

(No Model.)

3 Sheets—Sheet 1.

C. H. EVERS.

CIGAR BUNCHING MACHINE.

No. 328,203.

Patented Oct. 13, 1885.

Fig. 1

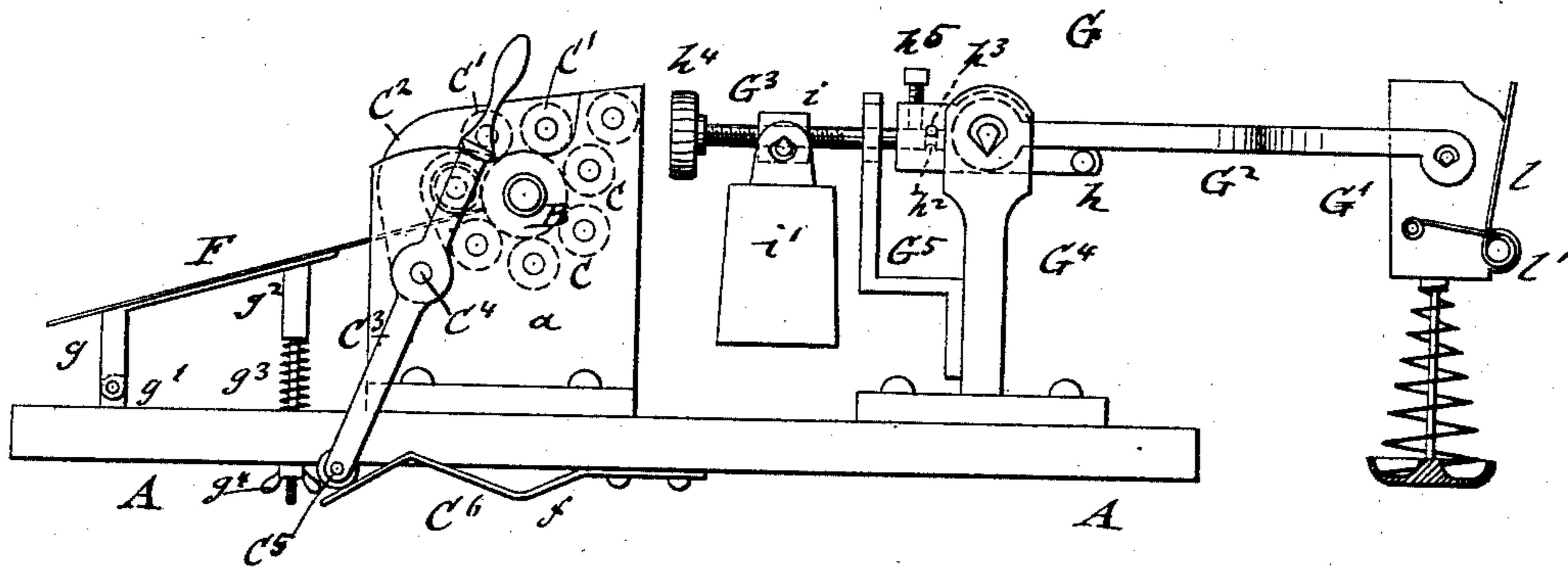
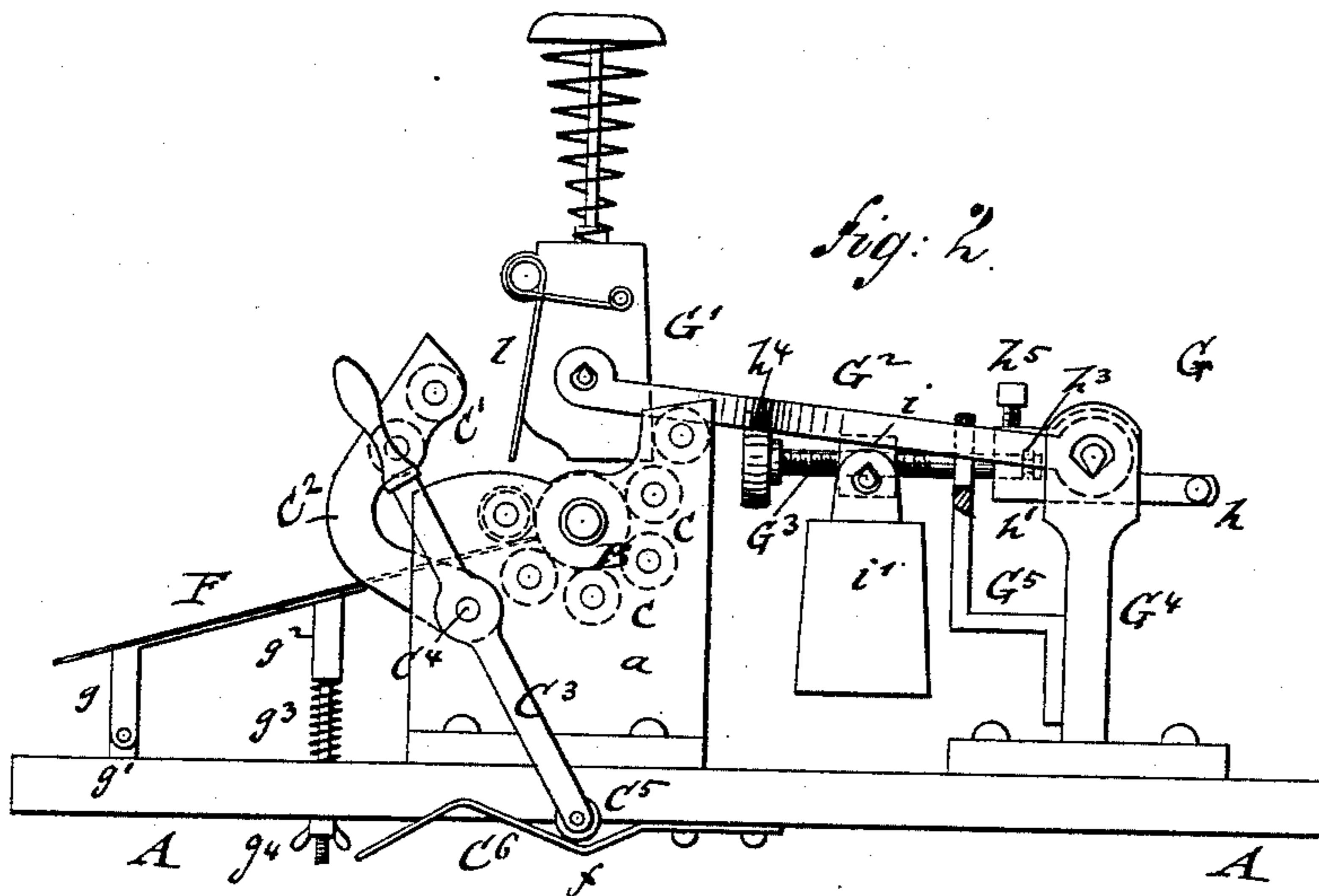


