(No Model.)

A. E. DECOUFLÉ.

TUBE CARRIAGE FOR CIGARETTE MACHINES.

No. 456,192. Patented July 21, 1891.

FIG. 1.

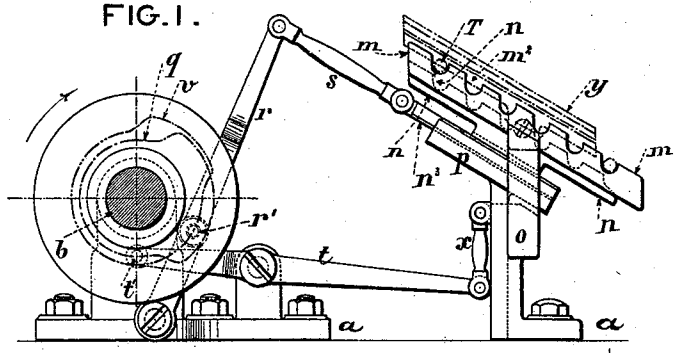


FIG. 3.

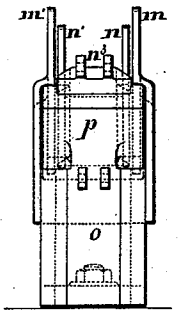


FIG. 2.

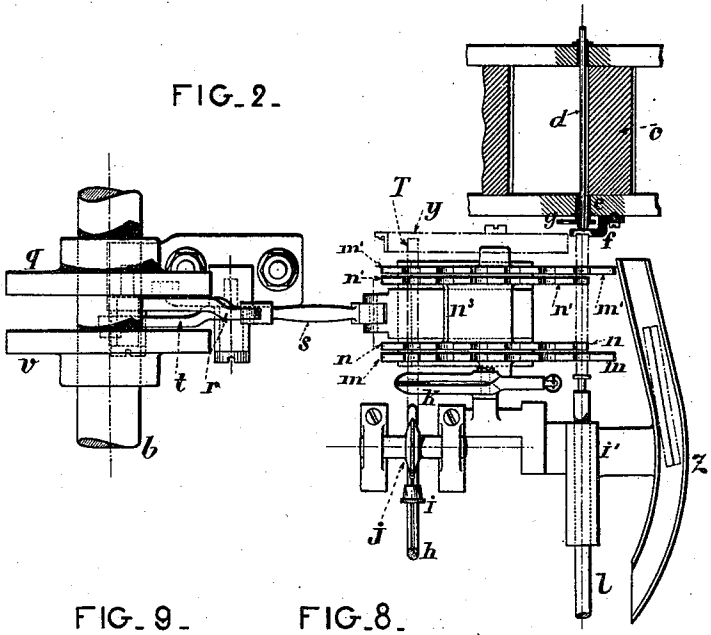


FIG. 7.

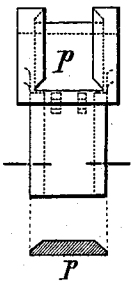


FIG. 6.

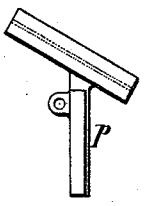


FIG. 9.

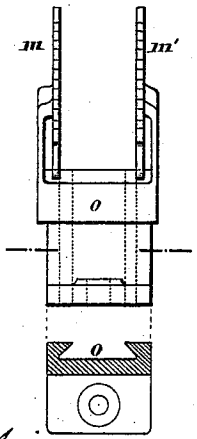


FIG. 8.

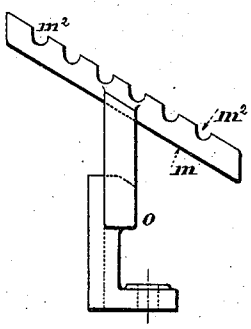


FIG. 4.

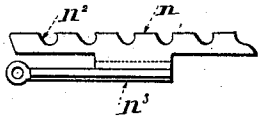
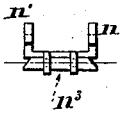


FIG. 5.



Witnesses.
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H. E. Everding.

Inventor.
Anatole E. Decoufle.
by Briesen & Knauth
his attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANATOLE EDOUARD DECOUFLÉ, OF PARIS, FRANCE.

TUBE-CARRIAGE FOR CIGARETTE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 456,192, dated July 21, 1891.

Application filed March 25, 1891. Serial No. 386,289. (No model.)

To all whom it may concern:

Be it known that I, ANATOLE EDOUARD DECOUFLÉ, of Paris, France, have invented certain new and useful Improvements in Tube-Carriages for Cigarette-Machines, of which the following is a specification, reference being had to the accompanying drawings, which form part of the same.

