

No. 740,675.

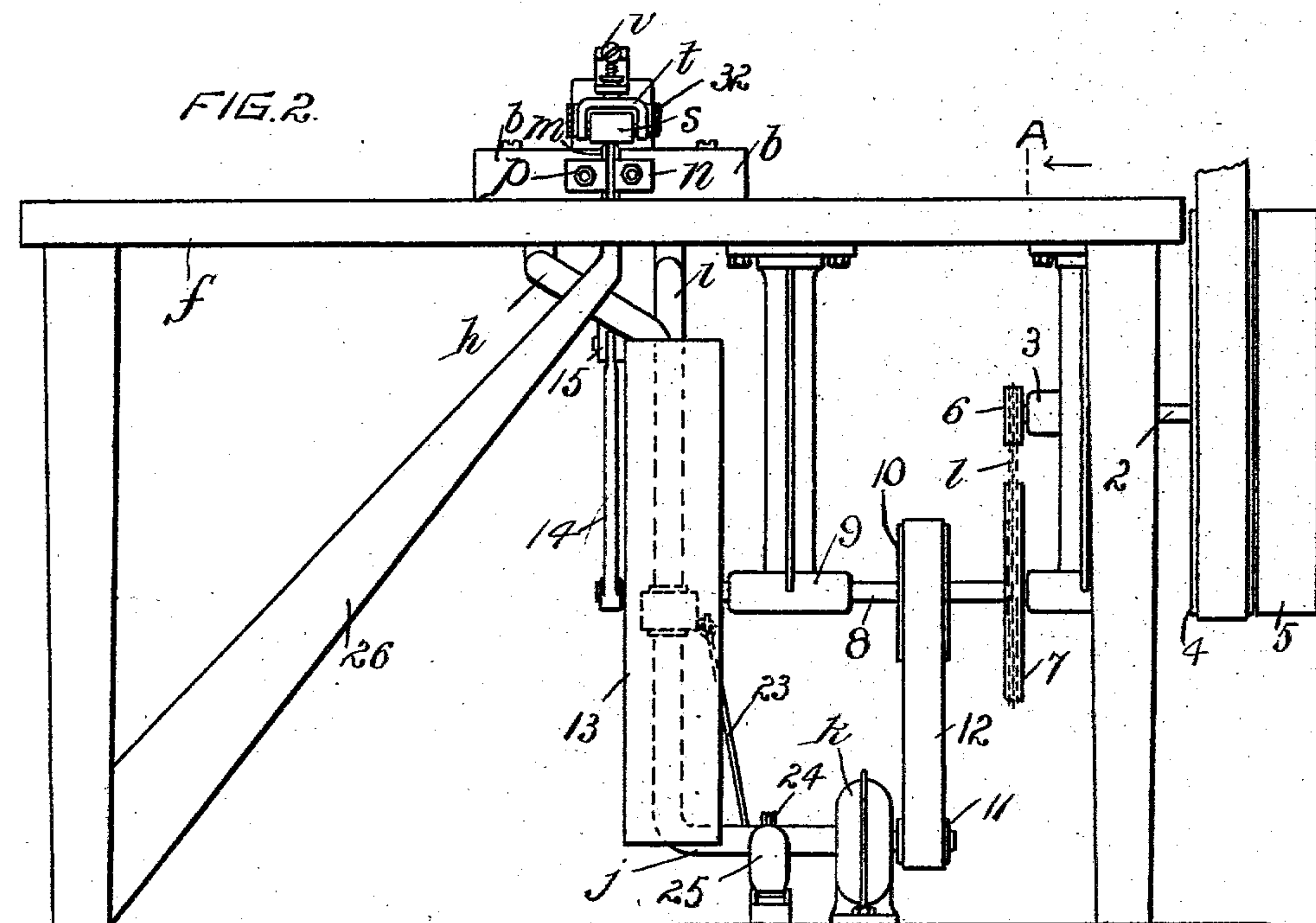
