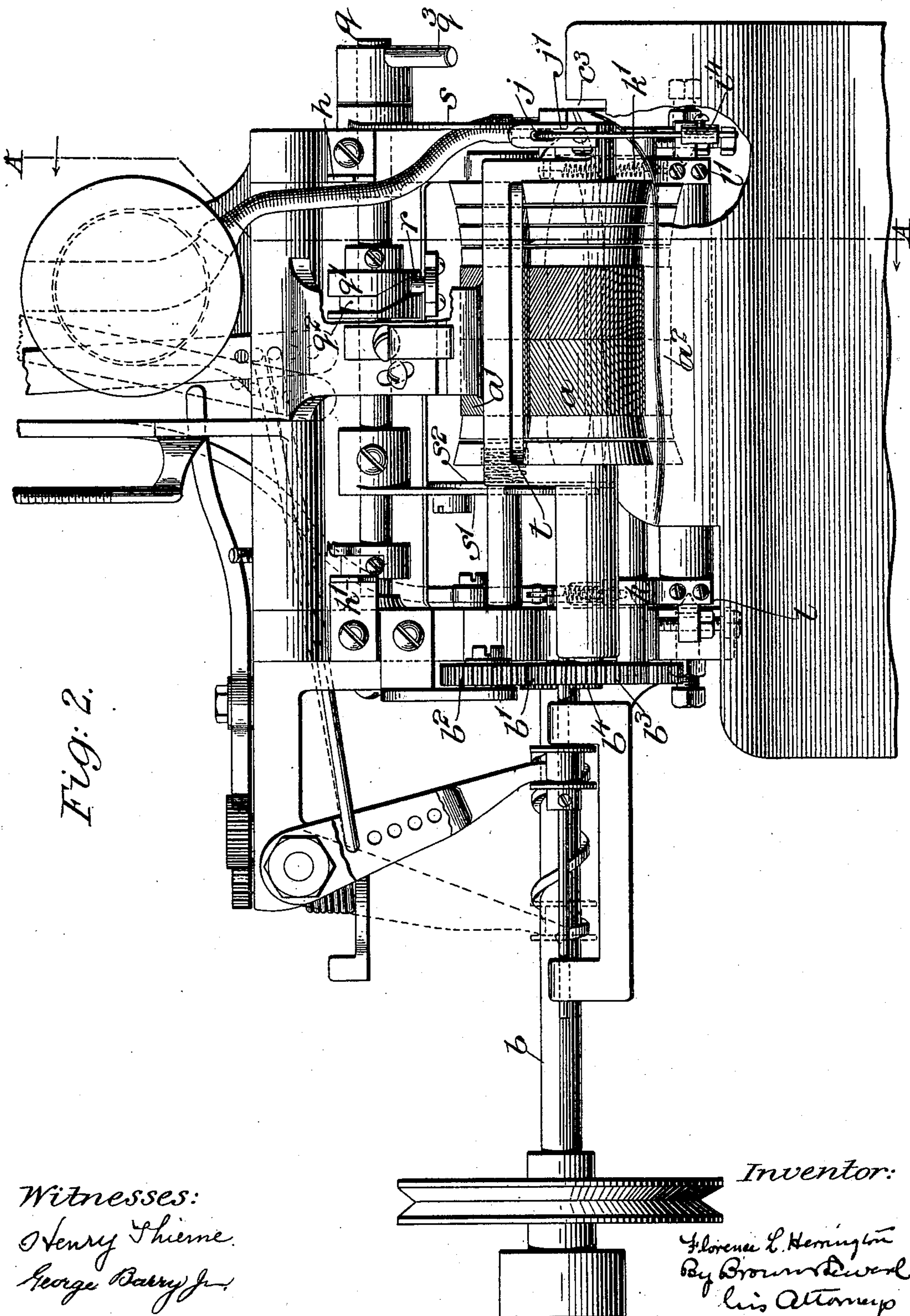
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