L. & J. D. SMITH. 2 Sheets—Sheet 1.

Tobacco Rolling and Cutting Machine.

No. 213,702. Patented Mar. 25, 1879.

Fig. 1.

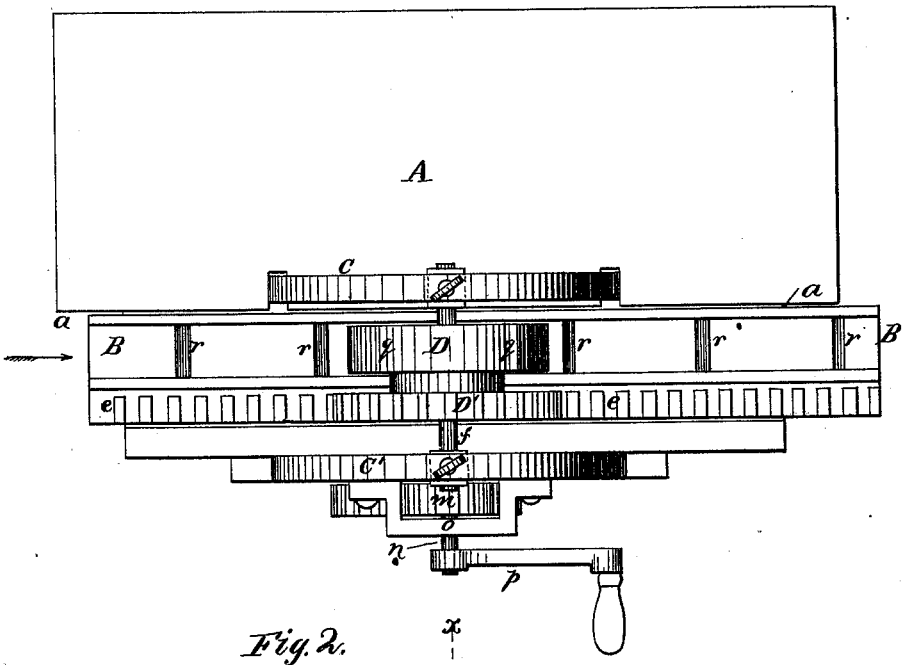
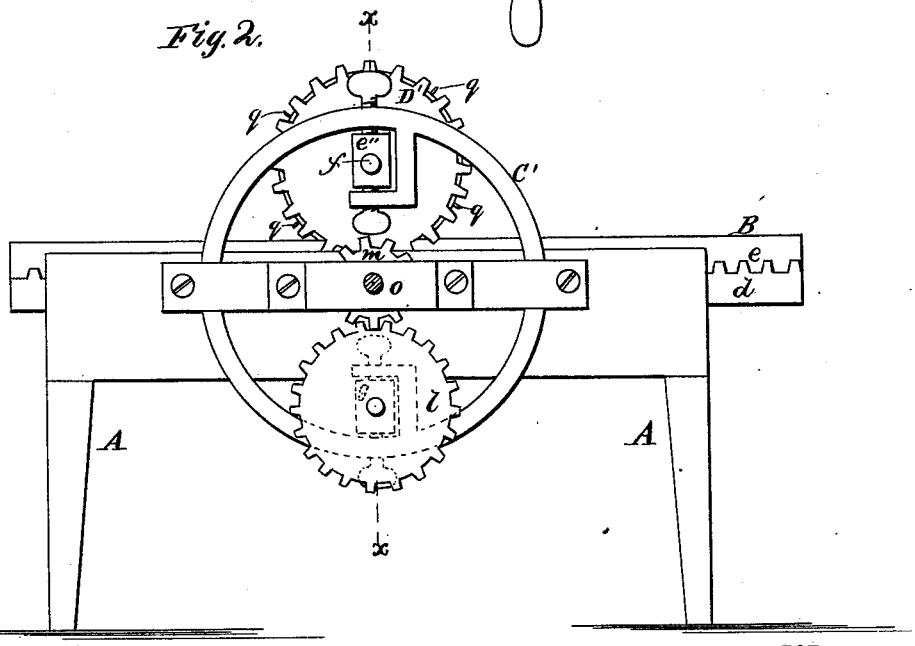


Fig. 2.



WITNESSES:

Henry N. Miller

C. Sedgwick

INVENTOR:

L. Smith

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BY Munn & Co

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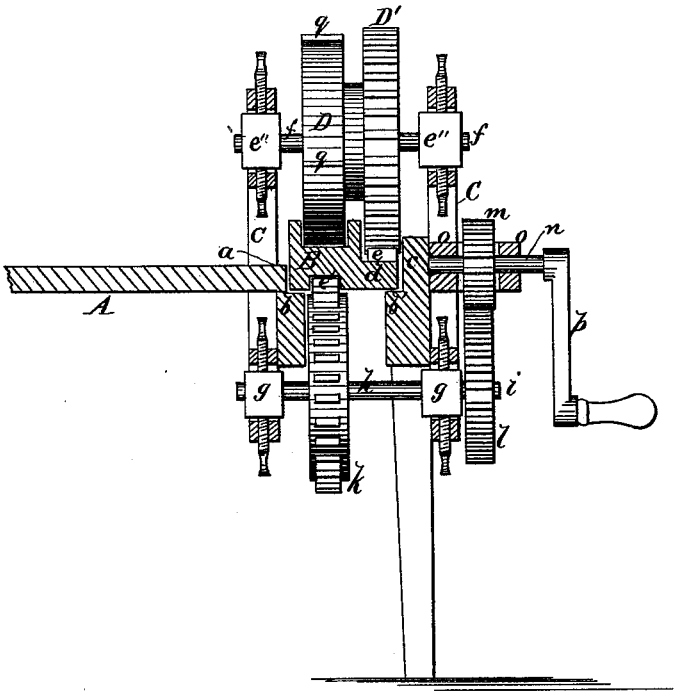
2 Sheets—Sheet 2.