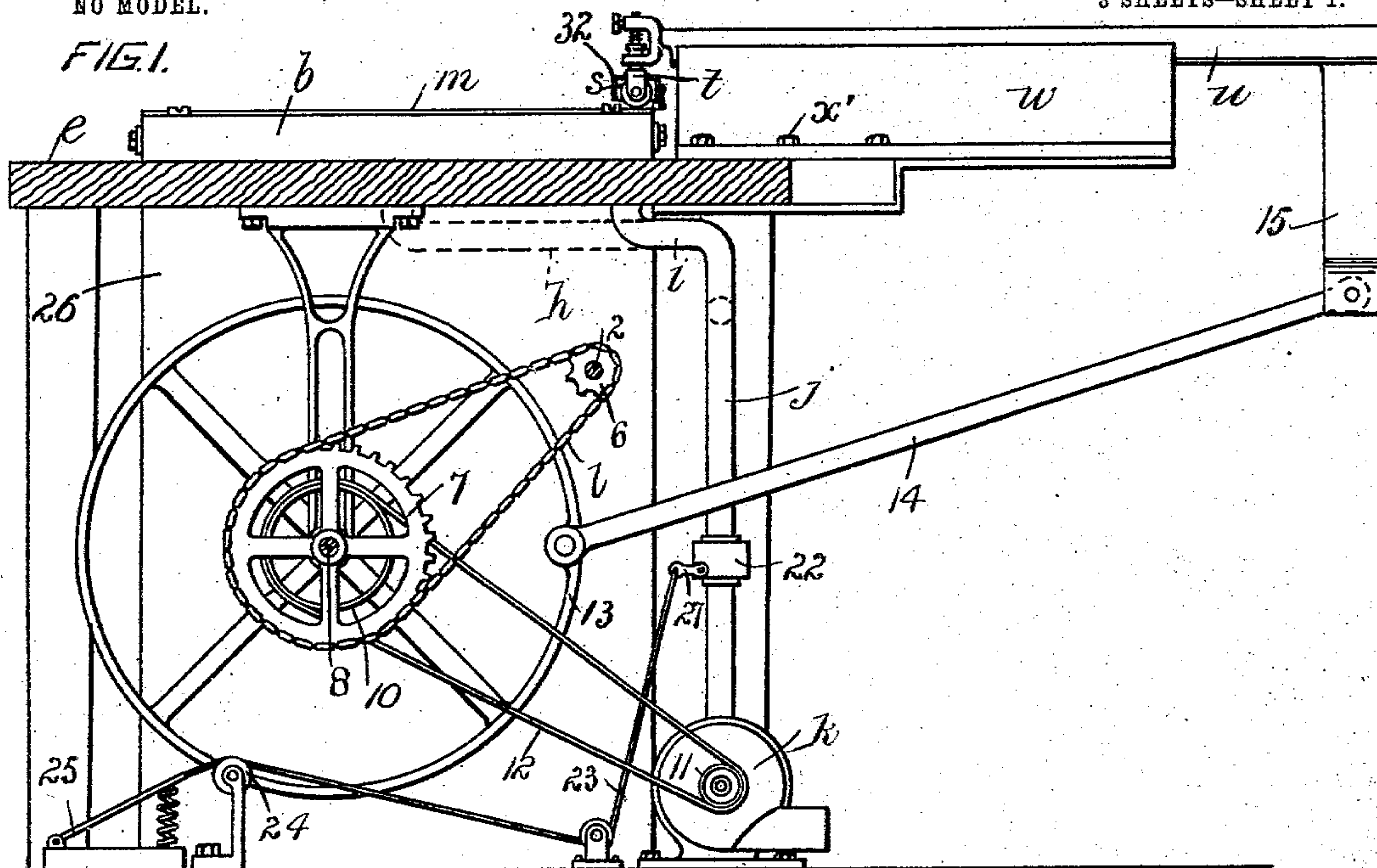
PATENTED OCT. 6, 1903.

