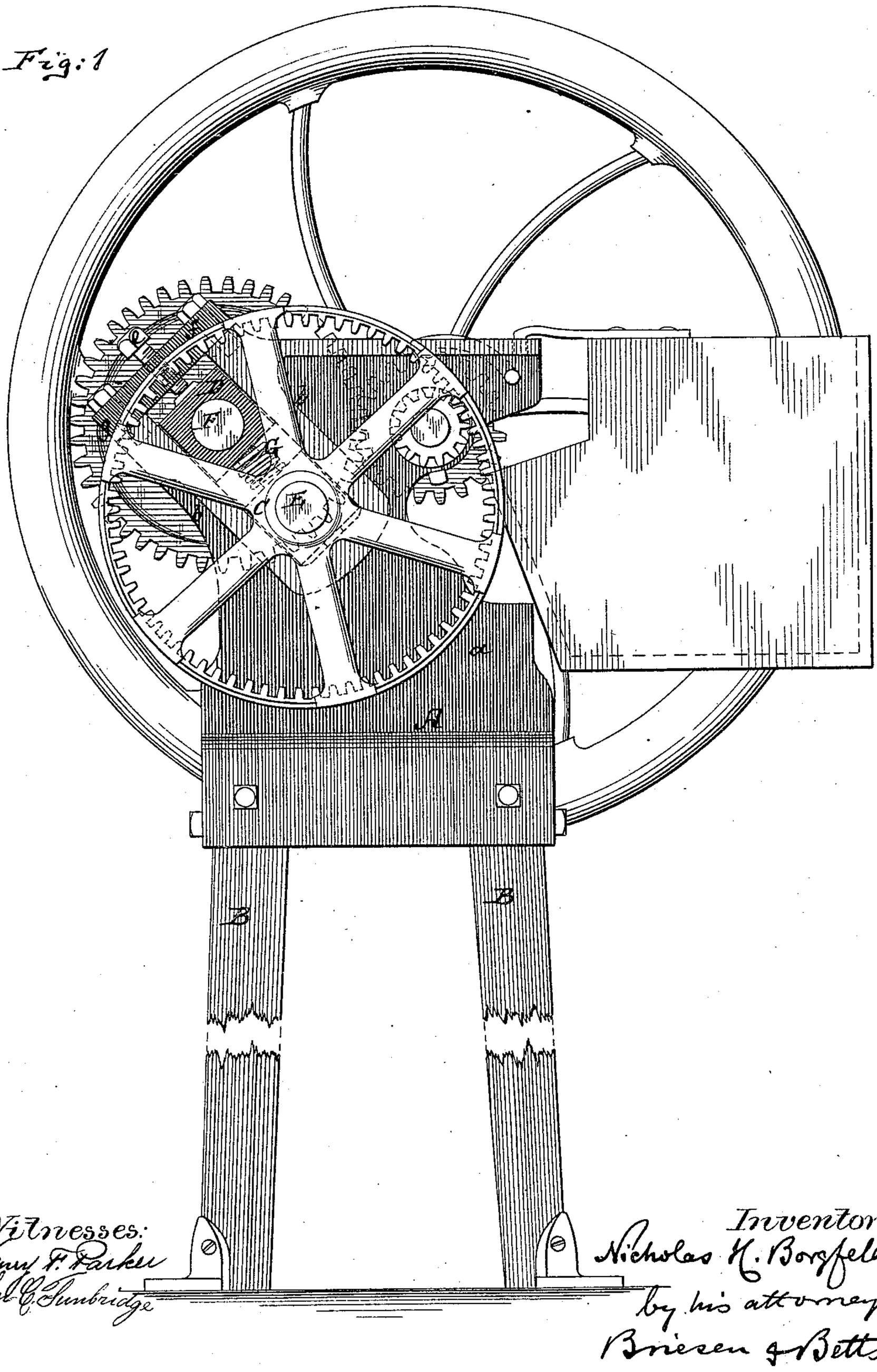
(No Model.) 2 Sheets—Sheet 1.

N. H. BORGFELDT.

TOBACCO STEM FLATTENER.

No. 251,171. Patented Dec. 20, 1881.

Fig. 1



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(No Model.) 2 Sheets—Sheet 2.

N. H. BORGFELDT.

TOBACCO STEM FLATTENER.

No. 251,171. Patented Dec. 20, 1881.

