

R. ROBERTS.
Cigar-Machine.

No. 205,809.

Patented July 9, 1878.

Fig. 1

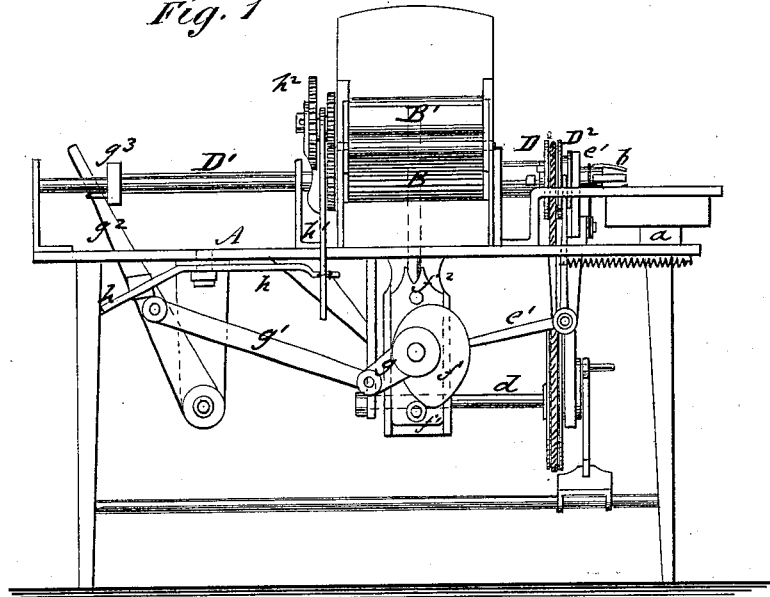


Fig. 2

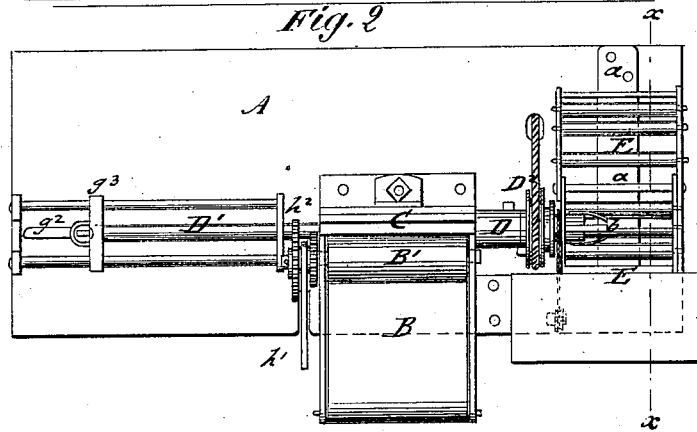
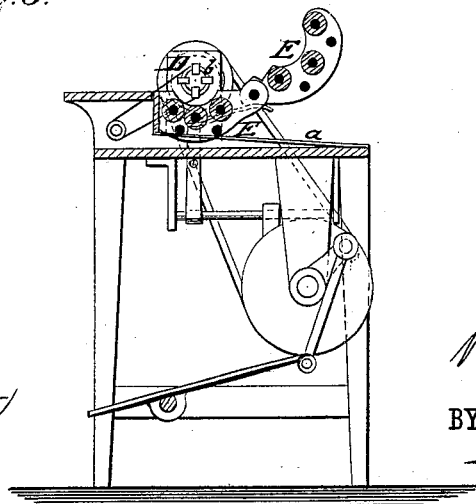


Fig. 3.



WITNESSES:

C. Neveux
Edgar Tate

INVENTOR:

