

(No Model.)

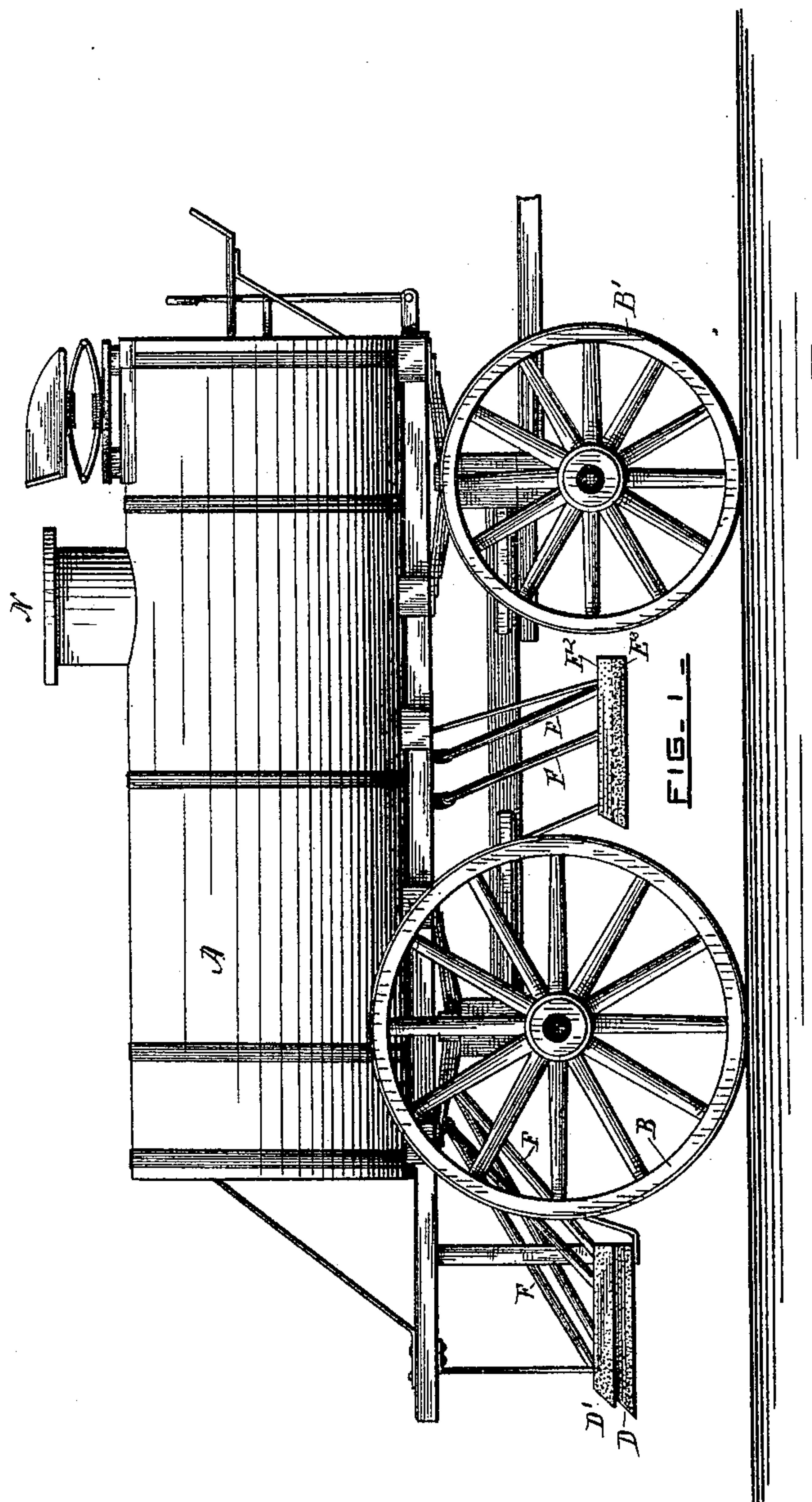
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J. A. BANCROFT.

STREET SPRINKLER.

No. 353,729.

Patented Dec. 7, 1886.



WITNESSES:

Thos H. Dodge
William H. Curtis

INVENTOR:

John A. Bancroft

(No Model.)

