(No Model.)

O. HAMMERSTEIN.

MACHINE FOR MANIPULATING CIGAR WRAPPERS.

No. 293,732. Patented Feb. 19, 1884.

fig. 1.

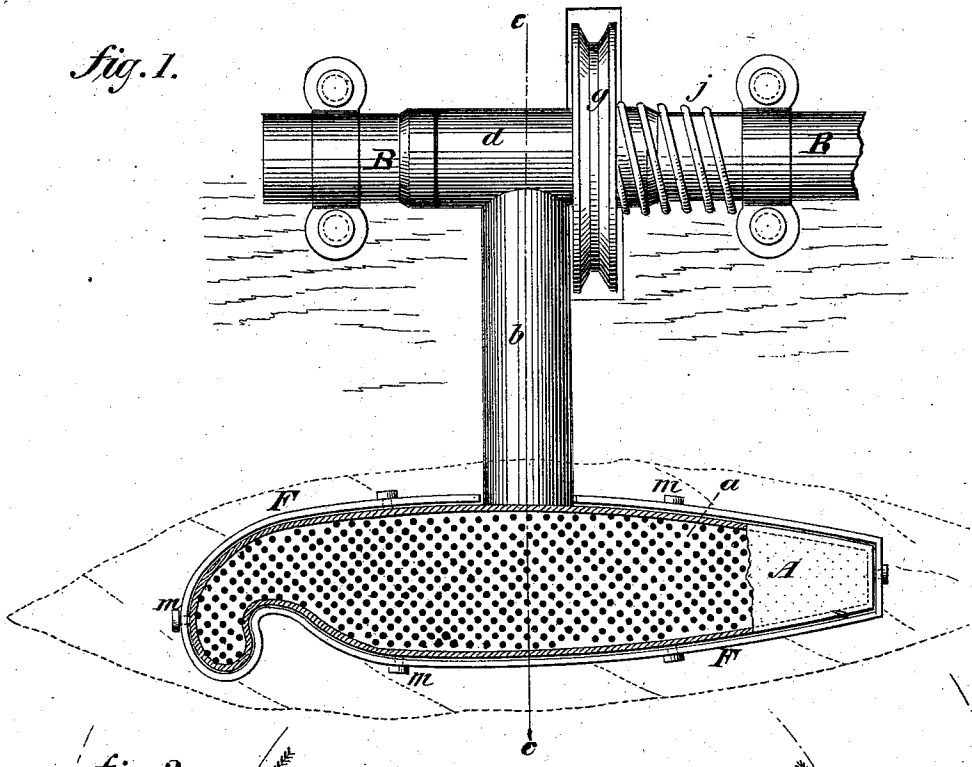


fig. 2.

