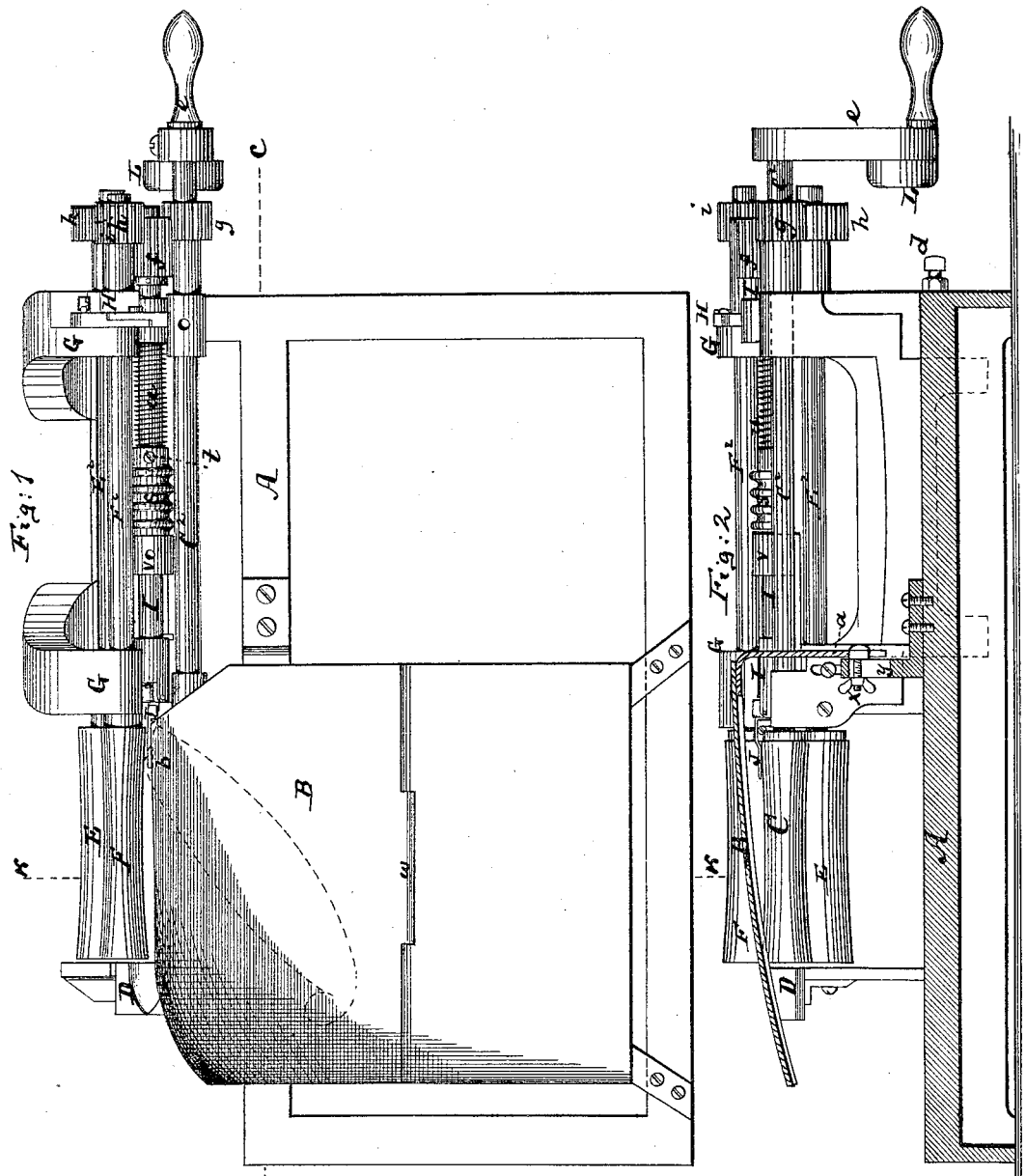
(No Model.) 2 Sheets—Sheet 1.

O. HAMMERSTEIN.

CIGAR ROLLING MACHINE.

