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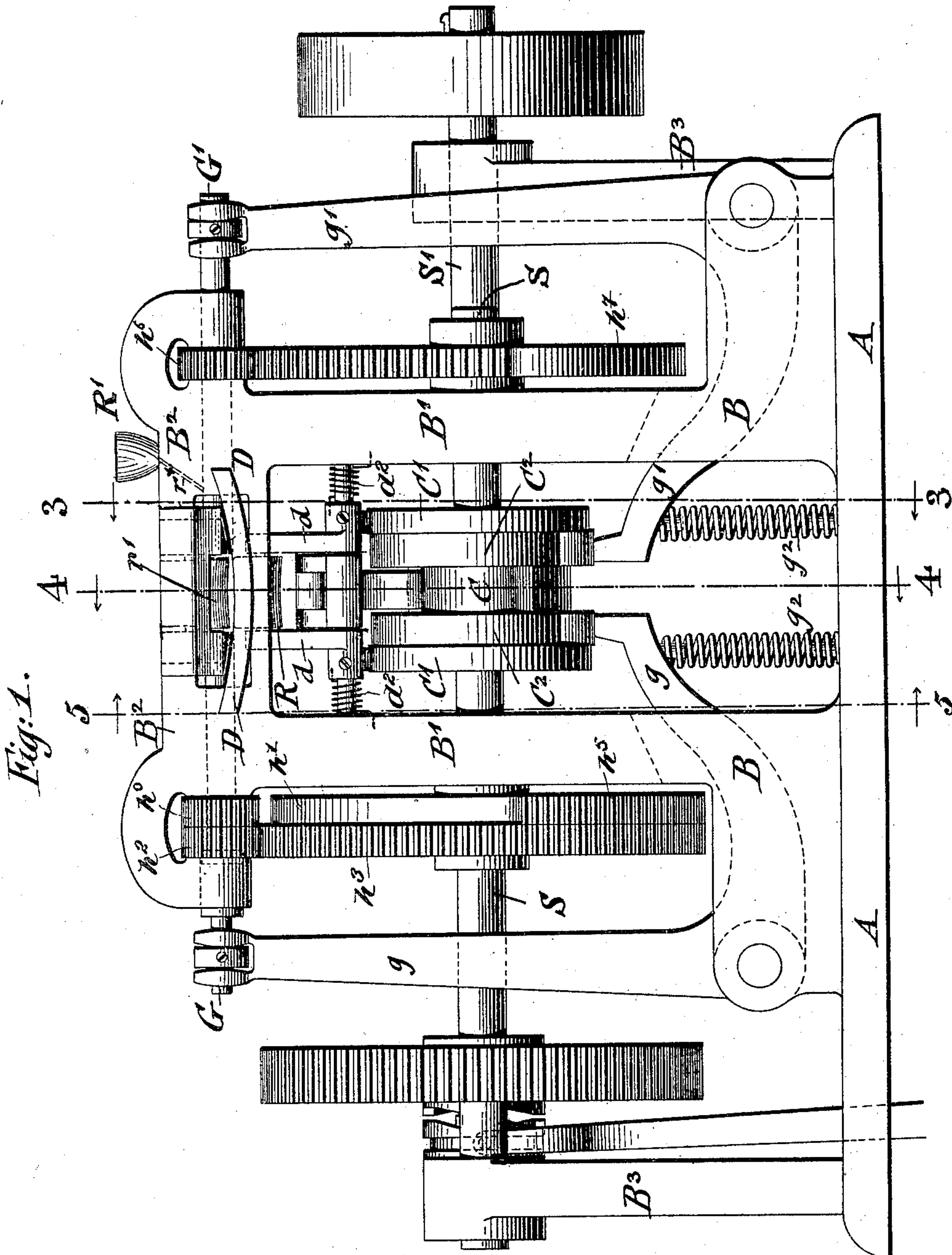
Patented Feb. 18, 1902.

H. A. SCHNEEKLOTH.  
CIGAR MACHINE.

(Application filed Mar. 27, 1901.)

(No Model.)

5 Sheets—Sheet 1.



WITNESSES:

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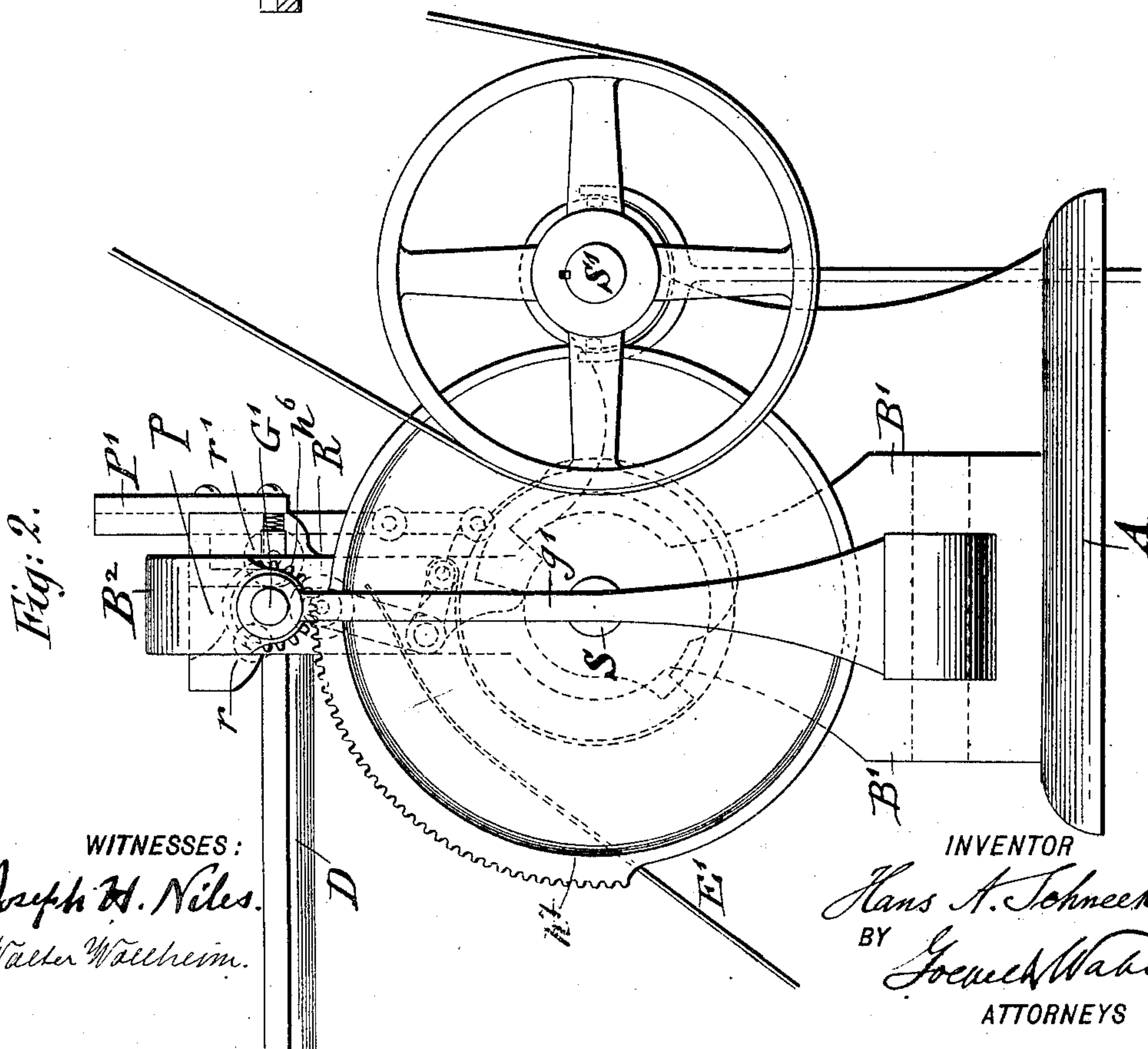
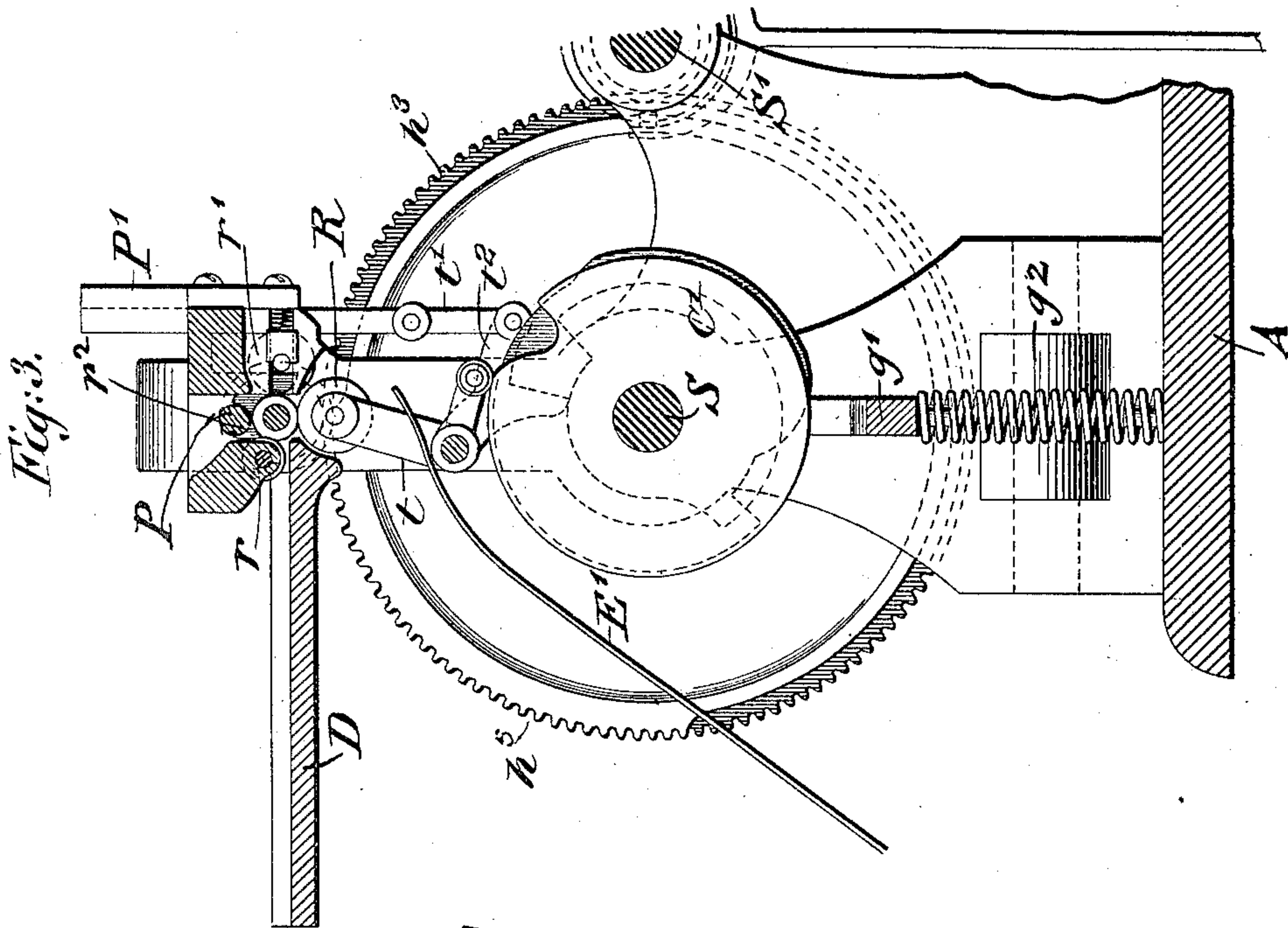
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5 Sheets—Sheet 2.