L. & J. D. SMITH.

Tobacco Rolling and Cutting Machine.

No. 213,702. **Patented Mar. 25, 1879.**

Fig. 3.



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UNITED STATES PATENT OFFICE

LAFAYETTE SMITH AND JAMES D. SMITH, OF DANBURY, NORTH CAROLINA.

IMPROVEMENT IN TOBACCO ROLLING AND CUTTING MACHINES.

Specification forming part of Letters Patent No. **213,702**, dated March 25, 1879; application filed November 13, 1878.

To all whom it may concern:

Be it known that we, LAFAYETTE SMITH and JAMES D. SMITH, of Danbury, in the county of Stokes and State of North Carolina, have invented a new and Improved Machine for Rolling and Cutting Tobacco, of which the following is a specification:

The object of this invention is to provide a machine for rolling the tobacco and cutting it into lumps at the same time.

The invention consists in combining a frame or table constructed with ways, a trough having recesses in its bottom, and a roller having cutters that work in said recesses with racks and spur-wheels, arranged as hereinafter described.

In the accompanying drawings, Figure 1 is a top view or plan of our machine. Fig. 2 is a side elevation of the same, and Fig. 3 is a vertical section on line *x x* of Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a table, on which the loose tobacco is piled ready for rolling. On one side the top of this table is cut out, leaving an opening, *a*, the full length of the table, under which, flush with the under side of the table-top, and on either side of the space or way *a*, are two ledges, *b* *b'*, running the full length of the space, and joining at each end the pieces forming the two ends of the table-frame. A piece, *c*, flush with the side of the table, extends above the level of the table-top.

In the space or way *a* is placed a trough, B, having a side extension, *d*, with a rack-bar, *e*, on its upper side, and on the under side of the bottom of the trough is made a rack-bar, *e'*, both extending the full length of the trough. By the use of two rack-bars the trough and roller are caused to move together with greater accuracy, and the former more steadily than by the use of a single rack-bar. One side of the trough bears upon the ledge *b*, while the side extension, *d*, bears upon the ledge *b'*, and the trough moves freely back and forth on these ledges.

Midway of the length of the table, on one side of the way *a*, is fixed a frame, C, and directly opposite this frame is placed a similar frame, C'. Above the table, in these frames, are secured bearings *e''* *e''*, in which is journaled the shaft *f*, carrying the wheel or roller D and spur-wheel D'. Roller D, when operated, revolves in the trough B, with its periphery in contact with the bottom thereof, while spur-wheel D' engages the rack-bar *e*.

In the frame C, beneath the table, are fixed bearings *g g*, in which is journaled a shaft, *h*, with one end, *i*, projecting outside the frame. Between the bearings on this shaft, immediately beneath the trough, is fixed a spur-wheel, *k*, which engages the rack-bar *e'*, on the under side of the trough, while on the end *i*, outside, is fixed a gear-wheel, *l*, meshing with a pinion, *m*, fixed to short shaft *n*, journaled in the bearings *o o*, fixed to the side of the table, and having on its end a crank, *p*.

On the periphery of the wheel or roller D are fixed, at regular intervals, the knives *q*, at distances apart equal to the desired length of the lumps. In the trough are slots *r*, placed the same distance apart as the knives, which receive the latter when the trough is moved back and forth under the roller. The roller D and spur-wheel D' are secured together, so that they move at the same speed, the purpose of the spur-wheel being to keep the roller in the trough, so that the knives *q* will enter the slots in the trough provided for them, and also to give motion to the roller.

The operation of the invention is as follows: Motion is given to the machine by turning the crank *p*, which rotates the pinion *m*. This operates gear *l*, and this, through shaft *h*, rotates spur-wheel *k*, which, engaging the rack-bar *e'* on the bottom of the trough, moves the latter back and forth, according to the direction in which it is turned, and this movement of the trough causes the rack-bar *e* to revolve the wheel D', and thus rotate roller D. When thus operated the tobacco is fed into the trough from the end indicated by the arrow, (the trough being run back as far as it will go,) and when the proper amount is placed in the trough it is placed in gear and drawn under the roller D, which rolls the tobacco, and the knives cut off lumps of equal lengths, which are taken from the trough and roped in the usual manner. The leaf-tobacco, after being stemmed, is weighed, and placed by hand as regularly as possible in the trough, which

is then traversed under the cutting-roll, the bunches being successively removed (as they are cut and pressed) to a temporary compress. These lumps may be formed either of long or short leaves, scraps, or what is termed "trash." Tobacco when rolled in this way shapes more perfectly in the press than where it is rolled by hand, while the machine greatly economizes labor. These bunches are generally about eleven inches by three, but may, of course, be of any preferred dimensions, whether they are intended for subsequent manufacture into smoking or chewing tobacco. By rolling the tobacco in this manner it can be done more quickly and perfectly than by any method now practiced, and at a considerable reduction in the cost of labor.

We are aware that it is not new in a cake-machine to use a plain slide-board with rack on each side, operated by pinions, to bring the dough under rolls that cut it both longitudinally as well as crosswise and roll it at the same time; but

What we claim is—

The table A, having the longitudinal opening *a* and ledges *b b*, the roll D, having cutters *q* and spur-wheel D′, secured to its side, in combination with the trough B, having recesses *r* and racks *e e′*, the bottom rack operated by a spur-wheel, *k*, and the top one by the spur-wheel D′, as shown and described.

LAFAYETTE SMITH.
JAMES DE KALB SMITH.

Witnesses:
R. T. JOYCE,
W. A. ESTES.