No. 348,206. Patented Aug. 31, 1886.



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John M. Speer.

Inventor:
Oscar Hammerstein
by his attorneys
Briesen & Steele

(No Model.) 2 Sheets—Sheet 2.

O. HAMMERSTEIN.

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Fig: 7

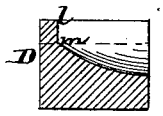


Fig: 3

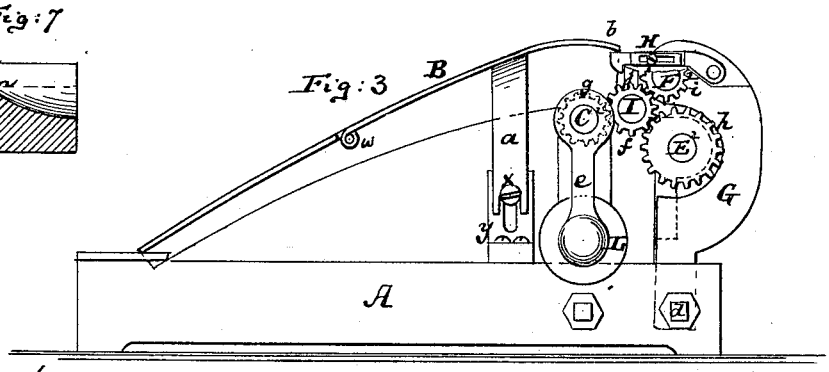


Fig: 6

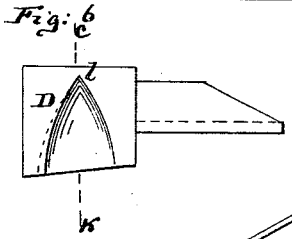


Fig: 4

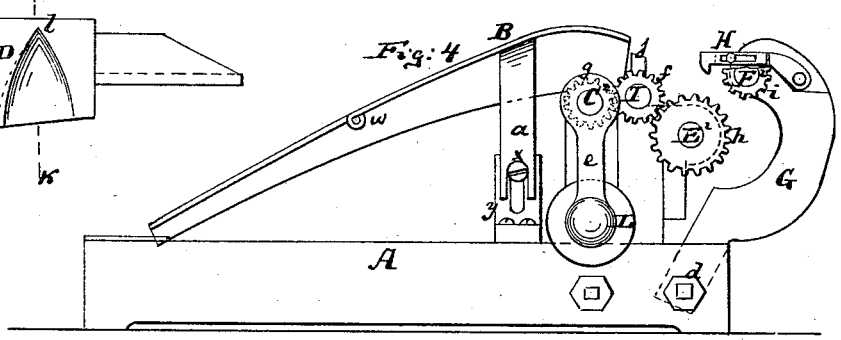


Fig: 8

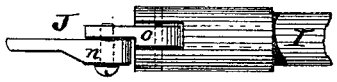


Fig: 5

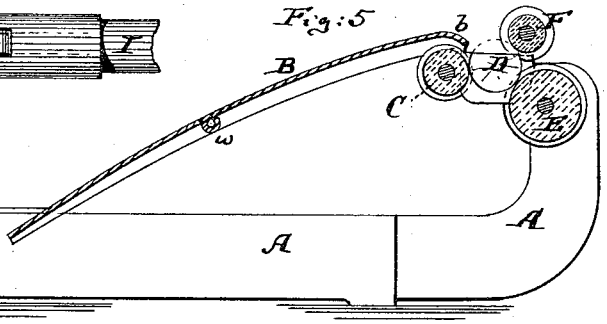


Fig: 9

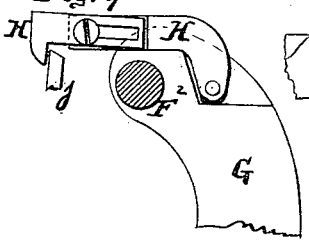


Fig: 10

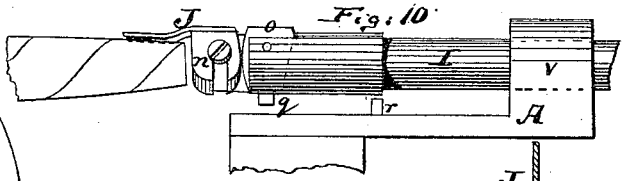


Fig: 11

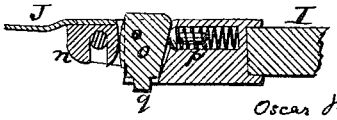
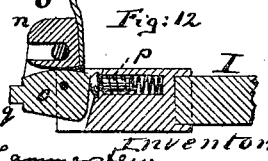