My invention relates to a new and improved carriage for cigarette-machines, which carriage may be employed in machines in which the cigarette-tube is either gummed or not previous to filling; and it consists in the combination of parts hereinafter more especially set forth.

In the accompanying drawings my new tube-carriage is shown applied to one of my machines in which tubes without gum are used.

Figure 1 is a side elevation, and Fig. 2 a corresponding plan. Fig. 3 is an explanatory view, as seen when looking at the end of the machine. Figs. 4 and 5 are respectively an elevation of the carriage and a view of the same as seen when looking at the end, both figures giving the details. Figs. 6 and 7 show in detail the sliding support of the carriage. Figs. 8 and 9 are a front and end view as well as a section of the receiver, giving also the details.

a shows the table of the machine, and *b* the shaft provided with cams.

In Fig. 2 I have shown at *c* the apparatus for compressing the tobacco, with the filling-rod *d*, the funnel *e*, the false funnel *f*, and the nippers *g*, which hold the tube firmly on the funnel *e*.

At *h* is shown the spindle on which the tube without gum is made.

i indicates the gaging-ring, and *j* the small rough-edged roller which finally closes the tube and sends it on.

k is the scissors, and *l* the pusher which pushes the tube to be filled into the false funnel and thence into the funnel *e*.

In concordance with the spindle *h* and a little below it I place the inclined rack or ladder *m m'*, in the sides of which are made rounded cuttings m^2, which are of the same size and equidistant from each other. This rack or ladder, which constitutes the receiver of the mechanism, is fixedly mounted on a support *o*, bolted on the table. The first cuttings—that is to say, those which are the highest—receive then the paper tube which the scissors have just cut off. The last cuttings are just in front of the filling apparatus.

Between the sides *m m'*, which are at a varying distance from each other, is disposed the movable rack or carriage *n n'*, the sides of which have cuttings n^2 made in them at distances which are exactly the same as those on the sides of the receiver. This movable rack or carriage is, by means of a slide n^3, dovetailed into a support *p*, which itself is dovetailed into the support *o* of the receiver. The slide n^3 moves in planes which are parallel to that of the receiver *m m'* in sliding in the support *p* under the influence of a cam *q'* of a lever *r*, the roller of which runs in the slot of the cam, and of a rod *s*, which joins the lever *r* to the said slide n^3. On the other hand, the support *p* rises and falls vertically in the support *o* through the action of a lever *t*, the lower end of which is armed with a roller *t'*, rolling in the slot of a cam *v*, and the back end of which is joined to the support *p* of the slide by means of a small rod *x*.

A square *y*, fixed to the support *o* or to any other part of the machine, serves as a stop for the tubes which might have a tendency to go wrong on that side of the receiver.

The working of the rack or carriage *n n'* is as follows: In looking at the mechanism, as shown in the drawings, a tube T is seen, and which has just fallen into the first cuttings of the receiver *m m'*. At the moment the carriage *n n'* rises vertically through the rising of the support *p* it gathers, as it were, the tube T and makes it rise above the cuttings in the receiver. The cam *q* acts on the lever *r* in making the slide move from front to back a distance equal to that of the two cuttings m^2. The carriage stops and then goes down with its support *p*. This downward movement has placed the tube T in the second cuttings of the receiver. The carriage comes back to its first position in order to begin again the series of its movements; but in this series it lifts up two tubes, transfers them, places them in the following cuttings of the receiver, and so on, as the tubes are made and filled with tobacco. The cigarette which has been made is also lifted up by the

carriage, is also transferred, and then left on the rounded ends of the racks $m\ m'$, from which it falls into the chute z, at the bottom of which it is stored by the means already known.

I claim—

1. The combination of a fixed rack $m\ m'$, provided with a series of depressions, with the movable rack or carriage $n\ n'$, provided with a series of depressions, and with means, substantially as described, whereby said movable rack or carriage is alternately raised and moved forward and then lowered and moved backward, substantially as and for the purpose described.

2. The combination of a fixed rack $m\ m'$, provided with a series of depressions m^2, with the movable rack or carriage $n\ n'$, provided with a corresponding series of depressions n^2, and with the slide n^3, reciprocating support p, and means, substantially as described, for actuating said slide and support whereby the movable carriage is alternately raised and moved forward and then lowered and moved backward, substantially as and for the purpose described.

3. The combination of a fixed rack $m\ m'$, provided with a series of depressions m^2, with the movable rack or carriage $n\ n'$, provided with a series of depressions n^2, slide n^3, support p, cam q, lever r, and rod s, and with the support o, lever t, roller t', cam v, and rod x, as and for the purpose described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANATOLE EDOUARD DECOUFLÉ.

Witnesses:
PAUL MOREL,
GEORGE LAURENTT.