(No Model.)

C. A. STURTEVANT.

TOBACCO CUTTING MACHINE.

No. 334,820. Patented Jan. 26, 1886.

Fig. 1.

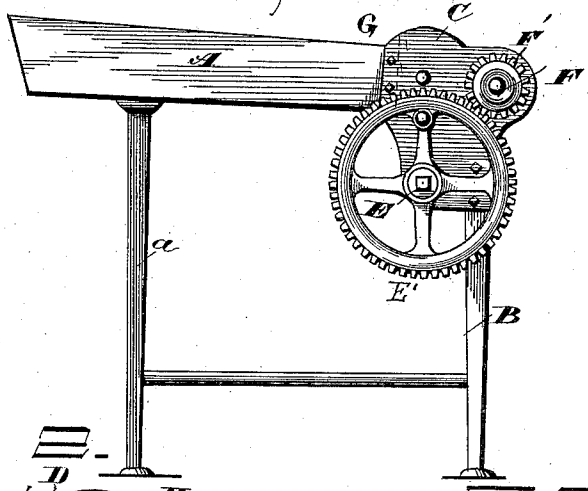


Fig. 2.

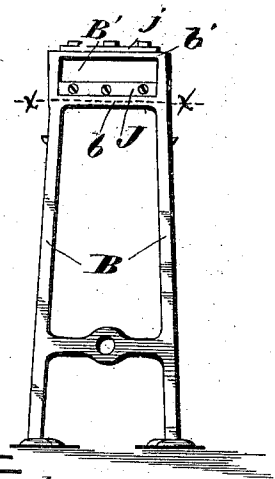


Fig. 3.

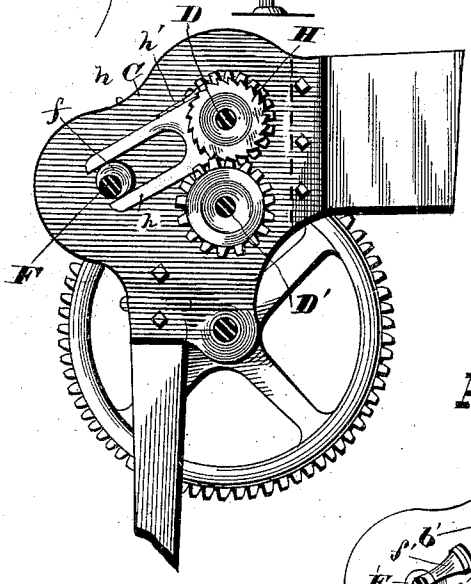


Fig. 4.

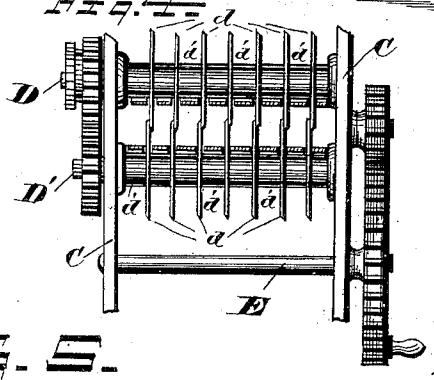
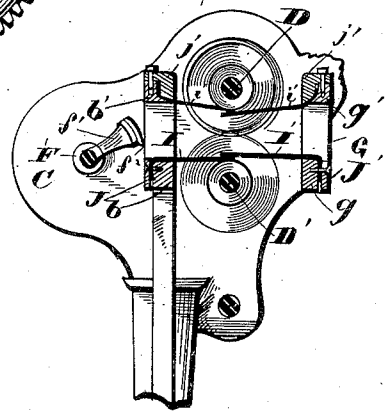


Fig. 5.



WITNESSES

Wm. M. Monroe

Geo. W. King

INVENTOR

Charles A. Sturtevant.

by Leggett & Leggett

Attorneys

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES A. STURTEVANT, OF CLEVELAND, OHIO.

TOBACCO-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 334,820, dated January 26, 1886.

Application filed January 13, 1885. Serial No. 152,744. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. STURTEVANT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tobacco-Cutting 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 pertains to make and use the same.

My invention relates to improvements in tobacco-cutting machines, but more especially to the so-called "strippers" that prevent the circular cutters and the spindles from clogging.

My invention also consists in the details of construction hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is an enlarged view in elevation of a portion of the machine seen from the opposite side. Fig. 3 is a front view in elevation of the legs and frame integral therewith. Fig. 4 is a front view in elevation of the circular cutters, gearing, &c., with the side plates and strippers in section. Fig. 5 is a longitudinal vertical section through the central part of the forward portion of the machine.

A represents the feed-box in which the leaf-tobacco is placed, and is supported by the legs *a* and B, arranged in pairs. The forward legs, B, are integral with the cross-bars *b* and *b'*, forming therewith a frame with a rectangular opening, B'. To this frame or upper portion of the legs are secured the side plates, C, through which pass and are journaled therein the spindles D and D' and the shafts E and F.