Fig: 12



Witnesses
John C. Trumbridge
John M. Speer.

Inventor:
Oscar Hammerstein
by his attorneys
Brisen & Steele

UNITED STATES PATENT OFFICE.

OSCAR HAMMERSTEIN, OF NEW YORK, N. Y.

CIGAR-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,206, dated August 31, 1886.

Application filed May 5, 1884. Renewed February 1, 1886. Serial No. 190,555. (No model.)

To all whom it may concern:

Be it known that I, OSCAR HAMMERSTEIN, a resident of New York city, in the county and State of New York, have invented an Improved Cigar-Rolling Machine, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, in which—

Figure 1 is a plan or top view of my improved cigar-rolling machine. Fig. 2 is a vertical longitudinal section of the same, on the line *c c*, Fig. 1. Fig. 3 is an end elevation of the same, showing the rollers brought in close proximity. Fig. 4 is a similar end elevation of said machine, showing the rollers separated. Fig. 5 is a vertical cross-section of the machine on the line *k k*, Fig. 1. Fig. 6 is a detailed top view of the thimble in which the point of the cigar is rolled. Fig. 7 is a longitudinal section thereof on the line *c k*, Fig. 6. Fig. 8 is a detailed top view of the adjustable finger for taking hold of the first end of the leaf to be rolled. Fig. 9 is a detailed side view of the adjustable latch for locking the rollers together. Fig. 10 is a detailed side view of the end of the roller which carries the above-mentioned finger. Fig. 11 is a longitudinal section of said finger thrown forward for action. Fig. 12 is a similar section of said finger, showing it folded out of the way.

This invention relates to sundry improvements in machines for rolling cigars—that is to say, for placing the wrappers around cigars; and it consists in the devices hereinafter more fully described.

In the drawings the letter A represents the frame of my machine, to which frame is attached, by adjustable arms *a*, a curved plate or table, B, which in cross-section has the curved form indicated in Fig. 5—that is to say, it curls at *b* part way around one of the rollers C which roll the cigar; but it is not to be understood that the table or plate B where it is above the roller C is equidistant therefrom throughout. On the contrary, it slopes downward, as in Fig. 2, being lowest near the thimble D, in which the point of the cigar is to rest. In other words, this curved plate or table B is curved downward above the roller C, both longitudinally and laterally, the curve which is shown in Fig. 5 being for the purpose of leading the wrapper to its proper place within the rollers from the table downward, while the curve shown in Fig. 2 is for the purpose of leading the wrapper longitudinally downward, conformably to the shape of the cigar; but said plate B does not wholly cover the thimble D. On the contrary, the apex of the thimble remains uncovered.

The three rollers C, E, and F are arranged, when the machine is to operate, in the relative position shown in Fig. 5—that is to say, the shaft C^2 of the roller C has its bearings in uprights of the frame A. The shaft E^2 of the bottom roller, E, has its bearings likewise in the frame A; but the shaft F^2 of the top roller, F, is hung in a frame, G, which is pivoted at *d* to the frame A, (see Fig. 4,) so that on said pivot the frame G can be swung either into the position shown in Fig. 3, to bring the roller F near the roller C, or into the position shown in Fig. 4—that is, to carry the roller F away from the roller C.