Fig: 2.



WITNESSES:

A. Schehl.
Ernst Wolff.

INVENTOR

INVENTOR
Charles H. Evers

BY

BY
Goebel & Raggoner
ATTORNEYS.

ATTORNEYS.

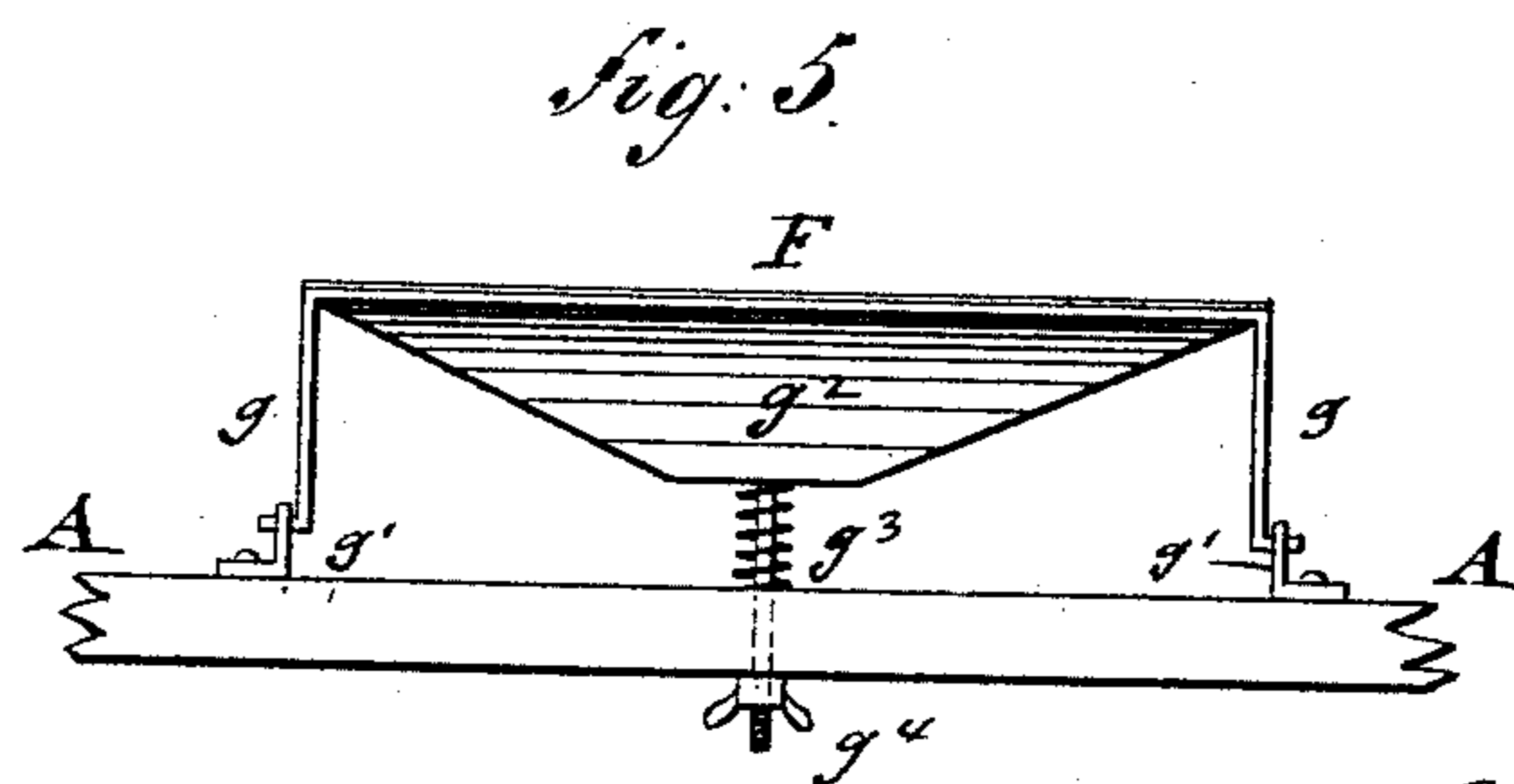
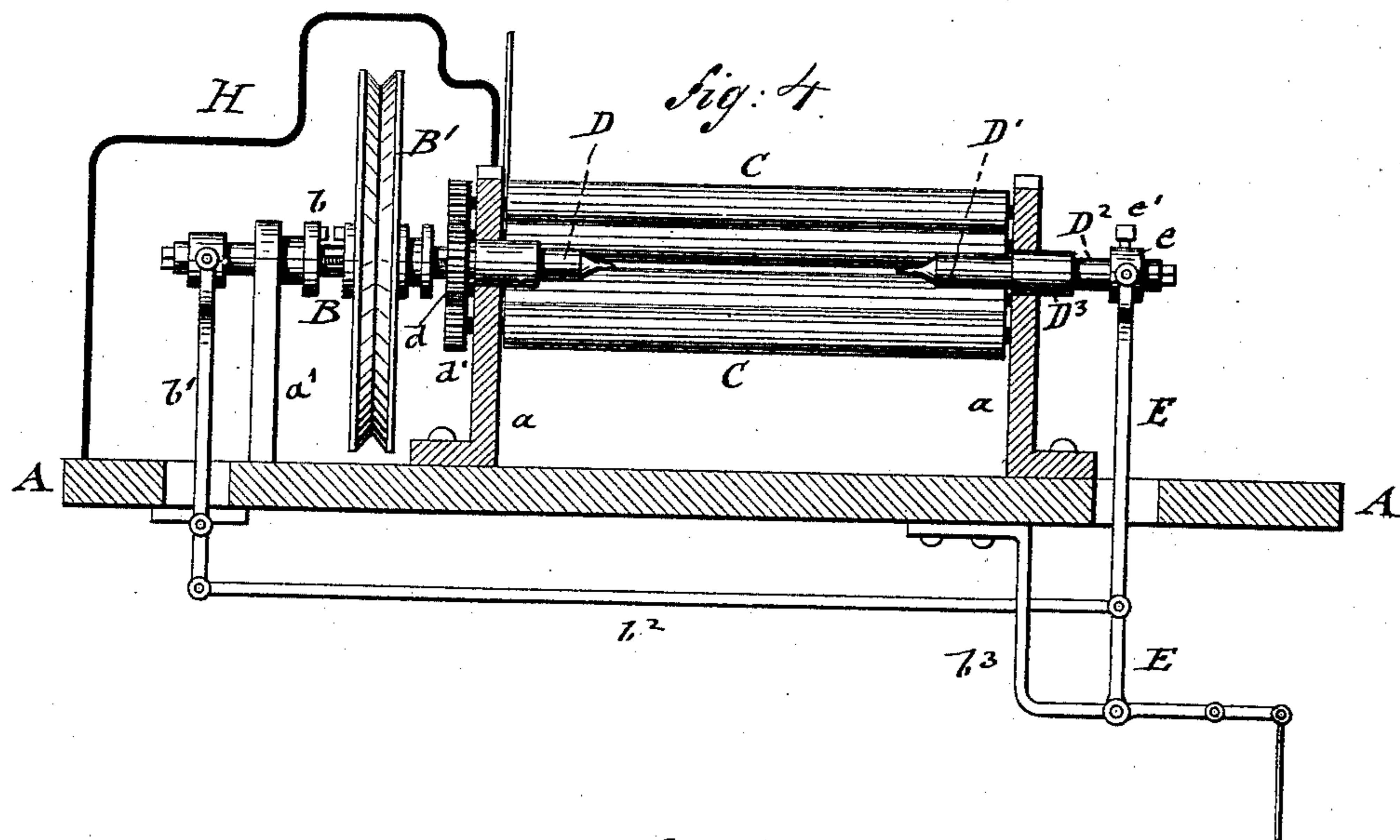
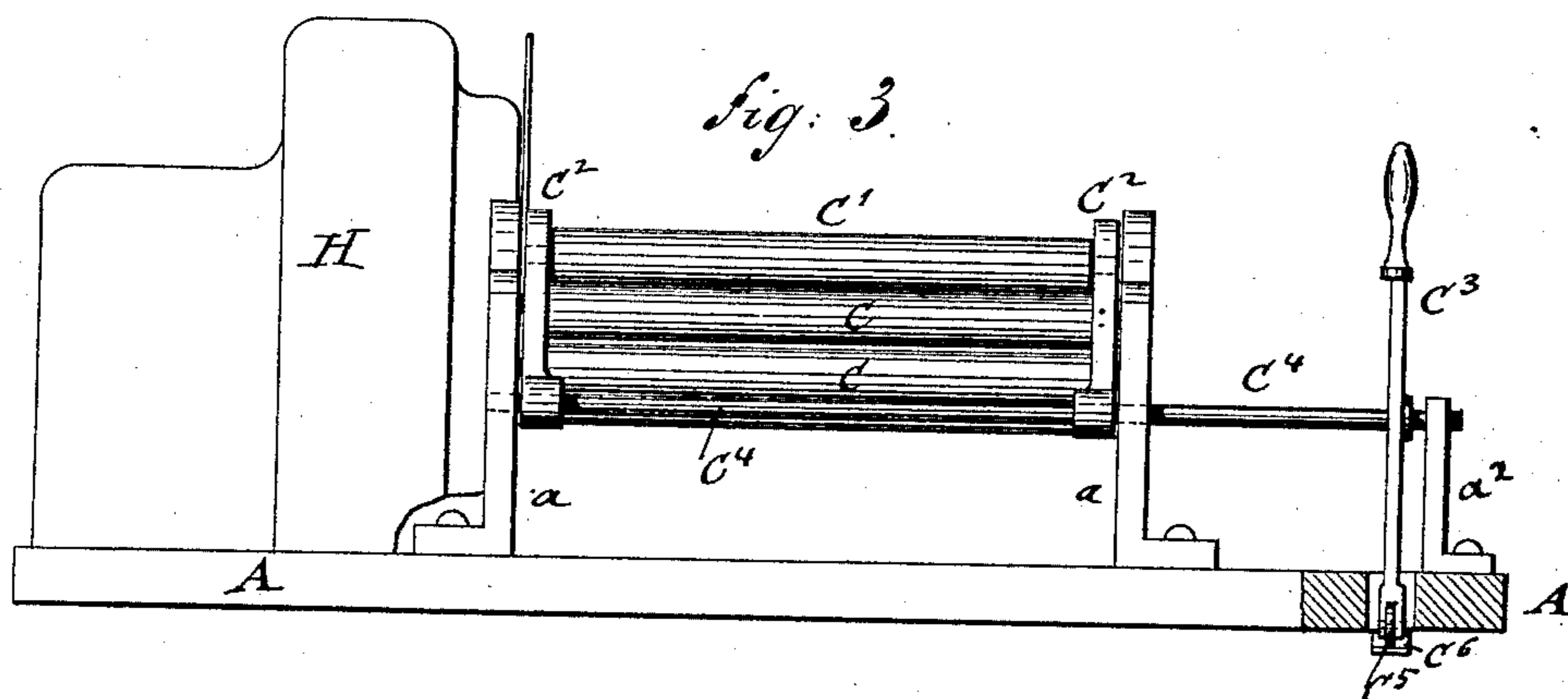
(No Model.)

