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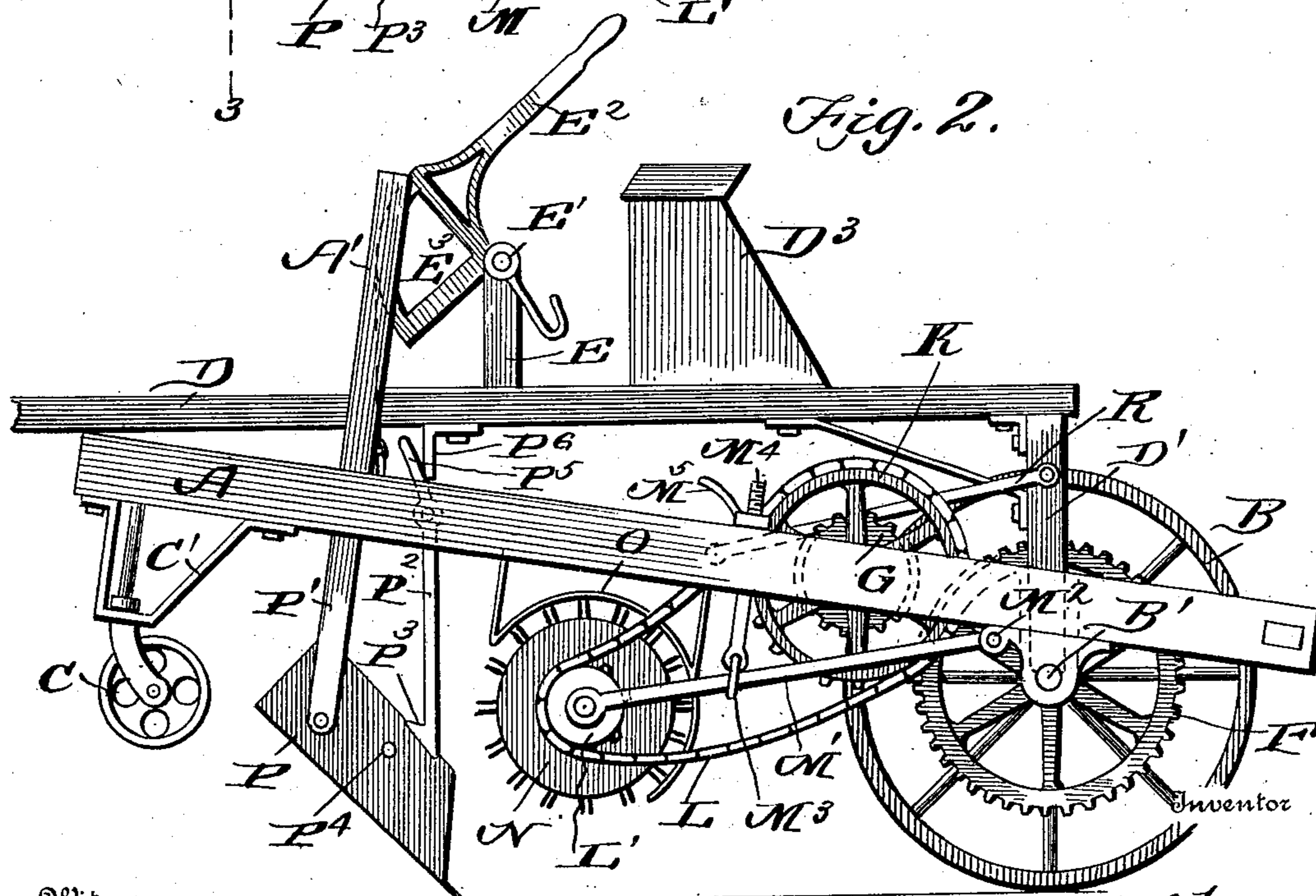
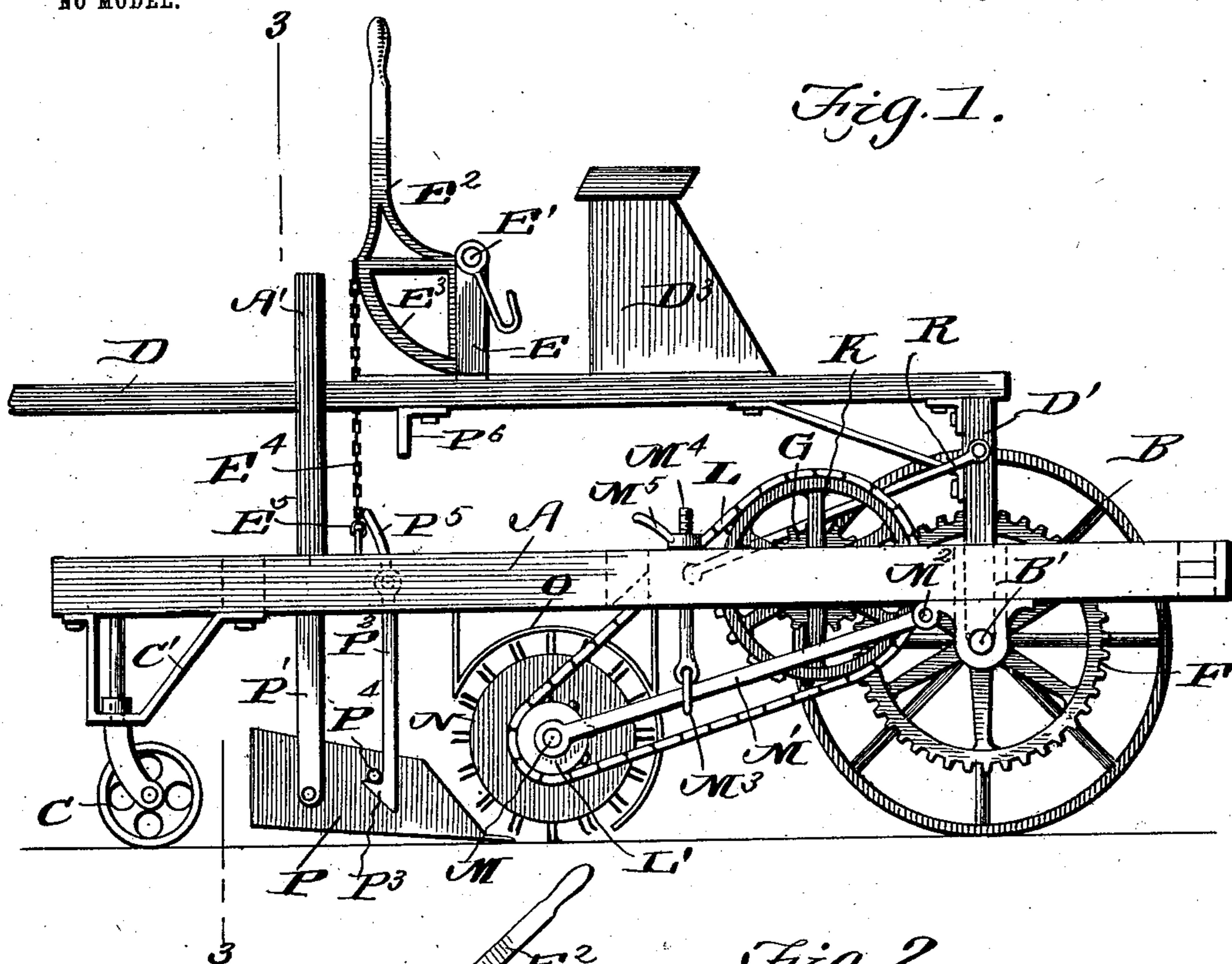
PATENTED FEB. 10, 1903.

