

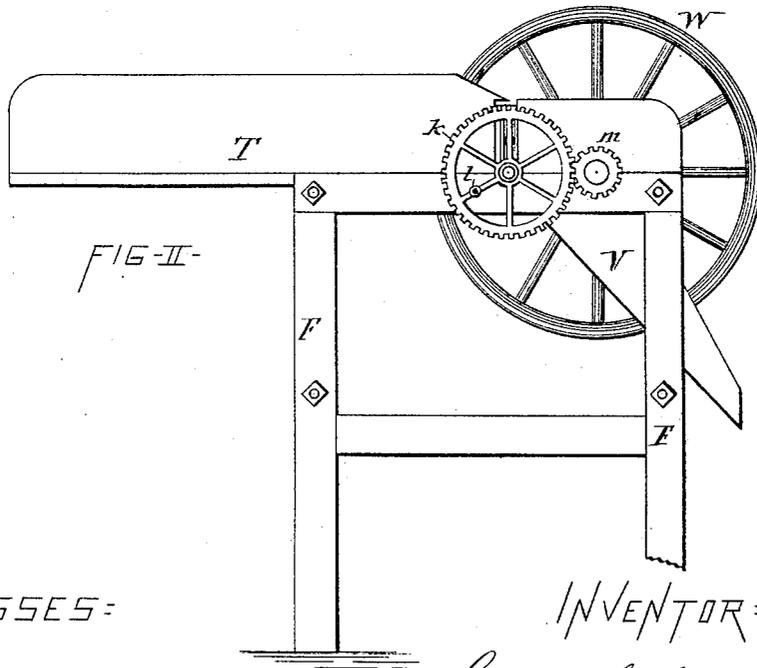
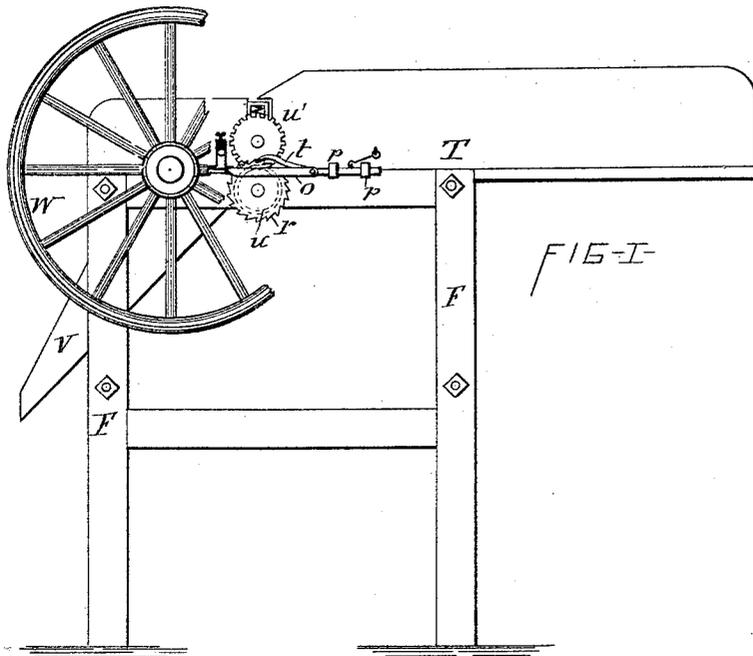
(No Model.)

2 Sheets—Sheet 1.

G. LE CLAIR.
TOBACCO CUTTING MACHINE.

No. 327,885.

Patented Oct. 6, 1885



WITNESSES:

J. H. Gibbs

W. E. Raymond

INVENTOR:

