

J. EVANS.
Cigarette-Machine.

No. 219,810.

Patented Sept. 23, 1879.

Fig. 1.

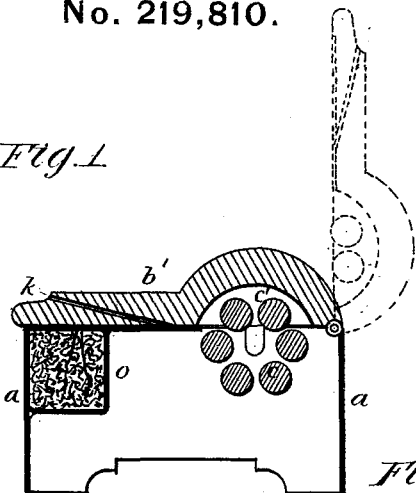


Fig. 2.

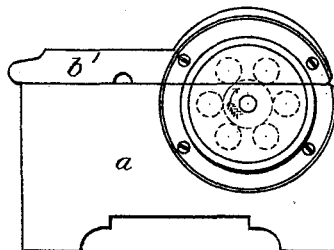


Fig. 7.

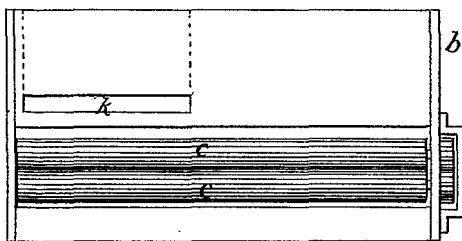


Fig. 3.

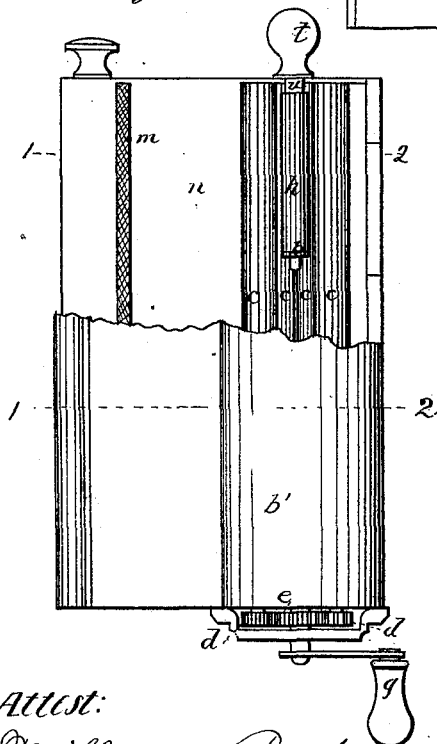


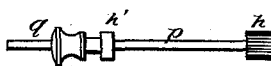
Fig. 4.



Fig. 5.



Fig. 6.



Attest:

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UNITED STATES PATENT OFFICE.

JOHN EVANS, OF DENBIGH STREET, PIMLICO, COUNTY OF MIDDLESEX,
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IMPROVEMENT IN CIGARETTE-MACHINES.

Specification forming part of Letters Patent No. 219,810, dated September 23, 1879; application filed December 18, 1878; patented in England, January 10, 1877.

To all whom it may concern:

Be it known that I, JOHN EVANS, of Denbigh street, Pimlico, in the county of Middlesex and Kingdom of England, joiner, have invented Improvements in Machines for Manufacturing Cigarettes, of which the following is a specification.

The object of my invention is the manufacture of cigarettes in an expeditious and neat manner, by the aid of the peculiar combination or arrangement of portable apparatus which I shall now proceed to describe.

Figure 1 of the accompanying drawings represents a transverse vertical section on the line 1 2, Fig. 3, of my portable cigarette-machine; Fig. 2, an end elevation. Fig. 3 is a plan corresponding to Fig. 1, showing one half of the machine with its hinged top closed, and the other half with the top broken away. Figs. 4, 5, 6, are details; Fig. 7, an inner face view of the lid drawn to a reduced scale.

In Figs. 1 and 2 the hinged part of the machine and parts connected therewith is shown open or turned back (in dotted lines) into the position required when charging the machine with tobacco.

This machine is adapted for being worked by a small winch-handle, or its equivalent, and consists of a portable frame or holder, which may be in the form of a box or frame, *a*, of wood, metal, or other suitable material, more or less ornamented to taste. This box or frame is provided with a hinged top, *b*, and contains a convenient number (by preference, six) of fluted or roughened rollers *c c'*, of metal, hard wood, or other suitable material, four of such rollers, *c*, (when six are employed,) being made to turn in fixed bearings at the two opposite ends of the box or frame *a*, while the other two rollers *c'* turn in like bearings in the corresponding ends of the hinged top or frame *b*, which may or may not form the lid or cover of the box or frame containing the rest of the apparatus. The said rollers *c c'* are disposed perfectly parallel to each other, and are so grouped as to form, when the two upper ones are closed down, a central chamber with revolving sides. At one end of each of the several rollers there is fitted a toothed pinion, *d d*, all

of which independently gear into or work in contact with a central driving-pinion, *e*, which should by preference contain about three more teeth than the pinions of the rollers.