D. PIKE.
STREET SWEEPER.

APPLICATION FILED AUG. 9, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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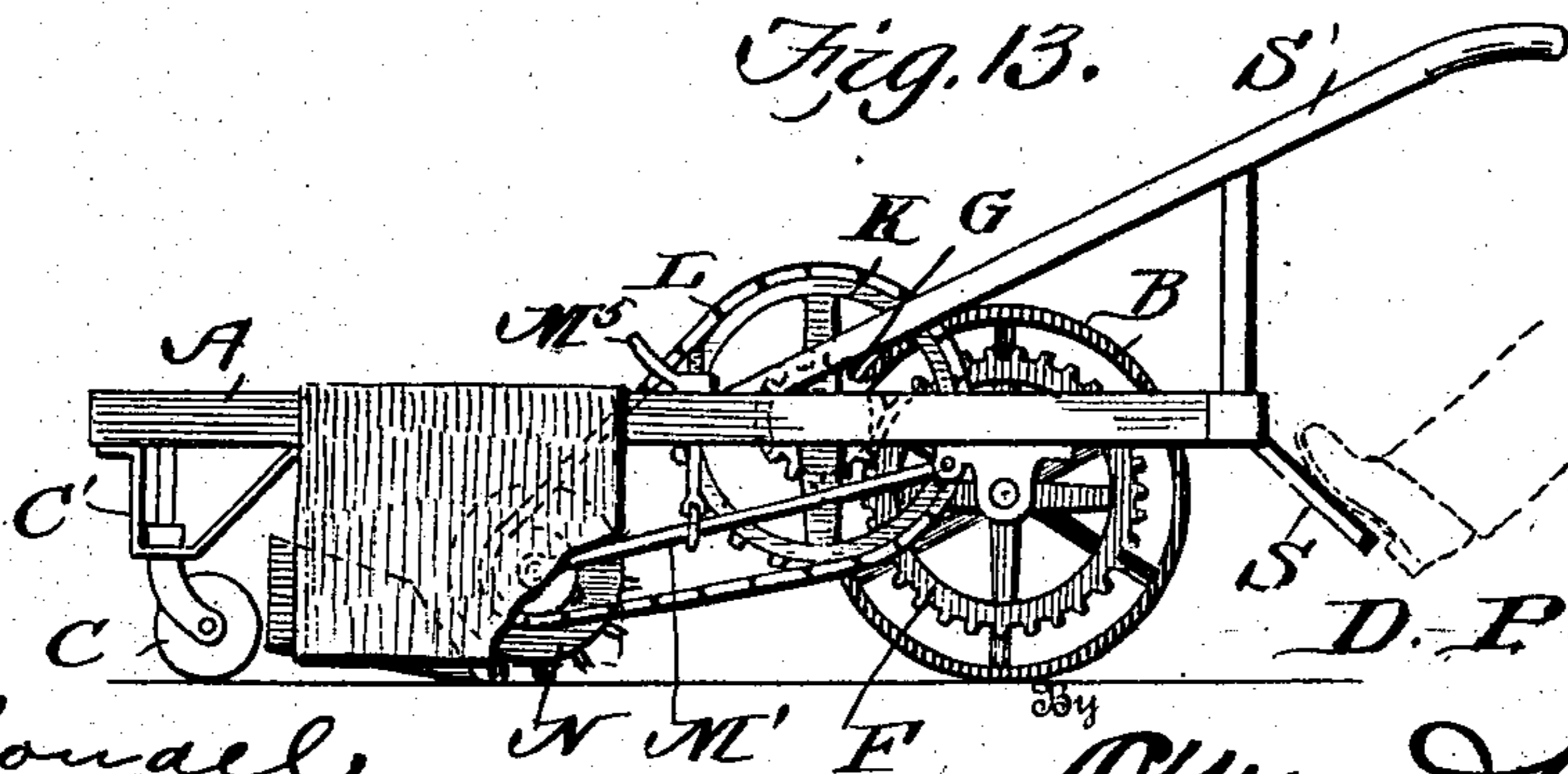