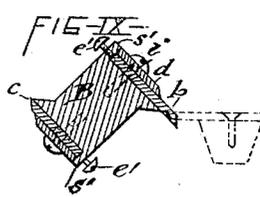
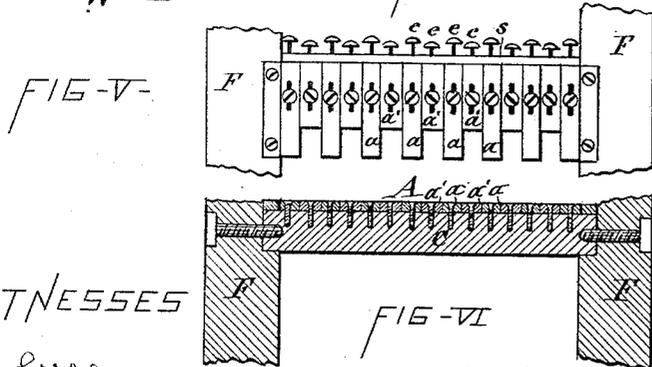
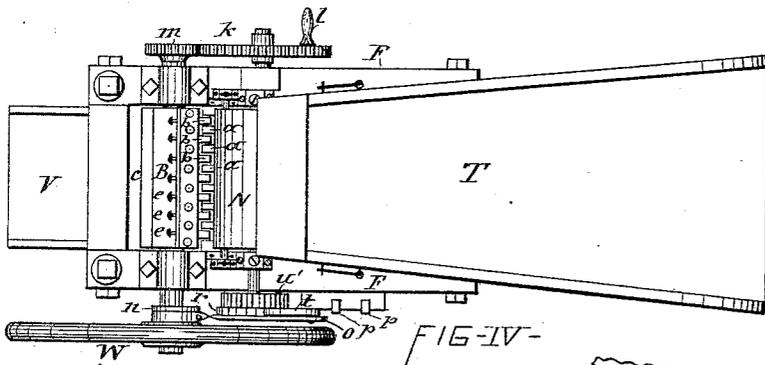
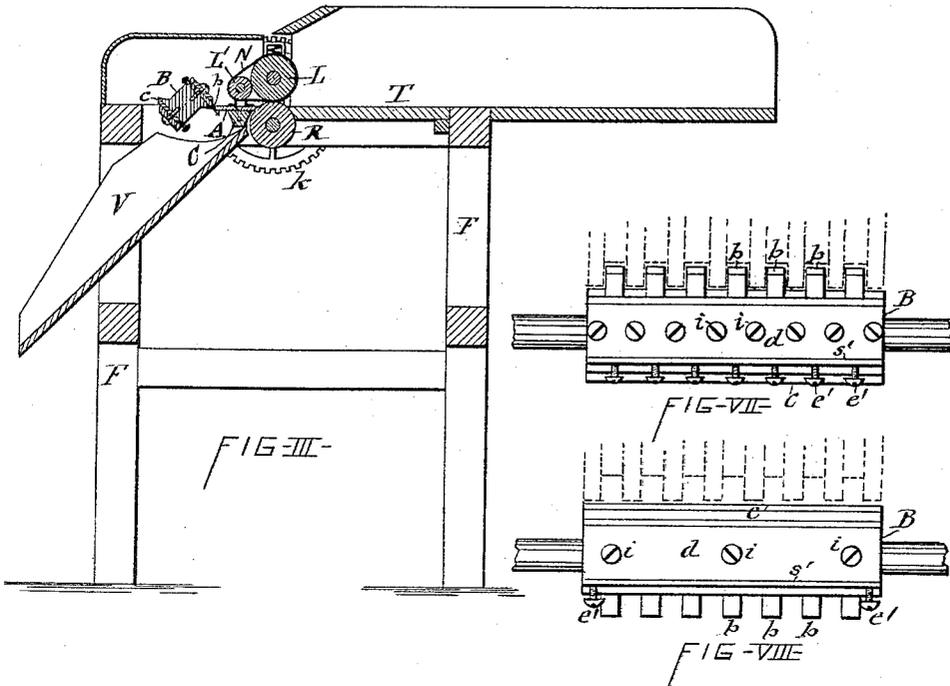
George Le Clair

per Andrew Lasswell
att. atty.

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INVENTOR
 George Le Clair
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UNITED STATES PATENT OFFICE.

GEORGE LE CLAIR, OF MEXICO, NEW YORK, ASSIGNOR OF ONE-HALF TO C. CORTLAND BROWN, OF SAME PLACE.

TOBACCO-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 327,885, dated October 6, 1885.

Application filed April 15, 1885. Serial No. 162,373. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LE CLAIR, of Mexico, in the county of Oswego, in the State of New York, have invented new and useful
5 Improvements in Tobacco-Cutting Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to machines employed
10 for cutting up tobacco leaves into scraps to be used for the fillings of cigars.

My invention consists in an improved combination, with the feed-bed, of two sets of cutting-blades secured stationary on the end of
15 said bed, and arranged alternately with one set projecting beyond the other set, a rotary cutter-head arranged with its axis parallel to the plane of the stationary cutting-blades, and cutters projecting different distances from the
20 head to pass between the projecting stationary blades, and across the front of the same, all as hereinafter more fully described, and specifically set forth in the claims.

