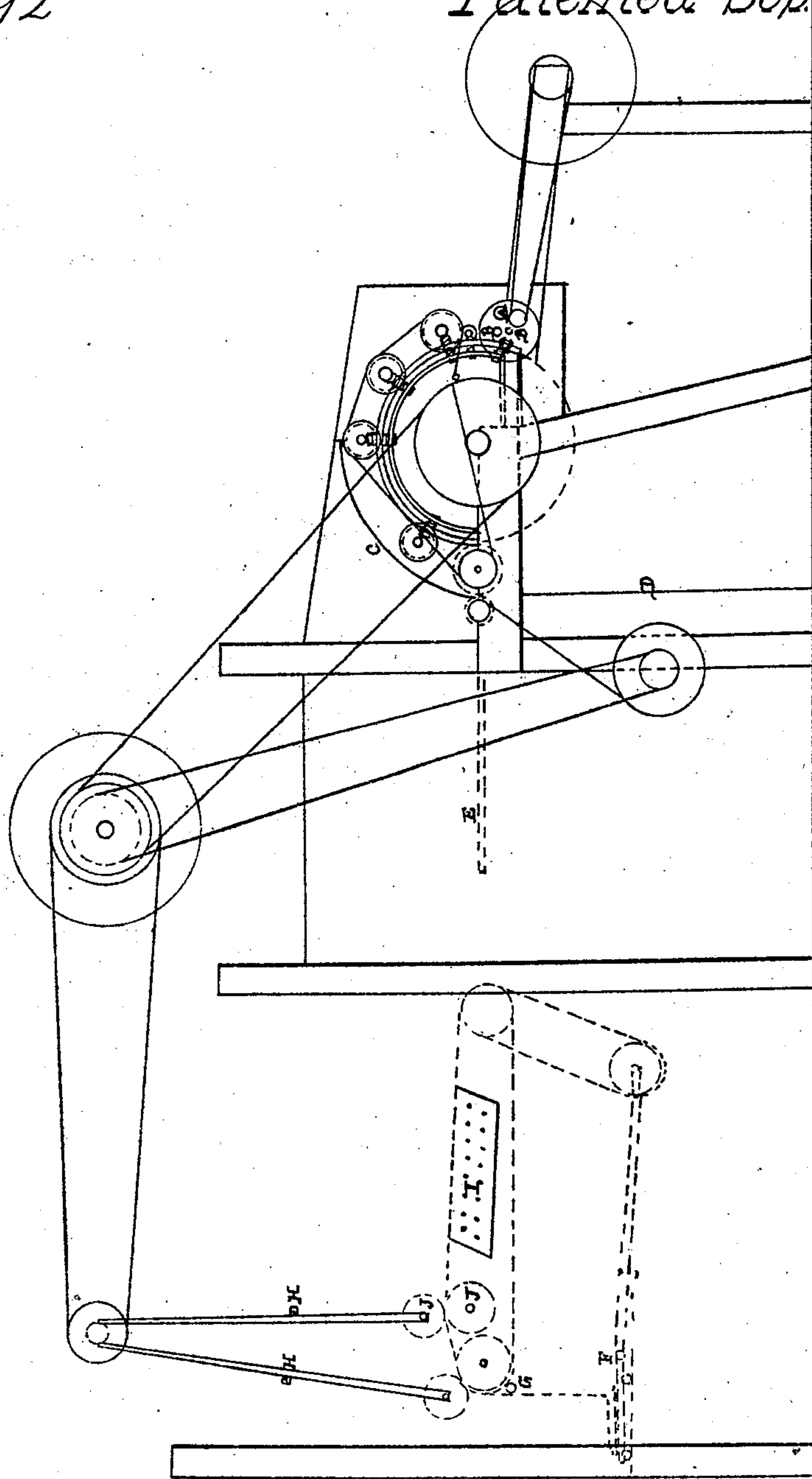


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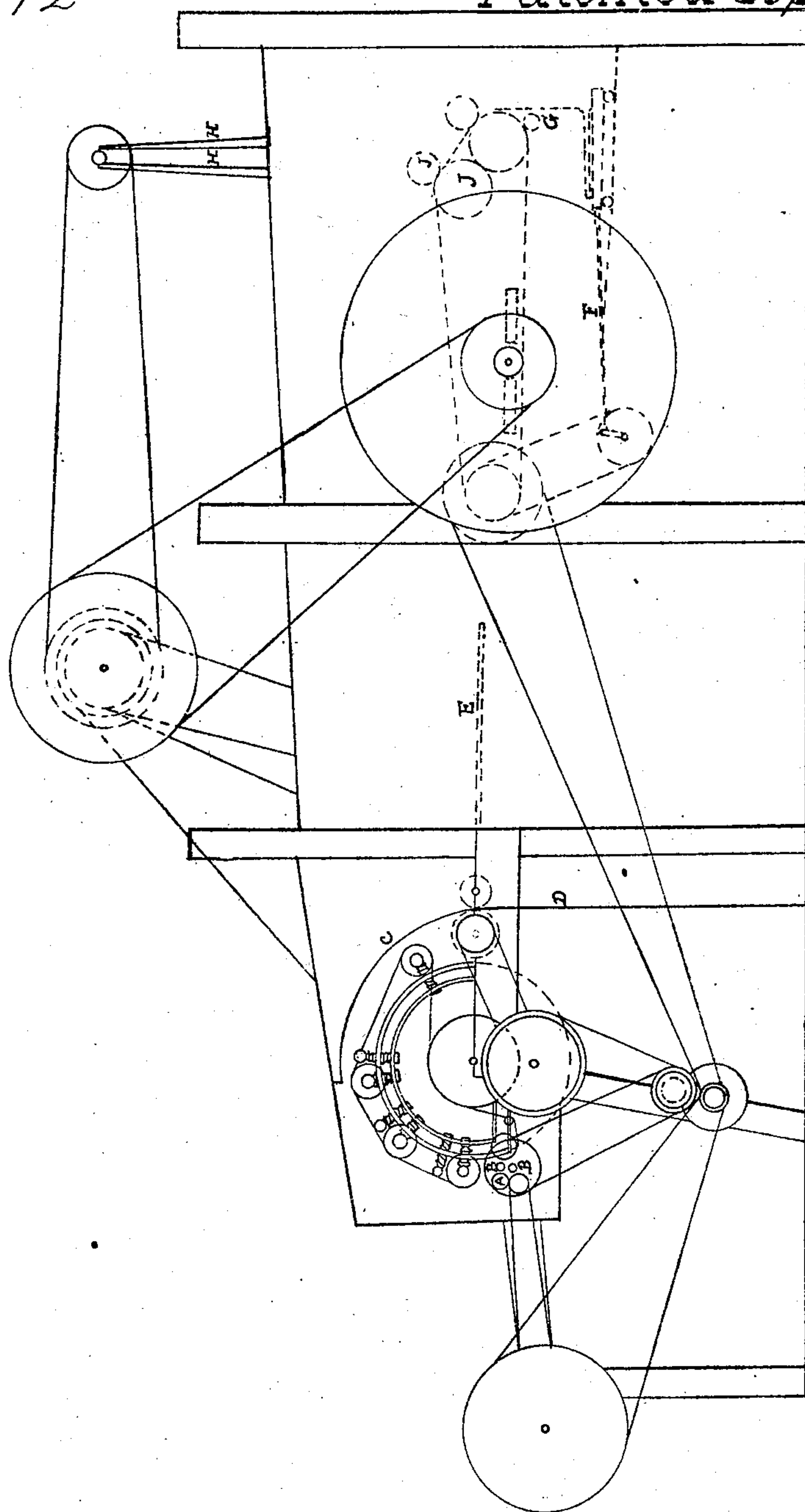


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UNITED STATES PATENT OFFICE.

HENRY A. WELLS, JAMES JAMES, AND ROBT. W. PECK, OF BROOKLYN, NEW YORK.

MODE OF MAKING A BATTING OR WEB FOR HAT-BODIES.

Specification of Letters Patent No. 392, dated September 22, 1837.

To all whom it may concern:

Be it known that we, HENRY A. WELLS, JAMES JAMES, and ROBERT W. PECK, of the city of Brooklyn, in the county of Kings, in the State of New York, have invented certain new and useful Improvements in Machines for Making a Batting of Web for the Manufacture of Hat-Bodies, invented by Thomas Blanchard, and for which Letters Patent of the United States are now pending, the interest in which, when the same shall be issued, has been assigned to us; and we do hereby declare that the following is a full and exact description of our improvements on the said machine, including therein such references to the parts of the original machine as are deemed necessary to make our improvements fully known, and introducing them for this purpose only.

Our first improvement consists in the addition of a roller which is to press lightly upon the fur as it passes along the feed apron, previously to its entrance between the feed rollers; which roller has been found necessary to prevent the fur from being drawn into the cards without passing between the feed rollers, which, from its lightness, may otherwise happen. This roller is marked A, in the accompanying drawing.

Secondly, instead of the feeding rollers originally employed, we have substituted two rollers of iron, B, B, which are fluted from end to end, and which have been found to bring the fur upon the cards more equably and evenly than heretofore.

Thirdly, we employ a covering of thin boards, or other suitable material, which occupies the position represented by the red line, C, in the drawing; thus covering the cards over their tops as far back as between the doffer and quick fancy; conforming the same, as far as practicable, to the shape of the space occupied by the cards when in place, and so as not to interfere with them when running.