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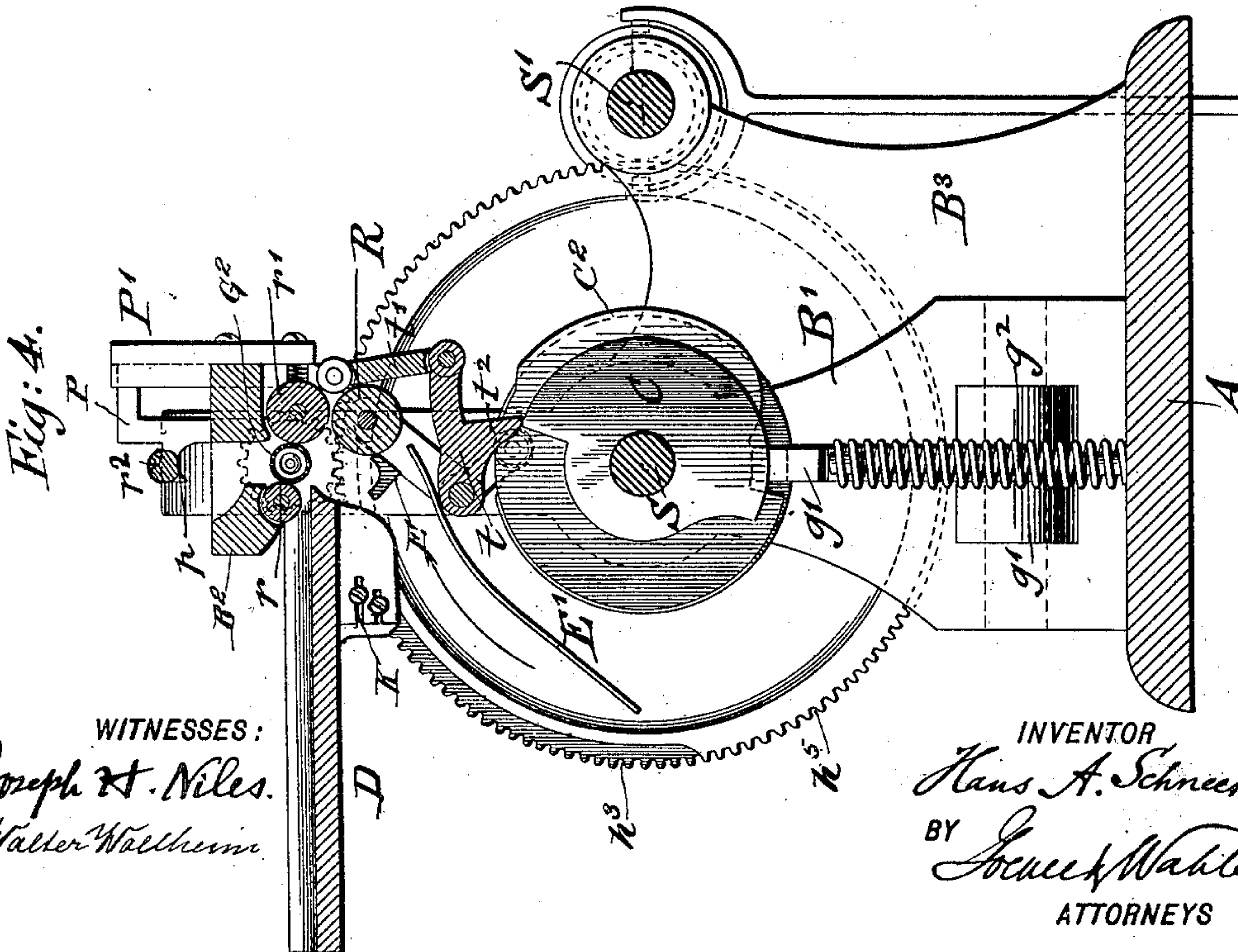
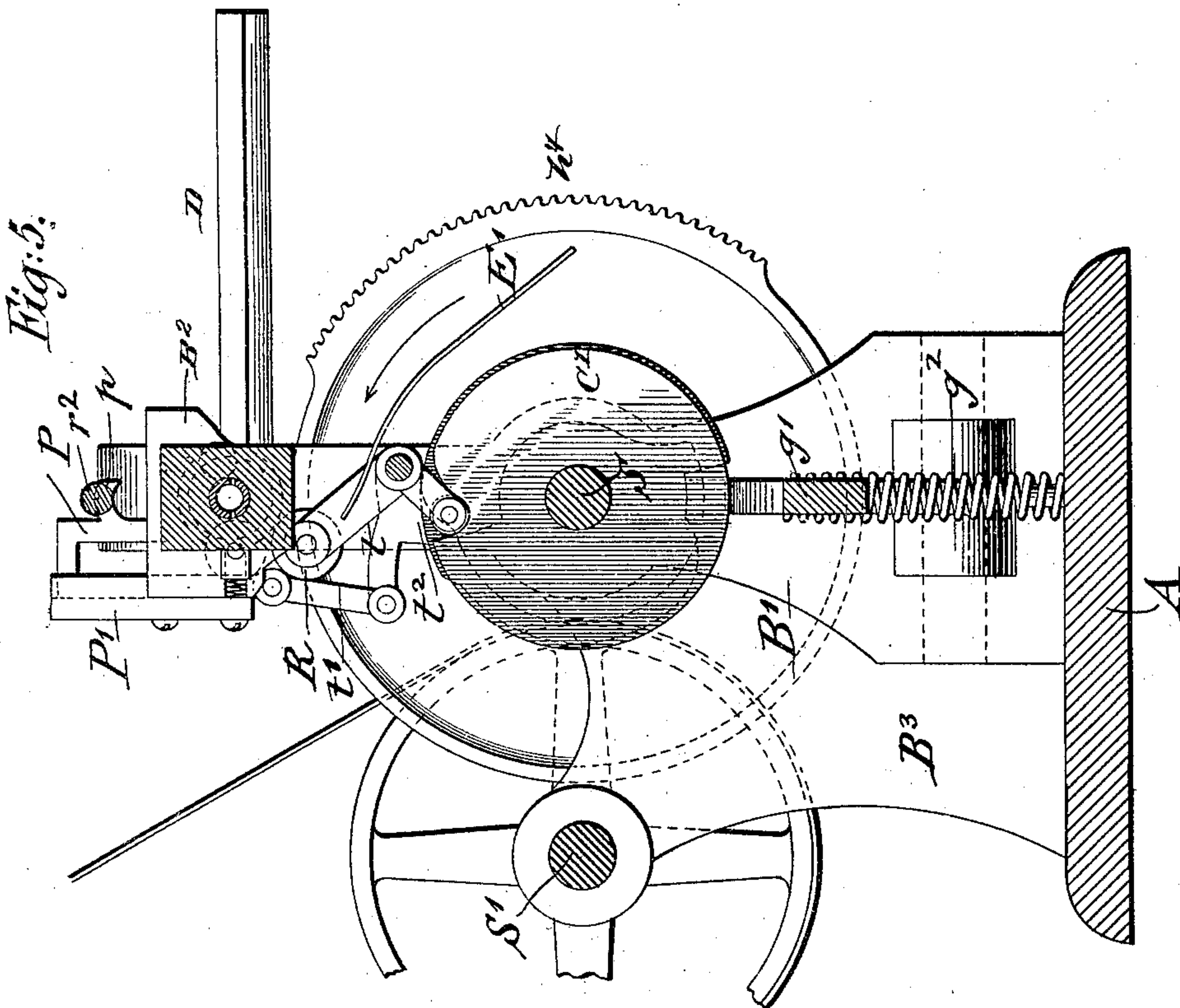
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5 Sheets—Sheet 3.