For the operation of prior machines of this
25 class the tobacco had to be first dried before passing through the machine. The result was that the tobacco became more or less broken into small particles, causing considerable dust
30 and waste, and requiring the employment of a sieve for separating the dust from the scraps. Furthermore, it entailed the extra labor of moistening the scraps preparatory to working them into cigar-fillings. All of these defects
35 are obviated by my improved machine. By means of this machine I am enabled to cut the scraps immediately after the tobacco leaves the strippers, and while yet moist, and thus
40 produce scraps in proper condition to be worked into cigars, thereby effecting a great saving of time and labor, and also dispensing with the sieve, and preventing dust and waste of tobacco.

In the annexed drawings, Figures I and II represent elevations of opposite sides of my
45 improved scrap-cutting machine. Fig. III is a vertical longitudinal section thereof. Fig. IV is a top plan view of the same. Figs. V and VI are respectively a detached plan view and a longitudinal section of the station-

ary cutter on an enlarged scale. Figs. VII and
50 VIII are detached plan views of the knives, which are mounted on the rotary cutter-head; and Fig. IX is a transverse section of the latter.

Similar letters of reference indicate corre-
55 sponding parts.

F represents the frame of the machine, formed either of wood or metal, and of any
60 suitable shape to properly support the mechanism hereinafter described. On top of said frame is secured a feed bed or trough, T, at
65 the discharge end of which is the stationary cutter or knife A, arranged with its top surface flush with that of the feed-bed. Said
70 cutter A is composed of two sets of parallel-sided blades, *a a* and *a' a'*, arranged side by side, and adjustably attached to their carrier C,
75 which consists of a stout metal bar firmly secured across the frame F, as shown in Fig. VI of the drawings. The two sets of blades are
80 arranged alternately, and in such a manner that the cutting-edges of one set project beyond those of the other set, as illustrated in
85 Fig. V of the drawings, said cutting-edges projecting from the discharge end of the feed-bed.

The attachment of the blades is made by
75 screws passing through slots in the blades and entering the bar C, thus allowing the blades to be detached when required for sharpening
80 or renewing, and also to be set out the requisite distance to co-operate with the rotary knife, hereinafter described. By means of set-screws
85 *e e*, passing through a shoulder, *s*, on the bar C, at the back or heel of the blades, and bearing against the latter, said blades are sustained
90 endwise in their position.

In front of the stationary cutter A is a rotary
95 cutter-head, B, arranged with its axis parallel to the plane of the stationary cutting-blades *a a'*. On opposite sides of said cutter-head are distributed in a row extending the
length of the cutter-head, and are secured, the
blades *b* and *c*. The blades *b* are arranged to
project from the cutter-head at regular intervals, and to the same extent as the projection
95 of the blades *a* beyond the blades *a'* of the stationary knife, the projecting blades *b b* being in range with the spaces between the pro-

jecting blades *a a*, and in the rotation of the cutter-head pass through the said spaces. The blades *b b* are attached to the cutter-head by a cap, *d*, detachably connected with the cutter-head by screws *i i*, passing through the cap and into the cutter-head, by means of which screws said cap is clamped onto the blades. The cutter-head is provided with a shoulder, *s*, at the heel of the blades, and through said shoulder pass adjusting-screws *e e*, by means of which the blades can be set out when required, to compensate for wear of their cutting-edges.

The blade *c*, which is attached to the opposite side of the cutter-head, has a straight and uniform cutting-edge, and is set so as to pass closely across the projecting cutting-edges of the stationary knife *A*, as illustrated by dotted lines in Fig. VIII of the drawings. The blade *c* is also adjustably secured in its position by a cap, *d*, clamped on the cutter-head, and by set-screws *e e* at the heel of the blade, in a manner similar to the attachment of the blades *b b*.

The tobacco is fed to the cutters intermittently and automatically with the continuous rotary motion of the pivoted cutter-head by the following instrumentalities:

On one side of the frame *F* is pivoted a gear-wheel, *k*, provided with a handle, *l*, by which to turn it. This wheel meshes in a pinion, *m*, affixed to the shaft of the cutter-head *B*, which thus receives its rotary motion.

To the opposite end of the shaft of the cutter-head is attached a balance-wheel, *W*, to overcome the intermittent checks of the motion incident to the intermittent action of the cutters.

Immediately back of the balance-wheel is an eccentric, *n*, attached to the shaft of the cutter-head, and with said eccentric is connected an eccentric-rod, *o*, the free end of which slides in guides *p p*, attached to the side of the frame *F*, as shown in Fig. I of the drawings.