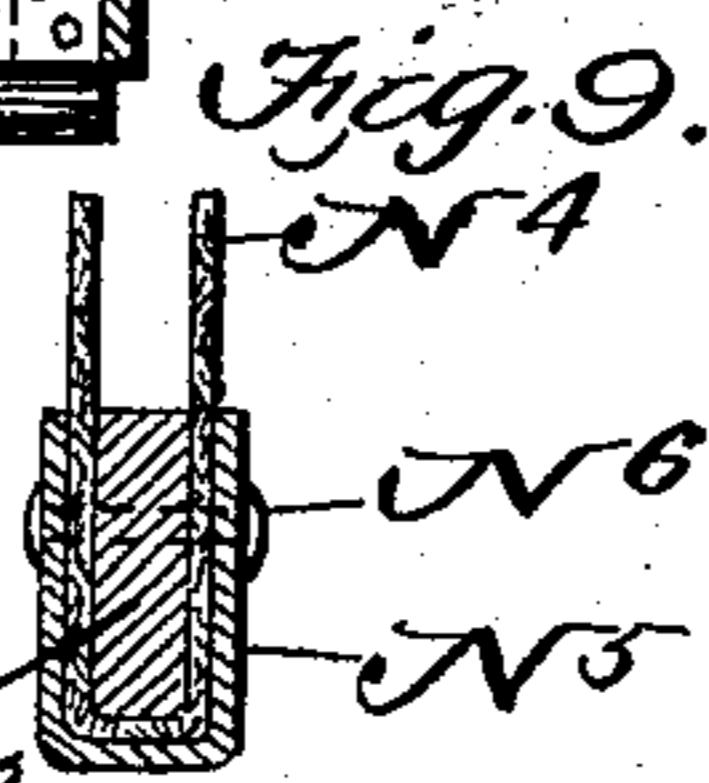
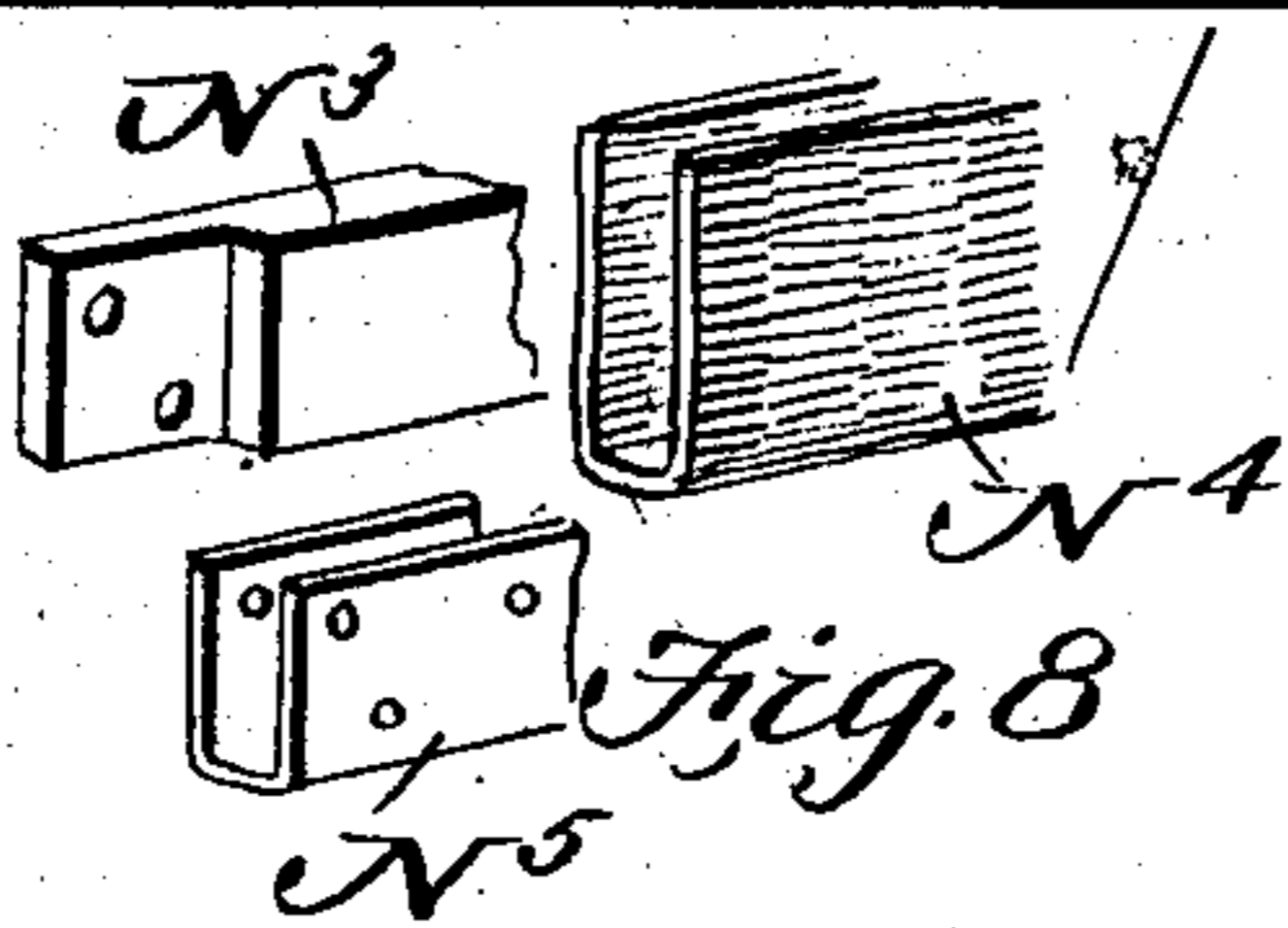
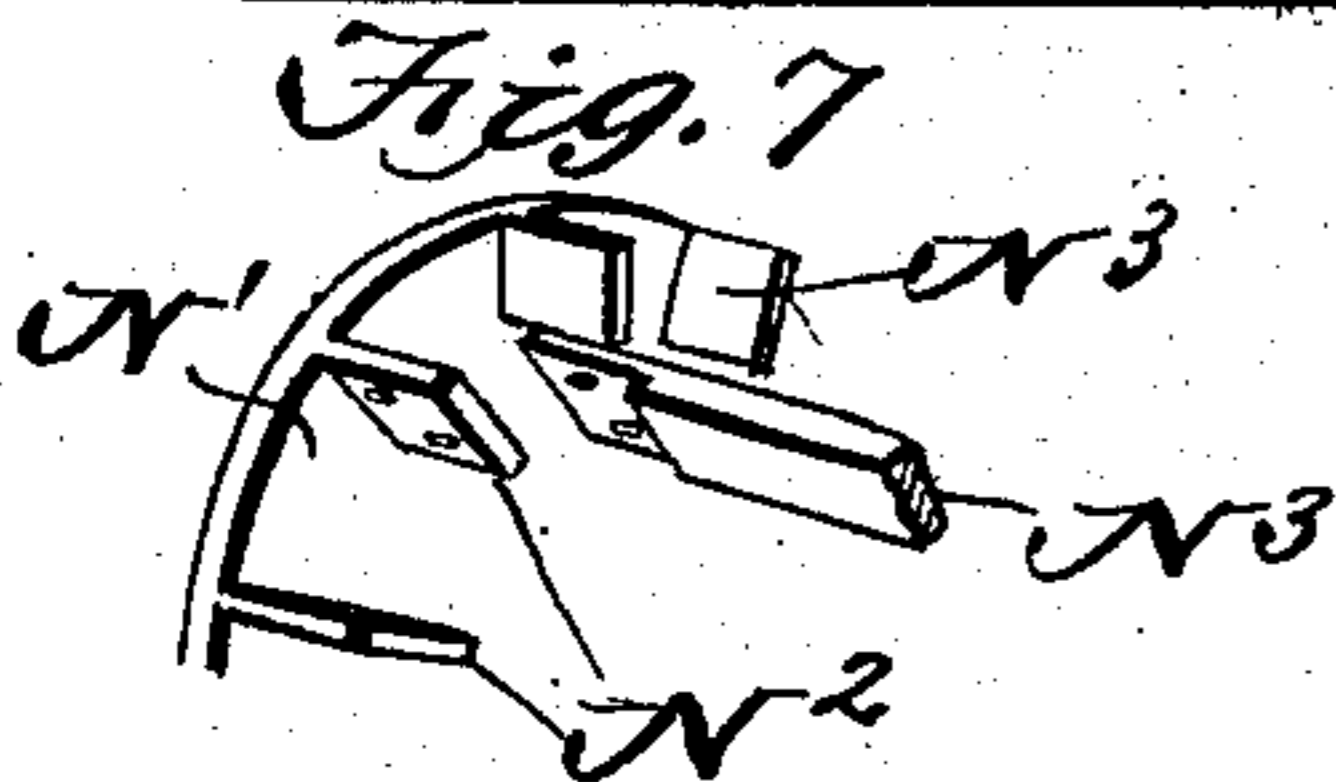
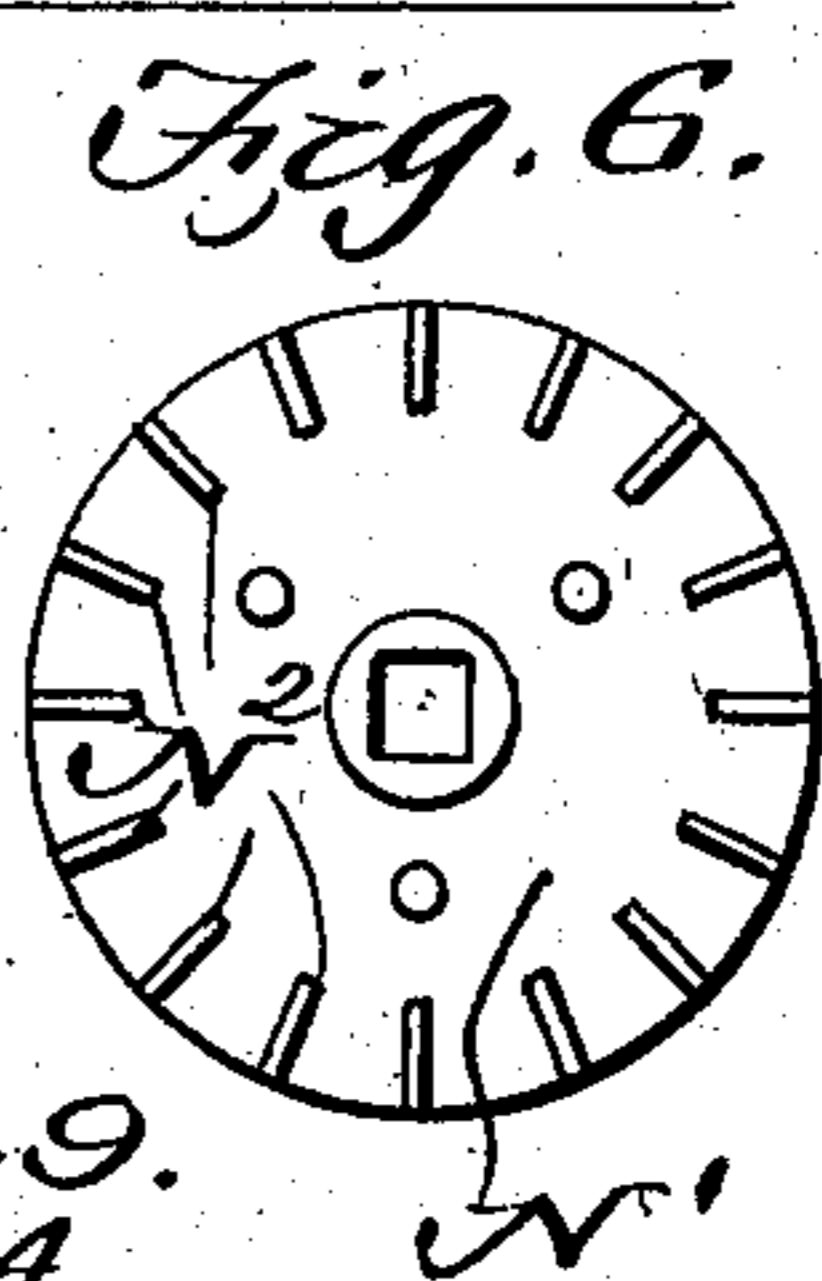