3 Sheets—Sheet 2.

C. H. EVERS.
CIGAR BUNCHING MACHINE.

No. 328,203.

Patented Oct. 13, 1885.



WITNESSES:

A. Schehl.
Ernst Wolff.

INVENTOR

Charles H. Evers

BY

James R. Evers

ATTORNEYS.

(No Model.)

3 Sheets—Sheet 3.

C. H. EVERS.
CIGAR BUNCHING MACHINE.

No. 328,203.

Patented Oct. 13, 1885.

fig. 6.

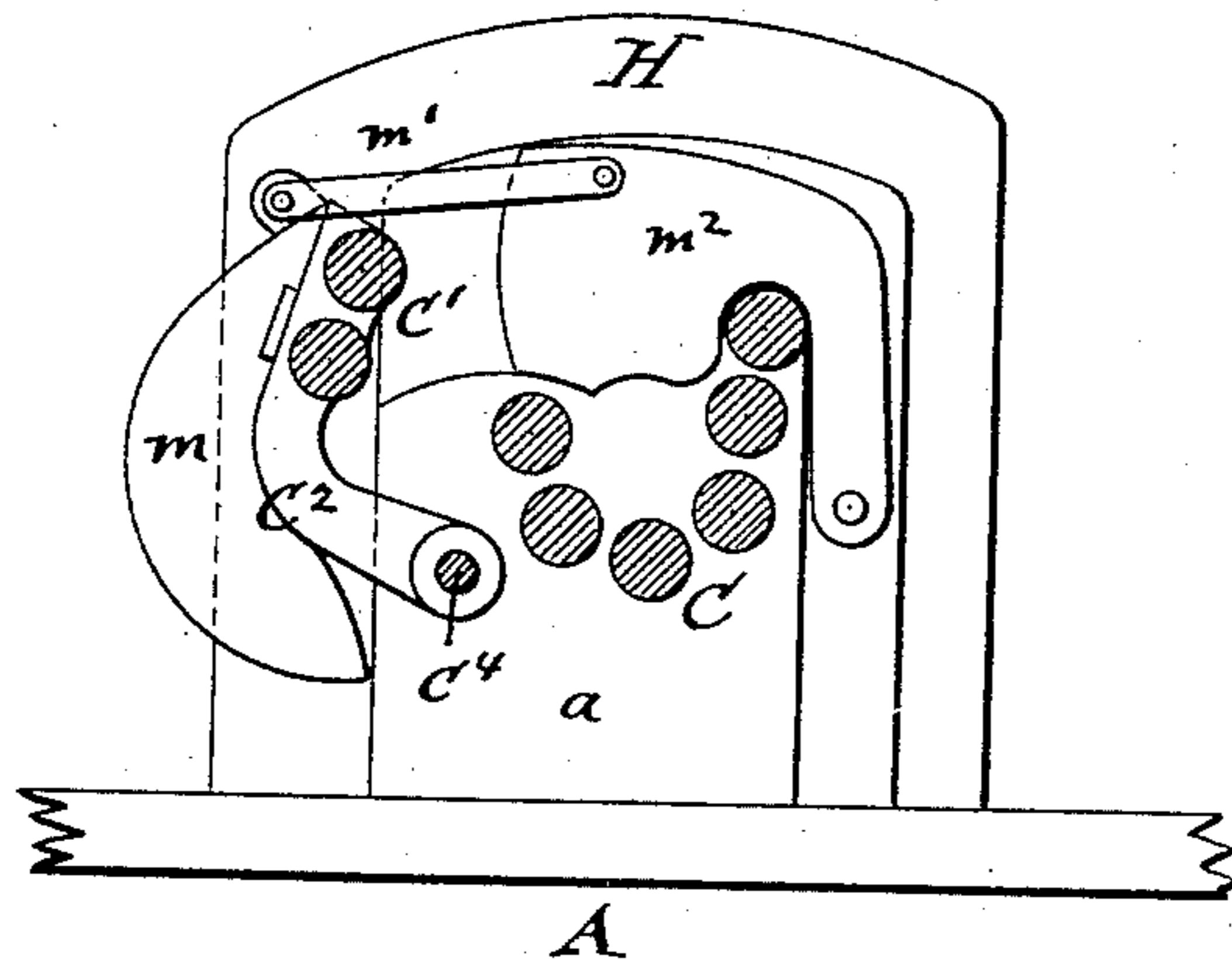


fig. 7.