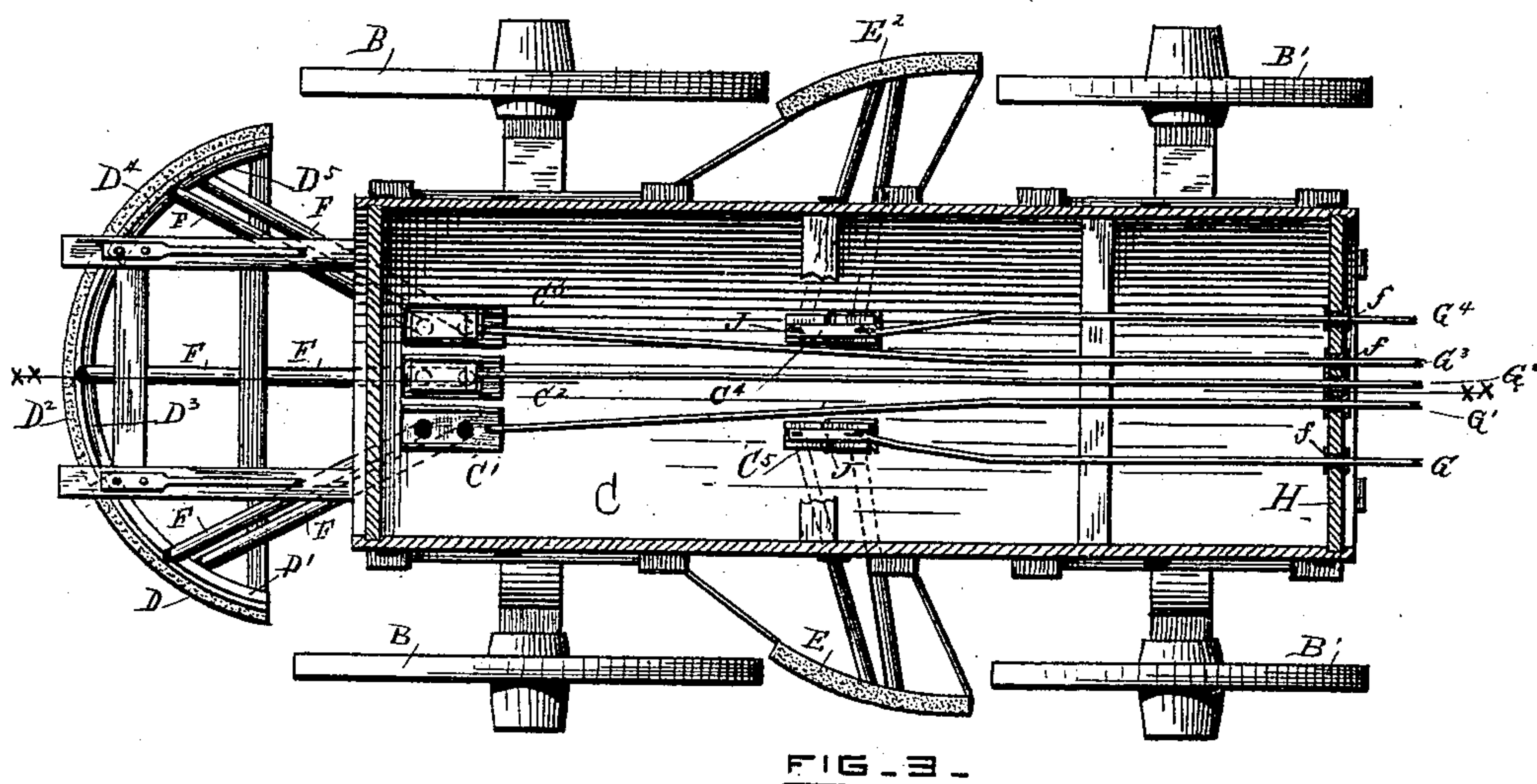
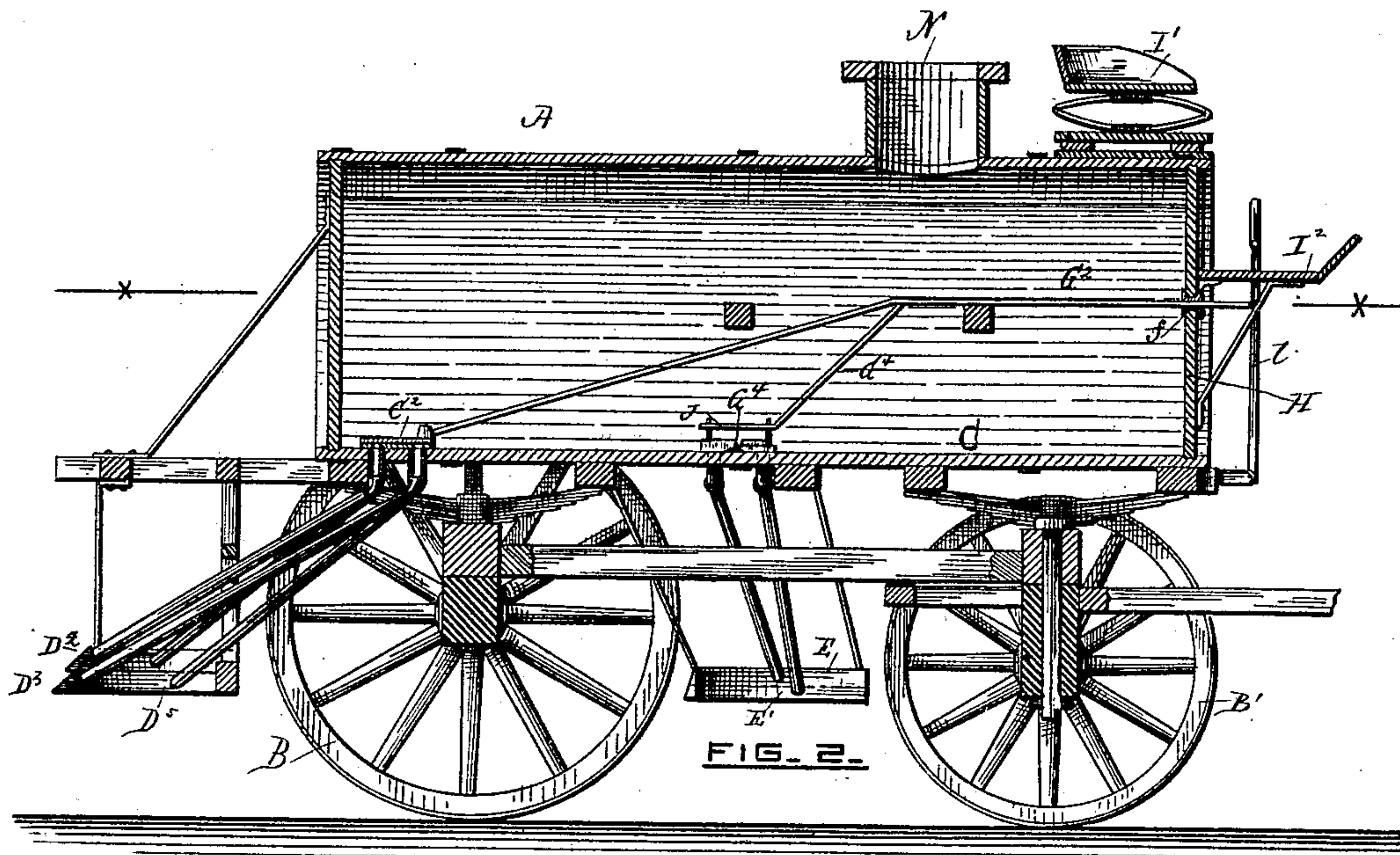
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