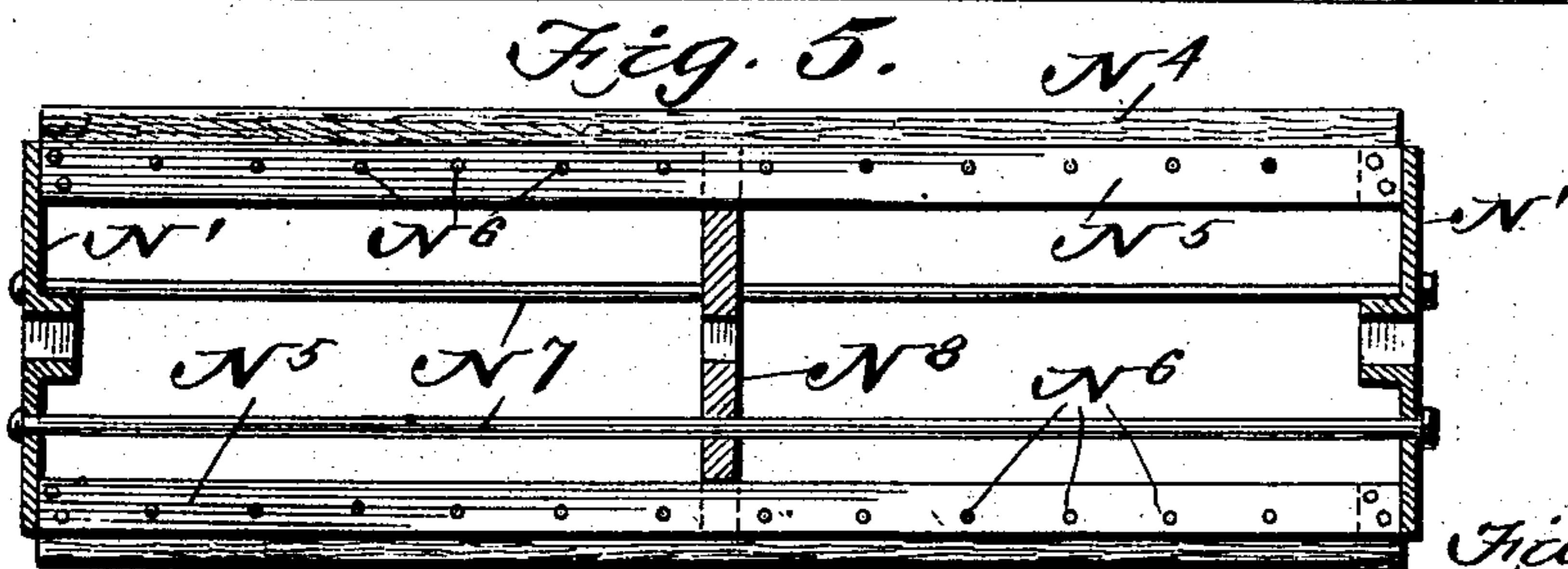
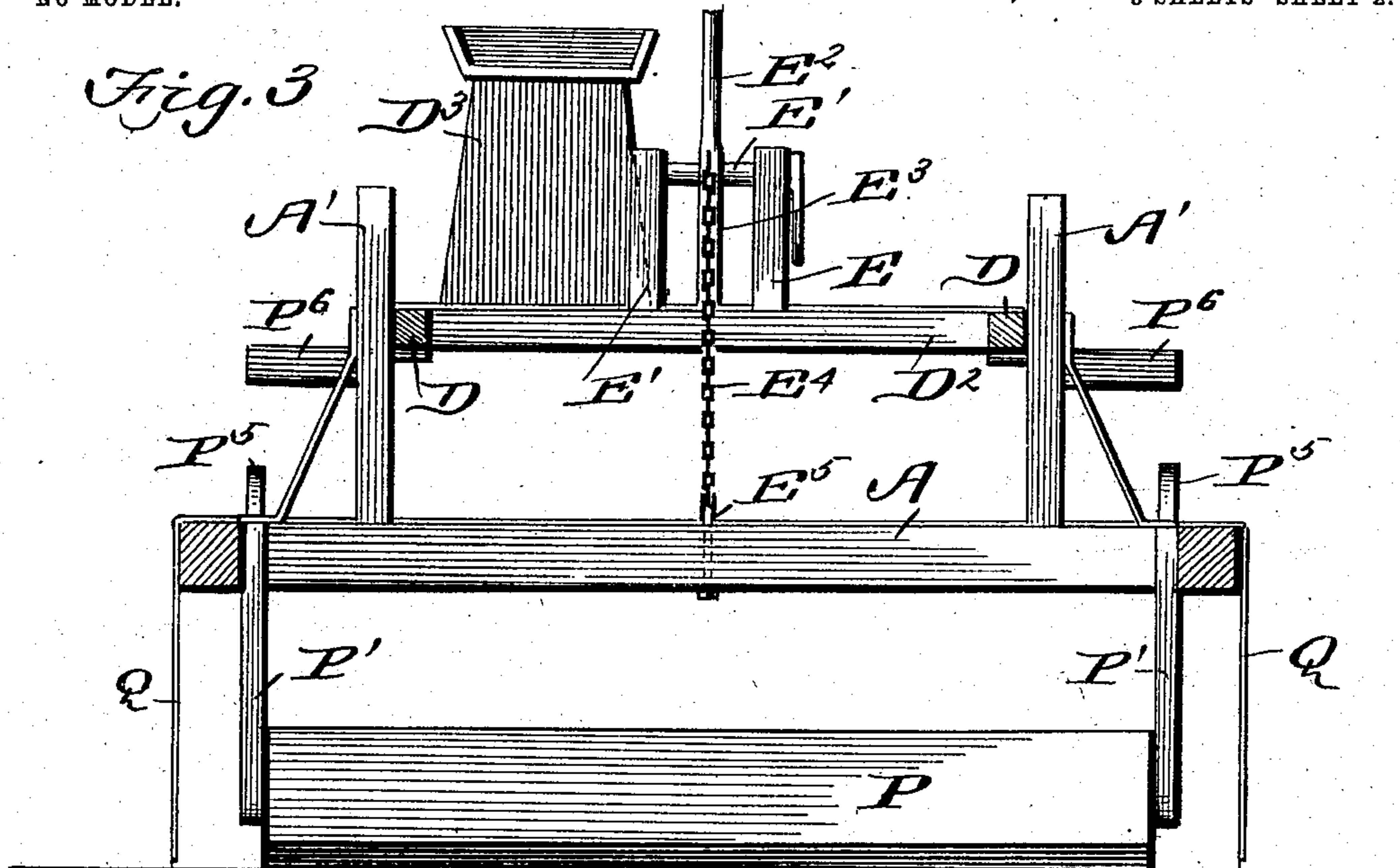
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3 SHEETS—SHEET 2.