R. Roberts.

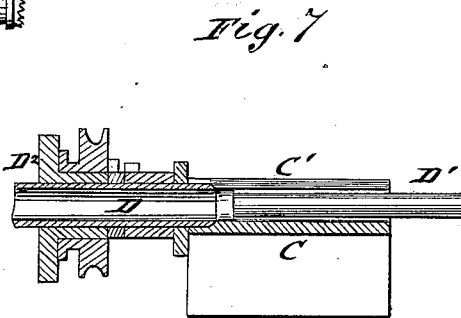
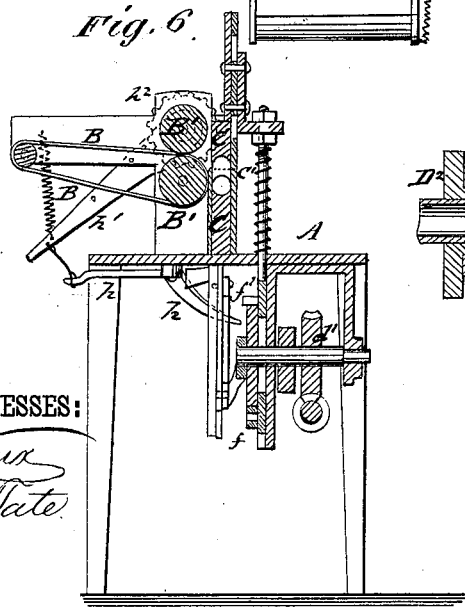
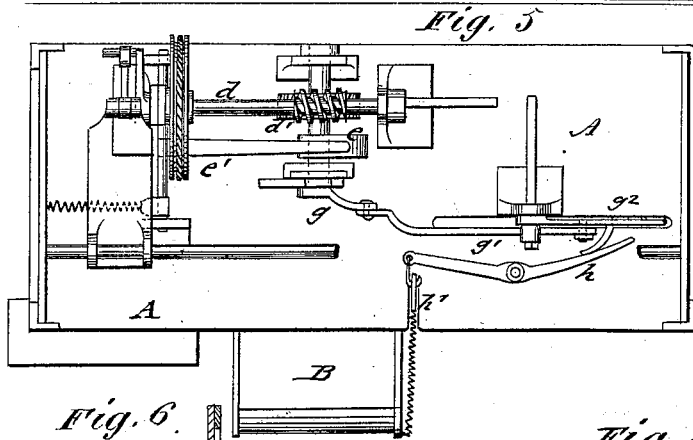
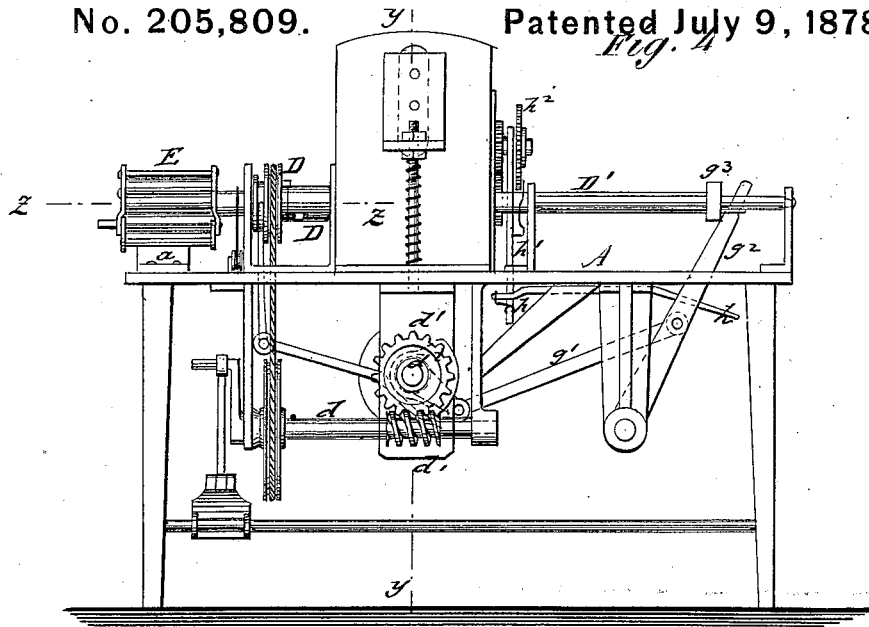
BY *Munn & Co.*

ATTORNEYS.

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C. Newell
Edgar Tate

INVENTOR:
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 BY *Munn*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT ROBERTS, OF ST. JOSEPH, MISSOURI.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. **205,809**, dated July 9, 1878; application filed August 24, 1877.

To all whom it may concern:

Be it known that I, ROBERT ROBERTS, of St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and Improved Machine for Making Cigars, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation; Fig. 2, a plan view; Fig. 3, an end view, partly in section, on line *x x*, Fig. 2; Fig. 4, a rear elevation; Fig. 5, a bottom view; and Fig. 6, a vertical transverse section of my improved machine for making cigars, on line *y y*, Fig. 4; and Fig. 7 is a detail vertical longitudinal section of the revolving tube and plunger on line *z z*, Fig. 4.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved machine for making cigars in complete manner by first feeding the filling and binder or inside wrapper to suitable molds and cutting-shears, and exposing them to a pressure that reduces the bunch to a size smaller than the proper size. The pressure then eases up, so that the bunch can be fed forward with ease to receive the wrapper, the point being finally finished by hand.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

By referring to the drawings, A represents the supporting frame or table of my improved cigar-making machine, which is worked either by treadle or power, as desired. The operative parts are arranged above the table, and the actuating mechanism below the same, and operated from one revolving crank-shaft.