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No. 693,626.

Patented Feb. 18, 1902.

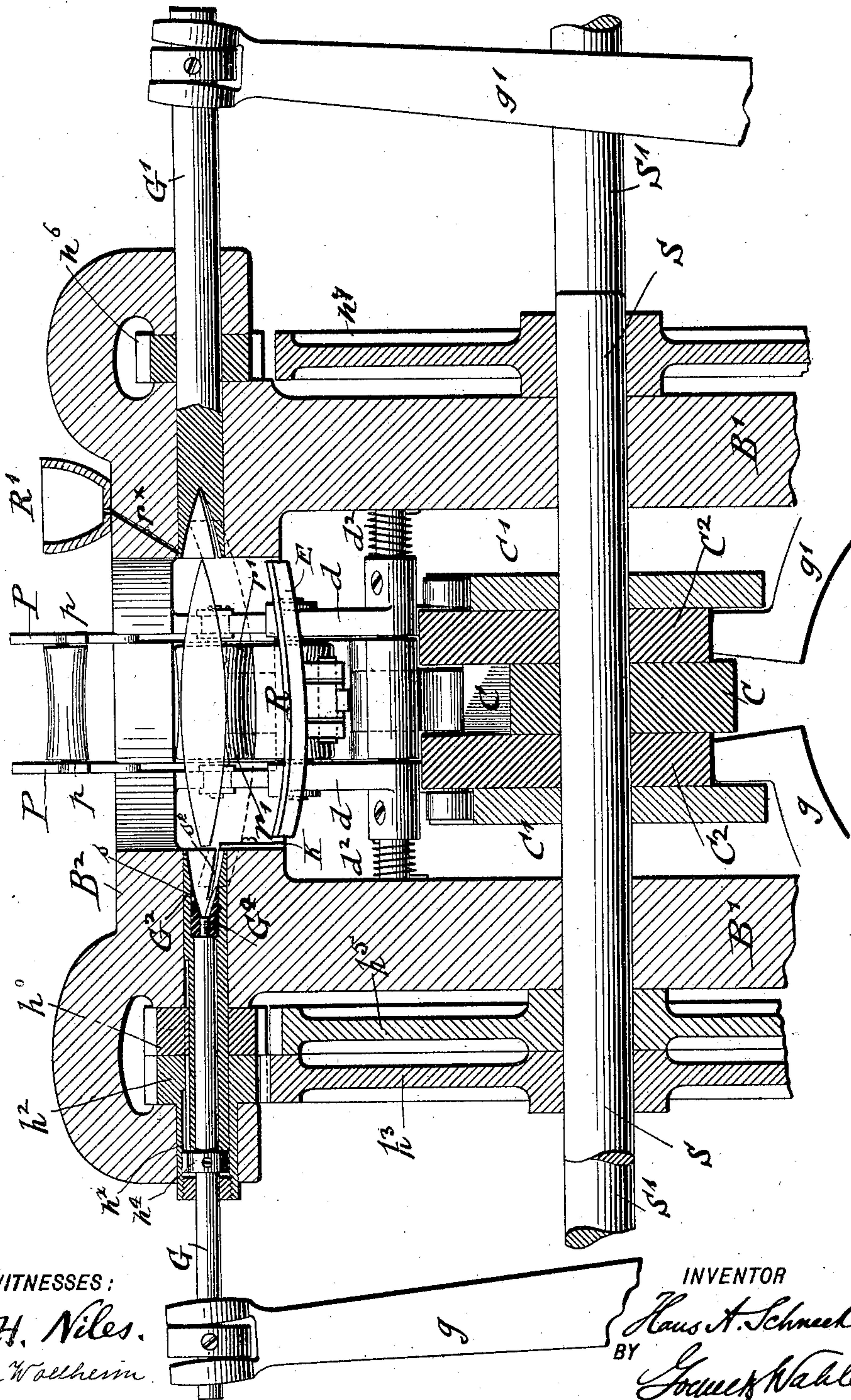
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(No Model.)

5 Sheets—Sheet 4.

Fig. 6.