Witnesses

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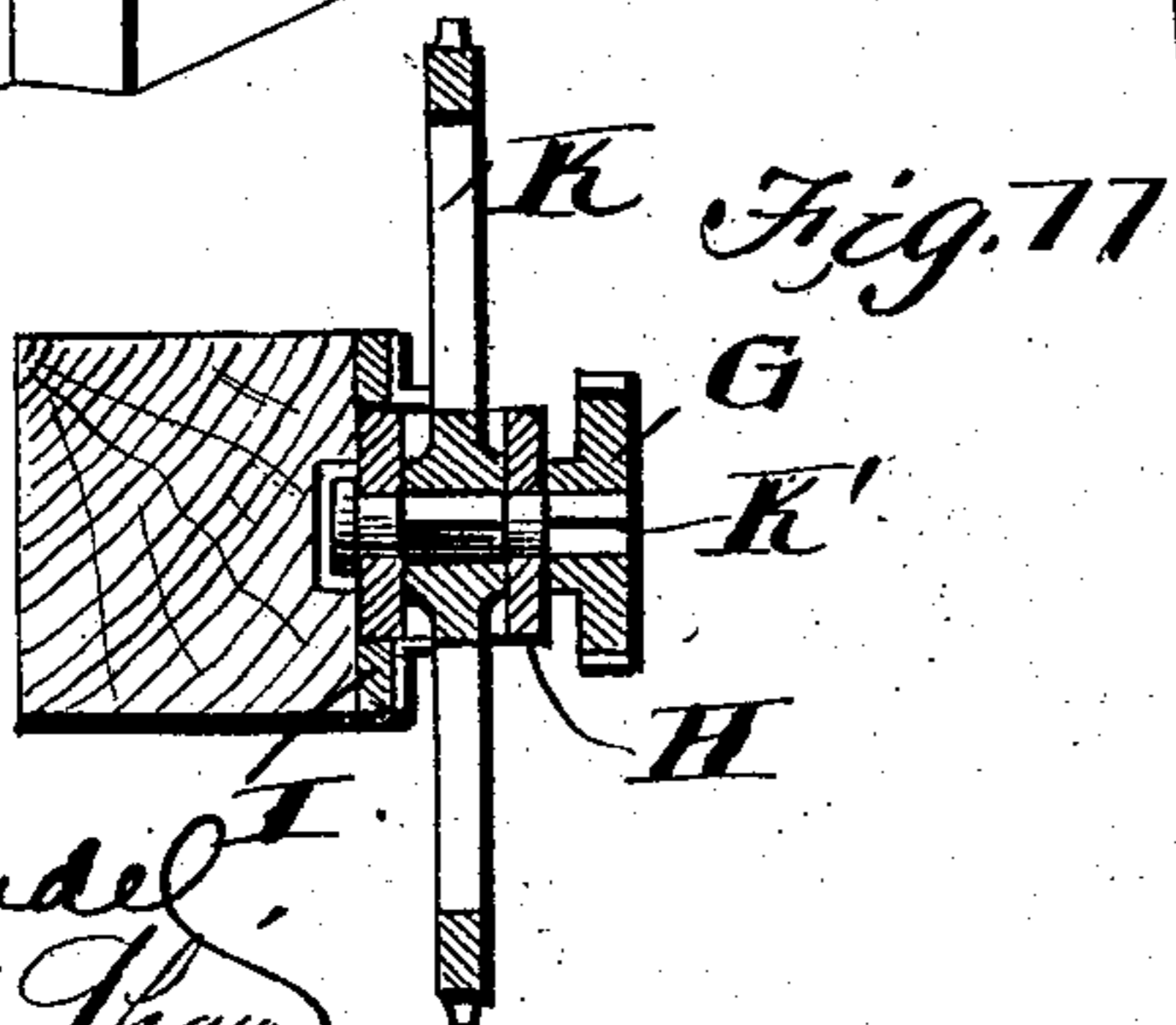
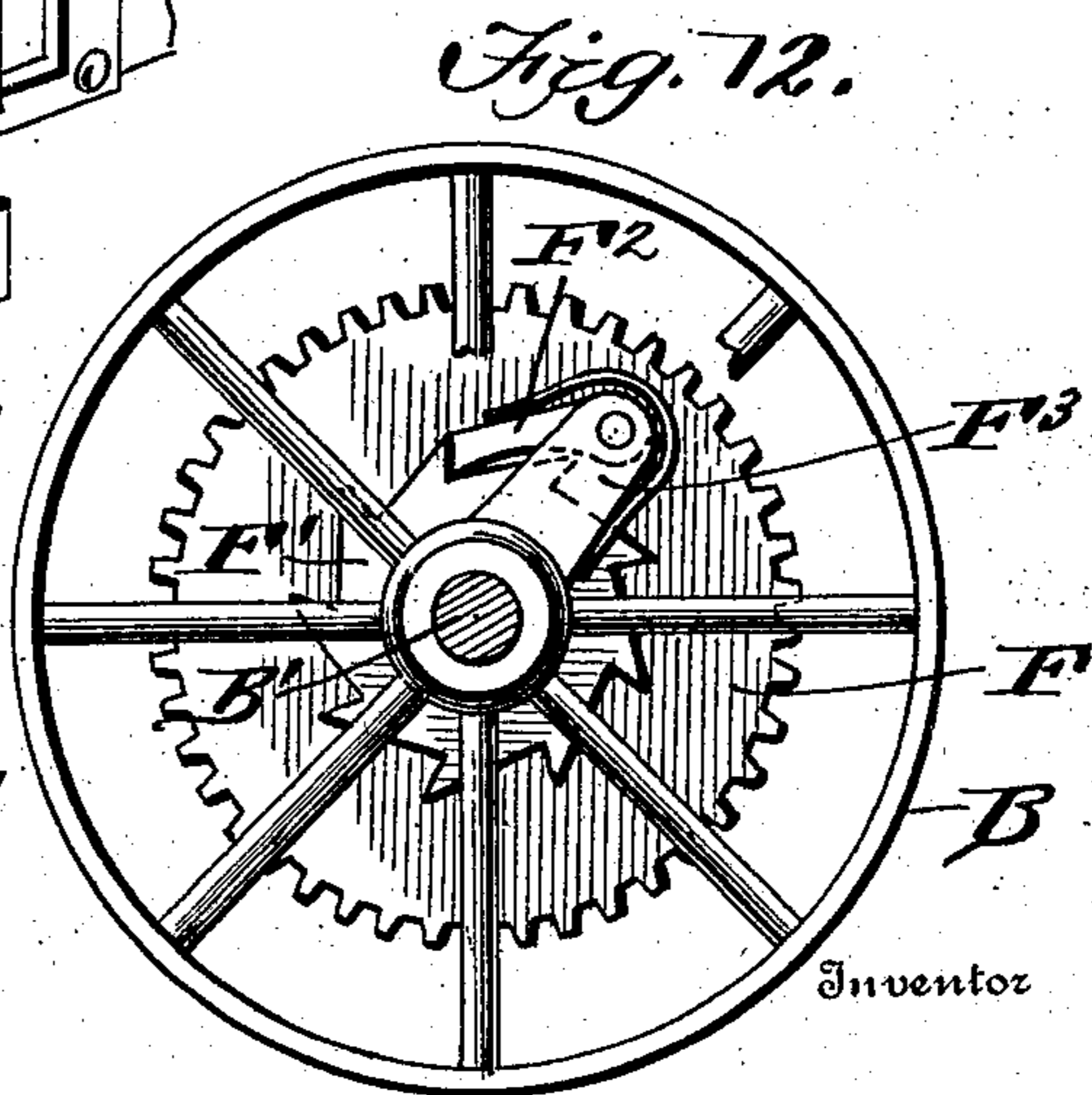