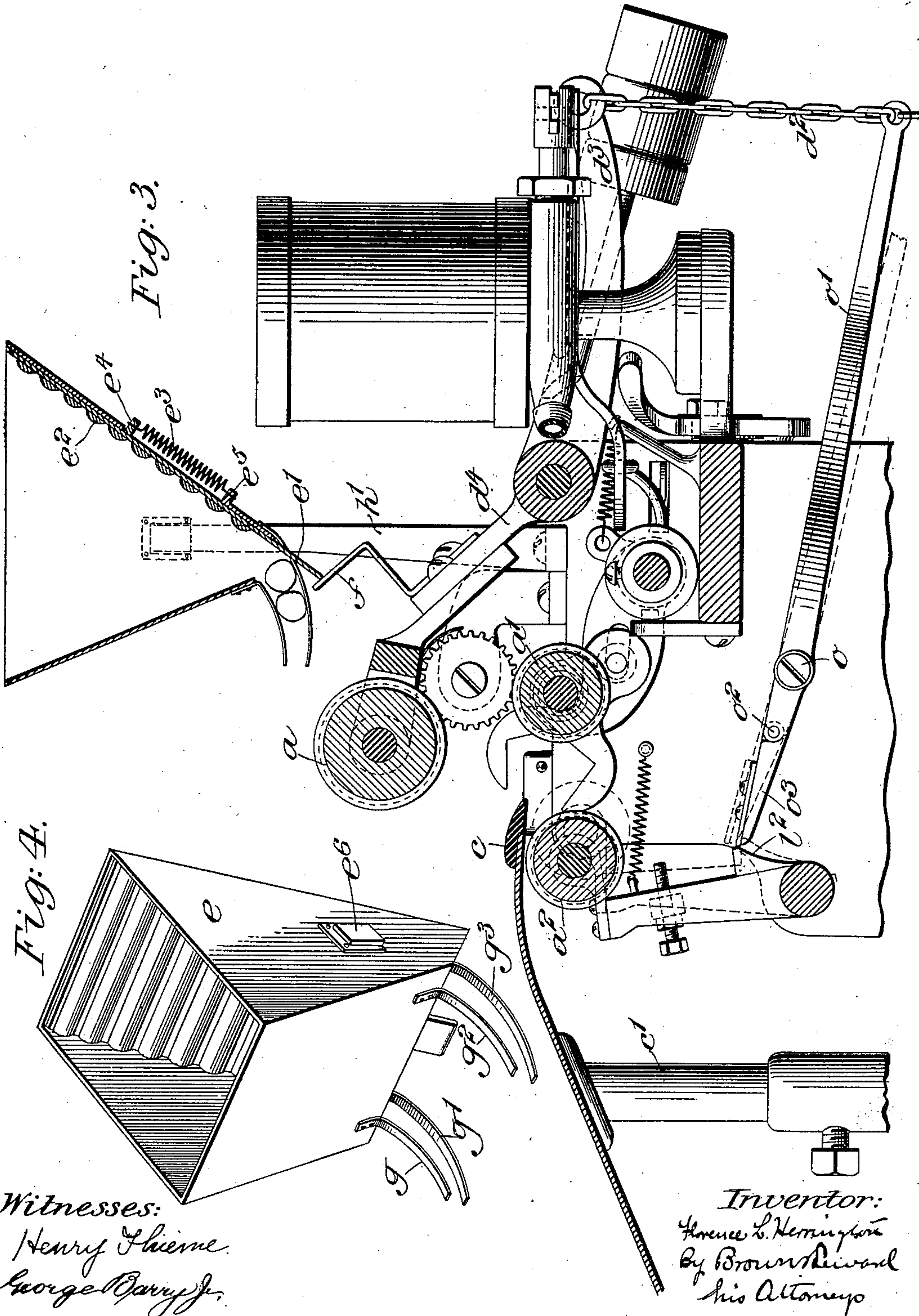
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

