

3. In a cigarette-machine, the combination, with means for forming a continuous filler-rod, of means for dividing the rod into individual fillers, a filler-wheel with a series of  
5 molds or cavities to receive such fillers successively, a rotary shell-carrier adjacent to the wheel, means for supplying shells to the carrier, and means for transferring the individual fillers from the filler-wheel to the  
10 shells.

4. In a cigarette-machine, the combination, with an endless moving tape and a feeder for depositing tobacco thereon, of a feed-guide for curling over the edges of the tape and  
15 roughly shaping the tobacco filler, a shaping-die having a closed channel fitted to the tape and filler with a cap removable to expose the same, means for heating the shaping-die whereby the cigarette-rod is simultaneously  
20 ironed and pressed, means for cutting fillers of suitable length from the continuous cigarette-rod, a filler-wheel having a series of open molds adapted to receive the fillers laterally and provided each with a movable jaw to press  
25 the fillers, and means for discharging the fillers from the molds when pressed.

5. In a cigarette-machine, the combination, with an endless moving tape and a feeder for depositing tobacco thereon, of a feed-guide for curling over the edges of the tape and  
30 roughly shaping the tobacco filler, a shaping-die having a tapering channel to form and "set" the cigarette-rod within the tape, cutters for dividing the cigarette-rod into individual fillers, a filler-wheel provided with a series of molds having each a movable jaw at one side and arranged to receive the fillers cut from the continuous cigarette-rod, an adjacent shell-carrier with a series of sockets  
40 therein, means for feeding cigarette-shells to the sockets, and means for forcing the fillers from the molds into the shells.

6. In a cigarette-machine, the combination, with an endless moving tape and a feeder for depositing tobacco thereon, of a feed-guide for curling over the edges of the tape and roughly shaping the tobacco filler-rod, a shaping-die having a tapering channel to form and "set" the cigarette-rod within the tape, a means for  
50 severing the filler-rod into individual fillers, a filler-wheel provided with a series of molds having each a movable jaw at one side and arranged to receive laterally the fillers cut from the continuous filler-rod, an adjacent  
55 shell-carrier with a series of sockets therein, means for feeding cigarette-shells to the sockets, a nozzle supported between the filler-wheel and shell-carrier, means for forcing the shells successively upon the nozzle, and means  
60 for forcing the fillers successively from the molds through the nozzle into the shells.

7. In a cigarette-machine, the combination, with means to form a continuous cigarette-rod and cutter to divide the same into individual  
65 fillers, a filler-wheel having radial molds with a jaw at one side of each to press the contents and a chamber within the wheel with

an ejector arranged within the chamber and movable outwardly through the molds, of an adjacent shell-carrier having sockets to receive the shells, a nozzle supported between  
70 the filler-wheel and the shell-carrier, means for forcing the shells successively upon the nozzle, and means for reciprocating the ejector to force the fillers successively from the molds  
75 through the nozzle into the shells.

8. In a cigarette-machine, the combination, with means for forming a continuous filler-rod and dividing the same into individual fillers, of a horizontal wheel having radial cavities to  
80 receive the fillers and a chamber within the wheel to receive an ejector, means for turning the wheel to shift the position of the cavities, a slide below the plane of the wheel with upright support carrying an ejector within the  
85 chamber in line with the cavities when shifted, and means for reciprocating the slide to eject the fillers from the cavities.

9. In a cigarette-machine, the combination, with means for forming a continuous filler-rod  
90 and dividing the same into individual fillers, of a horizontal wheel having radial cavities to receive the fillers and a chamber within the wheel to receive an ejector, ratchet mechanism and a cam for intermittingly turning the  
95 wheel to shift the cavities, the slide  $x$  below the plane of the wheel with upright support carrying an ejector within the chamber in line with the cavities when shifted and a cam and connections to the slide for reciprocating the  
100 ejector intermediate to the movements of the wheel, while the cavities are held stationary.

