

(No Model.)

4 Sheets—Sheet 1.

C. S. PECK.
HAT BRIM POUNCING MACHINE.

No. 581,870.

Patented May 4, 1897.

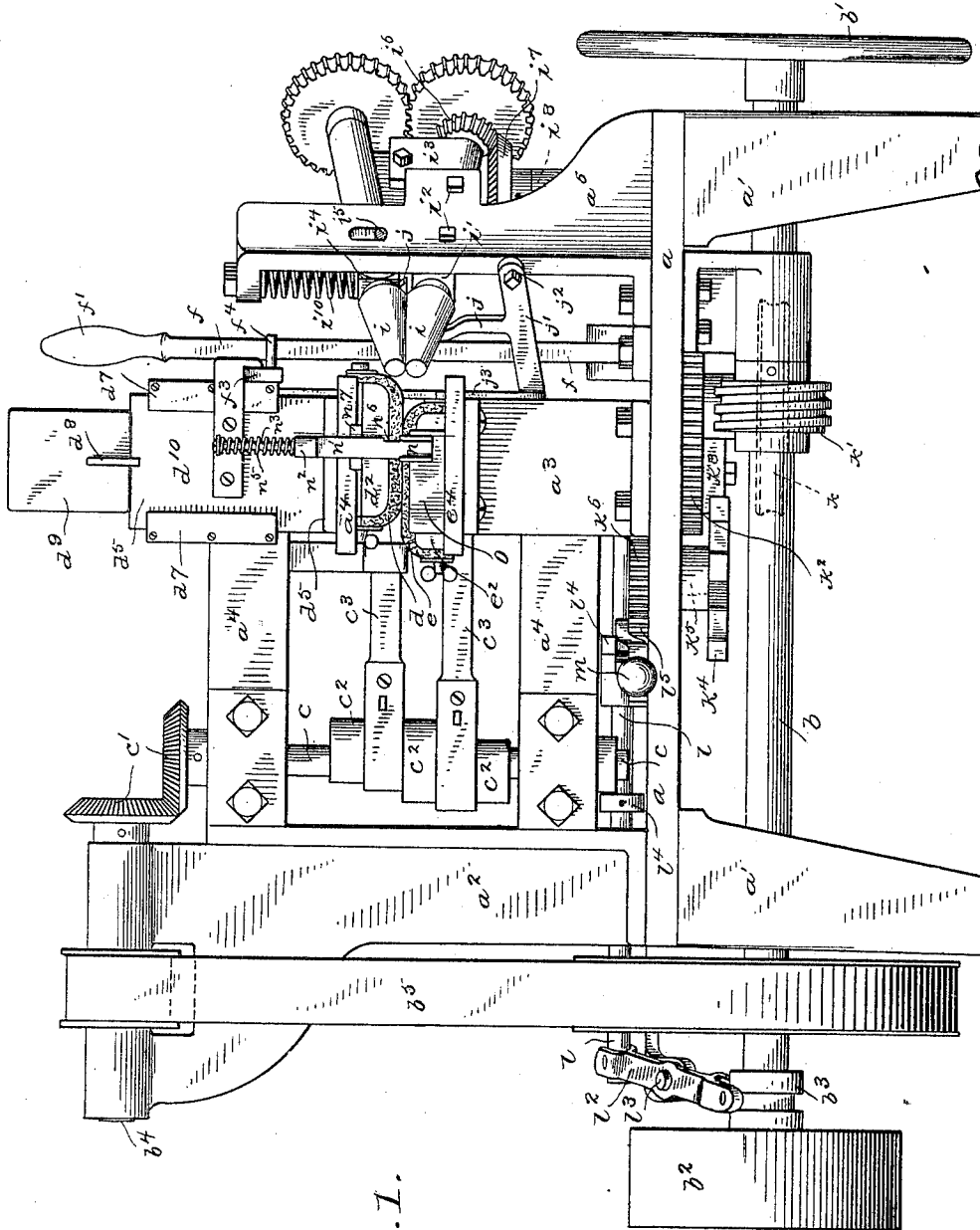


Fig. 1.