G. A. MARIER.
TOBACCO LEAF STRIPPING MACHINE.

APPLICATION FILED DEC. 27, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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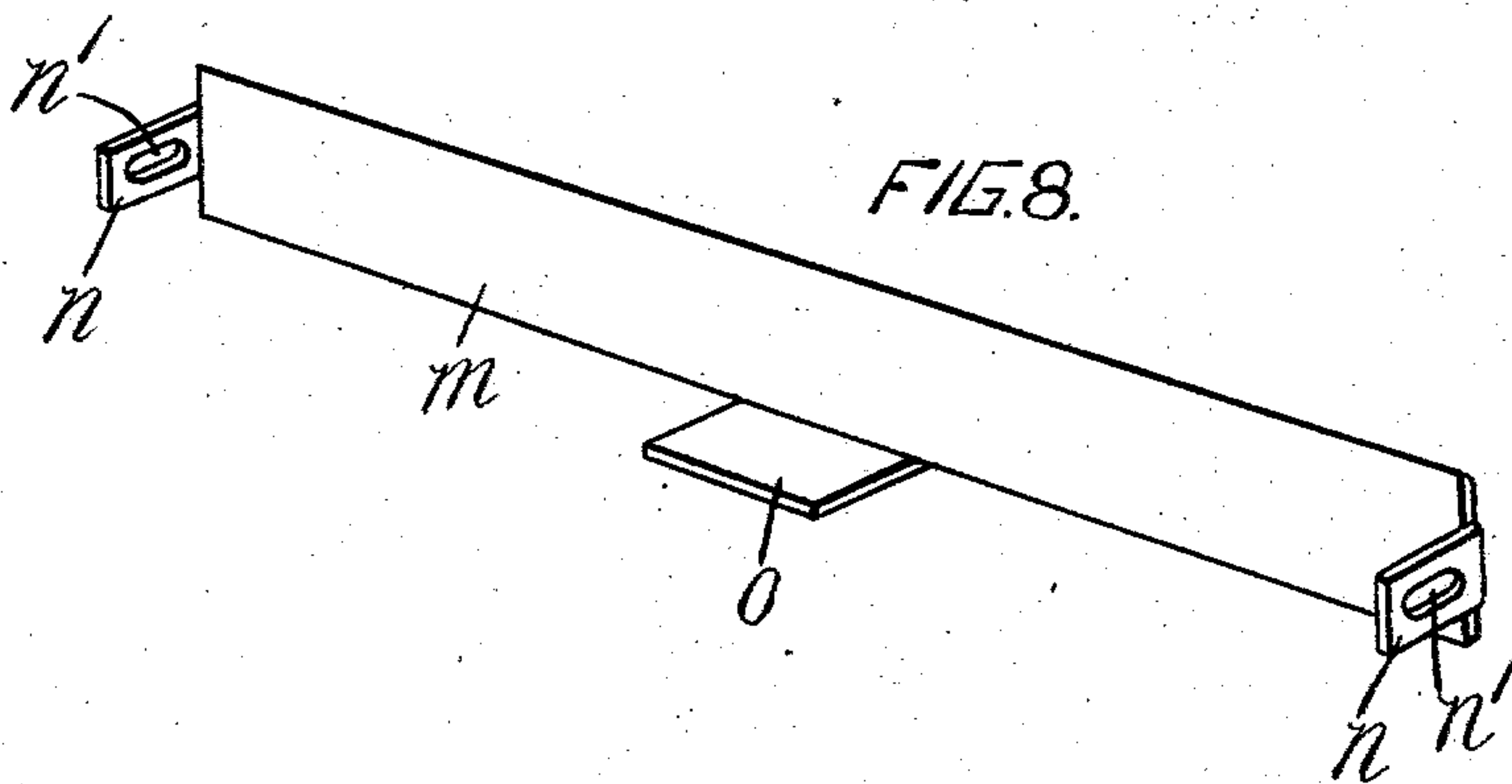