FLORENCE L. HERRINGTON, OF NEW YORK, N. Y., ASSIGNOR TO GEORGE L. McALPIN, OF NEW YORK, N. Y.

CIGAR-BUNCH-WRAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 698,835, dated April 29, 1902.

Application filed November 27, 1901. Serial No. 83,866. (No model.)

To all whom it may concern:

Be it known that I, FLORENCE L. HERRINGTON, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Cigar-Bunch-Wrapping Machine, of which the following is a specification.

My invention relates to cigar-bunch-wrapping machines, with the object in view of facilitating the wrapping and trimming of the cigar-bunch and removing it from the machine for the reception of a succeeding bunch.

The machine is of the same general type as that shown, described, and claimed in Patent No. 685,140, granted to me on the 22d day of October, 1901, and only such parts of the general machine are herein specifically shown as are necessary to a full understanding and illustration of the novel features which form the subject-matter of my present application.

In the accompanying drawings, Figure 1 is a view of the machine in side elevation. Fig. 2 is a partial top plan view, partly broken away to disclose more clearly certain of the operating parts. Fig. 3 is a view in vertical section from front to rear in the plane of the line A A of Fig. 2, and Fig. 4 is a view in perspective of the feed-hopper.

The winding-rolls are denoted by a a' a^2 . With the exception of the roll a^2 , which will be particularly referred to hereinafter, they are mounted and operated in a manner quite similar to that shown and described in the patent above referred to, the operating-shaft being denoted by b and the gear for connecting the shaft with the several rollers by b' b^2 b^3 b^4 .

The table for receiving and holding the bunch in the proper position with relation to the rollers is denoted by c . It is here shown as stationary and supported on a standard c' , uprising from the base c^2 of the machine.

The upper roller a is arranged to be swung upwardly out of the way when the rolling operation is completed by means of a foot-treadle d' , fulcrumed at d , as shown in the patent referred to, the foot-treadle d' being connected, by means of a chain d^2 , with the rearwardly-extended arm d^3 , fixed to rock with the arms d^4 , which carry the roller a . This rocking movement of the support for the roller a is made to agitate the bunches within the

feed-hopper and cause them to present themselves at the discharge end of the hopper in position to be received by the operator, as follows: The feed-hopper is denoted by e . Its back wall is provided with a reciprocating plate e' , preferably provided with a series of transverse riffles e^2 , exposed on the inner face of the back wall of the hopper in direct contact with the cigar-bunches placed in the hopper and so mounted within the hopper that its lower edge will be engaged by an operating-arm f , fixed to the back of the support d^4 , causing the plate e' to be slid upwardly when the roller a is lifted. A spring e^3 , secured at one end to a lug e^4 on the back of the sliding plate and at the opposite end of a lug e^5 on the back of the hopper, serves to slide the plate downwardly, when the roller a is dropped into position to begin the rolling operation. The discharge end of the hopper is provided with two pairs of spring-jaws, the members of one pair being denoted by g g' and those of the corresponding pair by g^2 g^3 . These pairs of spring-jaws are placed apart, so as to leave room between them for the operator's fingers to grasp the bunch, and they have sufficient resiliency to permit the bunch to be forced down in proximity to their free ends, where their frictional grip on the bunch will be sufficient to hold it until it is intentionally removed by the operator. As fast as one bunch is removed another will be forced down into its place near the free ends of the jaws by the agitating motion of the plate e' within the hopper. The hopper is removably secured to the machine by means of side sockets e^6 , which engage the upper ends of standards h h' , fixed to the tops of the sides of the main frame. The upward throw of the roller a at the end of the rolling operation also releases the tip of the cigar from its bearing, as follows: The bearing for the tip of the cigar is denoted by i (see Fig. 1) and is so nearly closed that when the opposite end of the cigar is set free and allowed to drop the tip will have a tendency to bind in its bearing i . To relieve this binding effect and leave the cigar free to fall promptly out of the way under the influence of gravity the moment the rolling is completed and the roller a lifted, the upper portion i' of the tip-bearing is hinged, as at i^2 , to the lower por-

tion, so that it may be swung back out of the way. The upper portion i' of the bearing is operated by means of a bent arm i^3 , attached at one end to the part i' and extending thence
 5 up through a slot j in a plate j' , fixed to the bearing a^3 of the roller a . The arm i^3 is provided with a weight i^4 , made adjustable thereon for the purpose of holding the tip-bearing i' down in its place when the roller a is lowered into rolling position; but when the roller
 10 a is lifted the plate j' will engage the bent arm i^3 as the latter slides through the opening j therein in such a manner as to throw the arm i^3 rearwardly, thereby tilting the tip-bearing piece i' over on its hinge out of the way of the tip.