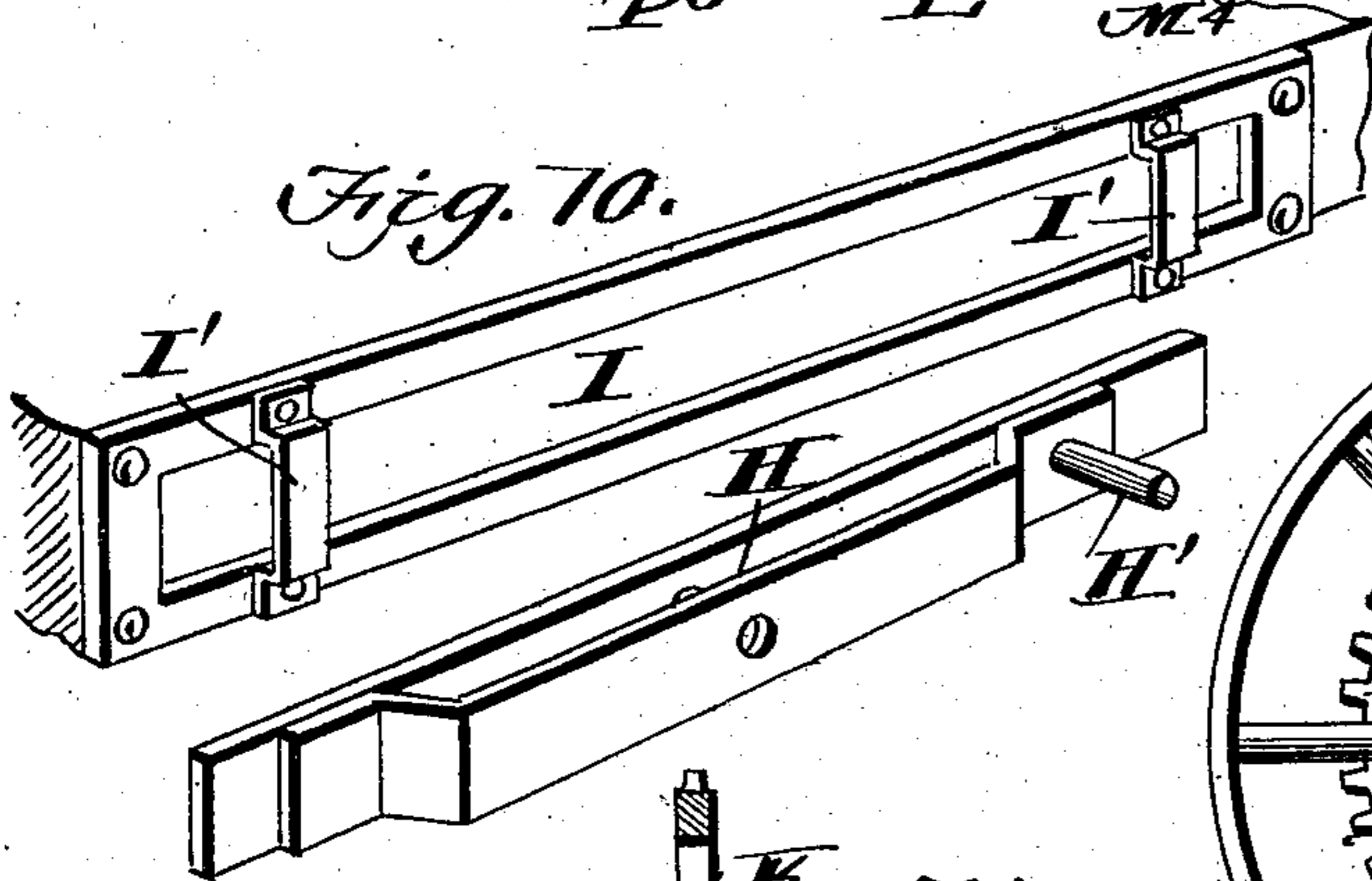
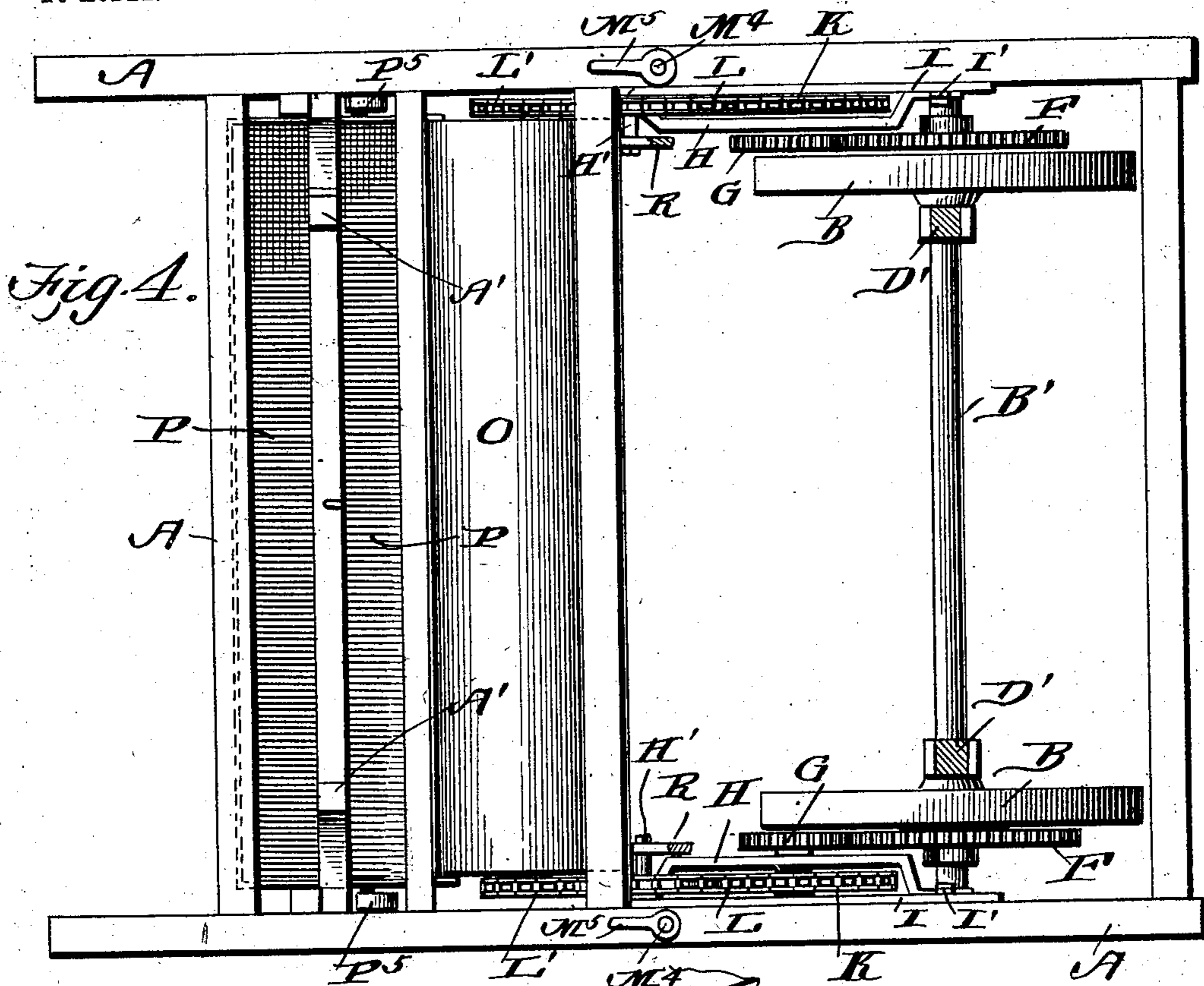
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NO MODEL.