WITNESSES

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(No Model.)

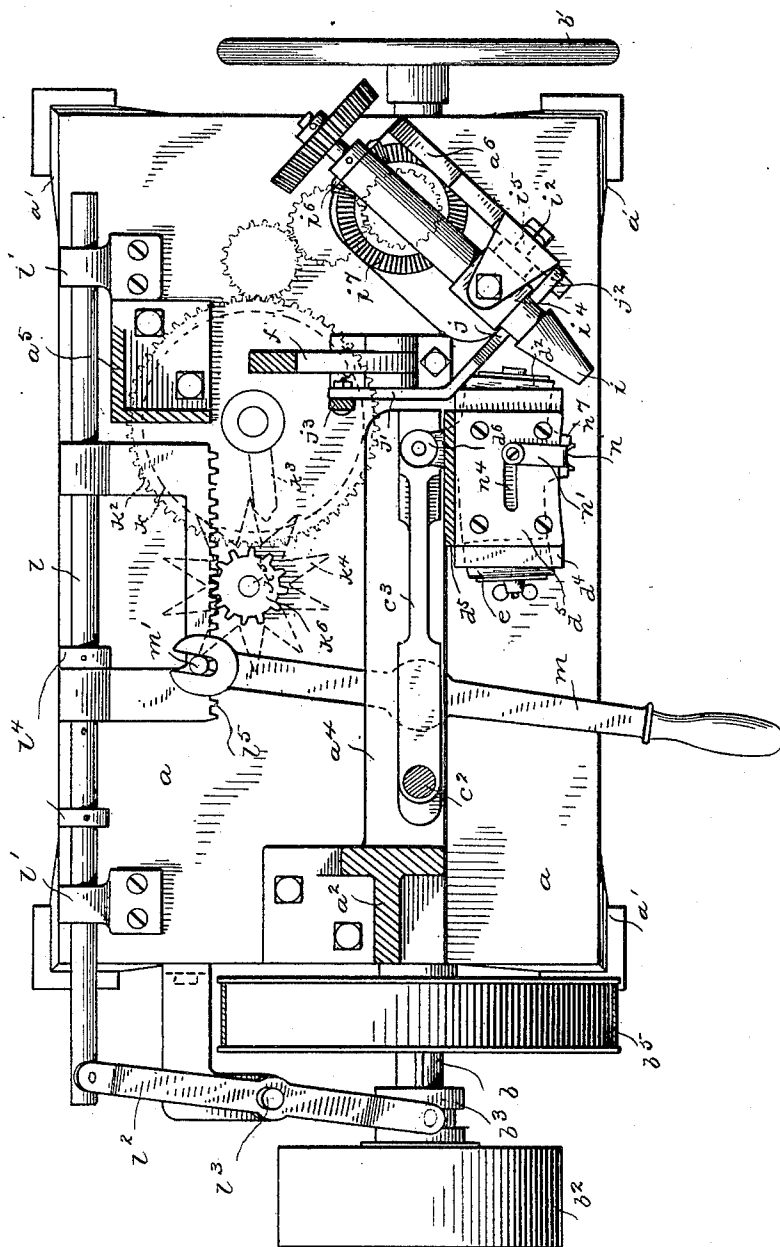
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FIG. 2.



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Fig. 4.

