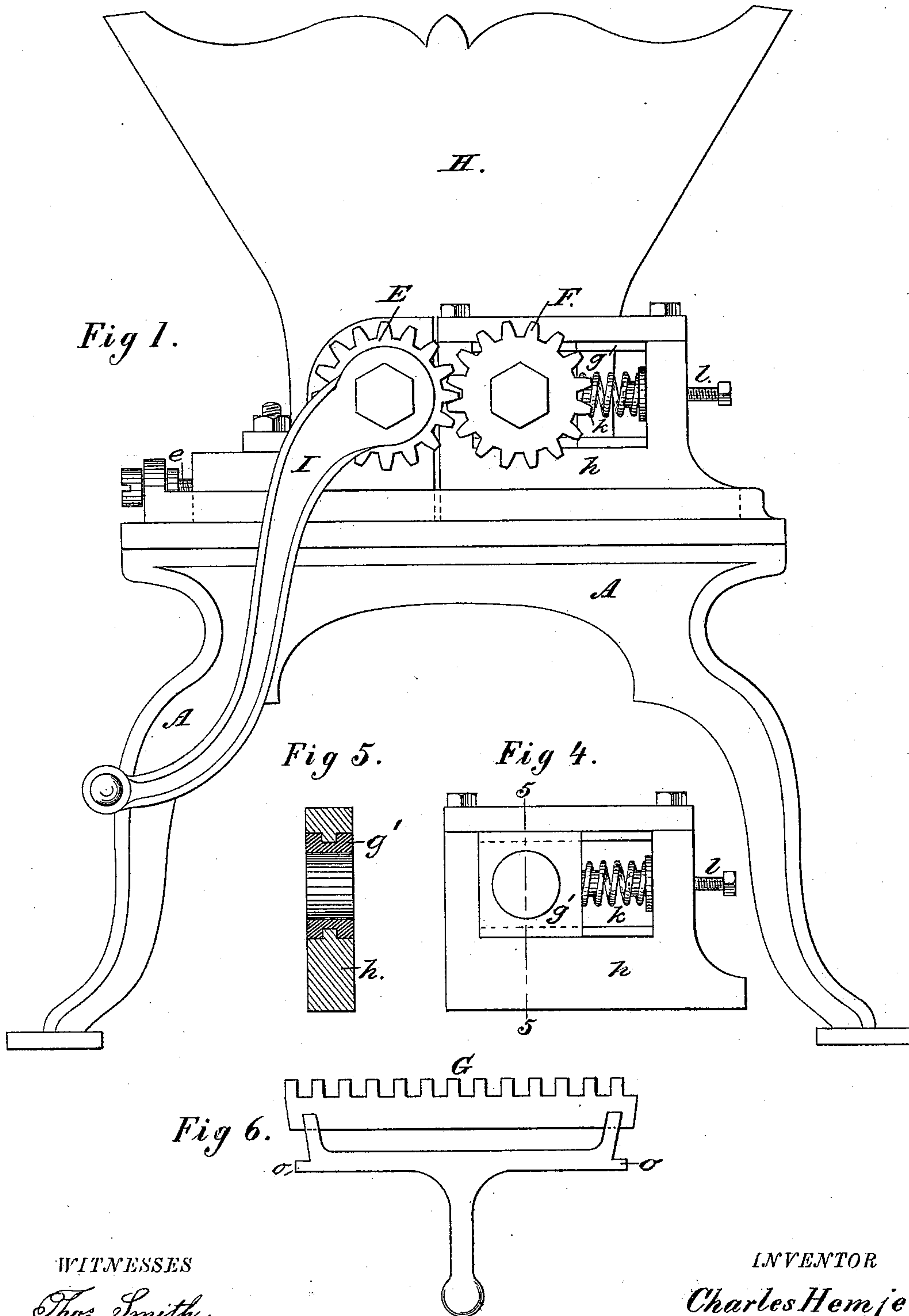


(No Model.)

2 Sheets—Sheet 1.

C. HEMJE.  
TOBACCO GRANULATING MACHINE.  
No. 250,731. Patented Dec. 13, 1881.



WITNESSES  
Thos. Smith.  
E. W. Craig

INVENTOR  
Charles Hemje.