Fig: 2

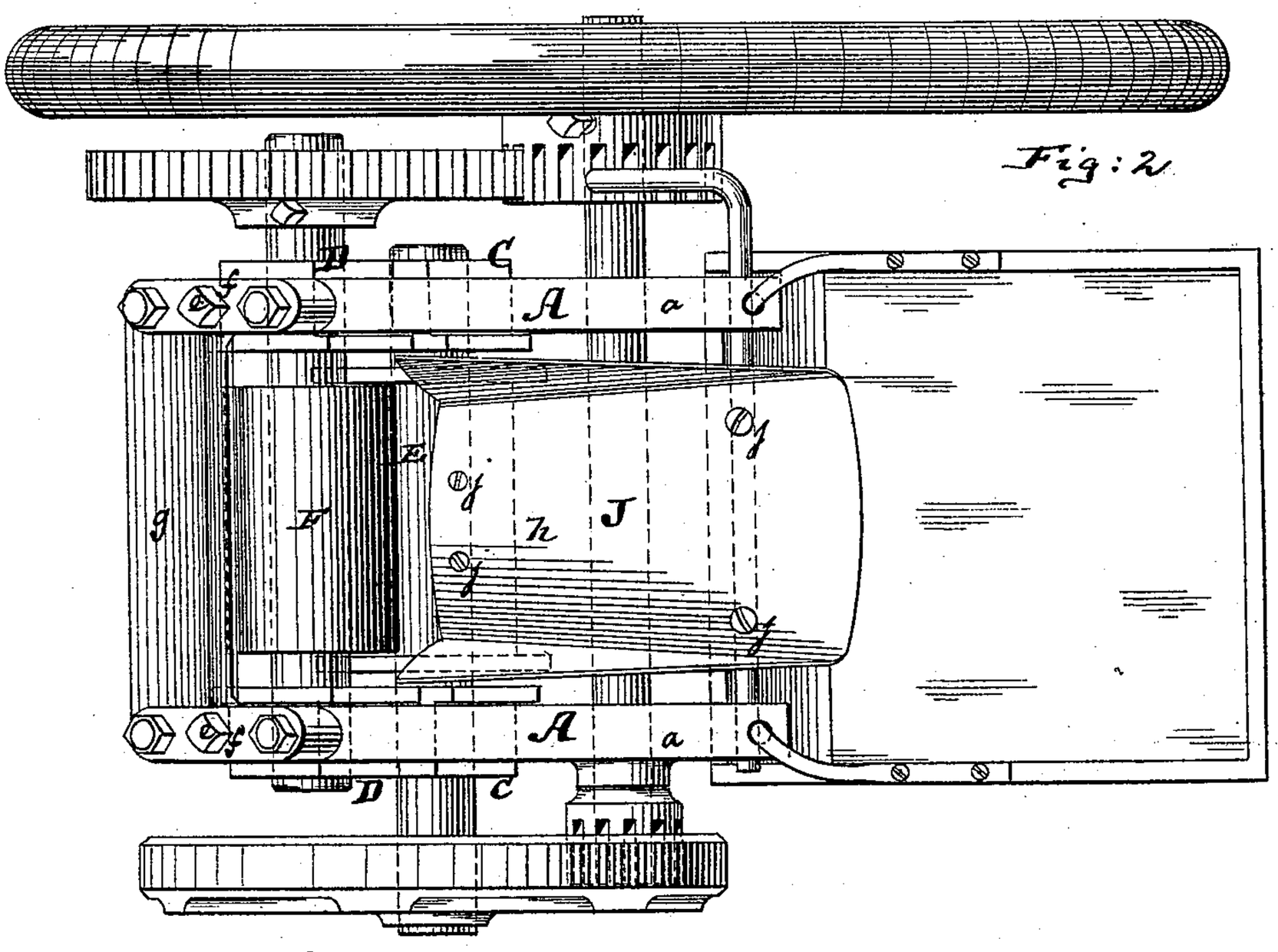


Fig: 3

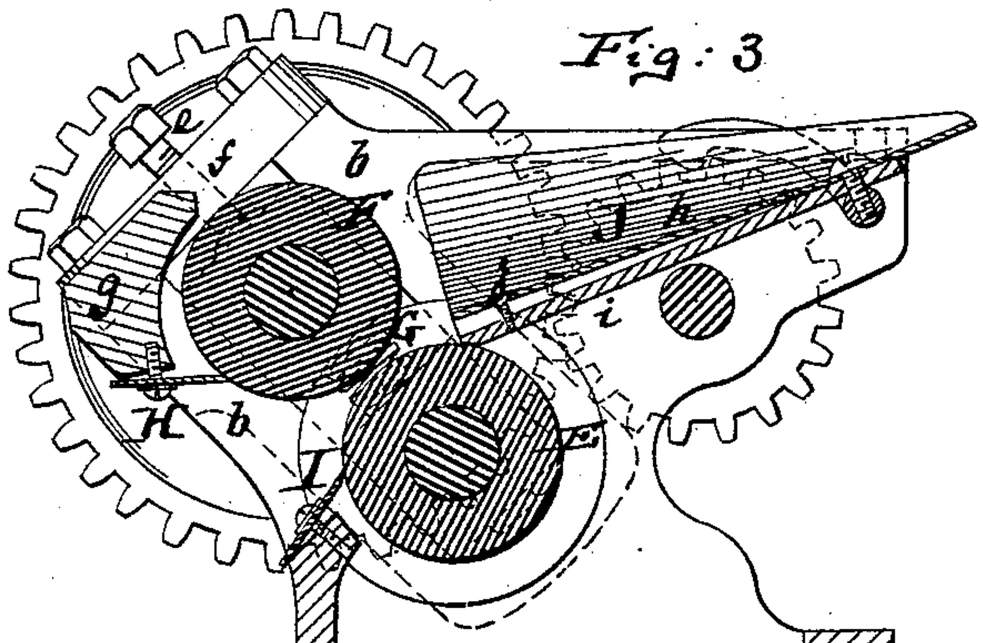


Fig: 4

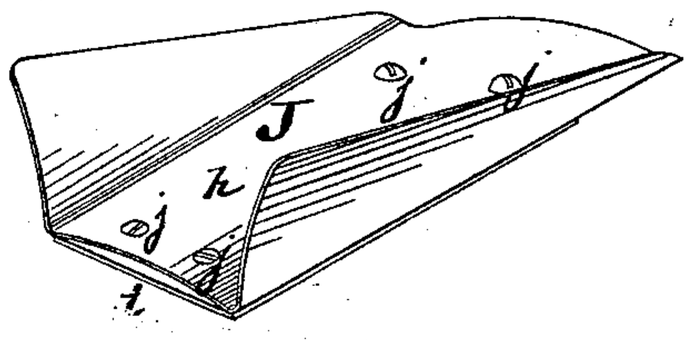
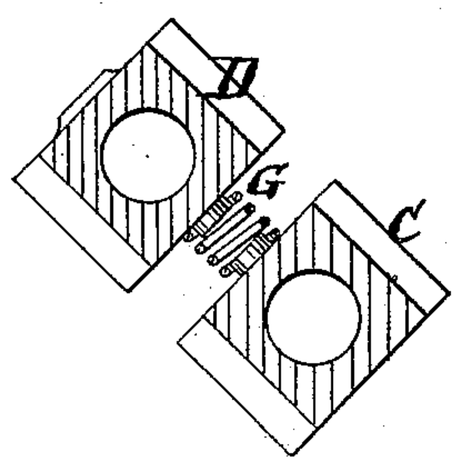


Fig: 5



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UNITED STATES PATENT OFFICE.

NICHOLAS H. BORGFELDT, OF NEW YORK, N. Y.

TOBACCO-STEM FLATTENER.

SPECIFICATION forming part of Letters Patent No. 251,171, dated December 20, 1881.

Application filed September 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS H. BORGFELDT, of New York, in the county and State of New York, have invented an Improved Tobacco-Stem Flattener, of which the following is a specification.

Figure 1 is a side view of my improved tobacco-stem flattener. Fig. 2 is a top view of the same. Fig. 3 is a vertical longitudinal central section of the same; Fig. 4, a perspective view of the chute, and Fig. 5 a detail sectional view of the bearings for the flattening-rollers.

This invention relates to a new construction of tobacco-stem flatteners; and it consists, first, in making the cross-bar that holds the upper scraper in one piece with the side wings by which it is fastened to the frame, said side wings also constituting the caps for the bearings of the rollers and the holders for the adjusting-screws by which the position of the upper roller is regulated.