At the same time that the roller a is lifted and the tip-bearing piece i' operated by the action of the treadle d' the roller a^2 will be
 20 rocked forwardly bodily out of the way of the wrapped bunch to permit the latter to drop under the influence of gravity downwardly out of the way. This forward bodily movement of the roller a^2 is effected as follows:
 25 The roller a^2 is mounted in suitable bearings $k k'$, attached to standards $l l'$, (see Figs. 1 and 2,) supported on a rock-shaft m , journaled in the side frames of the machine and held normally in their upright position with the roller
 30 a^2 in its rolling position by means of a spring n , one end of which is attached to the standard and the opposite end of the side frame of the machine. The standards $l l'$ are forced forwardly against the tension of the spring
 35 n by means of a lever fulcrumed at o , one arm o' of which is attached to the chain d^2 , which connects the treadle d' with the rearwardly-extending operating-arm d^3 , which throws the roller a upwardly out of rolling position. The
 40 opposite arm of the lever is jointed at o^2 , the operating end o^3 of said arm being held in alinement during the upward movement of the said part o^3 , but free to swing over toward the fulcrum o during its downward or return
 45 movement. The part o^3 of the lever bears against an incline l^2 on the standard l' , and as the part o^3 travels upwardly forces the standard l' , and thereby rocks the shaft m , and with it the standard l and the roller a^2 , carried thereby, forwardly out of position. As
 50 soon as the part o^3 leaves the top of the incline l^2 the roller a^2 springs back into place under the tension of the spring n , while the lever fulcrumed at o returns to its normal
 55 position, the part o^3 partially folding to permit it to drop downwardly past the incline l^2 . The rearward swing of the standards $l l'$, and hence of the roller a^2 , is limited by means of an adjusting-screw p , engaged in a lug l^3 , offset from the standard l' and provided with a
 60 jamb-nut p' to lock it in position. The tip of the screw p abuts against the front edge of the side frame and so forms a stop against the tension of the spring n to hold the roller
 65 a^2 in its proper relation to the roller a' during the rolling operation.

The knives for trimming the opposite ends

of the bunch are operated by a common shaft q , as in my former patent, but have in my present structure the additional feature of
 70 being bodily moved in a transverse direction to throw them out of engagement with the bunches the moment their cutting operation is completed. This is accomplished by permitting the shaft q a limited longitudinal
 75 movement in its bearings and providing it with a disk q' , having a cam-groove q^2 in its periphery, and locating a fixed pin r on the frame in position to travel in the cam-groove q^2 , so that when the shaft q is rocked by means
 80 of the hand-lever q^3 the engagement of the walls of the groove q^2 with the pin r will force the disk q' , and hence the shaft q , to which it is attached, longitudinally to the right as
 85 the drawing, Fig. 2, is held, thereby bringing the knife s and the knives $s' s^2$ at the opposite end, the one into position to pass downwardly through the slot c^3 in the table to trim
 90 the tip and the others in position to shear the opposite end of the bunch. When the handle q^3 is released, the return movement of the shaft q will promptly throw the knives $s s' s^2$
 95 off to the left out of engagement with the wrapped bunch, leaving the latter free to drop out of position.

For the purpose of holding the knives $s' s^2$ with their edges in close contact to insure a clean cut I locate a coil-spring t in a socket in the end of the roller a' , with the outer end of the coil bearing against the knife-blade s^2 ,
 100 crowding it against the blade s' as the blades are carried bodily to the right into shearing position. To further insure a clean cut at the opposite ends of the bunch, I provide the
 105 knives with V-shaped cutting-jaws, as clearly shown in Figs. 1 and 3, the opposite sides of the V-shaped jaw of the knife s , Fig. 1, being denoted by $u u'$. These cutting edges $u u'$ engage the opposite sides of the wrapped bunch
 110 and produce a gradual shearing cut on it, holding it from any tendency to creep away to the front or rear. In operation the moment the wrapping of the bunch is completed the operator pulls forward on the handle q^2 ,
 115 thereby bringing the trimming-knives into position to trim the opposite ends of the wrapped bunch, and as the handle is released the treadle d' is depressed, thereby simultaneously throwing the upper roller a out of
 120 position ready to receive a new bunch, opening the tip-bearing to leave the wrapped bunch free to fall, and pressing the front roller a^2 forwardly out of the way of the falling bunch. While the roller a is held suspended ready for the reception of a new bunch
 125 to be wrapped, the front roller a^2 has sprung back into rolling position ready to receive the new bunch, and when the latter has been placed in position to be rolled the treadle is
 130 released and the upper roller lowered into its rolling position, at the same time setting the lever, which swings the front roller a^2 in position to again perform its duty when the bunch shall have been wrapped. This same

movement of the treadle for lifting the roller α and permitting it to descend into operative position agitates the bunches in the feed-hopper, keeping a bunch constantly in position to be grasped by the fingers of the operator without a moment's delay.

