

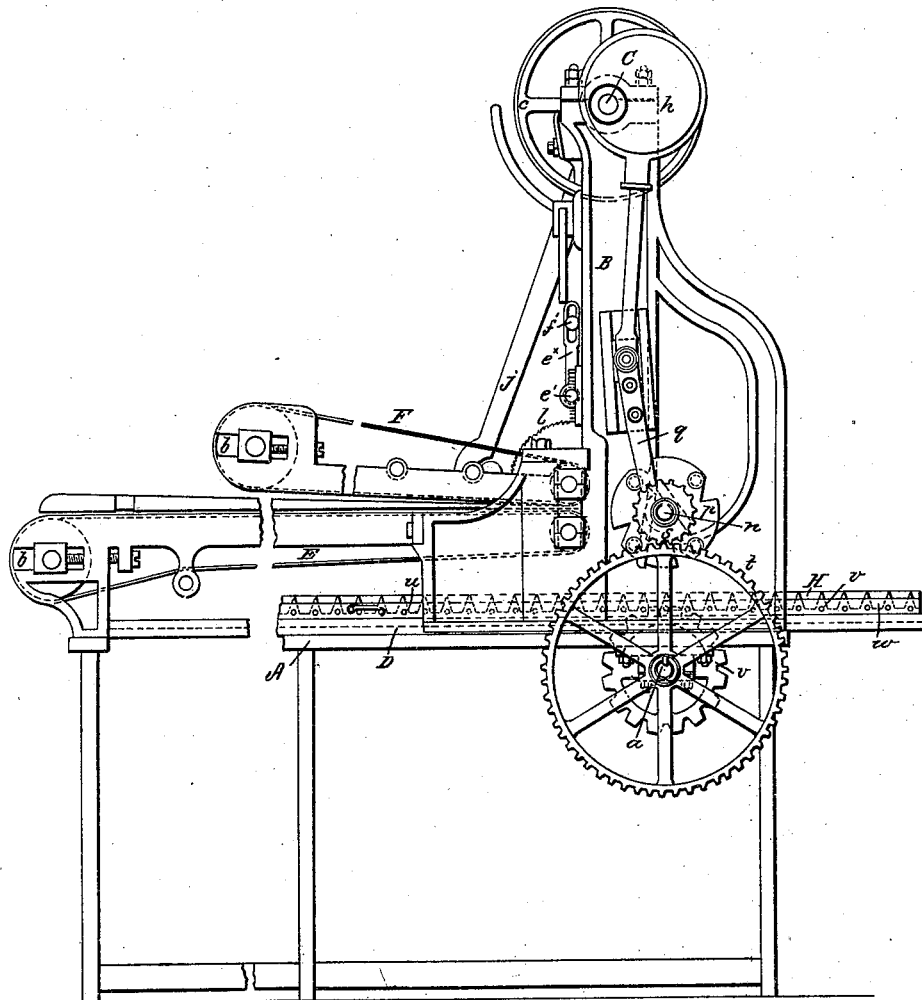
G. A. REINIGER.

Machine for Making Fillers for Cigars.

No. 54,476.

Patented May 1, 1866.