The operative parts consist, first, of an endless belt or apron, B, on which the filling and the binder or inner wrapper are placed, to be fed thereby and by feed-rolls B' to the molds C and shears C', which first cut off the tobacco, and then press the same. The molds and shears are arranged at right angles to the feeding-apron close to the same, the lower mold being stationary, while the upper has a vertically-reciprocating motion, so as to press the tobacco into a considerably smaller size than the true size of the cigar. The pressure then eases up to the true size, and allows the bunch so formed to pass freely through the revolving conducting-tube D.

An intermittingly-working plunger D' conveys the bunch from the molds into the revolving tube D, so as to give the bunch a revolving motion at the proper time, the revolving tube being thrown in and out of gear by a clutch device, D², revolved by the driving-wheel. The plunger passes the bunch along the conducting-tube D to a series of rubber rollers, E, at the end of said tube, which rollers turn either by friction or gears when the bunch is fed to the same from the inside of the revolving tube. The rubber rollers E are arranged on an upper and lower frame, the lower frame-section being supported on a band-spring, *a*, of suitable power, and the upper frame-section hinged to the lower section, so that they exert thereby a tight yet yielding pressure on the bunch when the same is pushed by the plunger into the space between the rollers.

The tube D is provided with four spring-fingers, *b*, that hold the bunch in position, and cause the same to revolve, so that the wrapper may be placed thereon by means of a small belt or cord running from the revolving tube to a small grooved pulley in front of the rollers. The operator lays the end of the wrapper under the cord and around the spring-fingers, and closes the rubber rollers over said point of the tube, the bunch winding then the wrapper around itself as it is fed forward from the tube. The rollers are then opened, and the cigar removed and the point finished by hand or otherwise.

The wrapper may, however, be also put on as follows: When the bunch is driven clear through the tube and revolved in the inside of the rubber rollers, the wrapper is then laid at the extreme end of the rubber rollers at the required angle, and then taken up and rolled around the cigar.

The revolving tube is operated by a belt-and-pulley connection with the driving crank-shaft *d*, that imparts, by a cam, *e*, motion to a swinging arm, *e'*, which operates the clutch device of the revolving tube, and, by a second cam, *f*, and friction-roller *f*¹, motion to a sliding and guided plate, *f*², that operates the upper sliding and spring-acted molds and shears.

A crank, *g*, of the secondary shaft connects, by a crank-rod, *g*¹, with a swinging lever, *g*²,

that engages the cross-head g^3 of the plunger, and reciprocates the cross-head and plunger along parallel guide-rods on the table. The plunger may turn on the cross-head so as to follow the motion of the revolving tube while pushing the bunch through the same. The plunger-operating lever engages a curved fulcrumed arm, h , as the plunger is gradually withdrawn from the revolving tube and draws a spring-acted lever-arm, h^1 , down, that engages, by a spring-pawl, a ratchet, h^2 , of the upper feed-roller, which turns by an intermeshing gearing the lower feed-roller, and moves thereby the endless belt that carries the filler and binder to the molds.

The machine may be operated by one man, who alternately feeds the tobacco and inserts the wrapper, or by two men when the same is to be run at rapid speed. The cigars are manufactured in quick, uniform, and perfect manner, and at a considerable saving over hand-made cigars.

I claim a machine for making cigars, consisting, essentially, of the following elements:

1. The combination, with the molds and shears, of a horizontally-reciprocating plunger to push the bunch forward, and of a revolving guide-tube to conduct the bunch and give it a rotary motion.

2. The combination, with a reciprocating plunger and an intermittingly-revolving guide-tube, of four spring-fingers attached to end of guide-tube to revolve the bunch for receiving the wrapper.

3. The combination, with molds and shears, a reciprocating plunger, an intermittingly-revolving guide-tube, and four spring-fingers, of a small belt or cord attached to end of guide-tube, to hold the end of the wrapper in position when the cigar issues from the tube.

ROBERT ROBERTS.

Witnesses:

SYLVESTER H. READ,
GEORGE B. STEUART.