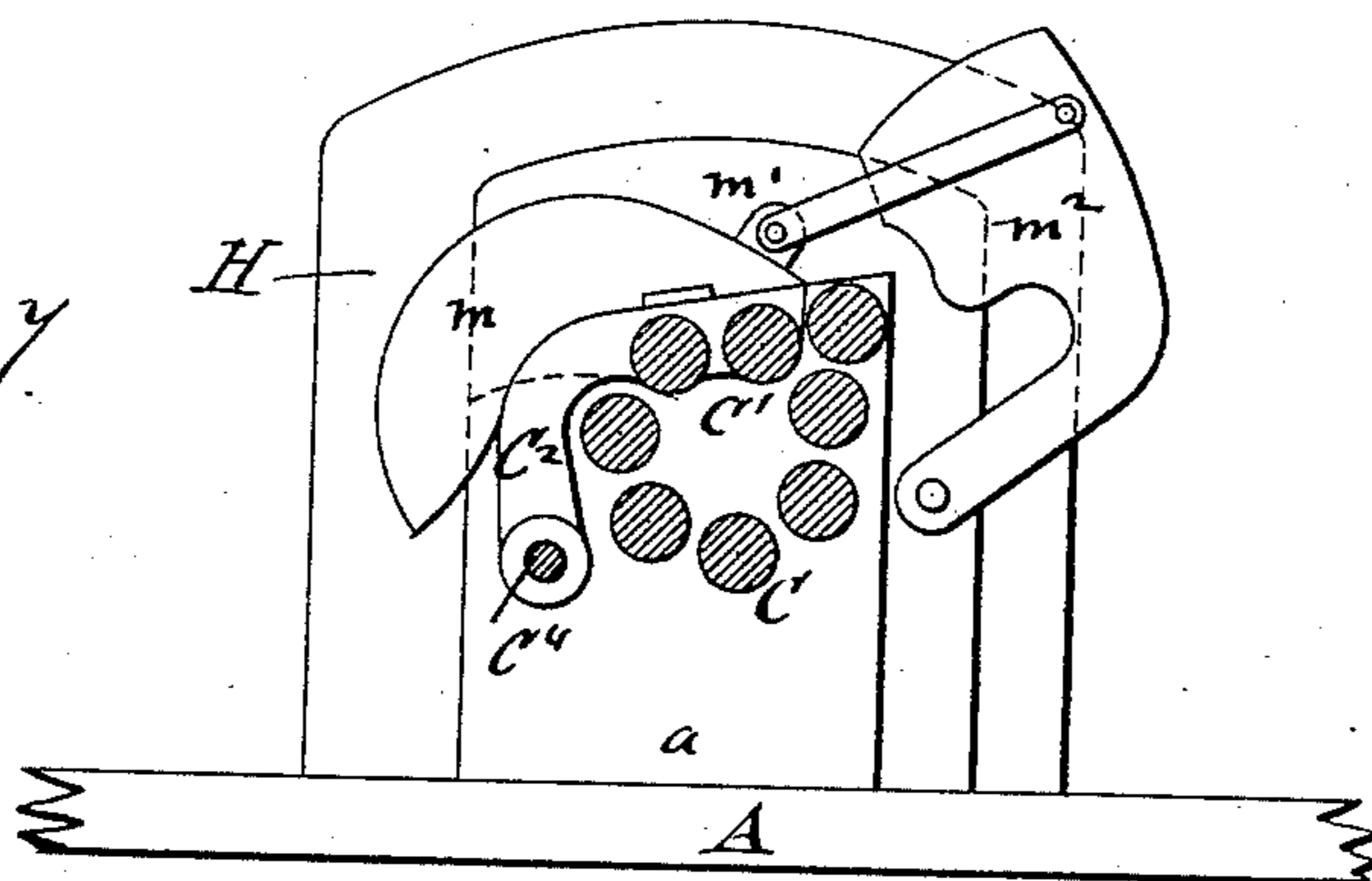
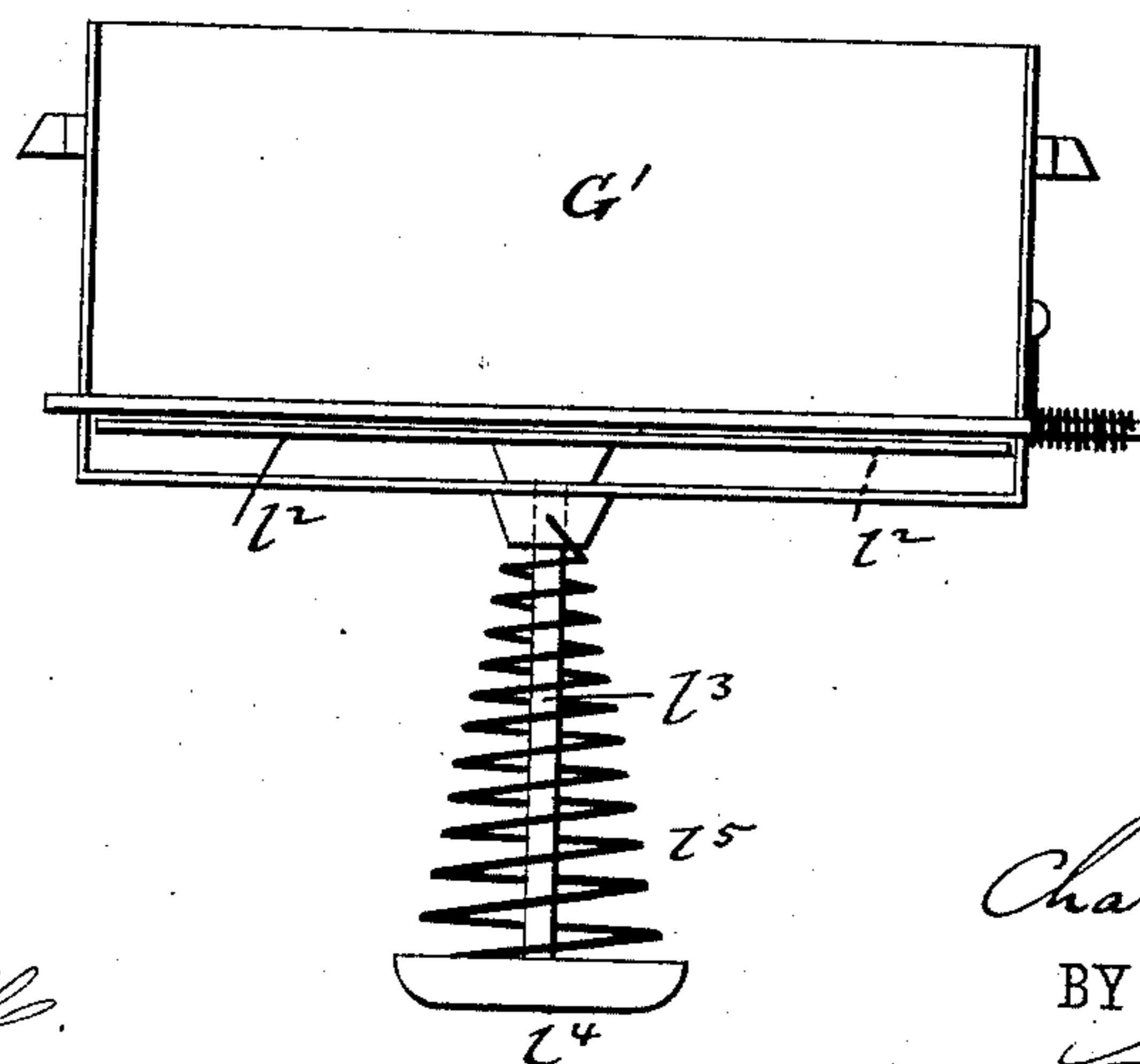


fig. 8.



WITNESSES.

A. Schehl.
Ernst Wolff.

INVENTOR

Charles H. Evers

BY

James R. Ragner

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES H. EVERS, OF CLEVELAND, OHIO.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 328,203, dated October 13, 1885.

Application filed October 25, 1884. Serial No. 146,441. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. EVERS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and
5 useful Improvements in Cigar-Bunching Machines, of which the following is a specification.

This invention relates to improvements in cigar-bunching machines of that class in
10 which a quantity of scrap-tobacco necessary for a filler is weighed off and delivered to a series of rotating forming-rollers, which also wrap the binder around the filler.