3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL PIKE, OF NEW ORLEANS, LOUISIANA, ASSIGNOR OF THREE-FIFTHS TO EDWARD J. THILBORGER AND JOHN W. DUFFY, OF NEW ORLEANS, LOUISIANA.

STREET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 720,474, dated February 10, 1903.

Application filed August 9, 1902. Serial No. 119,120. (No model.)

To all whom it may concern:

Be it known that I, DANIEL PIKE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Street-Sweeper, of which the following is a specification.

This invention relates generally to street-sweepers, and more particularly to a combined street-sweeper and dirt collector.

The objects of the invention are to provide a simple and efficient construction of combination device which will effectively clean the street over which the machine is drawn, collect the dirt during the sweeping operation, and dump same at any predetermined point.

Another object of the invention is to provide a dumping mechanism which can be operated while the machine is being drawn forwardly; and a still further object is to provide a machine in which the sweeping mechanism will be automatically stopped and lifted clear of the ground the moment the machine is operated for the purpose of dumping the dirt.

With these various objects in view the invention consists in the novel features of construction, combination, and arrangement, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of a street-sweeper constructed in accordance with my invention, the parts being shown in their proper positions for sweeping. Fig. 2 is a side elevation of the machine, taken during the dumping operation. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a top plan view of the main frame and operating mechanism carried thereby.

Fig. 5 is a detail sectional view of the brush. Fig. 6 is an end view of the brush-frame. Fig. 7 is a detail view of parts shown in Figs. 6 and 8. Fig. 8 is a detail view showing the construction of a part of Fig. 5, the portions illustrated being shown detached. Fig. 9 is a detail sectional view through the parts shown in Fig. 8, the parts being in position. Fig. 10 is a detail perspective view of the guide arranged upon the side of the main frame and in which the gearing-frame slides.

Fig. 11 is a detail perspective view of said sliding frame. Fig. 12 is a detail view illustrating the pawl-and-ratchet mechanism for operating the drive-gear. Fig. 13 is a modification showing a side elevation of the hand-sweeper.

In carrying out my invention I employ a main frame A, which is supported at the rear end by the ground-wheels B, mounted upon the axle B', and at the forward end the said frame is supported by the caster-wheels C, journaled in the brackets C', secured to the under side of the side beams of the main frame at the forward ends thereof. Draft-bars D are connected to the axle B' by means of standards D', rigidly connected to the rear ends of the draft-bars D and provided with bearing-boxes at their lower ends, which encircle the axle B' adjacent to the inner face of the hub of the ground-wheels B. These draft-beams D are connected by suitable cross-beams D², and upon which is arranged the seat-box D³. Extending upwardly from one of the cross-beams D² are the uprights E, between which is journaled a horizontal shaft E', carrying a lever E², having an arc E³, to which is connected the upper end of a chain E⁴, the lower end of said chain being connected to one of the cross-timbers of the frame A, as shown at E⁵. By drawing the lever E² rearwardly or toward the seat-box the arc E³ is lifted, carrying with it the chain E⁴, and the forward end of the main frame E is thereby elevated to the position shown in Fig. 2, the purpose of such elevation being fully described hereinafter.