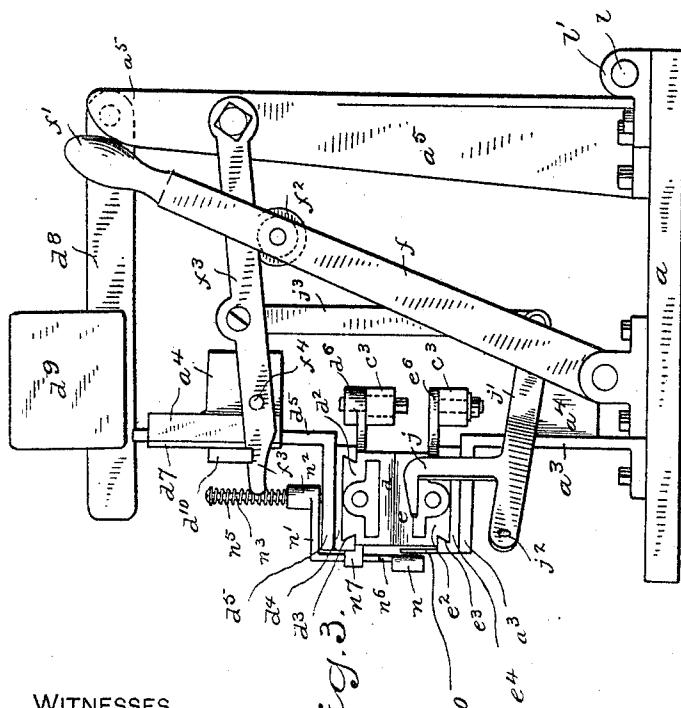
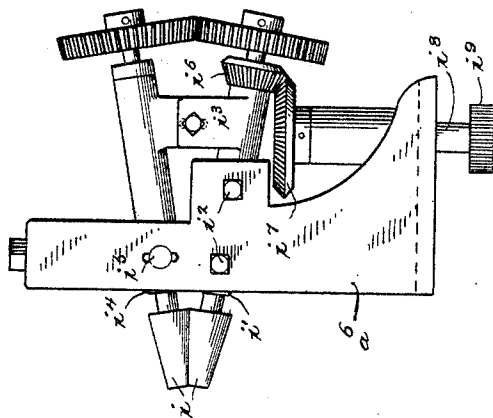


Fig. 3.

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Fig. 5.

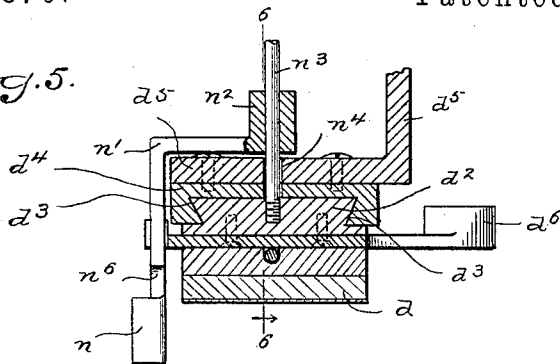


Fig. 6.

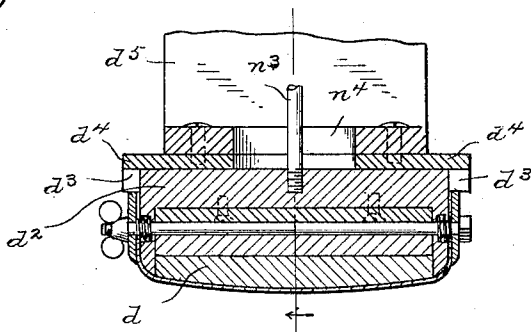
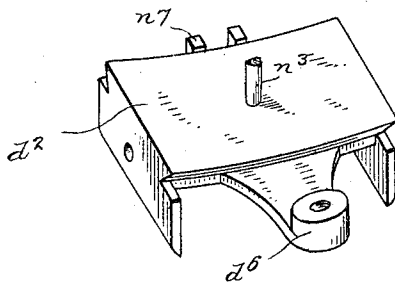


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES S. PECK, OF DANBURY, CONNECTICUT.

HAT-BRIM-POUNCING MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,870, dated May 4, 1897.

Application filed July 28, 1896. Serial No. 600,758. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. PECK, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Hat-Brim-Pouncing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for pouncing hat-brims in which upper and lower pouncing-pads are reciprocated in contact with the two sides of the brim; and the object of the invention is to provide an improved machine of this character in which the pads move in the arc of a circle substantially that of the curve of the hat-body; also, to provide means for raising the upper pad and upper feed-roll simultaneously.