*Fig. 1.*



*Witnesses:*

*Wm. H. Livingston*  
*Wm. H. Hrewin*

*Inventor:*

*G. A. Reiniger*  
*per Munroe & Co.*  
*Attorneys.*

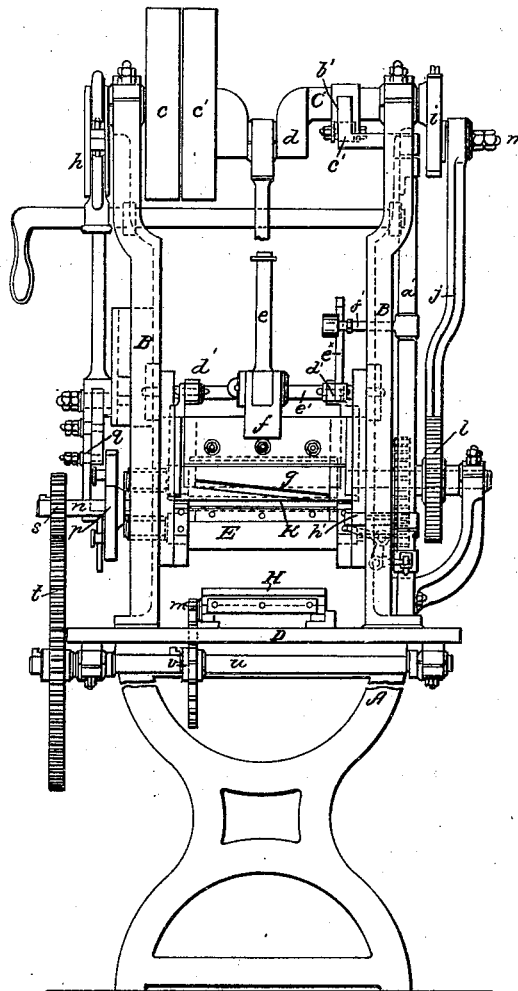
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*Fig. 2.*



Witnesses:

*Wm. H. Livingston*  
*Wm. Brewin.*

*Inventor:*  
*G. A. Reiniger*  
*per Munn & Co.*  
*Attorneys.*

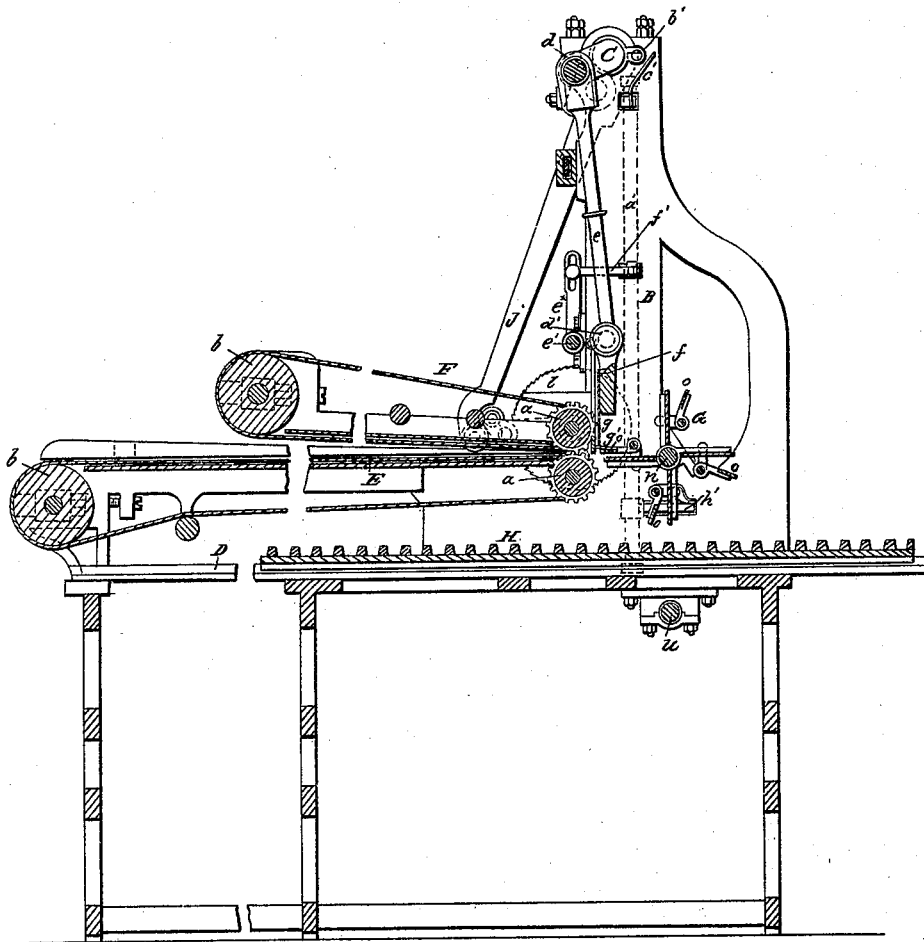
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Patented May 1, 1866.