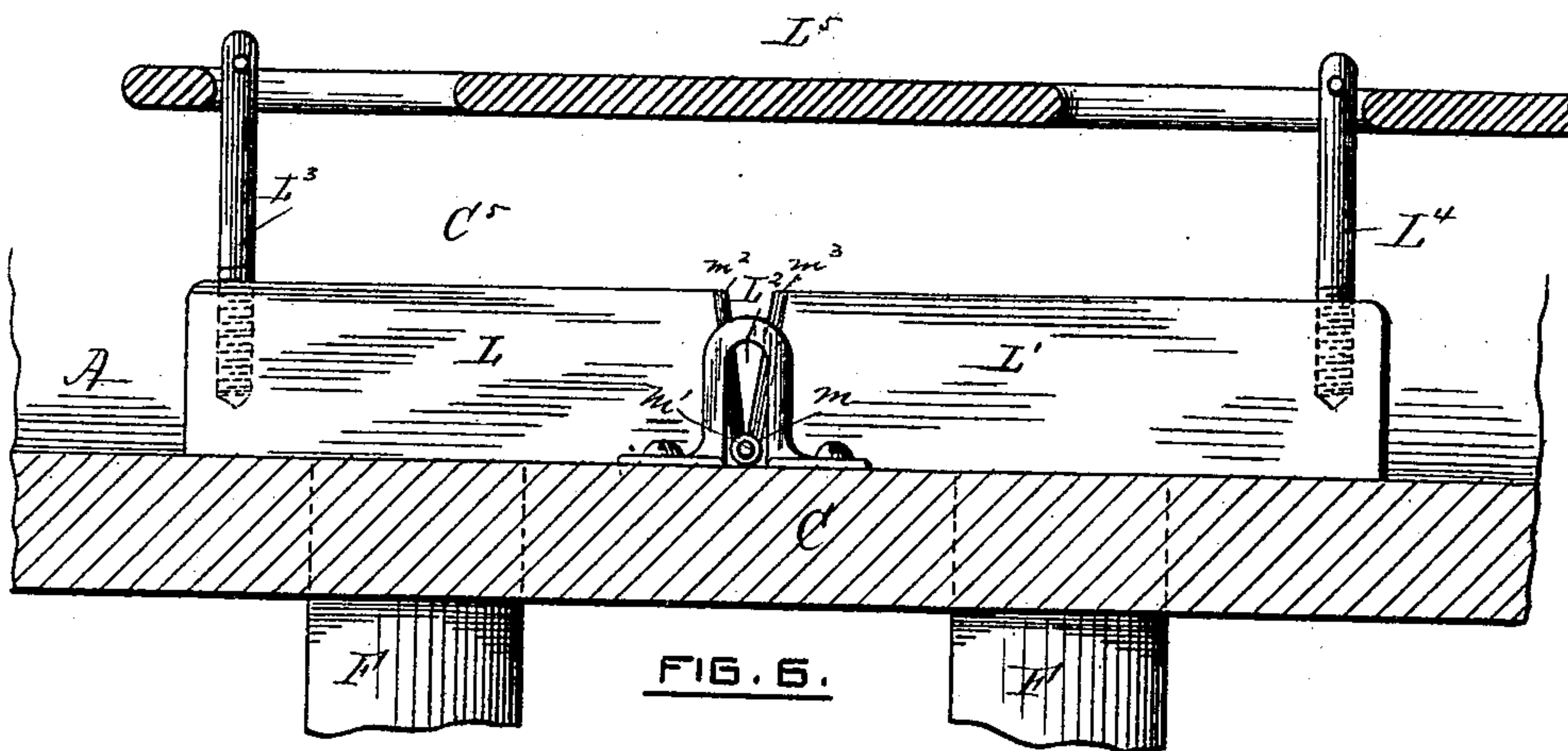
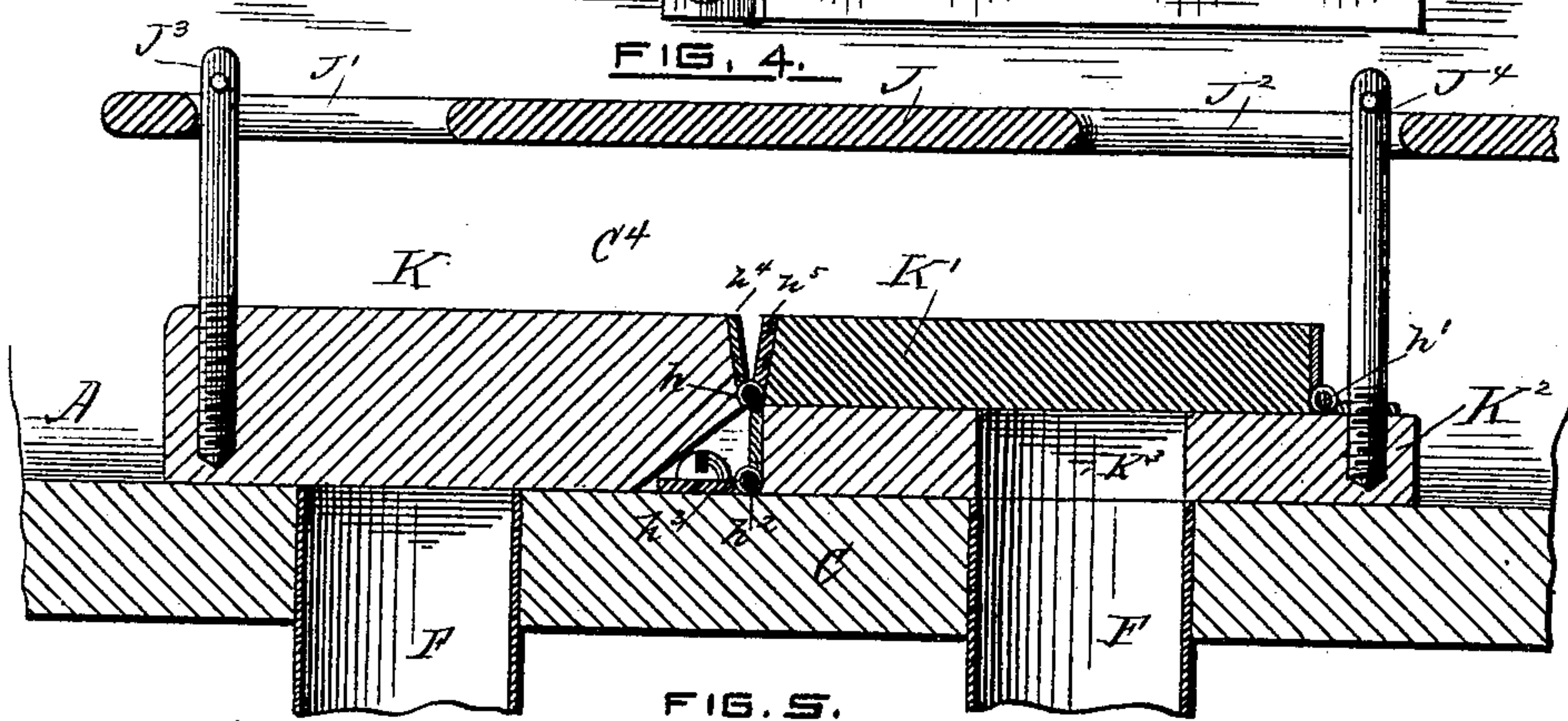