(No Model.)

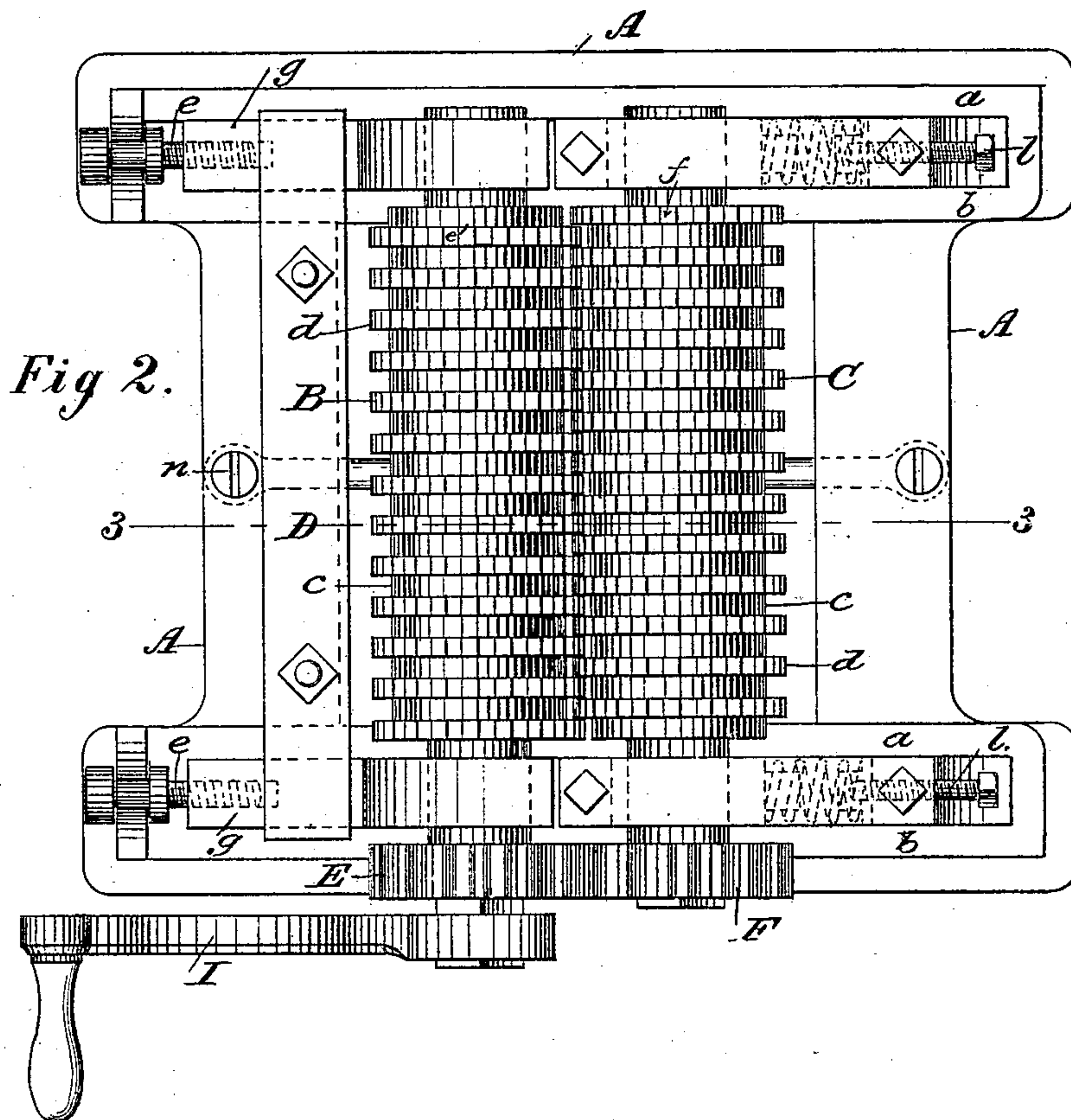
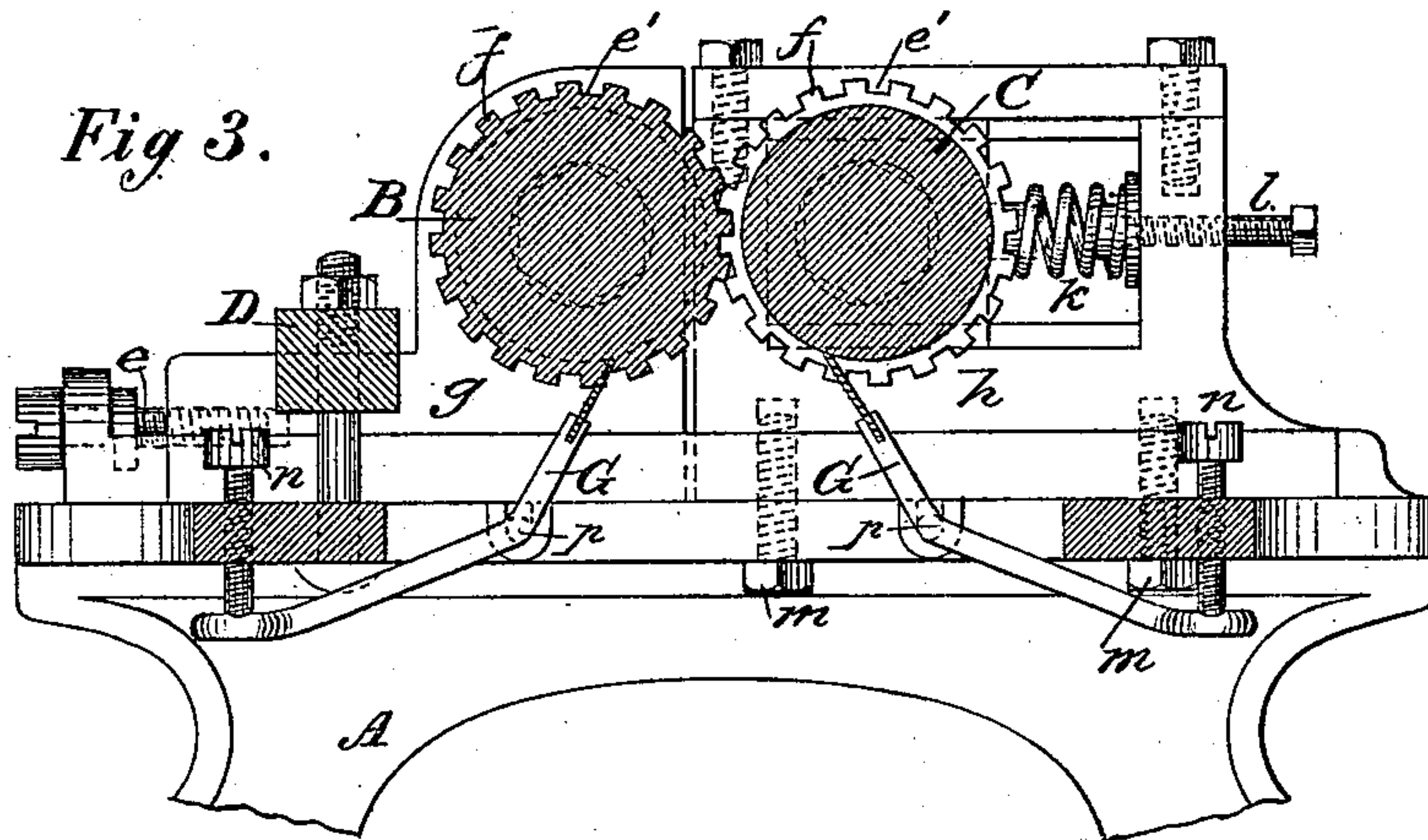
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*Charles Hemje.*