Beneath the feed-bed *T*, and at right angles thereto, is journaled a feed-roller, *R*, the upper portion of which projects slightly above the feed-bed, as shown in Fig. III of the drawings, and on the journal of this roller is fastened a ratchet-wheel, *r*, with which engages a pawl, *t*, connected with the eccentric-rod *o*.

Over the roller *R* is another roller, *L*, which is rotated synchronously and at the same speed with the roller *R* by pinions *u* and *u'*, connected, respectively, to the journals of the two rollers, as represented in Fig. I of the drawings.

Another roller, *L'*, is in front of and parallel with the roller *L*, and around the said two rollers is extended an endless apron, *N*, which is made to travel with its lower portion toward the cutters. The journals of said rollers *L* and *L'* are mounted in bearings which are yieldingly supported, so as to allow the rollers a limited vertical play, and in a degree accom-

modate themselves to the thickness of the tobacco passing beneath them.

Various devices have been resorted to for feeding moist tobacco to the cutters; but none have been able to obtain the requisite hold on the tobacco to accomplish the desired object. After thorough tests I have found that a traveling endless apron composed of textile fabric is capable of performing most successfully the function of conveying the moist tobacco to the cutters.

In operating my machine the tobacco is placed on the feed bed or trough *T* and passed between the apron *N* and lower feed-roller, *R*, motion being in the meantime imparted to the rotary cutter-head *H* by turning the crank or handle *l*. The feed-roller *R* and apron *N* receive intermittent motion by means of the eccentric *n*, eccentric-rod *o*, pawl *t*, ratchet *r*, and pinions *u u'*. Each impulse of the feed-roller *R* and apron *N* moves the tobacco a distance equal to the length of the projection of the cutter-blades *a*, and during the intervals of rest of said roller and apron the rotary cutter-head *B* carries the cutters *b* and *c* alternately into action with the stationary cutter *A*. The blades *b*, passing between the blades *a a*, cut out of the tobacco square scraps, leaving similar square uncut portions between the cuts. The next impulse of the feed-roller and apron moves the tobacco a distance equal to the depth of the cut, and while in this position the straight blade *c* is caused to cut off the projecting square portions of the tobacco, and the blades *b b* make other incisions in the tobacco lying upon the stationary cutter, thus producing with great rapidity scraps of uniform size and shape.

It will be observed that by the described construction of the cutters each set of said cutters performs half of the work required of the machine, and the clogging of the cutters is effectually prevented.

A spout, *V*, carries off the scraps from under the cutters.

The described machine can be adjusted to cut the scraps into shape suitable for smoking-tobacco by setting the blades *a* and *b* so as to project less from their carrier or head.

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

1. In combination with the feed-bed *T*, two sets of cutting-blades, *a a'*, secured stationary on the end of said bed, and arranged alternately, with one set projecting beyond the other set, the rotary cutter-head *B*, arranged with its axis parallel to the plane of the stationary cutting-blades, and cutters projecting different distances from the head *B*, to pass between the projecting stationary blades and across the front of the same, substantially as set forth.

2. In combination with the feed-bed *T*, two sets of cutting-blades, *a a'*, secured stationary on the end of said bed, and arranged alter-

nately, and with one set projecting beyond the other set, the rotary cutter-head B, arranged with its axis parallel to the plane of the stationary cutting-blades, a series of cutters, *b b*, distributed over the length of and secured to the rotary cutter-head, and projecting into the spaces between the projecting stationary cutting-blades, and the cutter *c*, secured lengthwise on the rotary cutter-head, and having a continuous cutting-edge, substantially as specified and shown.

3. The combination of the stationary cutter A, composed of two sets of blades, *a a* and *a' a'*, secured adjustably endwise to their carrier, and arranged alternately, and one set projecting with its cutting-edges beyond those of the other set, the cutter-head B, pivoted in front of the stationary cutter A, the blades *b b*, se-

cured adjustably endwise to one side of the aforesaid cutter-head, and arranged in range with the spaces between the projecting blades of the stationary cutter, and the blade *c*, having a continuous cutting-edge, and secured adjustably to the opposite side of the rotary cutter-head B, all constructed and combined substantially in the manner specified and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 25th day of March, 1885.

GEORGE LE CLAIR. [L. S.]

Witnesses:

C. H. DUELL,
F. H. GIBBS.