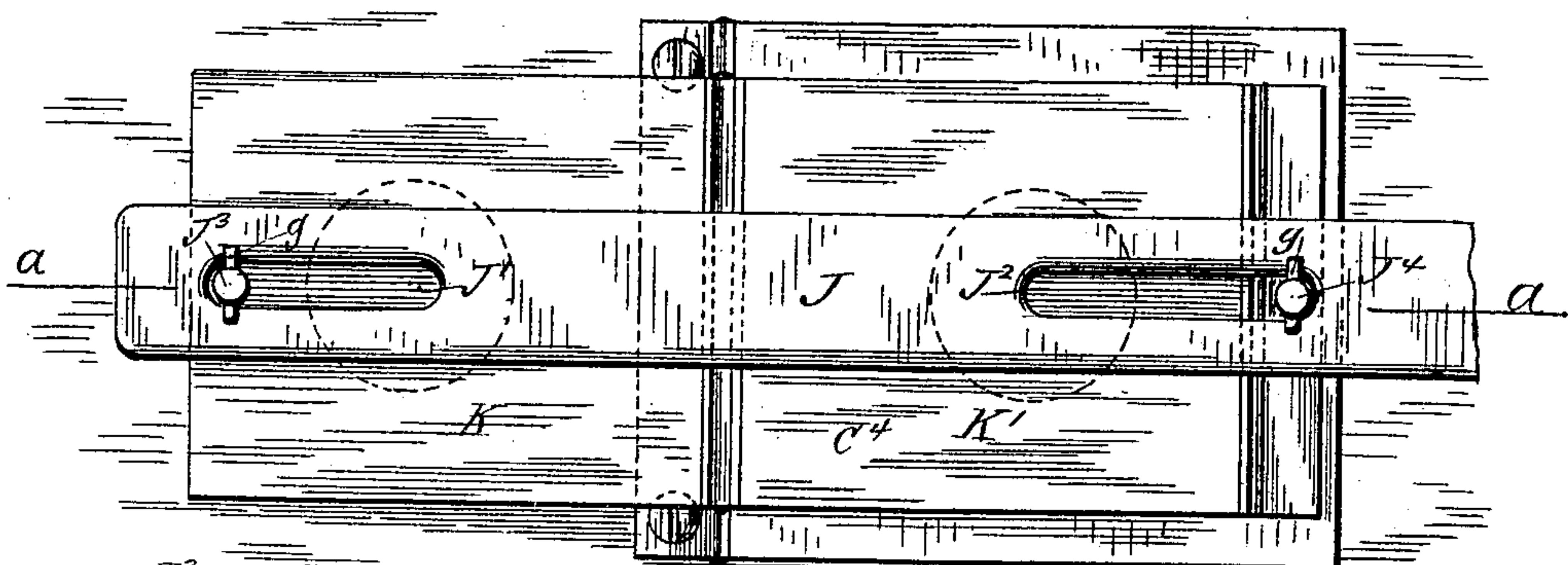
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William C. Curtis