*Fig: 3.*



*Witnesses:*

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*Wm. Brown*

*Inventor:*  
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# UNITED STATES PATENT OFFICE.

G. ALBERT REINIGER, OF STUTTGART, WÜRTEMBERG.

## IMPROVEMENT IN MACHINES FOR MAKING FILLERS FOR CIGARS.

Specification forming part of Letters Patent No. 54,476, dated May 1, 1866.

### *To all whom it may concern:*

Be it known that I, G. ALBERT REINIGER, of Stuttgart, in the Kingdom of Würtemberg, have invented a new and Improved Machine for Making the Fillers of Cigars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of this invention. Fig. 2 is an end view of the same. Fig. 3 is a longitudinal vertical section of the same.

Similar letters of reference indicate like parts.

This invention relates to certain improvements in that class of machines for making the fillers of cigars on which a patent was granted to me October 3, 1861.

Said machine is so constructed that by its action the leaf-tobacco is conveyed continuously in a compact form to a knife, which cuts the same into bunches of uniform size, and the bunches thus formed are delivered in a compact form to suitable receptacles, from which they may be taken without waste of material to receive the wrappers.

The improvements in the new machine relate principally to the different arrangement of the main working parts of the machine, and to a different form and construction of the frames supporting the same, whereby the driving-shaft and all the movable parts of the mechanism are arranged above the conveyer-belts and receiving apparatus in such a manner that all the journals and working parts are not liable to be injured by the fine sand which is mixed with many kinds of tobacco, and the driving-belt is not in the way of the operator or person attending on the machine. The movable wings of the receiving apparatus are opened and closed by the action of arms mounted on a vertical rock-shaft and set in motion by a roller-cam on the main shaft, and the carrying-belts are protected from sand contained in the tobacco by a presser frame or gate, which presses on the tobacco during the operation of cutting, and which rises as the tobacco is fed forward by the action of the conveyer-belts.

A represents a frame made of cast-iron or any other suitable material, and provided with two standards, B, which form the bearings for the driving-shaft C. A platform, D, on the frame forms the bed for the endless apron E F, by the action of which the tobacco is carried into the machine as the same is required, said aprons being stretched over rollers *a b*, as clearly shown in Fig. 3 of the drawings.

On the driving-shaft C are mounted a fast and loose pulley, *c c'*, and a belt passing over the fast pulley imparts to said shaft the desired motion. A crank, *d*, in the middle of the driving-shaft connects by a rod, *e*, with a head, *f*, to which the knife *g* is secured, and imparts to the same a reciprocating rising-and-falling motion, suitable guide-grooves being provided to keep said knife in line during its up-and-down motion. Said shaft also carries two eccentrics, *h i*, one on each end, the eccentric *h* being made to impart an intermittent rotary motion to the receiving apparatus, and also the requisite feed-motion to the rack, which is intended to receive and hold the fillers as the same discharge from the revolving receivers. The feed-motion of the two endless aprons is produced by a rod, *j*, which carries a pawl acting on the ratchet-wheel *l*, that is mounted on the shaft of one of the rollers *a* of the upper apron, F. The wrist-pin *m*, which forms the connection between the rod *j* and eccentric *i*, is adjustable, so that the throw of the pawl *k* and the feed-motion imparted to the aprons E F can be regulated.

The receiving apparatus G is mounted on a shaft, *n*, which runs parallel with the rollers *a b*, and it is composed of four (more or less) wings, each of which is provided with a hinged jaw, *o*, which opens to receive and discharge and closes to hold and carry the tobacco after the same has been divided in bunches of the desired size. On the end of the shaft *n* a lantern-shaped cam or disk, *p*, is mounted, with a number of studs equal to the number of wings in the receiving apparatus, and a rod, *q*, to which a reciprocating motion is imparted by the eccentric *h* on each ascent, is made to drop over one of the studs in the lantern *p*, and on its subsequent descent it imparts to the shaft *n* a partial—say a quarter—revolution if the receiving apparatus contains four wings or a sixth of a revolution if said apparatus contains six wings.