The invention relates more especially to certain improvements in the cigar-bunching machine for which Letters Patent have been
15 granted to Frederick E. Kelsey, No. 281,517, dated July 17, 1883; and the invention consists of certain details of construction and combination of parts, which will be more fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved cigar-bunching machine, shown in position for
25 forming the filler and rolling the binder around the same. Fig. 2 is a side elevation showing the weighing-hopper in the act of discharging the proper quantity of scrap-tobacco into the space
30 between the forming-rollers. Fig. 3 is an end elevation of the same. Fig. 4 is a vertical longitudinal section of the machine; Fig. 5, a detail of the table or apron along which the binder is conducted to the space between the
35 forming-rollers. Figs. 6 and 7 are vertical transverse sections showing the guard-plates of the inclosing-casing of the machine, respectively, in open and closed position; and Fig. 8 is a vertical longitudinal section of the weighing-hopper.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the supporting-table of my improved cigar-bunching
45 machine, which is provided with two upright standards, a a , that carry the bearings for a series of forming-rollers, C, which are arranged in a circle, so as to inclose a circular space or chamber of a sufficient size to form a
50 cigar. The standards a a support also, cen-

trally to said forming-rollers C C, the driving-shaft B. A third standard, a' , in line with the standards a a , supports the outer end of the shaft B, as shown in Fig. 4.

The shaft B carries a driving-pulley, B', 55 that is thrown in or out of gear with a clutch, b , which is operated by a fulcrumed lever, b' , the lower end of which is connected by a pivot-rod, b^2 , with a bell-crank lever, E, that is fulcrumed to the bracket-arm b^3 at the under side 60 of the table and operated by a treadle below the same. By depressing or releasing the treadle the clutch is thrown in or out of gear with the driving-pulley B', and thereby the shaft rotated or brought to a stop. To the 65 shaft B is attached a small pinion, d , that meshes with a series of pinions, d' , at the outer ends of the forming-rollers, so that the rollers are rotated by the shaft B in the same direction. 70

At the inside of the circular space or chamber inclosed by the forming-rollers C C are arranged central gage-points, D D', of which the point D is formed at the end of the driving-shaft B, while the point D' is formed at the 75 end of a spindle, D², that is guided in a thimble, D³, of the opposite standard a . The spindle D² carries at the outer end a collar, e , that is adjusted thereon by a clamp-screw, e' . To the collar e is pivoted the upper fork-shaped 80 end of the bell-crank lever E, by which the gage-point D' may be moved inwardly and outwardly in the guide-thimble D³, the collar e serving as a stop for arresting the spindle when the same is moved inward into the space in- 85 closed by the forming-rollers C C. The gage-points D D' serve to gage the length of the filler. They are made pointed, so as to extend for a short distance into the respective ends of the filler and form depressions or cavities 90 in the ends of the filler, which will admit of the filler being compressed at the ends and formed into the required shape.

The two upper forming-rollers, C' C', are not supported in the bearings of the standards 95 a a , but by angular arms C² C², that are keyed to a shaft, C⁴, which turns in bearings of the standards a a and a' , as shown in Fig. 3.

The angular arms C² C² are operated by means of a lever, C³, that is keyed to the shaft C⁴, and 100

provided with a handle at the upper end, and with an anti-friction roller, C^5 , at the lower end that is engaged by the free end of a bent spring-plate, C^6 , attached by its opposite end to the under side of the table, as shown in Figs. 1, 2, and 3. When the arms $C^2 C^2$ are thrown back with the upper rollers, $C' C'$, by the lever C^3 , as shown in Figs. 2 and 6, an opening is formed at the upper part of the space inclosed by the forming-rollers $C C$. The lever C^3 is retained in this position by a bend, f , of the spring-plate C^6 , while, when the rollers $C' C'$ are placed over the rollers $C C$, the lever C^3 is locked by the outer end of the plate C^6 , as shown in Fig. 1.

When the rollers $C' C'$ are placed into open position, the space inclosed by the forming-rollers $C C$ can be charged with the required quantity of tobacco for the filler, while, when they are placed in position so as to close the space between the forming-rollers $C C$, the filler can be rolled into proper shape.

The binder is conducted along an inclined spring-cushion apron, F , into the space between the forming-rollers, said apron extending from the front part of the table A between the two front rollers into the space inclosed by the rollers $C C$. The front end of the apron F is pivoted by arms $g g$ to lugs $g' g'$ of the table A , while the rear part or bridge, g^2 , of the apron F is cushioned by spiral springs g^3 , the tension of which is adjusted by a screw-bolt and nut g^4 , as shown in Figs. 2 and 5. The upper front roller C , below which the apron F is passed into the space between the rollers C , is covered with rubber, so that the binder is fed reliably into the open space and wrapped around the filler by the action of the rotating rollers $C C$.

At the opposite end of the table is arranged a weighing device, G , by which the scrap-tobacco for the filler is weighed and transmitted to the space between the forming-rollers. The weighing apparatus consists of a hopper-shaped scale-pan, G' , which is supported on knife-edged projections at the forked end of an arm, G^2 , the opposite end of which swings loosely by eyes on the fulcrum of a threaded arm, G^3 , that extends in opposite direction to the arm G^2 , and is inserted into a socket, h' . This socket is supported by knife-edges in recesses of a forked standard, G^4 , as shown in Fig. 1. The threaded arm G^3 is extended beyond its knife-edge, and provided at some distance from its fulcrum with a projection or seat, h , upon which the arm G^2 rests when in position for weighing the tobacco.