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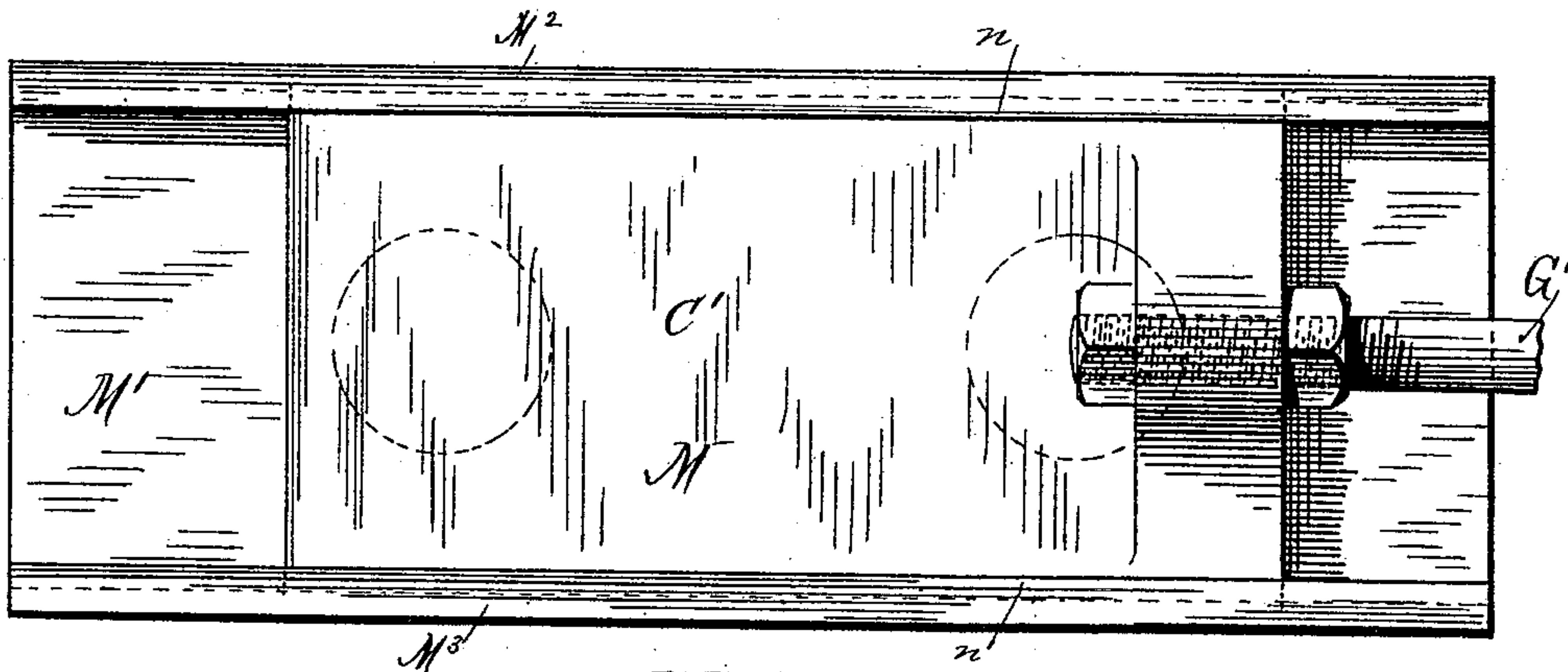


