(No Model.)

J. W. DANIEL.

TOBACCO GRANULATOR.

No. 562,587. Patented June 23, 1896.

Fig. 1.

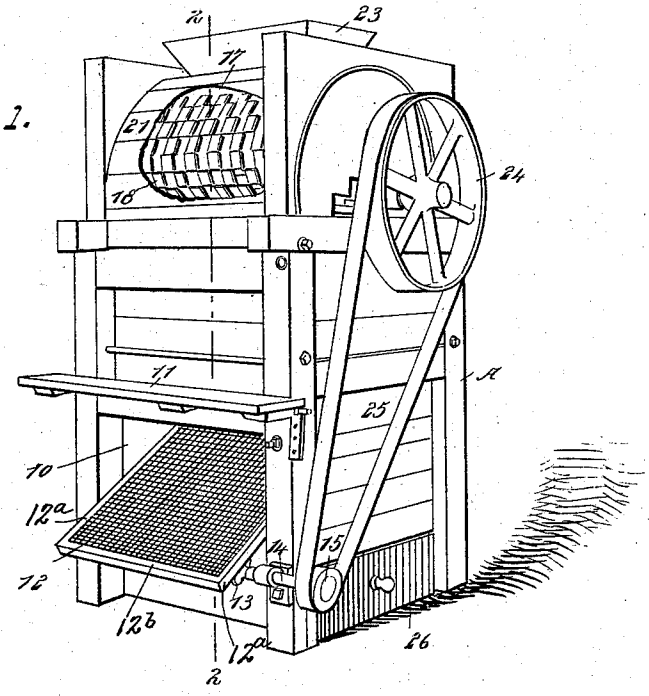
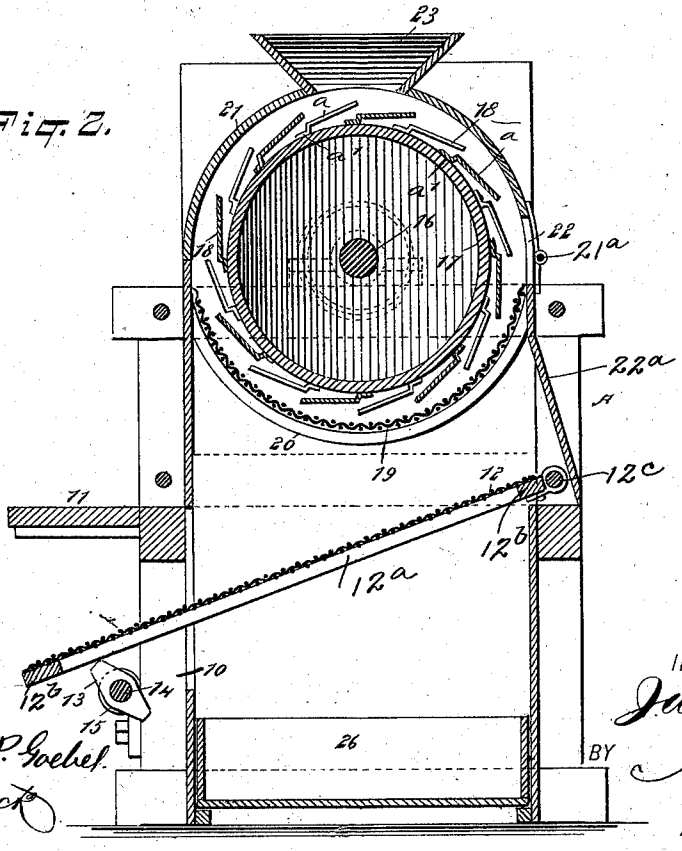


Fig. 2.



WITNESSES:
William P. Goebel.
C. Sedgwick

INVENTOR
Jno. Daniel
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. DANIEL, OF OWENSBOROUGH, KENTUCKY, ASSIGNOR OF TWO-THIRDS TO STEWART STARLING AND ALBERT D. POWERS, OF SAME PLACE.

TOBACCO-GRANULATOR.

SPECIFICATION forming part of Letters Patent No. 562,587, dated June 23, 1896.

Application filed April 30, 1895. Serial No. 547,646. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. DANIEL, of Owensborough, in the county of Daviess and State of Kentucky, have invented a new and useful Improvement in Tobacco-Granulators, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in granulating-machines, such as are especially adapted for granulating tobacco; and the object of the invention is to provide a device of this character of a simple and inexpensive construction, which shall be adapted to operate on the leaf-tobacco fed into the machine in such a manner as to granulate or break up the better portions of the leaves into small particles suitable for smoking and similar purposes, these small particles being discharged from the machine in a pulverized and sifted form ready for use, while the stems and other refuse material are discharged outside the machine and are prevented from becoming mixed with the granulated material, or with the finer particles or dust sifted therefrom, which dust is of commercial value.

The invention consists in certain novel features of the construction, combination, and arrangement of the various parts of the improved granulating-machine, whereby certain important advantages are attained and the device is made simpler, less expensive, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claim.

Reference is to be had to the accompanying drawings, forming a part of the specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a perspective view showing a machine constructed in accordance with my invention, and Fig. 2 is a section taken vertically through the machine in the plane indicated by the line 2 2 in Fig. 1.

The machine comprises an upright frame A, formed of corner-posts of sufficient strength braced at their upper and lower ends and covered with a suitable sheathing, said frame being, as herein shown, of a rectangular form, although it may be of other shapes. At the lower part of the front side of the frame A is formed an opening 10, above which is a platform or shelf 11, secured to the side of the frame and projecting therefrom, so as to form a convenient foot-rest whereon the attendant may stand while feeding the machine.