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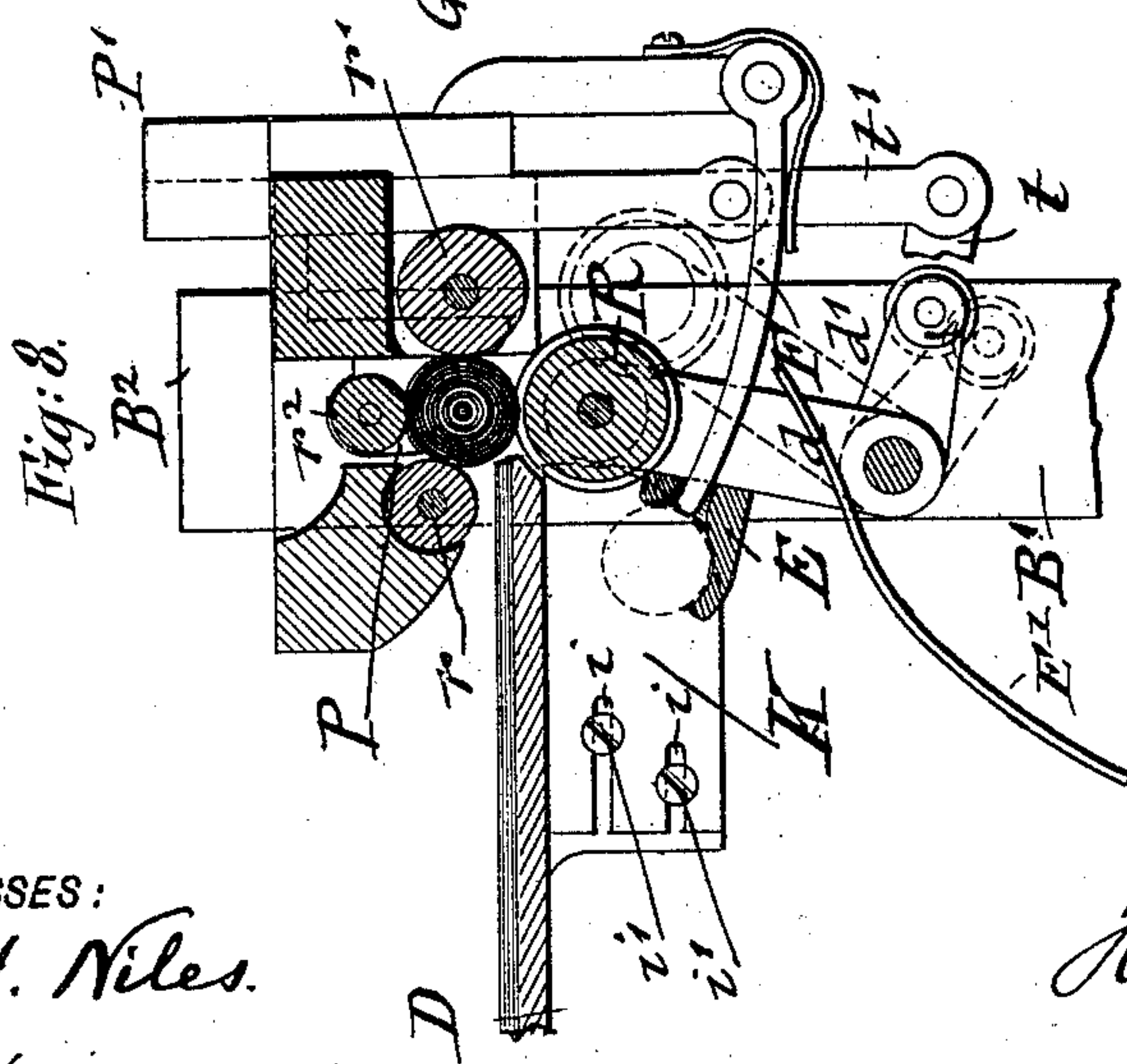
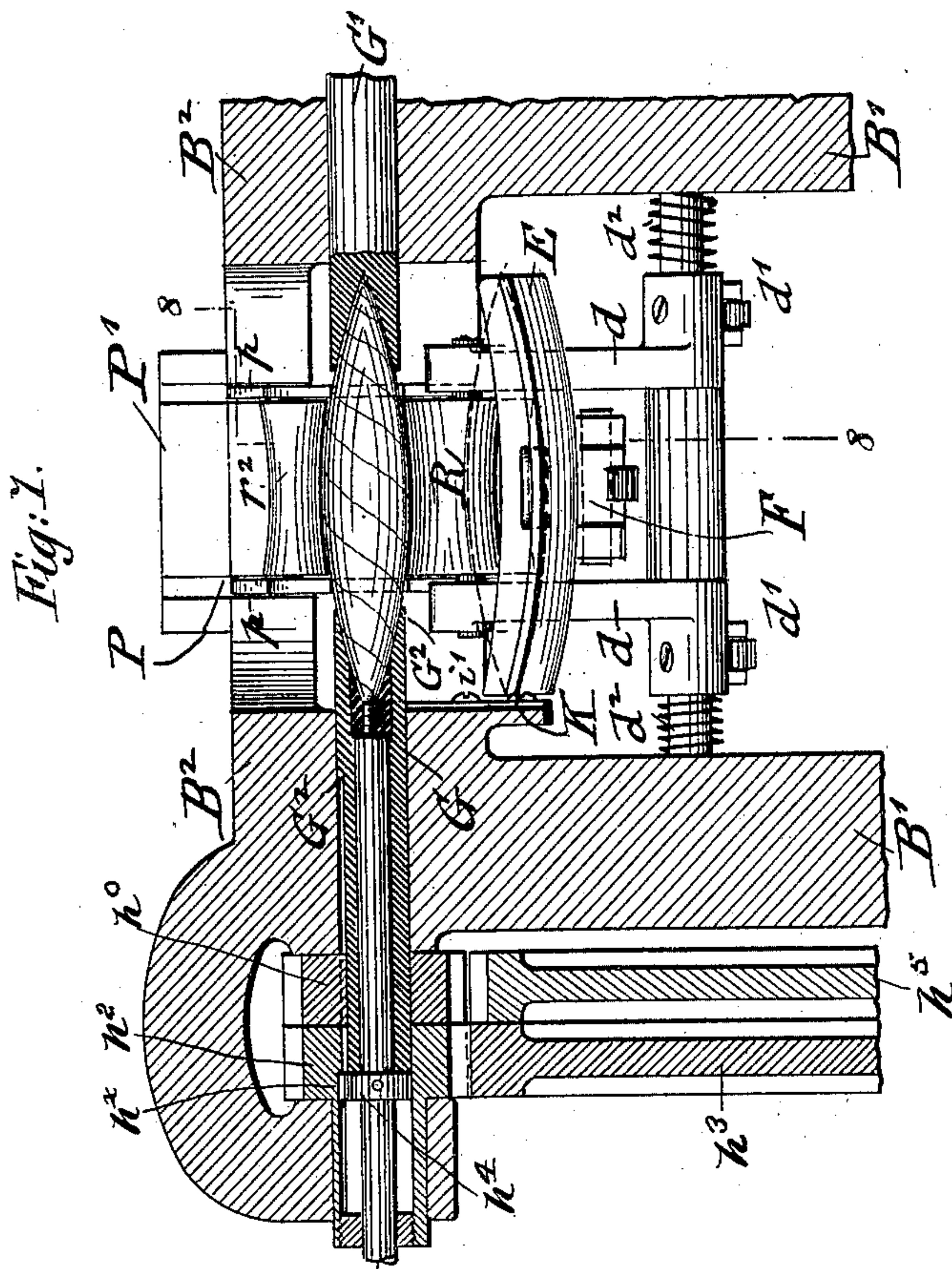
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5 Sheets—Sheet 5.



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# UNITED STATES PATENT OFFICE.

HANS A. SCHNEEKLOTH, OF NEW YORK, N. Y.

## CIGAR-MACHINE.

SPECIFICATION forming part of Letters Patent No. 693,626, dated February 18, 1902.

Application filed March 27, 1901. Serial No. 53,073. (No model.)

*To all whom it may concern:*

Be it known that I, HANS A. SCHNEEKLOTH, a citizen of the United States, residing in New York, borough of Manhattan, in the State of New York, have invented certain new and useful Improvements in Cigar-Machines, of which the following is a specification.