Further objects of the invention are to simplify the construction and operation of the machine, as will more fully appear hereinafter.

To these ends the invention consists in the construction and combination of parts, substantially as hereinafter described and claimed.

In the drawings which accompany and form part of this specification, Figure 1 represents a front elevation of a machine embodying my improvements. Fig. 2 represents a top plan, partly in section. Fig. 3 represents a detail elevation of some of the parts of the mechanism, looking from the right of Fig. 1. Fig. 4 represents a detail elevation of the feed-rolls and shafts. Fig. 5 represents a section of the upper pouncing-pad on line 5 5 of Fig. 1. Fig. 6 represents a section on line 6 6 of Fig. 5. Fig. 7 is a perspective view of the frame or holder of the upper pouncing-pad.

Similar reference-characters designate the same parts throughout the several views.

The table or platform *a* of the machine is mounted on suitable legs *a'* and supports two standards *a²* *a³*, having arms *a⁴*, and two standards *a⁵* and *a⁶*, hereinafter again referred to. The main shaft *b* is mounted in suitable bearings and is provided with a hand-wheel *b'* and a belt-wheel or driving-pulley *b²*, which is adapted to be operatively connected with or

disconnected from the main shaft by a clutch, (not shown,) the clutch-collar being indicated at *b³*. A counter-shaft *b⁴*, mounted in bearings at the upper end of standard *a²*, is driven from the main shaft by means of a belt *b⁵*, running over pulleys on the two shafts. A vertical shaft *c*, mounted in bearings in the arms *a⁴*, is driven by the shaft *b⁴* by means of bevel-gears *c'* and is provided with eccentrics or cranks *c²* for reciprocating the pouncing-pads by means of suitable pitmen *c³*.

The upper pouncing-pad *d* is carried by a frame or holder *d²*, (see Figs. 5, 6, and 7,) which has beveled edges that are curved from end to end to fit similarly-curved ways *d³* of a plate *d⁴*, which is attached to the horizontal portion of an L-shaped bracket *d⁵*. The holder *d²* has an ear *d⁶*, to which the outer end of the upper pitman *c³* is connected so as to reciprocate the pad in the arc of a circle that will conform approximately to the curvature of the brim, this being due to the curvature of the ways *d³*. The vertical portion of the bracket *d⁵* is adapted to slide in ways *d⁷*, formed in or attached to the end of the upper arm *a⁴* of the frame, said bracket or slide projecting above the ways and having an arm *d⁸* bearing thereon, said arm being pivoted to the standard *a⁵* and having a weight *d⁹*.

The lower pouncing-pad *e* is carried by a frame or holder *e²*, fitted to curved ways *e³* of a plate *e⁴*, which is attached to the horizontal portion of the bracket or standard *a³* and is provided with an ear *e⁶*, to which the outer end of the lower pitman *c³* is connected. So far as concerns the construction of the pads and their holders and the curved ways they are substantially identical; but the lower pad is not vertically movable. The pin which is connected with the ear *d⁶* of the upper pad is free to move in a hole in the end of the pitman which operates it in order that the connection will not be disturbed by the elevation of said pad. To elevate the said upper pad, I provide a lever *f*, having a handle *f'* and a roller *f²*, which rides along the under side of a lever *f³*, pivoted to the standard *a⁵* and having a stop-pin *f⁴* to limit the forward movement of the lever *f*. The forward end of the lever *f³* extends under a lug *d¹⁰*, secured to and projecting laterally from the slide *d⁵*. (See Figs. 1 and 3.) It will be seen that by

moving the lever f toward the stop-pin f^4 the upper pad will be raised against the pressure of the weight d^9 through the medium of the roller f^2 , lever f^3 , and lug d^{10} , thus separating the pads for the insertion or removal of a hat-brim. When the lever f reaches the stop-pin f^4 , it is in a vertical position to act as a strut to hold the parts in their raised position until the operator returns said lever to the position shown in Fig. 3.