Fourthly, we place a partition across the interior of the machine, in the situation represented by the vertical, red line D. This extends up from the bottom as near as possible to, and between, the doffer and the quick fancy. By the aid of this partition we obtain a direct, equable and correct current of air passing immediately upon, and through, all the cards to the quick fancy, which, by means of this current of air,

throws the fur in small particles into the air chamber free from the eddies and counter currents of air, thus giving the fur a tendency to fall equably and uniformly upon the vellum, or wire cloth apron, prepared to receive it.

Fifthly, we have added a board marked E. on the drawings, and represented in red ink, which board forms a partition across the interior of the machine, from under the quick fancy, and about half way between it and the vellum; this is to prevent the fur from falling into the space between the fancy and the vellum to the injury of the web.

Sixthly, we have added a receiving board shown on the drawings by red lines, and marked F. This receiving board is placed upon a carriage with two axles and four wheels, and is made to traverse on a railway attached to the side of the machine, or sustained in any other convenient manner; this carriage is made to traverse backward and forward directly under the back part, or end, of the vellum; the traversing motion may be given to it by a crank, or by any gearing which the machinist may think best to use. The use of this carriage is to receive the web as it falls from the vellum, and to fold it neatly and conveniently for use.

Seventhly, we have added, on the back side of the lower back roller on which the wire cloth or vellum revolves, a small roller lettered G, and marked with red ink on the drawings; this roller is placed on bearings on the sides of the machine, a little below the center of the back roller; this small roller, G, is turned by the wire cloth, or vellum, and is so placed as to prevent the web from adhering to, and following, the vellum around, and to cause it to fall off clean upon the above described receiving board.

Eighthly, instead of the cam wheel, and its appurtenances, as described in Thomas Blanchard's specification, herein before referred to, and employed to give a lateral, vibratory motion to the hardening roller, designated by the letter H, in that specification, we have added, and use, the two levers marked H, H, in the drawings hereto annexed. These levers have their fulcra at *h*, *h*, and at their upper ends they have, each, a pin attached to them which enters an eccentric groove in the hub *i*, by which, as the hub is made to revolve by the

whirl k , the levers vibrate on their fulcra h , h , and, consequently, communicate the required motion to the rollers J' , and j , or to either of them, as may be required.

5 Ninthly, we have added a small irregular board shown on the drawings in red lines and by red dots and marked I, the red dots are to denote holes which are made in the board say three eighths of an inch in diam-
 10 eter this board thus perforated is placed in the inside of the vellum between the upper and lower sides of the wire cloth or vellum resting in part on, and in part inside of, a stationary box which in the original ma-
 15 chine is placed between the upper and lower sides or inside of the said vellum or wire cloth; the side of the board, and the member and size of the holes, must be varied according to the side of the said wire cloth
 20 vellum, and to the current or draft of air required, and all fitted to the place and position of the machine, by the judgment and skill of the workman formed on the particular case, by examining the machine
 25 under its operation, its position as to air, the state of the atmosphere, and the materials to be used. Strips of small thin boards fastened together, or pieces of tin, sheet iron, or any other metal, fastened to-
 30 gether, or laid in loose; or pieces of tin, or iron, or any other metal, perforated with holes, or pipes perforated with holes, and the air made to pass through one or both ends for regulating the current of air, may
 35 be used for the same purpose; the object of the above board, plates, tinned ironed tube, or tubes, is to cause an even equable current of air to pass through the vellum or wire cloth over its whole surface, at the same
 40 time, which causes the fur thrown by the quick fancy, and suspended in the air to

fall when it lights, even and equably and uniformly upon the whole surface of the vellum this last operation is performed in the air chamber and when successful, as it
 45 may be easily made to be, leaves a thin even beautiful web of one uniform thickness which with little care may easily be wrought into a hat body.

Tenthly, the rollers J, J, as shown in the
 50 drawings are sometimes used in Blanchard's original machine, and sometimes not, they may be wholly omitted without any material inconvenience. The other parts of the drawings in black lines show so much of
 55 the original machine as is necessary to be shown to explain the drawings of these improvements which as practical hatters, by various experiments, we have been able to
 60 make.

We do not claim the original machine nor any of its parts as our inventions or the invention of either of us nor its combination or general arrangement. Nor do we claim the rollers levers boards or other parts
 65 which we have added separately and independently of said machine; but

We do claim as our joint invention and improvement—

The several additions to said machine as
 70 above specified in their combination and connection with said machine for the uses and purposes aforesaid whereby the original machine is much improved and rendered far more useful.

HENRY A. WELLS.
 JAMES JAMES.
 ROBT. W. PECK.

Witnesses:

EDWARD SHAW SMITH,
 ROBERT R. RAYMOND.