FIG. 7.

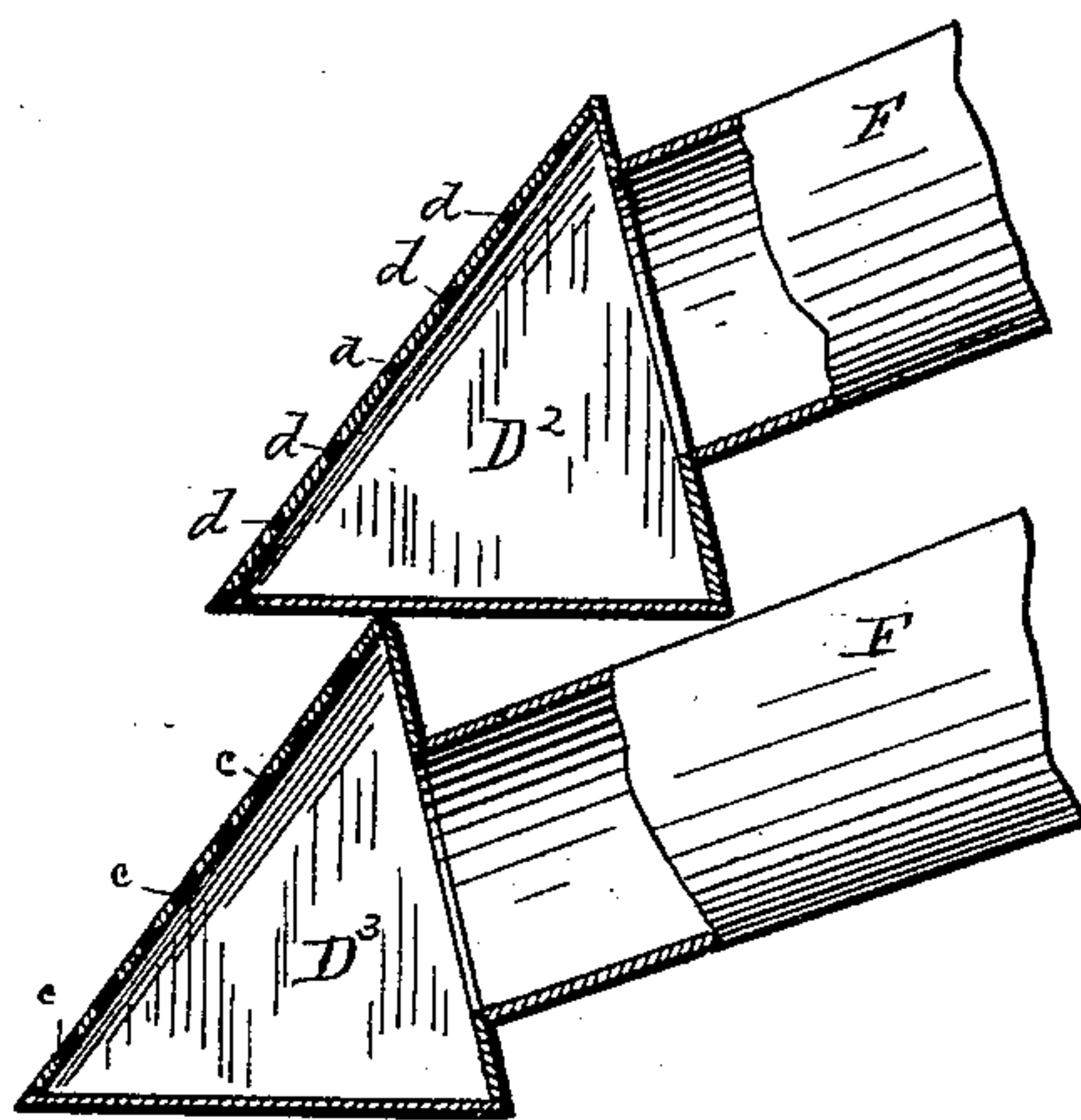


FIG. 8.