The invention relates to an improved machine for rolling cigar-bunches into their wrappers and finishing them at the butt and tip ends automatically by the working of the machine; and the invention consists of a cigar-machine which comprises guide-rollers, a bunch-supporting roller, and two rotary spindles in line with the axis of the bunch to be wrapped, one spindle being tubular and provided with an interior independently-rotating socket for receiving the butt of the cigar, while both spindles are provided with slitted sockets for receiving and guiding the wrapper around the bunch, the tip end of the wrapper being supplied with paste from a suitable receptacle. The wrapper is placed on a concave guide-table and fed through the slitted butt-socket to the butt-end of the bunch and wrapped around the bunch by the rotary action of the spindles and around the tip by the slitted tip-socket. When the cigar is finished, it is dropped on a shelf supported on the arm of the bunch-supporting roller and cleared from the same by a hinged and spring-actuated pusher, while a new bunch is supplied to the guiding and bunch-supporting rollers by a vertically-reciprocating plunger.

The invention consists, further, in certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved cigar-machine. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical central section on line 3 3, Fig. 1. Figs. 4 and 5 are also vertical transverse sections taken, respectively, on lines 4 4 and 5 5, Fig. 1, in the direction of the arrows. Fig. 6 is a vertical longitudinal section of the operative parts of my improved cigar-machine drawn on a larger scale and in position before applying the wrapper. Fig. 7 is a like section showing the spindles applied to the bunch, ready for placing the wrapper

on the same. Fig. 8 is a vertical transverse section on line 8 8, Fig. 7; and Fig. 9 is a detail side view of the butt-trimming knife as shown detached from the machine.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a supporting-table, and B is an upright frame supported on the table, said frame being composed of two upright standards B', having a transverse connecting portion B<sup>2</sup> at the upper and lateral extensions at the lower ends of the standards, as shown in Fig. 1. In suitable bearings of the upright standards B' is supported a cam-shaft S, which receives rotary motion by a gear-wheel transmission at one end from a driving-shaft S', to which rotary motion is imparted by a belt-and-pulley transmission from an overhead shaft, said driving-shaft S' being supported in bearings of upright standards B<sup>3</sup>, (shown in Fig. 1,) which standards are likewise supported on the table A. The cam-shaft S carries the necessary cams and gear-wheels for imparting motion to the operative parts of the machine. The operative parts are supported in the transverse connecting portion B<sup>2</sup> of the frame B, and consist of a concave table D, which is supported at the upper front part of the frame B and on which the wrapper that is to be rolled around the bunch is placed, the wrapper having been cut into proper shape by means of a suitable die. A vertically-reciprocating bunch-feeding plunger P is guided in ways of the rear part P' of the transverse portion B<sup>2</sup> and provided with forwardly-projecting hooks p, said hooks engaging the bunch, which is fed into a hopper-shaped channel formed in the upper part of the transverse portion B<sup>2</sup>. The plunger P receives intermittent vertically-reciprocating motion by a center cam C on the cam-shaft S and an intermediate toggle-lever connection t t', one of the toggle-levers being pivoted to the upright standards B' and the other to the lower end of the plunger-frame, as shown clearly in Figs. 1 and 4. The plunger-operating cam C holds the plunger in raised position approximately during one half of the rotation of the cam-shaft S, as shown in Fig. 4, while during the other half it is dropped by gravity into lowered position, so as to feed



the bunch in downward direction by the hooks  $p$  onto a bunch-supporting roller  $R$  and between a front and rear roller  $r r'$ , as shown in Figs. 3 and 8. The lower toggle-lever  $t$  is provided with a downwardly-projecting nose  $t^2$ , that is engaged by the circumference of the cam  $C$  for operating the plunger. Between the hooks  $p$  is supported a roller  $r^2$ , which is located above the roller  $R$  and which serves to hold the bunch in position for applying the wrapper in connection with the front and rear roller  $r r'$  and the lower roller  $R$ . The bunch-supporting roller  $R$ , the circumference of which is concaved to conform to the shape of the bunch, is supported on upwardly-extending arms  $d d$ , which are applied to the same pivot-rod to which the lower toggle-lever  $t$  is pivoted, said arms being provided with rearwardly-extending arms  $d' d'$ , carrying anti-friction-rollers that are held in contact with the circumference of two cams  $C'$  on the cam-shaft  $S$  at both sides of and equidistant from the central plunger-operating cam  $C$  by means of helical springs  $d^2$ , placed on the pivot-rod and connected by their ends, respectively, with the hubs of the arms  $d d$  and the upright standards  $B'$ , as shown in Fig. 1. The cams  $C'$  are each provided at one point of their circumference with a pocket-shaped recess, which causes the bunch-supporting roller  $R$  to be oscillated whenever the anti-friction-rollers pass into the cam-recesses, as shown in Figs. 4 and 5. The oscillating motion of the bunch-supporting roller  $R$  takes place for a short time only, corresponding to the size of the recesses in the circumference of the cams, so as to permit the cigar after the wrapper has been wrapped around the bunch and the butt and tip finished to drop onto a shelf  $E$ , supported on the arms  $d d$ , from which it is transferred during the rearward motion of the roller  $R$  by a pusher  $F$  over an inclined plate  $E'$  into a suitable receptacle. While the roller  $R$  is moved into its rearmost position, (shown in Fig. 4,) it provides the necessary clearance for the downward motion of the cigar on the shelf  $E$ . Almost simultaneously with the dropping of the cigar the downward motion of the plunger commences, so that the next bunch is fed into the space between the rollers  $R r r' r^2$ , the roller  $R$  having by this time been returned into its normal position. (Shown in Figs. 2 and 3.) A rear roller  $r'$  is cushioned by helical or other springs, (shown in Figs. 2 and 3,) so that a yielding pressure is exerted by it on the bunch when the same is rotated between the lower supporting-roller  $R$ , front and rear rollers  $r r'$ , and roller  $r^2$  of the plunger  $P$  by the action of two spindles  $G G'$ , which are supported axially in line with the bunch in bearings of the transverse portion  $B^2$  of the frame  $B$ , as shown in Figs. 6 and 7. The spindles  $G G'$  are connected at their outer ends with the forked upper ends of levers  $g g'$ , that are fulcrumed to the L-shaped extensions at the