Within the body or frame A, at the side thereof opposite to the opening 10, and by preference slightly above said opening, as clearly seen in Fig. 2, is pivoted, as indicated at 12^c, one end of a screen or sieve, comprising a netting 12, secured upon a rectangular frame consisting of side bars 12^a, connected at their ends by end bars 12^b, the rear end bar being provided with clips, as clearly seen in the drawings, embracing the bar whereon the sieve is pivoted.

The sieve is held in an inclined position and is of such a length that its free end extends through the opening 10 in the front wall of the body or frame A, and beneath the projecting free end of said sieve is arranged a shaft 14, journaled at its ends in brackets or bearings secured at opposite sides of the lower portion of the body or frame, and provided with cams 13, each of which extends from opposite sides of the shaft, and is arranged in position under one of the respective side bars 12^a of the inclined sieve in such a manner that as the shaft 14 is rotated the sieve or screen will be shaken or reciprocated in a vertical plane.

The end of the shaft 14 extends beyond one side of the frame or body A, and is provided with a small pulley 15, over which extends a belt 25, the opposite end of which is passed around a pulley 24, secured on the projecting end of a shaft 16, arranged transversely across the upper part of the body or frame A, being journaled in the opposite sides of said frame and extending parallel with said shaft 14.

The uper end of the body or frame A is open and is provided with a semicircular cover 21, hinged at its rear edge, as indicated at 21^a in the drawings, to the rear edge of the body and adapted to be closed down over the open upper end thereof, as indicated in Fig. 2. Inside the open upper end of the body or frame A is arranged a curved screen or sieve 19, being concave on its upper face and held in its end portions in a frame 20 of

curved form, preferably provided with means for adjusting it vertically, and the curvatures of said screen or sieve 19 and of the hinged cover 21 are concentric with the shaft 16, whereby when the said cover 21 is in its closed position it will be seen that a circular chamber is formed in the upper portion of the frame or body A.

The cover 21 is provided at its top with a hopper 23, through which the leaf-tobacco may be fed into the said circular chamber, and at the rear part of the said cover and preferably between the hinges 21^a, which are arranged near the ends of the cover, is formed an outlet-opening 22, serving for the passage of the stems and other refuse material, as will be hereinafter explained.

On the shaft 16 inside the above-mentioned circular chamber is mounted a hollow drum or cylinder 17, of a diameter somewhat less than the diameter of said circular chamber, and on the periphery of this drum are carried knives or blades *a*, each having one end portion *a'* bent down and secured to the periphery of the drum in such a manner that the projecting main portions of the knives or blades stand at angles to or tangential with the periphery of said drum, in position to press the leaf-tobacco fed into the machine against the adjustable screen or sieve 19.

The sieve or screen 19 is arranged directly over the vertically-movable sieve or screen 12, so that the tobacco in granulated form passing through said curved screen 19 will fall directly on the shaking screen 12, and in the lower part of the casing under the said shaking screen 12 is arranged a removable drawer 26, adapted to receive the fine particles and dust passing through said shaking sieve.

The rear wall of the body or frame A, immediately below the discharge-opening 22, is closed or imperforate, as indicated at 22^a in Fig. 2, and is somewhat inclined and extends to a point adjacent to or below the rear pivoted end 12^c of the shaking seive 12, so that in the operation of the machine the stems and other refuse discharged from the opening 22 will fall outside the body or frame, and will be prevented from passing into the seive 12 and also prevented from passing into the dust-drawer 26, so that the different products or parts are kept separate from each other.

In operation the shaft 16 will be driven from any suitable power, and the drum 17 is thereby caused to rotate within the circular chamber, whereupon the leaves being fed into the said chamber through the hopper 23 are disintegrated or granulated by the action of the blades or knives *a*, and are forced through the meshes of the curved screen 19, falling on the vertically-shaking sieve 12, the finer particles passing through the sieve into the dust-drawer 26, while the coarser particles pass over the said sieve to the outside of the frame or body and are discharged into a suitably-arranged receptacle. As the drum rotates, the stems and other refuse contained in the leaves fed into the chamber wherein the drum is arranged are thrown out at the discharge-opening 22 at the rear part of the body and are deflected by the inclined rear wall 22^a of the body below the screen or sieve 12, whereby they are prevented from passing either into the dust-drawer 26 or into said screen 12.

From the above description it will be seen that the device is of an extremely simple and inexpensive construction and is well adapted for the purpose for which it is designed, and it will also be obvious that considerable modification may be made therein without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the exact form and arrangement of the parts herein set forth.

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

In a machine for granulating tobacco, the combination of a body having an open top and provided with an opening near the bottom of its front wall, a curved screen having a concave upper face arranged at the upper part of the body, a curved cover hinged at its rear edge to the upper part of the rear side of the body and provided with a hopper in its top and a discharge-opening in its rear part, a shaft journaled transversely at the upper part of the body, the curvatures of said screen and of the cover being concentric with said shaft whereby a circular chamber is formed at the upper part of the body, a drum secured on said shaft inside said circular chamber and provided on its periphery with projecting blades arranged to press the tobacco-leaves against said curved screen and to throw the refuse through the discharge-opening in the rear part of the cover, an inclined screen pivoted in the lower part of the body with its extremity extending through the opening in the front wall thereof, said inclined screen being adapted to receive on its upper side the granulated material passing through said curved screen and having means for vibrating it, said body having its rear wall closed from the discharge-opening in the cover down beyond the rear end of said inclined screen, and a dust-receptacle arranged in the bottom of the body below said inclined screen, substantially as set forth.

JOHN W. DANIEL.

Witnesses:
T. U. FRENCH,
J. A. FRAYSER.