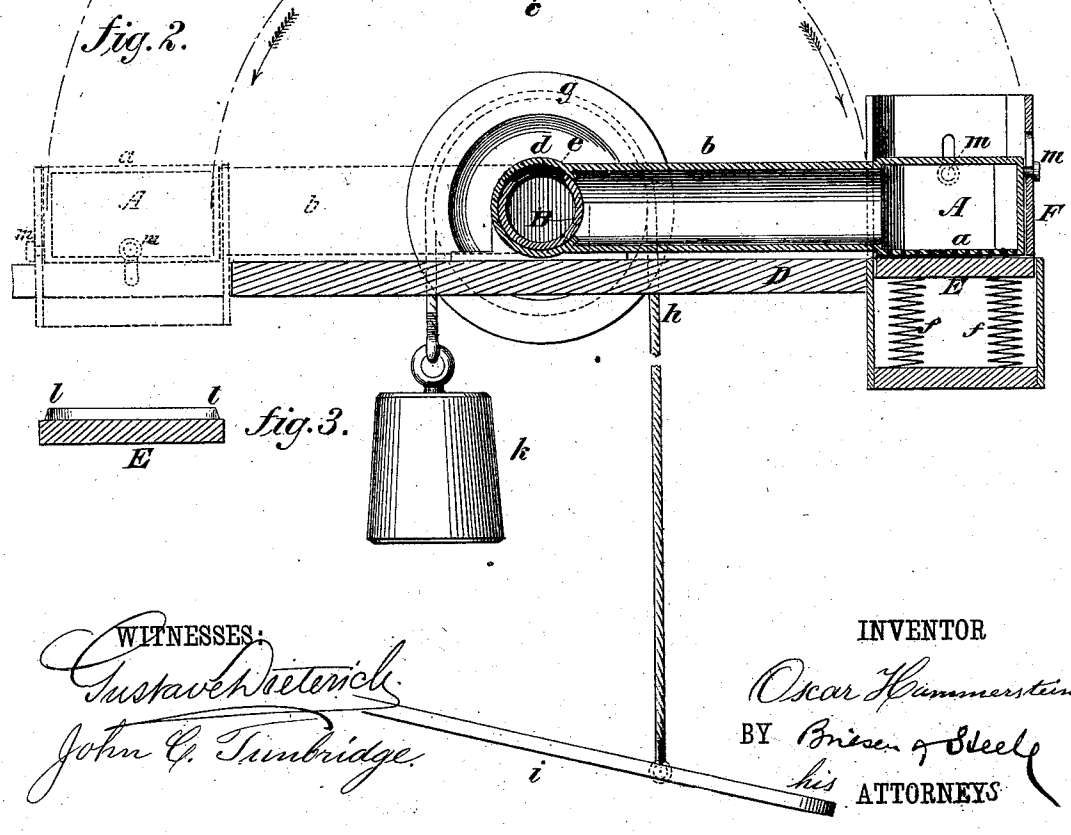


fig. 3.

WITNESSES:

Gustave Woterick

John G. Tumbridge

INVENTOR

Oscar Hammerstein

BY Briesen & Steele

his ATTORNEYS

UNITED STATES PATENT OFFICE.

OSCAR HAMMERSTEIN, OF NEW YORK, N. Y., ASSIGNOR TO MALVINE HAMMERSTEIN, OF SAME PLACE.

MACHINE FOR MANIPULATING CIGAR-WRAPPERS.

SPECIFICATION forming part of Letters Patent No. 293,732, dated February 19, 1884.

Application filed May 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, OSCAR HAMMERSTEIN, of New York, in the county and State of New York, have invented a new and Improved Machine for Manipulating Cigar-Wrappers, of which the following is a specification.

Figure 1 is a top view of my improved machine; Fig. 2, a vertical cross-section of the same on the line *c c*, Fig. 1; Fig. 3, a vertical section of a modification of one of the parts thereof.

The object of this invention is to produce a machine for laying tobacco-leaves one upon the other, so as to prepare them for the cutting out of wrappers, and in so doing to avoid the undue handling of the leaves, and to hold them properly distended and even.

The invention consists in the details of improvement that are hereinafter more fully described.

It must be understood, in order to appreciate the importance of this invention, that the leaves of the tobacco-plant from which wrappers, binders, &c., are cut (and here I might as well say that when I speak of the use of my invention for preparing the leaf for cutting wrappers I wish to have the binders included in the same description) have the veins running in diagonal directions, somewhat as indicated in Fig. 1 of the drawings, and that, especially in cutting out wrappers, it is essential that the head of the wrapper, which is the crook-shaped end thereof, should be between the veins of the leaf, and that no vein should run through the head of the wrapper. It follows that in holding the leaf under the cutter for obtaining a wrapper it must be so held as to cut the head of the wrapper into proper shape, so, also, as to avoid bringing all perforated or faulty portions of the leaf under the knife; and, nevertheless, care should be taken not to waste any of the leaf, but reserve what is left for use in making other wrappers from it. It is therefore, inasmuch as wrappers particularly are made of the most costly tobacco, a matter of importance in the manufacture of large numbers of cigars that the greatest economy should be exercised in dividing the leaves properly for the making of the wrappers. If the wrappers were all cut out by hand, the trouble is that if they are not of the precise form required the cigars turned out will vary one from the other in size, weight, &c. If each leaf were cut separately by a cutter having the shape of the wrapper, the labor would be very great, as the wrapper must also be held in a distended form.

By my invention the leaf is carefully placed upon the suction-table, which has the form of the wrapper, in such a way that that portion of the leaf which is to be cut out will lie on the table. Suction is then applied, and the table moved to deposit that leaf in a particular position upon another table, and afterward the same suction-table is made to deposit upon the first leaf another, and upon that another, and so on, always placing the part intended to be cut out for the wrapper precisely above the corresponding part of the leaf next below, and so on, so that afterward when the knife having the outline of the wrapper is brought down upon the entire pile of leaves it will cut from them at one stroke the very portions that were placed upon the suction-table, leaving the remaining portions to be used in cutting out other wrappers, or for such uses to which they may be best adapted.