The whole structure is one eminently fitted to save time and is simple and effective in practical operation.

It is obvious that changes might be resorted to in the form, construction, and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. The combination with a cigar-bunch-wrapping mechanism, of a feed-hopper located in position to present the bunches to be wrapped within convenient reach of the operator, the said feed-hopper being provided with resilient discharge-jaws, substantially as set forth.

2. The combination with a cigar-bunch-wrapping mechanism including the group of rollers and means for lifting one of the rollers to receive a bunch to be wrapped, of a feed-hopper provided with a discharge-opening at the front in position to present a bunch within convenient reach of the operator, the said feed-hopper being provided with an agitating mechanism and means in connection with the roller-lifting means for operating said agitating mechanism as the roller is lifted to receive the bunch, substantially as set forth.

3. The combination with the cigar-bunch-wrapping mechanism, of a feed-hopper having resilient discharge-jaws, an agitating mechanism for presenting bunches in the jaws in position to be removed and means for operating the agitating mechanism as the wrapping mechanism is operated to receive the bunch, substantially as set forth.

4. The combination with a cigar-bunch-wrapping mechanism, of a feed-hopper provided with resilient jaws for retaining the bunches in position to be grasped by the operator, a reciprocating riddle-plate within the hopper for agitating the bunches and means for operating the plate, substantially as set forth.

5. The combination with a cigar-bunch-wrapping machine, of a hopper removably secured to the machine and provided with an agitating mechanism and means in connection with the machine for operating the agitating mechanism, the agitating mechanism being arranged to move into and out of the path of the said operating means as the hopper is adjusted and removed, substantially as set forth.

6. The combination with the wrapping mechanism and means for lifting one of the rollers out of wrapping position of a movable bearing-piece for the tip of the bunch and

means for operating the movable bearing-piece simultaneously with the lifting of the roller, substantially as set forth.

7. The combination with the wrapping mechanism and means for swinging the top roller away from the remaining rollers, of a swinging bearing-piece for the tip of the bunch and a weighted arm having a sliding connection with the swinging roller-support for operating the said bearing-piece simultaneously with the movement of the roller, substantially as set forth.

8. The combination with the rolling mechanism, of a rocking support for one of the lower rollers, a retracting-spring for holding the said support in its normal position and an operating-lever arranged to operate the swinging support when moving in one direction and pass idly along the said support when moving in the opposite direction, substantially as set forth.

9. The combination with the rolling mechanism and means for swinging an upper roller upwardly out of position to receive a bunch, of a rocking support for one of the lower rollers, the said support having a substantially upright normal position, a spring for holding the rocking support in its normal position, a set-screw for regulating the rocking movement of the support and hence the roller and means for rocking the said support and hence the roller at the completion of the rolling operation, substantially as set forth.

10. The combination with the rolling mechanism, of an upper roller mounted to swing upwardly out of rolling position, a lower roller mounted to swing forwardly out of rolling position, a foot-treadle and means engaged with the foot-treadle for simultaneously operating the said upper and lower rollers, substantially as set forth.

11. The combination with the wrapping mechanism, of trimming-knives and means for moving them bodily in a direction lengthwise of the bunch to be trimmed, substantially as set forth.

12. The combination with the wrapping mechanism, of trimming-knives and means for simultaneously moving them bodily in a direction lengthwise of the bunch and transversely toward the bunch, substantially as set forth.

13. The combination with the wrapping mechanism, of trimming-knives arranged to move bodily in a direction lengthwise of the bunch and a compression-spring in position to engage a knife-blade to press it against its companion blade, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of November, 1901.

FLORENCE L. HERRINGTON.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.