lower parts of the standards  $B'$ , while the inwardly-extending arms of which are pressed, by means of helical cushioning-springs  $g^2$ , in contact with two intermediate cams  $C^2$ , that are interposed between the central plunger-actuating roller  $C$  and the cams  $C'$  for oscillating the bunch-supporting roller  $R$ , as shown in Fig. 1. The cams  $C^2$  serve to depress the lower ends of the fulcrumed elbow-levers  $g g'$  in such a manner that both spindles  $G G'$  are moved simultaneously toward each other for taking hold of the butt and tip of the bunch. The outer ends of the spindles are provided with collars, that are located between the forked upper ends of the fulcrumed elbow-levers  $g$  and  $g'$ , as shown in Fig. 1, so as to be taken along by the same. The spindle  $G$  is rotated by means of a pinion  $h^2$ , splined to a collar on said spindle and meshing with a toothed segment  $h^3$  on the cam-shaft  $S$ . The butt-receiving spindle  $G$  is inclosed by a second tubular spindle  $G^2$ , which is splined to a second pinion  $h^0$ , adjacent to the pinion  $h^2$ , the pinion  $h^0$  meshing also with a toothed segment  $h^5$ , adjacent to the toothed segment  $h^3$ , so as to receive rotary motion independently of the interior spindle  $G$  at the proper time. The tip-spindle  $G'$  is rotated by means of a pinion  $h^6$  and a toothed segment  $h^7$  on the cam-shaft, as shown in Fig. 6. To the interior butt-receiving spindle  $G$  is keyed a collar  $h^4$ , which enters a groove  $h^x$  in the extended hub of the pinion  $h^2$ , located adjacent to the end of the tubular spindle  $G^2$ , said collar producing the simultaneous inward motion of the interior spindle  $G$  and tubular spindle  $G^2$ . The inner end of the tubular spindle  $G^2$  is made in the shape of a socket or thimble in continuation of the socket of the interior spindle  $G$ , the socket of the spindle  $G$  being provided with a slit  $s$ , and the socket of the spindle  $G^2$  having one or more inclined slits  $s^2$  for receiving the butt-end of the wrapper when the same is fed over the table  $D$  toward the bunch. The tip-receiving socket of the spindle  $G'$  has also one or more slits  $s'$ , so as to take up the tip end of the wrapper after the same has been drawn in and rolled around the bunch, so as to lap it around the tip of the bunch.

Simultaneously with the lapping of the tip end of the wrapper around the bunch a small supply of paste is delivered from a paste-receptacle  $R'$ , that is supported on the transverse portion  $B^2$  and connected by a small channel  $r^x$  with the tip end of the bunch, as shown in full lines in Fig. 6.

The rotary motion of the spindles  $G G' G^2$  imparted by the toothed segments and pinions is so timed that the bunch is continuously rotated while the wrapper is applied first by the socket of the interior spindle  $G$  and tip-spindle  $G'$ , during which time the tubular spindle  $G^2$  is at rest, and finally by the interior and tubular spindles  $G G^2$  for placing the tip end of the wrapper on the



bunch, during which time the tip-spindle G' is at rest, so as to permit the proper feeding of the wrapper to the bunch without tearing it. The wrapper is rolled around the bunch while it is rotated by the spindles G G' first by the action of the slitted socket of the tubular spindle G<sup>2</sup> and then by the action of the slitted socket of the spindle G', while the bunch is rotated by the spindles G G<sup>2</sup>, the tip being finished in close imitation of a hand-rolled cigar. As soon as the wrapper is thus placed around the bunch the lower bunch-supporting roller is oscillated in the backward direction, so as to produce by the pusher F the dropping of the cigar from the shelf E and its delivery over the inclined conducting-plate E' to a cigar-receiving receptacle. (Not shown in the drawings.) Simultaneously with the delivery of the finished cigar a new bunch is supplied by the hooks of the plunger onto the bunch-supporting roller R after it has been returned to its normal position at the lower part of the space into which the bunch is delivered by the plunger. The pusher F is hinged to the lower end of the plunger-guide frame P' and supported by a flat spring F', as shown in Fig. 8, so as to yield to the bunch-supporting roller during the reciprocating motion of the same. To the left-hand upright standard B' is attached a trimming-knife K for the butt of the cigar, said knife having a sharpened curved edge and being attached, by means of slotted recesses i in its blunt end and clamping-screws i', to the standard B' and detachable therefrom for sharpening from time to time and adjustable to the proper position relatively to the butt-end of the cigar.

The bunch-wrapping mechanism may be used in connection with any approved bunch-forming machine by which the bunches are delivered automatically to the plunger, and the bunches may be made on a separate machine and then transferred by the attendant, one after the other, to the wrapping mechanism.

The machine requires only one attendant, who places the wrapper in position on the table and delivers it to the wrapping devices. As the butt and tip ends of the wrapper are applied to the bunch in quick succession, the tip finished, and the butt trimmed off by the machine, a nicely-wrapped cigar is obtained, in close imitation of a hand-made cigar.

Operation: My improved cigar-machine is operated as follows: The bunch is fed through the hopper-shaped opening into the space between the bunch-supporting rollers, the lower roller being in position vertically below the same, so that the bunch can rest on the same. The plunger is then moved in downward direction and serves to carry the bunch into its proper position between the rollers. The wrapper is then fed forward over the concave table, its butt-end being fed through one of the slits in the socket of the left-hand

spindle, both spindles having been moved inwardly toward each other, so as to take hold of the bunch. Rotary motion is then imparted simultaneously to the interior butt-spindle and the tip-spindle, so that the bunch is rotated between the rollers, while the wrapper is drawn in through the slit in the socket of the tubular butt-spindle, which is at rest, and wrapped around the bunch. Inasmuch as the tubular butt-spindle is during this part of the operation at rest the slit in the same through which the wrapper is being drawn serves merely as a guide until by reason of the helical winding of the wrapper around the bunch the wrapper is caused to leave such slit. When the tip end of the wrapper arrives at the tip end of the bunch, the rotary motion of the tip-spindle is interrupted at a point so as to bring the slit therein in line with the surface of the table and both butt-spindles are rotated, while the tip end of the wrapper will enter into such slit of the tip-spindle. A small quantity of paste is supplied from a paste-receptacle to the tip of the bunches, so that the tip end of the wrapper is properly pasted onto the tip of the bunch in imitation of the work performed by hand in finishing the tip of a hand-made cigar. After the wrapper is thus placed around the bunch the bunch-supporting roller is moved in backward direction by its cam, so that the cigar is dropped onto a shelf supported on the arms of the roller. During the forward motion of the bunch-supporting roller to its normal position the butt-end of the cigar is forced past the sharpened edge of the trimming-knife, that is supported below the concave table, so as to trim off the butt-end of the cigar. During the backward motion of the bunch-supporting roller the cigar is removed from the shelf by the plunger, while simultaneously a new bunch is dropped into the space between the rollers and wrapped into the next wrapper and dropped on the shelf during the backward motion of the bunch-supporting roller in the manner just described, while the cigar that has just been trimmed off at the butt-end by the knife is removed from the shelf by a spring-actuated pusher and conducted over the downwardly-inclined guide-plate into a suitable receptacle. During the forward motion of the bunch-supporting roller the cigar that has just been dropped on the shelf is trimmed at the butt-end and dropped from the shelf by the pusher during the next backward motion of the roller, and so on.