The rotation of the rollers may be produced by attaching a crank-handle, *e*, either to the shaft C^2 of the roller C or to that of the roller E, these said two rollers being geared together by means of an intermediate pinion, *f*, which meshes into pinions *g h*, that are mounted, respectively, upon the shafts of the rollers C and E. A pinion, *i*, is mounted upon the shaft of the roller F, and meshes into the teeth of the pinion *f* whenever the frame G is swung into the position shown in Fig. 3, so that in this position, by turning the crank-handle *e* all the three rollers will be revolved in the same direction by connection with the intermediate pinion, *f*. When the frame G is in the position shown in Fig. 3, it is locked by a latch, H, to a button, *j*, or knob, that projects from the frame A. The latch H, which is shown on a larger scale in Fig. 9, is made extensible—that is to say, in two parts—which are joined by a screw passing through a slot in one of said parts, so that the latch may be made longer or shorter at will, for the purpose of bringing the roller F nearer to or farther away from the other rollers, so as to adapt the machine to smaller or larger cigars.

In the other end of the machine is rigidly secured the thimble D. This thimble has a semi-conical bore, and above this semi-conical

bore it has an upward elongation, *l*. This elongation, it will be seen, extends above the point *m*, which is the apex of the cone and in which the point of the cigar rests while revolving. This upward prolongation, *l*, of the thimble above the apex is a feature of my invention, and distinguishes this thimble from any used in other cigar-machines. Without it I find the cigar is liable to lose its position and its bearing in the rolling-machine at the time the wrapper winds around its point, at which time the point of the cigar is necessarily raised somewhat out of the apex of the thimble and liable to lose its place unless the thimble be extended upward beyond such apex.

The pinion *f*, which has been described as the intermediate pinion, and by means of which the three rollers C, E, and F are revolved in the same direction, is mounted upon a sliding shaft, I, which has its bearings in the frame A of the machine, and which sliding shaft at its inner end—that is to say, where it is nearest the roller-bodies C, E, F—carries a pivoted finger, J. This finger, which is more fully shown in Figs. 10, 11, and 12, is a narrow thin plate fastened to a slotted shank, *n*. This shank *n* is by a screw secured to a block, *o*, which is pivoted in the forked end of the shaft I. Fig. 8 clearly shows the forked end of the shaft. The shaft I is hollowed directly behind the block *o*, and in its hollow carries a small spring-plunger, *p*, which bears against the rear edge of the block *o*, said rear edge being of the angular form indicated in Figs. 11 and 12. When the finger J extends in line with the shaft I, as in Figs. 10 and 11, a downwardly-extending lug, *q*, on the block *o* is in line with a fixed projection, *r*, on the frame A. Whenever the shaft I is slid back to bring this lug *q* against the projection *r*, the block *o* will be turned on its pivot sufficiently far to allow the spring-plunger *p* to throw it into the horizontal position, which is indicated in Fig. 12, thereby throwing the finger J into an upright position.

The extent of the forward movement of the sliding shaft I is regulated by an adjustable collar, *s*, which can be fastened in any suitable position on said shaft by means of the screw *t*. A spring, *u*, surrounds said shaft behind this collar *s*, and pushes this collar against one of the projecting bearings *v* of the frame A, in which the shaft I is supported. By adjusting the collar *s* the shaft I can be thrown forward more or less by the spring *u*, so as to bring the finger farther or less far forward for shorter or longer cigars.

The crank-handle *e* carries a weight, L, so that whenever the crank-handle is let go the weight will swing it into the downward position shown in Fig. 3, that being the position in which, through the intermediate gearing, the finger J is held on the upper side of the shaft I, so that the lug *q* will be aligned with the projection *r*. This permits me, whenever the machine is stopped, by simply sliding back the shaft I, which can be done by taking hold of the collar *s*, to throw the finger J up into the position shown in Fig. 12.

The finger J, by being made fast to the slotted shank *n*, is made adjustable, so that it can be set nearer to or farther away from the center line or axis of the shaft I, thereby adapting it for use on larger or smaller cigars—that is, cigars having greater or less thickness—the adjustment of the collar *s* serving to fit it to longer or shorter cigars.

The table B is either jointed, as shown at *w* in Figs. 3, 4, and 5, and also in Fig. 1, so that it can be swung out of the way to clear the rollers, or, if not so jointed in its body, an equivalent construction will be to pivot it bodily to the frame A, or unite it thereto by slotted lugs, so that it may be slid out of the way of the rollers.