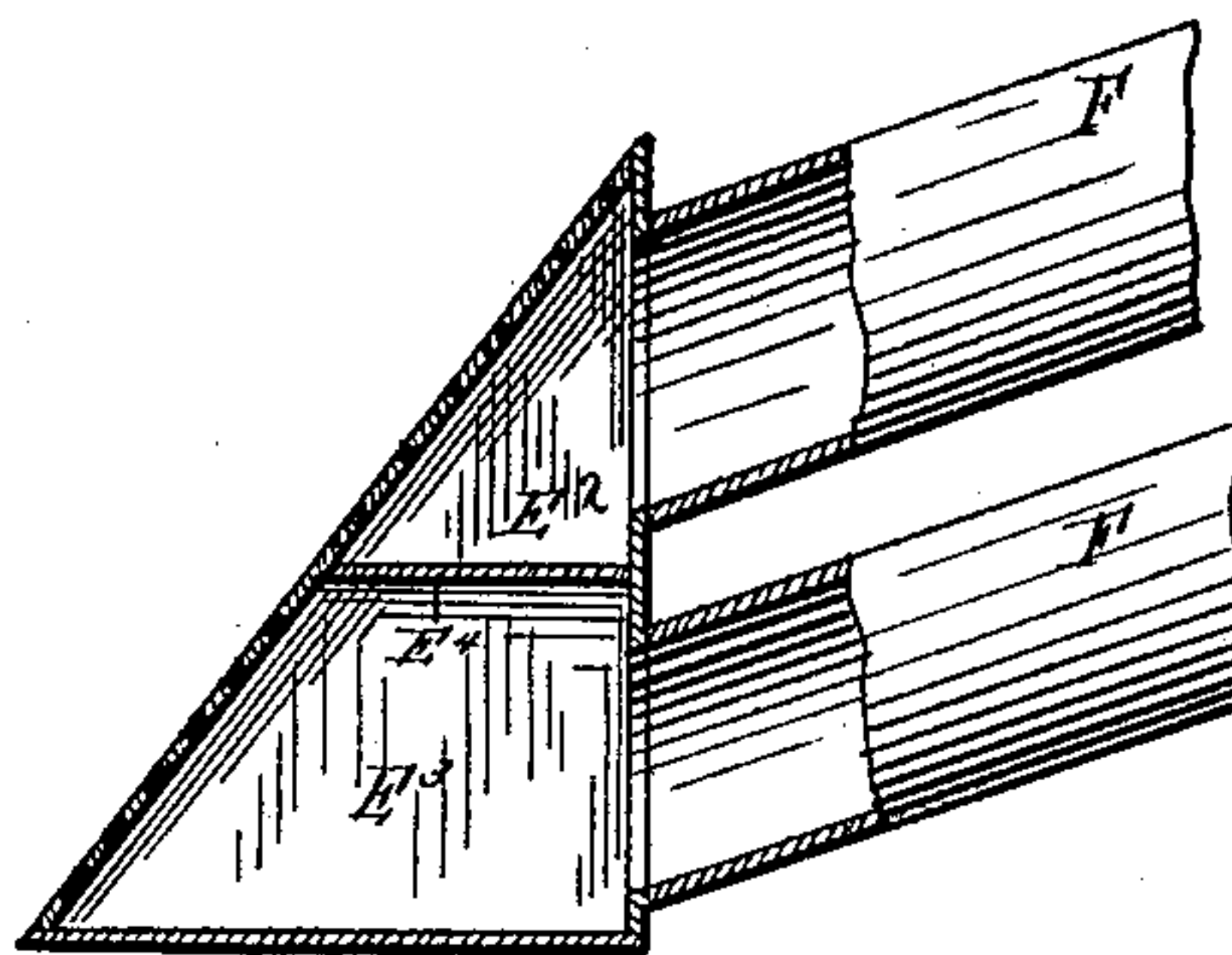


FIG. 9.

WITNESSES:

Thos. H. Dodge
William H. Curtis

INVENTOR:

John A. Bancroft

UNITED STATES PATENT OFFICE.

JOHN A. BANCROFT, OF WORCESTER, MASSACHUSETTS.

STREET-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 353,729, dated December 7, 1886.

Application filed July 28, 1886. Serial No. 209,285. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BANCROFT, of the city of Worcester, county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Street-Sprinklers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters of reference marked thereon, forming a part of this specification, and in which—

Figure 1 represents a side view of a street-sprinkler having my present improvements applied thereto, the end of the pole being broken off. Fig. 2 represents a longitudinal vertical central section of the sprinkler, as will be hereinafter more fully described, indicated by line *x x*, Fig. 3. Fig. 3 represents a section of the lower half of the sprinkler, indicated by line *x x*, Fig. 2. Fig. 4 represents a top or plan view, upon an enlarged scale, of the combined valve. Fig. 5 represents a vertical central section of the valve on line *a a*, Fig. 4. Fig. 6 represents upon an enlarged scale a modification of the valve. Fig. 7 also represents upon a like scale another valve modification; and Fig. 8 represents upon an enlarged scale a vertical section through the back water-discharge chamber, as will be hereinafter more fully described; and Fig. 9 represents upon a like enlarged scale vertical sections through the water-discharge chamber on one side, both sides being alike.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe the improvements more in detail.