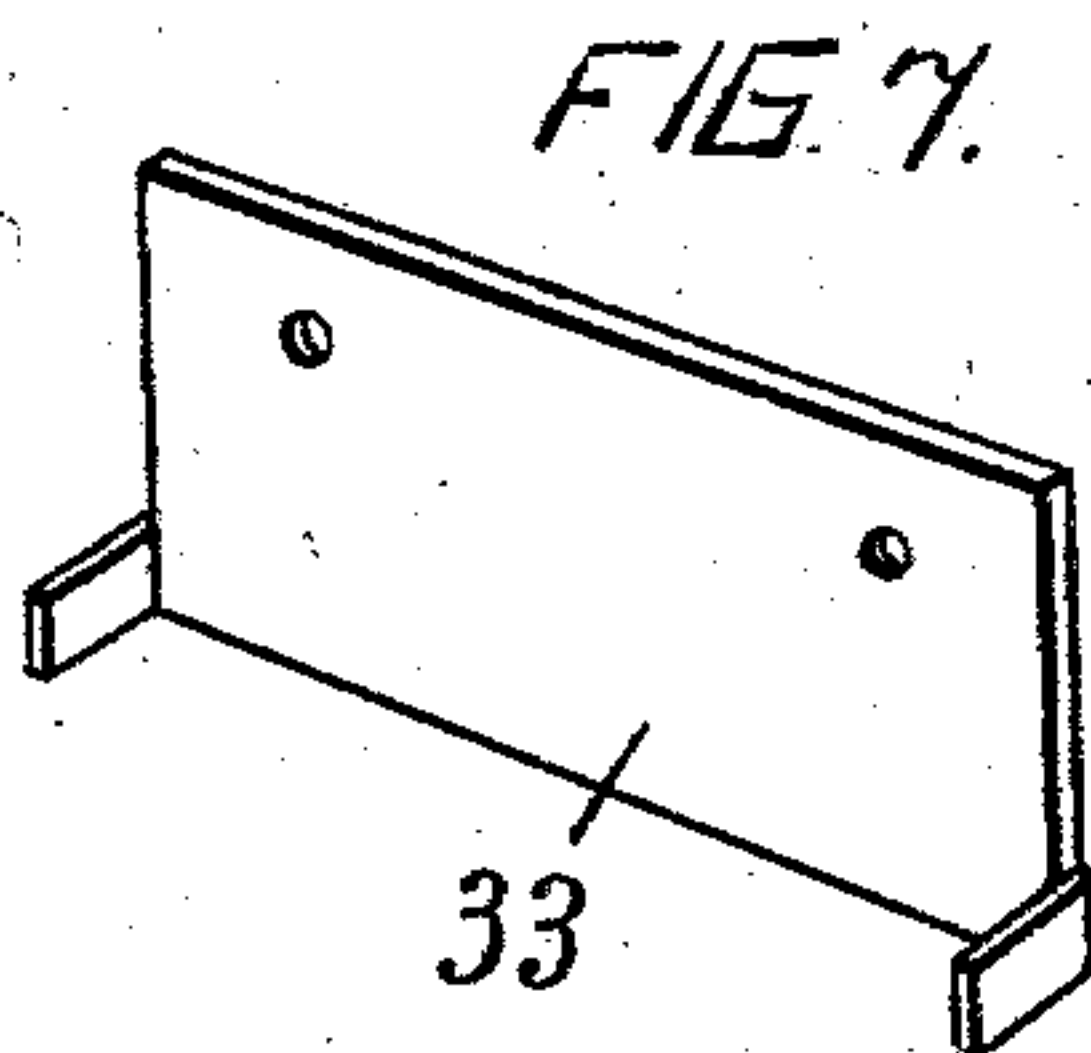
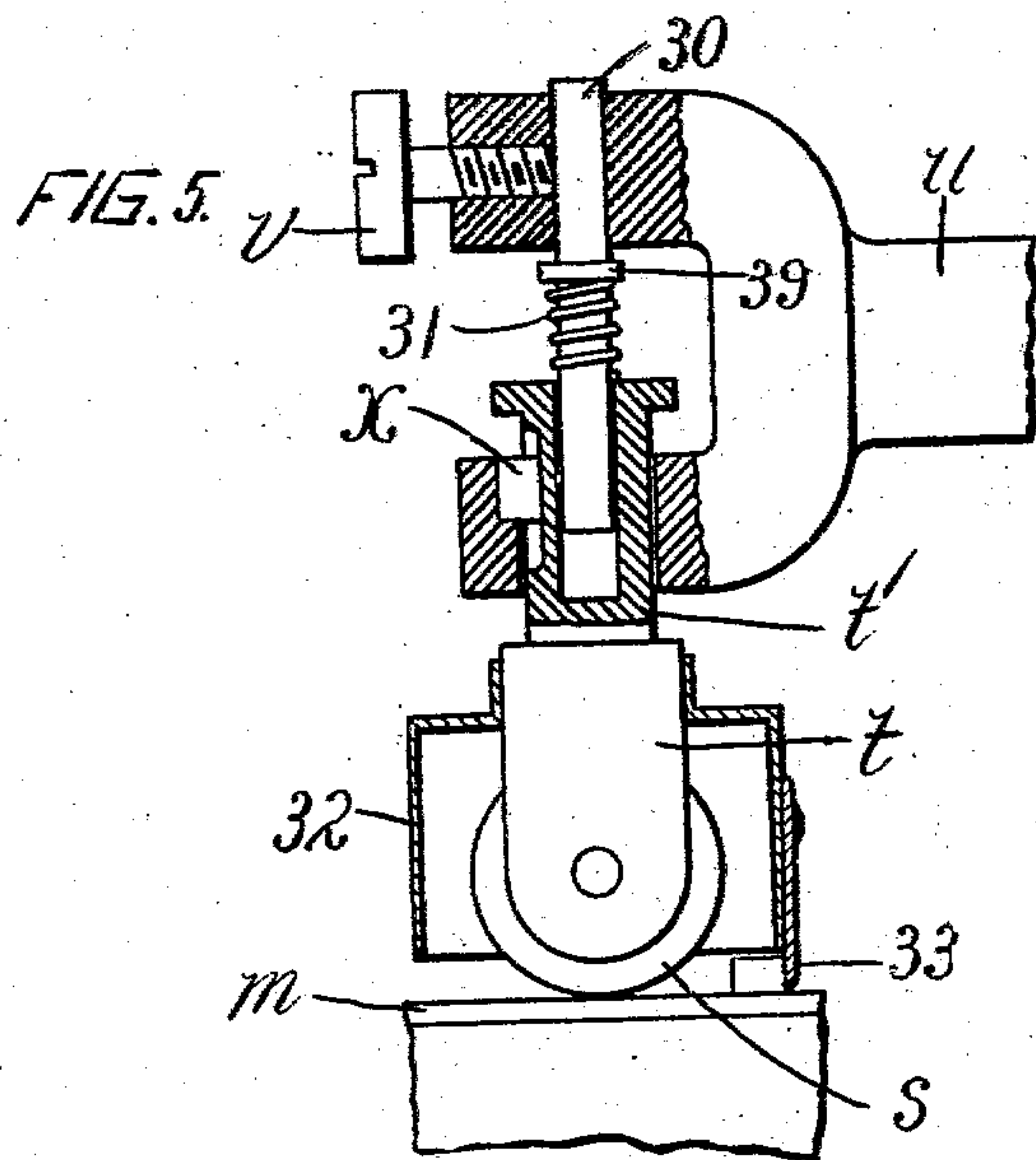
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3 SHEETS—SHEET 3.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