In my machine I have shown three rollers for engaging the cigar; but the machine is useful when more than three rollers are employed on it.

The table B should also be vertically adjustable, so as to adapt it to thicker or thinner cigars. For this purpose I have shown the arm *a* to be forked at its lower end, and resting on a screw, *x*, which is adjustable in a slotted upright, *y*, of the frame A. By raising or lowering this screw *x* the table itself in its working position will be held higher or lower, at pleasure. Equivalent means for raising and lowering the table B may be adopted.

The machine operates as follows: When the roller F is swung away from the other rollers, as in Fig. 4, the bunch is placed on the rollers C E, so that its point rests in the thimble D. The finger J at this time is turned up, as in Fig. 12, so as not to interfere with the placing of the bunch into the machine. The roller F is now brought against the bunch and locked by the latch H, as in Fig. 3. A wrapper is next placed upon the curved table B, so that its tail end will come in contact with the bunch at that part thereof which is farthest away from the thimble D. The finger J is now swung down by hand into the position shown in Fig. 10, thereby bringing it against the tail end of the wrapper, and causing it to press that tail end against the bunch. The parts are now in position for rolling or winding the wrapper around the bunch. This is accomplished by taking hold of the crank-handle *e* and revolving it, thereby revolving the rollers and with them the finger and also the bunch, the finger holding the tail end of the wrapper properly pressed against the bunch. While this rolling is going on the operator turning the crank-handle with one hand, with the other hand holds and guides the wrapper into proper position, until finally its head will be wound around the point of the cigar, and the operation of winding the wrapper has been completed. As soon as this is done the operator lets go of the crank-handle, which, being weighted, falls into the position which will allow the lug *q* to come into alignment with the projection *r*. The

operator now pushes the sliding shaft I back, so as to swing the finger J into the upright position shown in Fig. 12. This is necessary to permit the removal of the cigar, and also for the reinsertion of a new bunch. The operator next throws the roller F out of engagement—that is to say, into the position shown in Fig. 4. Finally, he swings back the table B on its hinge or joint, and thereby renders the finished cigar accessible, so that it can be easily removed. A new bunch is now placed on the rollers C E, the table B is let down again, the roller F re-engaged, and the operation continued, as before described.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. In a machine for rolling wrappers around cigars, the curved plate B, made with the transverse downward slope *b*, wholly above the roller C, and with the longitudinal downward slope toward the thimble D, but not wholly above said thimble, and with the rollers C E F, and thimble D, substantially as herein shown and described.

2. The combination, in a machine for rolling cigars, of the rollers C and E with the roller F, pivoted frame G, extensible latch H, and mechanism, substantially as described, for revolving said rollers, as specified.

3. In a machine for rolling cigars, the thimble D, having the apex of its conical bore at *m*, and provided with the upward prolongation *l* above such apex, as set forth.

4. The combination of the rollers C, E, and F, and mechanism, substantially as described, for revolving them, with the thimble D, having upward prolongation *l*, and with the curved plate or table B, which is curved laterally and longitudinally, substantially as described.

5. The combination of the sliding shaft I with the pivoted block *o*, having projection *q*, the adjustable finger J, spring-plunger *p*, and rigid projection *r* on the frame A, substantially as described.

6. The combination of the crank-handle *e* and its weight L with the rollers C E F, shaft I, intermediate gearing, *f g h i*, pivoted finger J, and actuating-lugs *q r*, substantially as described.

7. The pivoted holding-finger J, provided with the slotted shank *n*, for the purpose of adjusting it on the shaft I, which carries it, in combination with the shaft I, and rollers C E F, substantially as and for the purpose described.

8. The combination, in a cigar-rolling machine, of three or more rollers with the sliding shaft I, carrying finger J, and with the adjustable collar *s*, spring *u*, block *o*, plunger *p*, and projection *r*, substantially as described.

9. The curved table B, provided with the joint *w*, in combination with the rollers in a cigar-machine, as described.

OSCAR HAMMERSTEIN.

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