A driving-gear F is mounted upon the axle B' adjacent to each end and upon the outer side of the hub of the ground-wheel. Each gear F has a ratchet-disk F' integral therewith, which is adapted to be engaged by the spring-actuated pawl F², carried by an arm F³, rigidly mounted upon the axle-shaft, so that when the machine is moving forwardly will engage the ratchet-disk for the purpose of operating the driving-gear and will not operate the same when the machine is being moved rearwardly, as when turning or while being backed. Each driving-gear F is intended to mesh with a pinion G, which is mounted upon a short shaft, hereinafter re-

ferred to, carried by a sliding frame H, said sliding frame H sliding in the guideway I, arranged upon the inner face of the side beam of the inner frame, and the sliding frame H is held within the guide I by means of strap-loops I'. A sprocket-wheel K is mounted within the sliding frame H, said sprocket being mounted upon a shaft K', which turns freely within the members of the frame H, and one end of this shaft projects inwardly for the purpose of receiving the pinion G. Sprocket-chains L are arranged upon the sprocket-wheels K, said sprocket-chains passing around sprocket-wheels L', mounted upon the ends of a shaft M, which carries the brush N. The shaft M is carried at the forward end of the hanger-arms M', which are pivoted at their rear ends, as shown at M², and intermediate their ends the arms are surrounded by a link M³, carried at the lower end of a bolt M⁴, which passes forwardly through the side members of the main frame and is adjustable through the medium of a hand-nut M⁵. Thus it will be seen that by adjusting the bolt M⁴ the brush can be lifted from operative position. The brush comprises circular heads or handpieces N', each head or end piece being provided with inwardly-projecting radial lugs N², which are arranged adjacent to the outer edges of the end pieces N', and connecting said lugs N² are the strips N³, around which are passed from the inner side the U-shaped pieces N⁴, of leather or rubber, said strips or pieces of leather or rubber being secured to the bars or strips N³ by means of U-shaped metallic clip-plates N⁵ and bolts N⁶, the metallic clip-plate being made to embrace the strip of leather or rubber and the bar or strip N³; but it will be noted that the free ends of the leather or rubber project beyond the clip-plate and the strip or bar N³. The heads or end pieces N' are connected by means of the tie-rods N⁷, and the strips are braced by means of a central bridge-piece N⁸, as most clearly shown in Fig. 5.

Canvas or other similar material may be employed in exactly the same manner as the rubber or leather strips heretofore referred to. A suitable shield O is suspended from the main frame and covers the brush at the top and rear sides thereof, leaving the bottom side free to contact with the ground and the forward side free to sweep the dirt into the dirt-receiving receptacle or box P, pivoted between the depending arms P', which extend downwardly from the main frame adjacent to the forward end, said box being open at its rear end to receive the dirt swept by the brush, and this rear end is suspended so that the edge just barely escapes the ground, and for the purpose of suspending the said rear end I employ pivoted hanger-arms P², having hooked lower ends P³, which engage the laterally-projecting pins P⁴, connected to the sides of the box or receptacle P. The pivoted hanger-arms P² extend a short dis-

tance above the side beams of the main frame, as most clearly shown at P⁵, said upwardly-extending portions being curved, and are adapted to engage the trip-brackets P⁶, carried by the draft-beams D, when the main frame A is elevated, as most clearly shown in Fig. 2; but when said frame is elevated the box or receptacle is carried upwardly until the upper ends of the pivot-arms P² engage the trip-brackets, and as soon as such engagement takes place the hooked ends P³ are disengaged from the pins P⁴ and the forward end of the box drops, dumping the dirt at the desired point. The main frame is raised by drawing the lever E² rearwardly, as hereinbefore described. The main frame is guided during these movements by means of the upwardly-extending guide-arms A', which bear against the draft-beams D, as most clearly shown in Fig. 3. Suitable aprons Q are attached to the main frame and depend therefrom, protecting the brush and parts adjacent thereto, so as to avoid the circulation of dust and dirt stored up during the sweeping operation. The frame H, which slides freely in the guides, is normally held in its rear-most position, so that the pinion G will mesh with the drive-gear F. In order to so hold the frame in this position and also for the purpose of moving the frame forwardly when the main frame is elevated, I connect the sliding frame H to the upright standards D' by means of rods or bars R, which are pivoted at their rear ends to the upright standards D' and at their forward ends are connected to the short shafts H', carried by the frame H, at the forward end thereof. By this arrangement it is obvious that as the main frame is elevated at the forward end the rods R will serve to push the sliding frame forwardly, carrying with it the sprocket K and pinion G, thereby throwing the brush out of operative connection with the driving-gear, so that during the dumping operation the brush will remain inoperative.

In Fig. 13 I have shown a slight modification in which the machine is intended to be pushed by hand instead of being drawn by horse-power, and in such construction I dispense with the draft-beams, seat-frame, and raising mechanism, and the dirt box or receptacle is emptied by tilting the frame upon the rear axle, and to render this operation easier I employ rearwardly-projecting step-piece S, upon which the foot can be placed, and by pressing downwardly upon this step-piece and simultaneously pulling rearwardly and downwardly upon the handles S' the frame can be tilted upwardly, so as to discharge the contents of the box or receptacle.

It will thus be seen that I provide an exceedingly simple, durable, and efficient construction of street-sweeper which will effectively clean the street over which it passes and collect the dirt swept from the street and deposit the said dirt at any desired point. It will also be noted that the brush can be ad-

justed to any desired height, according to the character of the surface to be swept, and, furthermore, owing to the peculiar construction of the brush it can be quickly and easily repaired.

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

1. A street-sweeper, comprising in combination a main frame, a draft-frame connected therewith, and arranged above the main frame, a rotary brush arranged on and beneath the main frame, means for operating the brush carried by the said frame, a dirt-receptacle arranged beneath the main frame and in advance of the brush, means for raising the forward end of the main frame, means for emptying the receptacle and means for throwing the brush-operating mechanism out of gear, as specified.

2. In a street-sweeper, the combination with a main frame, of the ground-wheel and axle, the driving-gears mounted upon the opposite ends of said axle and provided with pawl-and-ratchet mechanism, sliding frames carrying pinions and sprockets, sprocket-chains, hanger-arms, the brush-shaft journaled in the said hanger-arms and carrying sprocket-wheels, the brush mounted upon the brush-shaft together with means for raising the hanger-arms, as specified.

3. In a street-sweeper, the combination with the main frame, of a draft-frame connected therewith, the rotary brush and means for operating the same, a dirt-receptacle, the depending arms between which said receptacle is pivoted, pivoted hangers having hooked lower ends, and curved upper ends, a lifting-lever having an arc at its lower end and a chain connected to the arc, tripping-bracket, and guiding-arms, all arranged and adapted to operate, substantially as specified.

4. The combination with a main frame suitably supported, of a draft-frame pivotally connected to the main frame, sliding frames, drive-gears connected to the axle of the main frame, a lifting-lever, arc and chain adapted to raise the forward end of the main frame, depending arms, a dirt-receptacle pivoted between the said arms and having laterally-projecting pins, pivoted hangers having hooked lower ends adapted to engage the said pins, tripping-brackets carried by the main frame, pinions and sprockets carried by the sliding frames, a rotary brush, means for raising the brush, and means for moving the sliding frames forwardly when the main frame is raised.

DANIEL PIKE.

Witnesses:

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