By this arrangement one of the wings is brought opposite the discharge-opening or throat between the endless aprons E F, and held there in such a position that by the feed-motion of said aprons the tobacco will be fed right in between the wing and jaw attached to it, and as soon as this has taken place the jaw is closed and a movable gate, *r*, is depressed so as to hold the tobacco firmly in place, and then the knife *g* descends and cuts off that portion of tobacco held between the jaw and wing. By the subsequent motion of the receiving apparatus the full jaw is turned down and opened and its contents are discharged into the rack H. This rack rests upon the frame A, and it receives an intermittent feed-motion by the action of a pinion, *s*, which is mounted on the end of the shaft *n* of the receiving apparatus, and which gears in a large cog-wheel, *t*, mounted on a shaft, *u*, which extends under the frame A and bears a cog-wheel, *v*, gearing into a series of pins, *w*, which project from the edge of the rack H. Said rack is separated by a large number of transverse partitions into a number of compartments, each capable of receiving one of the bunches cut off by the action of the knife, and the pinion *s* and cog-wheel *t* are so proportioned that for each motion of the receiving apparatus a new compartment of the rack is brought in such a position as to receive a bunch of tobacco as the same is discharged from the receiving apparatus.

The motion of the gate *r* and of the wings of the receiving apparatus is produced by the action of a vertical rock-shaft, *a'*, which has its bearings in lugs or eyes cast solid with or otherwise attached to one of the standards B rising from the frame A, and to which an oscillating motion is imparted by a roller-cam, *b'*, which is mounted on the driving-shaft C, and which acts on a tappet, *c'*, secured to the top end of the shaft *a'*, as seen particularly in Fig. 2 of the drawings. The gate *r* is suspended from short arms *d'*, which are mounted on a horizontal rock-shaft, *e'*, and this shaft has its bearings in boxes attached to the edges of the standard B.

A lever, *e<sup>x</sup>*, which is connected to said rock-shaft and rises from it in a vertical direction, connects with an angular arm, *f'*, secured to the vertical rock-shaft *a'*, so that the motion imparted to this vertical shaft is transmitted to the horizontal shaft *e'* and to the gate *r*. A nose, *g'*, secured to the gate acts on the jaws of the receiving apparatus and causes them

to close as soon as they arrive in the desired position and a quantity of tobacco is fed in between them and the wings to which they are attached.

An arm, *h'*, which extends from the vertical rock-shaft *a'* through a slot in the upright to which said shaft is attached, acts on the jaws of the receiving apparatus when the same pass their lowest center, and by throwing them open cause the tobacco held between them to discharge into one of the compartments of the rack H.

By this arrangement the tobacco is divided in bunches suitable for the fillers of cigars. The motion of the several parts are all derived from one shaft, which is situated above the belts carrying the tobacco, so that the dust and the small particles of tobacco which disengage from the same during the operation of cutting are prevented from passing into the bearings thereof. Furthermore, the whole mechanism is simplified. It is run with comparatively little power, and it is easily kept in order.

What I claim as new, and desire to secure by Letters Patent, is—

1. Placing the journal-boxes of the driving-shaft above the endless aprons E F, instead of below, as heretofore, substantially as and for the purpose specified.

2. The vertical shaft *a'*, with arms *e' f' h'*, in combination with the cam *b'* on the driving-shaft, and with the rock-shaft *e'* and the jaws of the receiving apparatus, constructed and operating substantially as and for the purpose set forth.

3. The lantern *p*, in combination with the eccentric *h* on the driving-shaft, and with the receiving apparatus K and endless aprons E F, constructed and operating substantially as and for the purpose described.

4. The gear-wheels *s t v* and cogs *w* in the side of the rack H, in combination with the lantern *p* and receiving apparatus K, constructed and operating substantially as and for the purpose set forth.

5. The gate *p*, in combination with the endless apron E F, knife *g*, and receiving apparatus K, constructed and operating substantially as and for the purpose specified.

The above specification of my invention signed by me this 28th day of July, 1865.

G. ALBERT REINIGER.

Witnesses:

C. EHMANN,  
C. KNÖBER.