The first-mentioned movement of the lever f , through connections hereinafter mentioned, simultaneously raises the upper roll of the feed mechanism, which I will now describe.

The standard a^6 is provided with tubular bearings for the shafts of the feed-rolls i , which are cone-shaped and inclined relatively to each other, substantially as shown in Fig. 4. The lower bearing i^1 is fixed to the standard, as at i^2 , and has a short standard i^3 , to which an ear of the upper bearing i^4 is pivoted, the pivot-pin passing through a short slot in one or the other of the connected parts. The forward end of the upper bearing is provided with a pin i^5 , entering a vertical slot in the standard. The ends of the two feed-roll shafts are geared together, and the lower shaft is provided with a beveled pinion i^6 , meshing with a similar pinion i^7 on the vertical shaft i^8 , mounted in a suitable bearing and provided with a pinion i^9 at its lower end. This arrangement of the feed-roll shafts permits of the upper one being elevated sufficiently to allow of the insertion or removal of a hat-brim between the rolls without disturbing the gearing therefor.

The upper roll is pressed against the lower one by means of a spring i^{10} , (see Fig. 1,) inserted between the forward end of the bearing and a lug at the top of the standard a^6 , and to raise this roll against the pressure of said spring I provide an arm or finger j , (see Figs. 1 and 3,) carried by a lever j^1 , pivoted to the standard a^6 at j^2 and connected to the lever f^3 by means of the link j^3 . The end of the finger j is interposed between the bearings of the feed-rolls and is adapted to engage under the upper bearing when the lever j^1 is raised. Therefore when the lever f is operated, as hereinbefore described, to elevate the upper pad the upper feed-roll is also elevated.

Below the platform a is a stud on which is mounted a worm-wheel k , (indicated by dotted lines in Fig. 2,) said wheel being operated by a worm k' on the main shaft b . (See Fig. 1.) On the same hub or sleeve with the worm-wheel is a gear k^2 , (indicated by dotted lines in Fig. 2,) said gear k^2 being connected with the pinion i^8 by means of a suitable gear-train to operate the feed-rolls.

The gear k^2 carries a pin or lug k^3 , which during each rotation of said wheel engages one of the teeth of a star-wheel k^4 substantially in the same manner as in my Letters Patent of the United States, dated November 12, 1895, No. 549,683. The star-wheel is car-

ried by the lower end of a shaft k^5 , which extends through and above the platform a and is provided with a pinion k^6 at its upper end.

A rod l is fitted to slide in ears l' , attached to the upper surface of the platform a , and is connected at one end to a clutch-shipper lever l^2 , pivoted to a bracket of the frame, as at l^3 , and having its other end bifurcated and engaging an annular groove in the clutch-collar b^3 . On the rod l are secured at adjustable points two collars l^4 , and fitted to slide on said rod is a rack l^5 , meshing with the pinion k^6 and having one end between the said collars. It will be seen that when the machine is in operation and the pin k^3 of the worm-wheel engages a tooth of the star-wheel it will cause the pinion k^6 to move the rack l^5 , and when the rack has been moved until the collar l^4 at the left in Fig. 2 is engaged the rod l will slide and operate through the lever l^2 to release the clutch and stop the machine. To start the machine again, I provide a lever m , pivoted on the platform a and having a bifurcated end engaging a pin m' on the rack. By moving the lever m to the position shown in Fig. 2 it will cause the end of the rack to engage the right-hand collar l^4 and slide the rod l to connect the clutch. During this movement of the lever m the pinion k^6 and star-wheel k^4 rotate freely, for it will be understood that the pin k^3 of the worm-wheel is disengaged from said star-wheel immediately after operating it one step.

In this machine I am enabled to dispense with the rotating hat-holder heretofore employed, owing to the arrangement of the pouncing-pads and feed-rolls above described; but to hold the hat-body close to the sides of the pads I employ a guide or finger n , which is curved, as indicated in Figs. 2 and 3, to ride smoothly on the inner side of the hat-body. This finger is at the lower end of an arm n' , extending over the top of the upper pad-holder and sleeved at n^2 on a rod n^3 , rising from the top of the upper pad-holder and passing through a slot n^4 in the plate d^4 to permit the said rod to partake of the reciprocating movements of the pad. A spring n^5 on the rod n^3 between a head at the upper end of the rod and the sleeve of the arm n' holds the said arm and guide-finger in the position shown in Fig. 3.