# UNITED STATES PATENT OFFICE.

CHARLES HEMJE, OF WASHINGTON, DISTRICT OF COLUMBIA.

## TOBACCO-GRANULATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 250,731, dated December 13, 1881.

Application filed October 4, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES HEMJE, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented certain new and useful Improvements in Tobacco-Granulating 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 appertains to make and use the same.

My invention relates to machines for cutting or breaking up the leaves and stems of tobacco; and the object is to improve the construction of such machines.

The invention consists in the construction and arrangement of certain parts of a tobacco-granulating machine, as will be hereinafter described, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 represents an end elevation of my machine. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4 is a side view of the spring journal-box. Fig. 5 is a cross-section on the line 5 5 of Fig. 4, and Fig. 6 is a plan view of the scraper.

In the accompanying drawings, A represents a suitable frame, each end of which is provided with two ribs, *a* and *b*, forming between them a groove or recess, in which the journal-boxes of the rollers are placed.

The cutting or breaking apparatus consists of two or more rollers, B C, having transverse grooves *c* and ribs *d*, and are placed in such position to each other that the transverse ribs of one roller pass through the grooves of the adjoining roller. In addition to the transverse grooves the rollers are provided with longitudinal grooves, the transverse and longitudinal grooves combined forming a number of small square or rectangular faced projections, *f*. The two rollers are placed in such a manner that the projections *f* of the one come opposite the spaces or grooves *c'* of the other, the most perfect cutting or breaking system of the tobacco being thus obtained. The tobacco will be broken up nearly to the size of the projections on the rollers—in fact, each projection on the roller stamps out a piece equal to its own projecting surface. A greater uniformity of the cut tobacco is obtained by this method than

by any other known to me. Although it is not necessary, it is preferable that the transverse grooves and the longitudinal grooves or projections in the rollers should be of unequal depth. The transverse grooves, which serve as a discharge-channel of the broken tobacco, should be deepest, so as to give free exit to the broken tobacco. The longitudinal grooves or projections need not be so deep, as they are merely to form the projections, and the latter will be stronger if the grooves are not so deep.

At each end the roller B is journaled in a pillow-block, *g*, which is arranged so as to fit into the groove formed by the ribs *a b* of the frame A. To adjust the position of the rollers to each other, one or both sets of the pillow-blocks can be provided with suitable set-screws, *e*. As nails and other hard substances which are frequently found among tobacco are very apt to break or injure the projections on the rollers, the spring journal-boxes *g'* and pillow-blocks *h*, in which one of the rollers is journaled, are of great advantage. They consist of journal-boxes *g'*, which slide on tongues in the pillow-blocks *h*, that are fastened to the frame A, while the journal-boxes will slide back if any obstruction—such as nails—should get between the rollers, allowing the nails to pass through. The journal-box *g'* is held in position by a spring, *k*, which latter can be regulated by a set-screw, *l*, passing through the pillow-block *h*. By means of said set-screw *l*, as will be readily understood, the tension of the spring is increased or diminished, as the set-screw is screwed in or out through the pillow-block. The pillow-block of the spring journal-box is bolted onto the frame from below by bolts *m*, while the pillow-blocks *g* are held in position by the cross-bar D; or each of them may be bolted separately, the holes in the frame in that case being elongated or slotted, so as to allow an independent movement of the boxes.

Scrapers G, of suitable shape, with their teeth extending into the circular grooves of the rolls, as shown in Figs. 3 and 6, can be applied in any suitable position, but are most convenient in the position shown, the set-screws *n* being for the purpose of regulating the scrapers, so that the teeth are always deep enough in the grooves to scrape off the rollers. The scrapers

G have a projection, *o*, on each end, which fits into corresponding lugs or ears *p* on the frame A, so that the scrapers hang suspended under the rollers.

5 A suitable feed-box, H, for feeding the tobacco to the crushing-rollers, is placed over the latter, as shown in Fig. 1.

10 The rollers are geared together by cog-wheels EF, endless chain, or any other suitable device, and on the end of one of the rollers is a suitable crank, I, to operate the machine; but it can also be driven by steam or other power.

Having thus described my invention, what I claim is—

15 In a tobacco-granulating machine, the transverse as well as longitudinally grooved rollers having square or rectangular projections *f*, constructed substantially as shown, and for the purpose described.

20 In testimony whereof I hereby affix my signature in presence of two witnesses.

Witnesses: CHARLES HEMJE.  
A. H. BETZ,  
JOHN TYLER.