10. In a cigarette-machine, the combination with a filler-wheel provided with a series of molds having each a movable jaw at one  
105 side, of an adjacent shell-carrier with a series of sockets therein and means for feeding cigarette-shells to the sockets, means for turning the filler-wheel and the shell-carrier intermittingly to aline the shells with the molds, and  
110 means to force the fillers into the shells successively.

11. In a cigarette-machine, the combination, with a filler-wheel provided with a series of molds having each a movable jaw at one  
115 side, of an adjacent shell-carrier with a series of sockets therein and means for feeding cigarette-shells to the sockets, ratchet-wheels connected with the filler-wheel and with the shell-carrier, a reciprocating bar with pawls  
120 fitted respectively to the said ratchet-wheels, whereby the mold-wheel and shell-carrier are moved in unison intermittingly to bring the molds in line with the shells, and means to force the fillers from the molds into the shells.  
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12. In a cigarette-machine, a filler-wheel having the disk P with a series of stationary mold-jaws  $a'$  fixed at intervals thereon in the same plane, the series of pressing-jaws  $a$  fixed movably upon the disk adjacent to the jaws  
130  $a'$ , and provided each with a spring to hold the mold-cavity normally closed, means for turning the wheel intermittently to admit fillers successively to the mold-cavities, and



# UNITED STATES PATENT OFFICE.

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## WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 743,740, dated November 10, 1903.

Application filed March 23, 1903. Serial No. 149,056. (No model.)

*To all whom it may concern:*

Be it known that I, ANSON C. MILLS, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Wire-Fence Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wire-fence machines, and more particularly to such machines as are shown and described in Patent No. 698,533 to Mills and Lamb, dated April 29, 1902, and upon which this invention is a specific improvement.

The object of this invention is to simplify the construction of the machine, to render the same more durable, and to provide the device with certain new and useful features, as hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, in the substitution for the means shown in the said patent for crossing the ends of the fastener of a fixed plate attached to the upper roll and having converging surfaces to engage and bend the ends of the fastener toward each other and cross the same above the longitudinal wire, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a wire-fence machine embodying my invention; Fig. 2, a detail of a portion of the same on an enlarged scale and shown in central vertical section in the plane of the longitudinal wire of the fence, and Fig. 3 an elevation of the same as Fig. 2 viewed from the left of the same and with parts removed to show the construction.

Like letters refer to like parts in all of the figures.

A and B represent the main shafts, journaled in a suitable frame and simultaneously rotated by connecting-gears E E, a worm-gear C, and a worm D.

F and G are the wheels, mounted on the

shafts A and B and provided with opposing grooves, in which is carried forward one of the longitudinal wires O of the fence.

P represents one of the transverse wires of the fence; Q, the staple-shaped fasteners to be applied at the crossing of the wires.

Q' is the dropping wheel to feed the fasteners.

L is the presser, actuated by the spring L' to engage the crown of the fastener.

M is the presser, actuated by the spring M' to engage the wires at the crossing.

J J are the slides to turn up the ends of the fastener at each side of the wire O.

K is the slide to finally turn down the ends of the fastener after they have been crossed.

H H are the cams, having grooves H' to engage the rolls J' and operate the slides J.

I I are the cams, having the projections I' to engage the rolls K' and operate the slide K.

So far the device is substantially the same as shown in the aforesaid patent.

My improved means for crossing the ends of the fasteners Q after they have been turned up at each side of the wire O consists of the plate N, having upwardly-converging surfaces N' in its lower edge adapted to slidably engage the respective ends of the fasteners and force them toward and across each other above the wire O after they have been turned up at each side of the same by the slide J. This plate is arranged substantially radially and transversely on the rim of the wheel G and close to the slide K, and as the wheels rotate this plate operates between the action of the slide J and the slide K and crosses the ends of the fastener above the wire O, as illustrated in Figs. 2 and 3.

From the foregoing the operation of my device will be readily understood without further explanation.

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

1. In a machine of the class described, a member having converging surfaces to slidably engage and bend the ends of a fastener toward and across each other, in combination