In the accompanying drawings, the letter A represents my improved suction-table, which is a box-shaped structure, having one plate, *a*, or cover, full of little holes. The box or table A is hollow, and attached by a hollow arm, *b*, to a tubular sleeve, *d*, which sleeve embraces a hollow supporting-shaft, B. This hollow supporting-shaft is in communication with a suction-pump of suitable kind, and has an opening, *e*, which at certain times may communicate with the hollow arm *b* and the interior of the box A. The box A—at least that part of it which has the perforations—has the form of a cigar-wrapper, as indicated in Fig. 1, and when in the dotted position which is indicated in Fig. 2, so that its perforated plate *a* will be on top, is in position for use, for now the tobacco-leaf is placed upon it in such way as to make the part intended for the wrapper just cover the perforated plate *a*, and thereupon the sleeve *d* is turned, and with it the hollow arm *b* and the table A, and brought

from the position shown by dotted lines in Fig. 2 into the position which is shown by full lines in Fig. 2. While the box A is traveling from one of these positions to the other, the aperture *e* in the hollow shaft B will, part of the time, communicate with the inner space of the arm *b*, and will cause the suction that is created by the pump in the pipe B to draw the leaf of tobacco tightly against the plate *a*, and hold it there until the position shown by full lines in Fig. 2 is nearly attained, whereupon communication with the aperture *e* will be interrupted, as shown, and the effect of suction no longer felt by the leaf. The leaf is deposited either upon a fixed table, D, but preferably upon a separate table, E, that rests on springs *f*, so that afterward when other leaves are placed upon the first they may all be just vertically above each other, the table E, by preference, yielding sufficiently to allow the suction-table A always to reach the position shown in Fig. 2 by full lines at the time the leaf is detached from it.

In order to turn the sleeve *d* and its attachments, suitable means may be employed. Thus I have shown a pulley, *g*, to be mounted upon said sleeve, and a cord, *h*, to pass around it to a treadle, *i*, a suitable spring, *j*, Fig. 1, or weight *k*, Fig. 2, tending to hold the parts normally in such a position that the perforated plate *a* will be face upward. Then, when the treadle *i* is depressed, as in Fig. 2, the cord *h* will be pulled and the pulley *g* revolved, and the suction-table thereby carried into the position which is shown by full lines in Fig. 2.

Fig. 2 shows the treadle *i* depressed as stated and the weight *k* raised. When the treadle is now let go, the suction-table will be carried around again to its normal position, so as to have the perforated plate facing upward.

If desired, the table E, which receives the leaf to be cut, may have a knife, *l*, of the form of the wrapper, attached to it, as indicated in Fig. 3, so that the leaf, immediately upon being deposited on said table E, will be cut automatically, and the finished wrapper may then be taken off by an attendant while the suction-table is on its way back to receive a new leaf, and so forth. In this case, however, the table having this projecting knife would not rest on cushions *f*, but would have to be rigidly held in position.

In order to prevent any possible suction which would be caused by the intimate contact of the perforated plate *a* with the leaf deposited upon the table E from causing the suction-table to lift that leaf again off the table E on its return motion to the normal position, I have provided the suction-table with a sliding sleeve, F, which surrounds it and is capable of independent vertical play, being guided by suitable guide-pins, *m*, that project from the table A through slots in the sleeve F; or, instead of this sleeve F being in one piece, as indicated in Fig. 1, separate vertical slides may be attached at suitable parts of the circumference of the suction-table A. The lower end of this sleeve F, or its equivalent, will rest on the leaf that is being deposited on the table E by the suction-table, and will remain thereon for a little while after the suction-table has been lifted off again on its return motion, and will thus hold the leaf down on the table E and prevent it from following the suction-table during its return motion.

It is quite clear that the tobacco-leaf, while being carried by this suction-table, will be distended and evenly deposited, under pressure, on the table E, and that when a pile of leaves is thus deposited they are all fairly distended, all properly placed with reference to the cutting out of one wrapper from each of them, and all pressed in the best possible condition for use as cigar-wrappers.

Instead of hanging the suction-table A on the hollow shaft B, it may be hung on a solid shaft, and connected by a flexible hose or otherwise with the air-pump. Such an arrangement is clearly equivalent to the particular device shown for causing air-suction in the hollow traveling table A.

I claim—

1. The combination of the hollow table A, having perforated suction-plate *a*, with the hollow arm *b*, hollow supporting-shaft B, having aperture *e*, and with means for revolving the hollow table A and its appurtenances around said hollow shaft, substantially as and for the purpose specified.

2. The combination of the hollow suction-table A, with mechanism, substantially as described, for moving it, with the sliding sleeve F and receiving-table, substantially as described.

3. The table E, resting on the spring *f*, in combination with the hollow suction-table A, having perforated plate *a*, and with means, substantially as described, for moving said table A, as specified.

4. The table E, in combination with the hollow suction-table A, having perforated face-plate *a*, and with mechanism for moving said suction-table, and with the cutter *l*, substantially as described.

OSCAR HAMMERSTEIN.

Witnesses:
HARRY M. TURK,
GUSTAV SCHNEPPÉ.