The arms G^2 and G^3 form together the scale-beam of the weighing device. The threaded arm G^3 turns on its axis in the socket h' by means of a circumferential groove, h^2 , and transverse pin h^3 . The turning of the threaded arm G^3 is accomplished by a milled button or handle, h^4 , at its outer end. On the threaded arm G^3 is located a screw-nut, i , from which is suspended on laterally-projecting knife-edges

a balance-weight, i' , that is adjusted on the threaded arm G^3 by turning the latter on its axis in one or the opposite direction. The weight i' is thereby adjusted for the exact quantity of tobacco required for a filler of a certain size. When the weight has been adjusted, the arm G^3 is rigidly secured to its socket h' by a clamping-screw, h^5 . A slotted bracket-arm, G^5 , attached to the standard G^4 , limits the oscillations of the threaded arm G^3 and supports the same when the forked arm G^2 , with the scale-pan G' , is tilted and placed in position above the space inclosed by the forming-rollers $C C$, as in Fig. 2.

The hopper-shaped scale-pan G' is made of sheet metal and provided with a hinged rear wall, l , that is acted upon by a spiral spring, l' , so that it can be conveniently opened against the tension of its spring when placing the tobacco into the same. A follower, l^2 , at the inside of the scale-pan G' , has a guide-rod, l^3 , which passes through the bottom of the scale, and which is provided with a knob, l^4 , at its outer end, as shown in Fig. 8. A spiral spring, l^5 , is interposed between the bottom of the scale-pan and the knob l^4 , and serves to return the follower after the discharge of the scrap-tobacco into the space inclosed by the forming-rolls when the arm G^2 has been thrown forward and the scale-pan tilted on the knife-edges of the arm G^2 into inverted position vertically above the open parts of the forming-rollers. The knob l^4 is then pressed down and the tobacco discharged by the follower.

To prevent the passage of pieces of tobacco into the transmitting-pinions, the latter and the driving-pulley are inclosed by a sheet-metal casing or hood, H , which extends from the standard a over the pulley B' and its clutch-actuating mechanism, as shown in Fig. 4. To the angular arm C^2 , next adjoining the casing H , is attached a guard-plate, m , which is connected by a pivot-link, m' , with a second guard-plate, m^2 , that is pivoted to the standard a , to which the casing H is applied. The guard-plates $m m^2$ move along the edge of the guard-casing H with the angular arm C^2 , the guard-plate m^2 being in lowered position while the scale-pan is discharging its contents and the guard-plate m in lowered position when the top rollers, $C' C'$, are lowered for the action of the forming-rollers $C C$. While one of the guard-plates is down the other is raised, and vice versa, as shown respectively in Figs. 6 and 7. By this arrangement the guard-plates prevent the escape of pieces of tobacco during the filling operation, while the scale-pan is discharged and during the operation of forming the filler by the rotation of the rollers.

The operation of the machine is as follows: A quantity of tobacco sufficient to make a filler of a certain size is placed in the scale-pan and weighed by the weighted beam arranged in connection with the scale-pan. The top rollers are then moved backward by means of their angular levers, so that access is given to the space inclosed by the forming-rollers.

The scale-pan and its arm is then tilted and the scale-pan placed in inverted position above the space inclosed by the forming-rollers. The tobacco is then discharged into said space by depressing the follower of the scale-pan, and the latter returned to its former position. The top rollers are then placed in position, so as to close the space between the forming-rollers, and the treadle depressed, whereby the clutch device is thrown into gear with the driving-pulley, and simultaneously the gage-points moved inward. The rotation of the forming-rollers forms the filler. The binder is then introduced and wrapped around the filler. The bunch thus formed is removed by throwing back the top rollers, after which a new quantity of scrap-tobacco is supplied to the forming-rollers by the scale-pan for forming the next bunch, and so on. Cigar bunches can thus be quickly and uniformly made from scrap-tobacco by a machine the main parts of which are all above the supporting-table, so that they can be easily handled, and which is less liable to interruptions, owing to the more convenient operation of the parts and the protection of the driving mechanism.

I am aware that it is not new, broadly, to combine a series of rotating forming-rolls inclosing a circular space with a flexible apron extending between two of said rolls.

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

1. The combination, with a series of rotating forming-rollers, of two top rollers, angular arms supporting said top rollers, a shaft to which the angular arms are secured, a crank-lever for operating the shafts, and a spring-plate having bends or indentations for re-

taining the crank-lever in forward or backward position, substantially as set forth.

2. The combination of a series of rotating forming-rollers inclosing a circular space or chamber, a hinged apron extending between two of said rollers into the interior space, a spring which affords a yielding support for said apron, and an adjusting-screw for regulating the tension of said spring, substantially as described.

3. The combination of a series of rotating forming-rollers, two top rollers, angular arms supporting said top rollers, a guard-plate attached to one of said arms, a second guard-plate pivoted to the frame, and a pivoted link connecting the guard-plates, one of said guard-plates being raised as the other is lowered during the oscillation of said arm, substantially as described.

4. The combination, in a cigar-bunching machine, of a series of forming-rollers, mechanism for rotating the same, two top rollers, angular arms supporting said top rollers, a guard-casing or hood extending over the driving mechanism, a guard-plate attached to one of the angular arms, a second guard-plate pivoted to the hood, and a pivot link connected to the guard-plates, one of the guard-plates being raised while the other is lowered, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHAS. H. EVERS.

Witnesses:

HENRY GROTHE,
GEO. BARTLEY.