At the rear end of the side plates, C, and where the wooden box A joins the metal part, is located a metal frame, G, (see dotted lines Figs. 1 and 2,) corresponding with the frame of the forward legs, and such as would be had if the legs were severed on the line *x x*, Fig. 3, and the upper part used. This frame is reversed, so as to face in the opposite direction, and its cross-bars *g* and *g'* are of the same form as the cross-bars *b* and *b'*, with an opening through the frame of the same size and form as the opening B'.

On the spindles D and D' are mounted a series of circular cutters, *d*, of the usual construction, and the cutters of each series are separated by collars *d'*. These spindles are intergeared, as shown in Fig. 2.

To the spindle D is attached the ratchet-wheel H, and a yoke, *h*, is journaled on the spindle, and the arms thereof embrace the eccentric *f*, mounted on the shaft F. A spring-dog, *h'*, is attached on top of the yoke and engages the ratchet-wheel, by means of which the spindles D and D' and their attached cutters are turned a short distance with each revolution of the shaft F. The shaft E has the driving-gear E' attached, that intergears with the pinion F' on the shaft F. The shaft E or the gear E' is provided with a crank; but in case other than hand-power is had, this shaft and gearing may be dispensed with, and a hand-wheel may be attached to the shaft F in place of the gear F'.

To the shaft F are attached arms *f'*, to which is secured the knife f^2, of the usual construction.

In operating the mechanism, the tobacco-leaves are cut into narrow strips by the cutters *d*, and these strips are cut crosswise by the knife f^2.

In operating this class of machines much difficulty has been encountered by the gumming and clogging of the cutters *d* and the collars *d'*. The gummy substance from the tobacco would adhere to the cutters and collars, and shreds of the tobacco would wind around the collars, so that after a short run the machine would require cleaning.

Various devices have been employed to overcome this difficulty, none of which, as far as I have any knowledge, have proved entirely satisfactory, and I have therefore devised the following: I provide so-called "strippers," consisting each of thin blades of steel that fit nicely between the cutters *d*, and are attached, respectively, to the cross-bars *b*, *b'*, *g*, and *g'*. The strippers I are bent at about a right angle, and hook over the bar *b*, and are clamped to the bar by the plate J, that also forms the cutter-plate for the knife f^2. The inner ends of these strippers rest, respectively, on the lower collars *d'*, with the ends of the strippers about on a vertical line with the axes of the spindles between. Similar strippers, I', hook onto the cross-bar *g* and are clamped thereto by the plate J'. These strippers overlap the strippers I a

short distance, and rest on the latter. The upper strippers, *i* and *i'*, are bent on an angle to fit the inwardly-projecting parts, respectively, of the cross-bars *b'* and *g'*, and at the extreme ends are bent upward, as shown in Fig. 5, and are clamped to the cross-bars by the respective plates *j* and *j'*. The strippers *i* engage the upper collars, *d*, and the strippers *i'* overlap the strippers *i* in a similar manner to the arrangement of the lower strippers just described. The lower strippers are about on a line with the face of the bottom of the box A. The upper strippers incline downward toward the engaging collars, as shown in Fig. 5, so that the tobacco is somewhat compressed in passing the circular cutters. These strippers prevent the cutters and collars from gumming or clogging, and furnish a suitable surface for the tobacco to pass over. They are firmly held in position by the fasteners aforesaid, and may be removed or placed in position with little trouble. It is desirable that the cutters *d* be supported as near the periphery as possible by the collars *d'*, in order that these cutters may be made thin. It is therefore essential that the strippers be made thin, and occupy as little vertical space as possible.

Sand, gravel, old nails, and other hard material are frequently hid away in the tobacco, and nick, bruise, or turn the edges of the cutters. If the distortion of the cutter-edge is but slight, the contact with the stripper will usually straighten the edges of the cutter, so that no delay is caused. If the injury to the cutter is such that it cannot pass between the strippers, the latter, being as aforesaid thin, will give way before the cutter will break. The cutter in such cases can usually be straightened with a suitable tool without removing it from the machine, while by reason of the small cost of the strippers, the breakage of one or more of them is but a trifling matter.

With the construction shown, the strippers add but little to the cost of the machine and the operation is entirely satisfactory.

Without the strippers the tobacco, to prevent its gumming the cutters and collars, as aforesaid, must be worked dry, and a large percentage is wasted by the tobacco crumbling into dust and pieces too small to be of any value.

With my improved machine the tobacco, if dry, can be clamped and fed through the machine with practically no loss from crumbling and dust.

What I claim is—

1. In a tobacco-cutter, the combination, with the frames and the upper and lower rotary cutters, of the upper and lower series of strippers located between the cutters, the strippers of one series arranged to overlap the strippers of the other series, substantially as set forth.

2. The combination, with the two frames, the circular cutters located between the frames, and the plate J, secured to the outer faces of one of said frames below the opening therein, of the rotary knife located in close proximity to the plate J, and devices for operating the cutters and knife simultaneously, substantially as set forth.

3. The combination, with a series of circular cutters arranged on spindles, as described, of a series of strippers arranged between the cutters, the strippers of each series being arranged to overlap each other at the central part between the cutters, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 31st day of January, 1884.

CHARLES A. STURTEVANT.

Witnesses:
ALBERT E. LYNCH,
CHAS. H. DORER.