GUSTAVE ANTOINE MARIER, OF MONTREAL, CANADA, ASSIGNOR OF THREE-FOURTHS TO S. DAVIS & SONS, OF MONTREAL, CANADA, A FIRM.

TOBACCO-LEAF-STRIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 740,675, dated October 6, 1903.

Application filed December 27, 1902. Serial No. 136,869. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE ANTOINE MARIER, of the city of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Tobacco-Leaf-Stripping Machines; and I do hereby declare that the following is a clear and exact description of the same.

My invention relates particularly to the separation of the stems or mid-ribs from tobacco-leaves; and it has for its object to provide a machine whereby the leaf is held without damage thereto and split along each side of the stem or mid-rib.

To this end the invention may be said, briefly, to consist in combining with a table a device adapted to retain the leaf upon the table, means for flattening the leaf, and means for dividing the stem or mid-rib from the leaf and removing same from the table. For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate the same parts, and wherein—

Figure 1 is a transverse sectional view of my machine, taken on line A B, Fig. 2. Fig. 2 is a side elevation of the machine. Fig. 3 is a plan view thereof. Fig. 4 is a sectional view of the valve for controlling the suction device. Fig. 5 is a detail elevation, partly in section, of the compression-roller. Fig. 6 is a detail transverse sectional view of the hollow work-table. Fig. 7 is a detail perspective view of my improved scraper, and Fig. 8 is a perspective view of one of the blades removed.

My improved work-support consists of a pair of oblong boxes *b*, having their top sides perforated, as at *c*. These boxes are secured side by side and a short distance apart upon the top *e* of a table *f* (of any approved construction) by screws *g* or otherwise and parallel to a slot *d* transversely of said table. These boxes are connected by branch pipes *h* and *i* and a main-pipe length *j* to the suction-port of an ordinary rotary blower *k*. A pair of knives *m* are located between the boxes with their cutting edges slightly above the adjacent side edges of said boxes. Each of the knives has a pair of lugs *n* upon and