The invention also consists in a new construction of chute for feeding the tobacco to the rollers, with which the chute is combined, which chute is raised in the center, so as to guide the tobacco equally to the ends and middle of the rollers.

Finally, the invention consists in combining this convex-bottomed chute with a lower plate and with adjusting-screws, by which the convexity of the chute may be regulated.

In the accompanying drawings, the letter A represents the frame of my improved stem-flattener. This frame is made in one piece, having the side plates, *a*, with obliquely and upwardly projecting wings *b*, and the cross-pieces *c* and *d*, all of which are cast or made in one piece. This frame is supported on suitable legs or supports, B. In the wings *b* of the frame A are oblique slots, that are intended to receive the bearing-blocks C and D for the flattening-rollers E and F. The flattening-rollers are of suitable construction. Their end gudgeons hang in the boxes or bearings C and D, respectively, which boxes or bearings are inserted in the slots of the frame A, that are provided for their reception. A spring, G, is interposed between every pair of blocks or bearings C and D, as indicated more clearly in Fig. 5, and its power is so regulated by a set-screw, *e*, that it will hold the two rollers E and F just out of contact, to prevent their surfaces being ground away when nothing is between them. Each set-screw *e* which bears upon the upper block, D, is held in a cap, *f*, that is screwed upon the upper portion of each wing *b*, there being two such caps connected by and to a cross-bar, *g*.

The scraper H for the upper roller, F, is fastened to the cross-bar *g*, as shown. Thus the said cross-bar *g* serves as a brace for the upper part of the frame, as the connection for the caps *f*, as a support for the upper scraper, H, and its wings, prevent the removal of the boxes D and C, and hold the set-screws *e*, by means of which the tension of the springs G is regulated.

The scraper I for the lower roller, E, is held on the cross-piece *d* of the frame A, which cross-piece therefore serves not only as a brace for the lower part of the frame, but also as a support of the scraper.

I regard this construction of the frame-work with reference to the utilization of the braces as supports for the scrapers as very important and advantageous, as it saves much labor in the construction of the machine, much labor in putting it up, in keeping it in order, and is therefore a source of economy in the making and in the use of the machine.

The rollers E and F receive rotary motion with varying speeds by suitable mechanism.

The tobacco-stems to be flattened are fed to the rollers by a chute, J, which is either pivoted or otherwise fastened to the frame in front of them. The bottom *h* of this chute J is convex laterally, as shown in Fig. 4—that is to say, it is raised in the middle and slopes downward toward the sides. This sloping or convex bottom *h* of the chute is above a lower false bottom, *i*, with which it is connected by suitable screws, *j*. By turning these screws the convexity of the bottom *h* can be altered to suit the convenience of the operator. The object of making the bottom of the chute convex is to prevent the chute from feeding all the stems to the center of the rollers. The usual flat-bottomed chutes labor under this defect, that their tendency is to collect the stems in the middle, feed them to the middle of the rollers, and hence cause the rollers to wear out in the middle sooner than at the ends. By raising the bottom in the middle the tobacco-stems will be more evenly distributed throughout the

length of the rollers, and the uneven wearing out of the rollers is thus avoided.

The chute J may receive a hopping motion by suitable connection with the operating-gear, or it may be stationary, as may be desired. It can be of considerable length, as indicated in Fig. 3, constituting the main feed-chute of the machine, or it may be quite short, placed near the rollers, and receive its charge from a suitable apron, or otherwise.

I claim—

1. In a machine for flattening tobacco-stems, the combination of the supporting-frame A with the upper cross-bar, *g*, having wings *f f*, and with the upper scraper, H, all arranged so that said wings *f* shall constitute the caps for the roller-bearings and the attachment for the upper scraper, substantially as described.

2. The combination of the frame A, having rollers E and F, and their bearings C and D, fitted in the slotted wings *b*, with the caps *f f*, that carry the adjusting-screws *e*, and are connected by the cross-bar *g*, to which the upper scraper, H, is attached, substantially as specified.

3. The chute J, made with convex bottom *h*, combined with the rollers E F, in front of which said chute is placed to feed its contents to them, substantially as described.

4. The chute J, made with convex bottom *h*, in combination with the false bottom *i* and adjusting-screws *j*, substantially as specified.

NICHOLAS H. BORGFELDT.

Witnesses:

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