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

1. In a cigar-machine, the combination, with a concave feed-table for the wrapper, of guide-rollers, one at the ingoing end of the wrapper, the other at some distance back of the same, an oscillating bunch-supporting roller below said guide-rollers, means for in-



termittently oscillating said roller for dropping the bunch, and a vertically-reciprocating plunger for feeding the bunch into the space between said rollers, said plunger being also  
5 provided with a roller, substantially as set forth.

2. In a cigar-machine, the combination of front and rear guide-rollers for the bunch, a bunch-supporting roller below the same, a vertically-reciprocating plunger provided with a  
10 roller for feeding the bunch into the space between said guide-rollers, a concave feed-table for the wrapper, rotary spindles in line with the axis of the bunch and provided with  
15 slitted sockets for taking up and rolling the wrapper around the bunch, and means for imparting intermittent rotation to said spindle substantially as set forth.

3. In a cigar-machine, the combination,  
20 with front and rear guide-rollers for the bunch, of a bunch-supporting roller below the same, a vertically-reciprocating plunger provided with a roller for conducting the bunch into the space between said rollers, a rotary tubular spindle provided with a slitted socket  
25 at one end for engaging the butt-end of the wrapper, a rotary spindle provided with a slitted socket for engaging the tip end of the wrapper arranged in line with the tubular spindle and the bunch, an interior spindle  
30 within said tubular spindle provided with a socket for engaging the butt-end of the bunch, a concave feed-table for the wrapper, and means for rotating the spindles at the proper  
35 time for placing first the butt-end and lastly the tip end of the wrapper around the bunch, substantially as set forth.

4. In a cigar-machine, the combination,  
40 with front and rear guide-rollers, of a bunch-supporting roller between and below said guide-rollers, a vertically-reciprocating plunger having a guide-roller for conducting the bunch into the space between said rollers, a concave feed-table for the wrapper, means  
45 for wrapping said wrapper around the bunch, and means for oscillating the lower bunch-supporting roller so as to drop the cigar after the wrapper is placed around the same, substantially as set forth.

5. In a cigar-machine, the combination,  
50 with front and rear guide-rollers, of a bunch-supporting roller below said guide-rollers, a vertically-reciprocating plunger provided with a roller for feeding the bunch into the  
55 space between said rollers, a rotary spindle in line with the bunch and provided with a socket for the butt-end of the bunch, a rotary spindle provided with a slitted socket for the tip end of the bunch, in line with the butt-spindle, a tubular spindle inclosing the butt-spindle and provided with a slitted socket  
60 extending beyond the butt-socket, means for laterally reciprocating the butt-spindles and the tip-spindle, and means for rotating first  
65 the interior butt-spindle and the tip-spindles

while the outer butt-spindle is stationary, and then rotating both butt-spindles while the tip-spindles remain stationary, so as to apply the wrapper from the butt-end toward the tip end around the bunch, substantially  
70 as set forth.

6. In a cigar-machine, the combination with the front and rear guide-rollers, of a bunch-supporting roller below said guide-rollers, a vertically-reciprocating plunger  
75 provided with a roller for feeding the bunch into the space between said guide-rollers, a butt-spindle and a tip-spindle located axially in line with each other and with the bunch, a tubular spindle surrounding the butt-spindle  
80 and provided with a socket extending beyond the socket of the interior butt-spindle, means for reciprocating simultaneously the butt and tip spindles at the proper time for applying them to and releasing them from the bunch,  
85 means for rotating said butt and tip spindles at the proper time so as to place the wrapper around the bunch from the butt toward the tip end of the same, and means for oscillating the bunch-supporting roller for dropping the  
90 bunch, substantially as set forth.

7. In a cigar-machine, the combination, with front and rear guide-rollers, of a bunch-supporting roller below said guide-rollers, a vertically-reciprocating plunger provided  
95 with a roller for feeding the bunch into the space between said rollers, means for applying the wrapper around the bunch, means for oscillating the bunch-supporting roller after the wrapper has been applied to the bunch, a  
100 shelf supported on the arms of the oscillating bunch-supporting roller for receiving the cigar, and a pusher device for removing the cigar from the shelf during the backward motion of the oscillating roller, substantially as  
105 set forth.

8. In a cigar-machine, the combination, with front and rear guide-rollers, of a bunch-supporting roller below said guide-rollers, a vertically-reciprocating plunger provided  
110 with a roller for feeding the bunch into the space between said rollers, means for applying the wrapper around the bunch, means for oscillating the bunch-supporting roller after the wrapper has been applied to the bunch, a  
115 shelf supported on arms of the bunch-supporting roller, a stationary butt-trimming knife in front of the butt-end of the bunch at right angles thereto and adapted to trim the butt-end of the cigar during the forward  
120 motion of the oscillating roller, and a pusher device adapted to clear the trimmed cigar during the backward motion of the bunch-supporting roller, substantially as set forth.

9. In a cigar-machine, the combination,  
125 with front and rear guide-rollers, of a bunch-supporting roller below said guide-rollers, means for shifting the position of the bunch-supporting roller to one side, a vertically-reciprocating plunger provided with a roller for  
130



feeding the bunch into the space between  
said rollers, means for feeding and placing  
the wrapper around the bunch from the butt  
toward the tip end of the same, and means for  
5 applying paste to the tip end of the wrapper  
while said tip end is applied to the tip of the  
bunch, substantially as set forth.

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

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Witnesses:

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