projecting laterally from its ends, while a lug *o* is upon the middle of the lower side of each knife and projects laterally therefrom. These knives are adjusted to variable angular positions relatively to one another by screws *p*, projecting through slots *n'* in the lugs *n* and threaded into tapped borings in the ends of the boxes, while the lugs *o* upon the lower sides of the knives fit between the boxes and table and steady said knives. A roller *s* is adapted to coact with said knives and cause the stem or mid-rib to be stripped from the leaf. This roller is carried by a reciprocatory slide-bar *u*, having one end forked, as shown in Fig. 5, and arranged with one prong above the other, each prong being perforated. The roller is mounted in a forked bracket *t*, the shank *t'* whereof is hollow and inserted in the perforation in the lower prong and is fitted slidably over a spindle *30*, having a rigid collar *39* and mounted in the perforation in the upper prong of the fork. A spring *31* bears between the top of the hollow shank and the collar *39*, and the hollow shank is prevented from turning by a feather *x*, while the spindle *30* is adjustably held by a set-screw *v*, thus enabling the tension of the spring to be varied in order to adjust the yielding connection between said roller and slide-bar. This slide-bar slides in a guide-way *w*, secured by bolts *x'* to the table-top in line with the knives.

The driving-gear whereby the blower is driven and the slide-bar reciprocated consists of a horizontal shaft *2*, suspended in a bearing *3*, secured to the under side of the table. Tight and loose pulleys *4* and *5*, respectively, are mounted upon one end of this shaft, and a sprocket-wheel *6* upon the opposite end thereof is connected by a chain *1* to a larger sprocket-wheel *7* upon a counter-shaft *8*, suspended in bearings *9*, also secured to the under side of the table. This counter-shaft also has a pulley *10* and crank-wheel *13* thereon, the pulley being connected to the driving-pulley *11* of the blower by a belt *12* and the crank *13* being connected by a pitman *14* to a depending arm *15* upon the slide-bar *u*.

The main pipe *j* is controlled by a flap-valve *20*, seated toward the exit end of the pipe in order that the suction will tend to

close it. This valve is secured rigidly to a spindle 21, rotatably mounted in a box 22 (constituting a valve-chamber) and having one end projecting through one side thereof and cranked, as at 27, while a cord 23, running over pulleys 24 and 24^a, is connected at one end to said cranked end of the valve-spindle and at its other end to a treadle 25. The valve is normally held closed and is opened by the depression of the treadle. A chute 26 is located beneath the blades and receives the stems or mid-ribs as they are cut from the leaves.

The roller is covered by a shield in the form of an inverted box 32, secured to the fork, and a scraper 33 of U form in cross-section (see Fig. 7) is carried by the latter and adapted to scrape the edges of the knives as the roller passes over them, thus keeping them free from the adhesive gum natural to the tobacco-leaf.

The operation of my improved stripping-machine is as follows: The driving-belt is first shifted to the tight pulley, which results in the reciprocation of the presser-roller over the perforated face and the operation of the blower, which, however, is prevented from creating a suction through the perforations by the valve. The operator then spreads a leaf upon the work-table with its stem or mid-rib lying between the blades. This is done during the intervals between the reciprocations of the roller, and as soon as he has spread the leaf he depresses the treadle, thus allowing a suction to be exerted upon the perforations and holding the leaf down until the roller has passed over the work-support. The pressure of the roller as it passes over the work-support causes the blades to sever the stem or mid-rib from the leaf and it falls between said blades and down the chute to any suitable receptacle. (Not shown.)

What I claim is as follows:

1. In a leaf-cutting machine, a stationary cutting device consisting of a pair of straight blades arranged side by side a short distance apart, and a reciprocatory presser device adapted to bear intermittently upon said cutting device.

2. In a leaf-cutting-machine, a cutting device consisting of a pair of blades, means for adjusting said blades toward and from one another, means for securing said blades in the positions to which they are adjusted and a presser device bearing intermittently upon said blades.

3. In a tobacco-leaf-stripping machine, a stationary work-support, a cutting device consisting of a pair of straight blades arranged substantially parallel to one another and carried by said work-support and projecting above same, and a presser device adapted to bear intermittently upon said blades, for the purpose set forth.

4. In a tobacco-leaf-stripping machine, a stationary work-support, a cutting device carried by said work-support and projecting

above same said cutting device consisting of a pair of straight blades arranged substantially parallel to one another, a presser-roller adapted to bear upon said blades, and means for reciprocating said roller longitudinally of said blades substantially as described and for the purpose set forth.

5. In a leaf-cutting machine, a work-support having a slot therein, a cutting device in said slot and consisting of a pair of blades, located a short distance apart and in said slot, means for securing said blades to the side walls of said slot, and a presser device bearing intermittently upon said cutting device, for the purpose set forth.