A small winch-handle, *g*, or other well-known contrivance is fitted to the outer end of the axis of the central driving wheel or pinion, *e*, for the purpose of turning the same by hand. At the opposite end of the said central chamber there is provided a revolving mandrel, *h*, (shown in detail at Fig. 5,) on which the mouth-piece for the cigarette is formed. It turns freely in a notch or bearing in the end of the box or framing of the apparatus, and is provided with a projecting knob or handle, *t*, at its outer end, for the facility of removing and replacing the same when required, and with a groove, *u*. This mandrel revolves loosely, and derives its rotary motion by friction from the surrounding rollers. (See Fig. 3.) On the inner end of the said mandrel there is formed a small central projecting stud, *i*, for receiving the perforated disk or card-board wad *b*, Fig. 4, when a cigarette with a mouth-piece is to be made.

k is a guide or directing-slit, provided in the lid or other convenient part of the box or frame, and situate in front of the mandrel *h*, for the purpose of accurately guiding thereto a strip of paper, which is intended to form the mouth-piece or tube of the cigarette by being wound around the said mandrel.

A long slit, *m*, made in the smooth surface of the feeding plate or table *n*, allows a piece of sponge, cloth, or other suitable absorbent material, or a portion of a roller of such material, to project slightly above such feeding-plate, the said sponge or roller being contained within a chamber or reservoir, *o*, beneath, for the reception of water or of liquid gum or other suitable adhesive cement, for the purpose of damping or gumming the edge of the thin cigarette-paper as it is laid upon the table ready for being rolled around the tobacco to form the wrapper; but this gumming or damping arrangement is not essential.

In making cigarettes by this machine a disk, *b*, Fig. 4, may or may not, as preferred, be first fitted onto the end of the mouth-piece mandrel *h*, which is then placed in position, as

shown in Fig. 3, and the requisite quantity of tobacco is to be introduced into the central chamber between the surrounding rollers *c c*. The two top rollers are then brought over the four bottom rollers, and their pinions caused to engage with the teeth in the central driving-wheel by closing down the lid *b'*. (See Fig. 2.) The end of the strip of paper for forming the mouth-piece is then inserted into the guide or slit *k*, and the handle *g* turned so as to drive the central wheel, *e*, in the direction of the arrow, Fig. 2, and cause all the rollers *c c* to revolve one way. This has the effect of forming the mouth-piece and of rolling the tobacco at the same time into the requisite cylindrical form, while slightly compressing the same in readiness to receive the thin paper envelope or wrapper. The lid *b'* is again opened and the thin paper for inclosing the tobacco is placed in position upon the table *n*, with one edge upon the saturated sponge projecting through the slot *m* (when employed) and the other edge lying over the roll of tobacco in the central chamber. On closing down the top rollers again and rotating the handle, the said paper is coiled around the tobacco and mouth-piece, and the cigarette is completed, the edge of the paper being secured by the gum or cement already or subsequently applied. The top rollers are then raised, the removable mandrel *h*, with the finished cigarette upon it, is lifted out of the box or case and withdrawn from the mouth-piece, leaving the disk inside, after which the mandrel is replaced in the central chamber with a fresh disk upon it, ready for the next cigarette.

If desired, the cigarette may be made without the perforated disk and without a mouth-piece.

When making a cigarette without a mouth-piece, a shorter removable mandrel, *h'*, Fig. 6,

may be employed, and in order to admit of cigarettes of different lengths being made this mandrel may be mounted on a spindle, *p*, made to slide along and be secured by a pinching-screw or otherwise in any position in the projecting knob or handle *g*, according to the length of cigarette required. This knob *g* is grooved annularly to form a journal to fit the slot or bearing in the end of the box or casing.

Having now described and particularly pointed out the nature of my said invention and the manner in which the same is or may be used or carried into effect, I would observe, in conclusion, that I am aware that it has been proposed to employ rollers grouped together and driven from a central wheel, such rollers forming a central chamber for rolling cigars and cigarettes, and, therefore, I do not claim such an arrangement or application of rollers as constituting separately any part of my said invention; but

What I do claim as my invention is—

1. In a cigarette-machine, the box or frame *a*, carrying the series of rollers *c*, and lid *b'*, carrying rollers *c'*, and provided with a slot, *k*, arranged near one end of the rollers, as and for the purpose set forth.

2. The mandrel *h*, with its pawl *t*, groove *u*, and pin *i*, as and for the purpose set forth.

3. The combination, with the body *a*, slotted lid *b'*, carrying the two series of rollers *c c'*, of the plate or table *n*, having a slot, *m*, reservoir *o*, and conducting material, as specified.

In witness whereof I have signed my name in the presence of two subscribing witnesses.

JOHN EVANS.

Witnesses:

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