A notch n^6 in the side of the arm n' is adapted to engage a lug n^7 , projecting from the pad-holder d^2 , so that when the upper pad is raised, as hereinbefore described, and it becomes necessary to elevate the guide-finger above the plane of the bottom of the upper pad the said finger may be raised against the pressure of the spring n^5 and by a slight lateral movement of the arm n' will cause the lug n^7 to be engaged with the notch n^6 , whereby the guide will be kept elevated until it is released.

To prevent the side of the hat-body from being pressed against the side of the lower reciprocating pad, I provide a guard o , (see

Fig. 3,) which rises from the plate e^4 of the lower-pad holder, said guard extending between the guide-finger and the side of the lower pad and terminating just below the plane of movement of the hat-brim.

In the operation of the machine the guide-finger is elevated and then the lever f operated to raise the upper pad and feed-roll. The hat-brim is then inserted and the elevated parts returned to their operative positions and the starting-lever m moved to the position shown in Fig. 2. The feed-rolls draw the hat-brim between the pouncing-pads, which reciprocate in curved paths in contact with both sides of said brim.

When the entire brim has been finished, the star-wheel has been rotated to operate the sliding rod and disconnect the clutch and stop the machine. The operator then lifts the guide-finger and moves the lever f , as before described, thus releasing the hat from both the pads and feed-rolls at one movement of the hand.

I claim—

1. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, means for operating the pads and rolls, and a curved guide-finger adapted to engage the inside of a hat-body, said guide-finger being movable with one of the pads and vertically movable relatively thereto.

2. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, means for operating the pads and rolls, a guide-finger adapted to engage the inside of a hat-body and having its arm provided with a notch, and a fixed lug or detent adapted to engage said notch and hold the finger above the plane of movement of a hat-brim.

3. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, means for operating the pads and rolls, a curved guide-finger adapted to engage the inside of a hat-body and means for guiding the pouncing-pads in a curved path during their reciprocation, said guide-finger being movable with one of the pads and vertically movable relatively thereto.

4. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim be-

tween the pads, means for operating the pads and rolls, a lever f^3 engaging the support for the upper pad, a lever j' adapted to lift the bearing of the upper roll and connected to the lever f^3 , and the lever f adapted to engage the lever f^3 and lift it and the lever j' .

5. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, the upper pad and upper feed-roll being vertically movable, levers engaging movable parts connected with said upper pad and roll, a link connecting said levers, and means for operating and sustaining one of said levers and thereby also operating and sustaining the other lever through the medium of said link.

6. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, the upper pad and upper feed-roll being vertically movable, levers engaging movable parts connected with said upper pad and roll, a link connecting said levers, and a lever engaging one of said levers and adapted to raise and to support the said connected levers in elevated position.

7. In a hat-brim-pouncing machine, the combination with reciprocating pads, of the feed-rolls i , the lower fixed bearing i' for the shaft of one roll, the upper vertically-movable bearing i^4 for the other roll having a slotted pivotal connection with the bearing for the lower roll, the spring i^{10} , gears connecting the shafts of the two rolls and means for imparting motion to the lower shaft, and means for elevating the upper bearing at the other end from the gearing.

8. A hat-brim-pouncing machine comprising in its construction reciprocating pouncing-pads, feed-rolls for drawing the brim between the pads, means for operating the pads and rolls, a guide-finger adapted to engage the inside of a hat-body, and a guard interposed between the said guide-finger and the side of the lower pad, said guide-finger being movable with one of the pads and vertically movable relatively thereto.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES S. PECK.

Witnesses:

LEANDER P. FOOTE,
DAVID W. FAIRCHILD.