6. In a leaf-cutting machine, a work-support having a slot therein, a cutting device in said slot and consisting of a pair of blades, means for adjusting said blades toward and from one another, means for securing said blades in the positions to which they are adjusted, and a presser device bearing intermittently upon said cutting device.

7. In a leaf-cutting machine, a work-support consisting of a pair of members located a short distance apart and each presenting a flat supporting-surface, a supporting-frame for said work-supporting members, means securing said members to said supporting-frame, a cutting device between said members consisting of a pair of blades located one in close proximity to each of said members, means securing one of said blades to one of said members and the other blade to the other member, and a presser device adapted to bear intermittently upon said cutting device.

8. In a leaf-cutting machine, a stationary work-support consisting of a pair of members located a short distance apart and each presenting a flat horizontal bearing-surface, a pair of knives each having a lug at each end thereof and a lug upon the lower edge thereof, means for adjustably securing the end lugs to the ends of said members, means for holding the lugs upon the lower edges against the undersides of said work-supporting members, and a reciprocating roller bearing intermittently upon said blades.

9. In a leaf-cutting machine, the combination with a work-support, of a pair of knives each having a lug at each end thereof, means for adjustably securing said lugs to the work-support, and a reciprocating roller bearing intermittently upon said blades.

10. In a cutting-machine a work-support having a slot therein, a cutting device in said slot and consisting of a pair of blades, a presser device bearing intermittently upon said cutting device, and a scraper coacting with said presser device for cleaning the cutting edges of said blades.

11. In a cutting-machine a work-support having a slot therein, a cutting device in said slot and consisting of a pair of blades, means for adjusting said blades toward and from one another, a presser device bearing inter-

mittently upon said cutting device, and a scraper for cleaning the cutting edges of said blades.

12. In a cutting-machine a work-support 5 having a slot therein, a cutting device in said slot and consisting of a pair of blades, means for adjusting said blades toward and from one another, a presser device bearing intermittently upon said cutting device, and a 10 scraper for cleaning the cutting edges of said blades, said scraper being of U form in horizontal section and depending from said presser device, and means for actuating said presser device and scraper.

13. The combination with a work-support, 15 an upwardly-facing cutter upon said work-support, and a guideway in line with said cutter, of a reciprocatory presser device consisting of a slide-bar slidable in said guideway, a 20 yielding presser-roller carried by one end of said slide-bar and bearing upon said cutter, a crank supported beneath said work-support, means for rotating said crank, and a pitman connecting said crank to said slide-bar, substantially as described and for the purpose 25 set forth.

14. The combination with a work-support, 30 an upwardly-facing cutter upon said work-support, and a guideway in line with said cutter of a reciprocatory presser device consisting of a slide-bar slidable in said guideway, a roller carried by one end of said slide-bar and bearing upon said cutter, a crank supported 35 adjacent to said work-support, means for rotating said crank, and a pitman connecting said crank to said slide-bar, substantially as described and for the purpose set forth.

15. The combination with a work-support, 40 an upwardly-facing cutter upon said work-support, and a guideway in line with said cut-

ter, of a reciprocatory presser device consisting of a slide-bar slidable in said guideway, a roller, means adjustably connecting said roller to one end of said slide-bar said roller 45 bearing upon said cutter, a crank supported adjacent to said work-support, means for rotating said crank, and a pitman connecting said crank to said slide-bar, substantially as described and for the purpose set forth.

16. In a cutting-machine, and a work-sup- 50 port consisting of a pair of hollow members located a short distance apart and each having its work-supporting face perforated; a guideway in connection with said support; a cutting device between said members consist- 55 ing of a pair of blades located in close proximity to each of said members; means exerting a suction upon the interiors of said hollow members consisting of a suction device, a duct connecting said suction device to the in- 60 terior of said hollow members, a valve controlling said duct, a treadle, an operative connection between said treadle and valve; means for adjusting said blades toward and from one another; a presser device adapted 65 to bear intermittently upon said cutting device and consisting of a slide-bar slidable in said guideway, a roller carried by one end of said slide-bar and bearing upon said cutting device; a crank supported adjacent to said 70 work-support, means for rotating said crank, and a pitman connecting said crank to said slide-bar, substantially as described and for the purpose set forth.

In testimony whereof I have affixed my sig- 75 nature in presence of two witnesses.

GUSTAVE ANTOINE MARIER.

Witnesses:

WILLIAM P. McFEAT,

FRED. J. SEARS.