The nature of my invention consists in the arrangement and combination, with the body or water-reservoir of the sprinkler, of two series of water-discharge chambers at the rear of the sprinkler, and also one on each side, as will be hereinafter described.

It further consists in the combination, with each operating-lever and set of double-discharge water-chambers, of a two-way valve, whereby the water can be shut off and let onto either or both the chambers at the will of the operator, as will be hereinafter described.

In the drawings, A is the main water-tank, supported upon rear wheels, B, and front

wheels, B', in the usual manner. On the tank-bottom C are arranged, in this instance, five sets of valves, C', C², C³, C⁴, and C⁵, the first three sets admitting water to the six water-discharge chambers D, D', D², D³, D⁴, and D⁵, and the two latter to the side water-discharge chambers, E E' and E² E³. Each valve has two openings or ports. The rear water-discharge chambers, D, D², and D⁴, may be made in one continuous chamber with two divisions, (shown in dotted lines, Fig. 3,) dividing said chamber into three separate chambers; or the chambers may be made entirely separate, but arranged to abut against each other. The lower chambers, D', D³, and D⁵, may be made in the same manner, if preferred. One set of chambers are provided with coarse perforations *c*; while the other set are provided with fine perforations *d*, and each chamber is supplied with water from the main tank by a separate supply-pipe, F, and the flow of water through two pipes is controlled by a single valve, as indicated in Figs. 2, 3, 4, 5, 6, and 7.

In Fig. 8 are shown upon an enlarged scale vertical cross-sections through two of the rear water-discharge chambers—say D² and D³—together with portions of their water-supply pipes F F, the ends of the supply-pipes which connect with the water-chambers being also shown in section, and Fig. 9 shows similar views of two of the side water-discharge chambers—say E² and E³—and their water-supply pipes F F.

It will be seen that rear water-discharge chamber D is over D', D² over D³, and D⁴ over D⁵; also, that the side water-discharge chamber E is over E', and E² over E³. In this instance I form chambers E and E' and E² and E³ by a division-plate, E⁴. (See dotted lines, Figs. 1 and 2, and full lines, Fig. 9.) If preferred, however, two separate and distinct chambers may be employed on each side, one chamber of each set being above or higher than the other.

A series of valve-rods, G, G', G², G³, and G⁴, are used, the rear ends of which connect with their respective valves C', C², C³, C⁴, and C⁵, in any proper manner, while their front ends extend up and forward, and out through stuffing or packing boxes *f* in the front head, H, and are there connected, each to a separate

hand-lever, l , said levers extending up in convenient positions for operation by the driver from his seat I' , I^2 being his foot-board. (See Figs. 1, 2, and 3.)

5 Each valve is used to supply two water-discharge chambers, and the valve which I prefer is marked C^1 , Figs. 2, 3, 4, and 5, and is connected with valve-rod G^1 by the bar J , provided with two slots, $J^1 J^2$, through which pass
10 the ends of the studs $J^3 J^4$, pins $g g$ being inserted in their upper ends to keep slotted bar J from slipping off studs $J^3 J^4$. (See Figs. 3, 4, and 5.)

Valve C^1 consists of three main parts, part K
15 receiving stud J^3 , and is hinged at h to the inner end of the part K' , which in turn is hinged at its outer end at h' to the part K^2 , which receives the stud J^4 , and is also hinged at its inner end at h^2 to a plate, h^3 , fastened to the bottom C of
20 tank A . Part K^2 has an opening, K^3 , through its center, which is closed by part K' when the parts are in the positions shown in Figs. 4 and 5, and in which case the ends of both water-supply pipes $F F$ are closed, part K closing
25 the one on the left, and part K' the one on the right, as seen in Fig. 5. If the driver wishes the water to flow through the pipe F on the left, he draws bar J forward, thereby drawing stud J^3 in the same direction, and turns part
30 K upon its hinge h , when the water will flow under part K into supply-pipe F , and from thence into and out of discharge-chamber E , and if the driver now wishes to let water into discharge-chamber E' also, he draws bar J still
35 farther forward, when the end h^4 of part K will strike against end h^5 of part K' , and the latter will be turned upon its hinge h' , and the water will flow through hole K^3 into the supply-pipe F , and through that into and out
40 of discharge-chamber E' . If, however, the driver only desires water to flow through the right water-supply pipe, F , he forces bar J back, thereby forcing stud J^4 back, which turns part K^2 up and back on its hinge h^2 , and leaves a
45 place under it for the water to flow into the open end of pipe F under it. This arrangement is a good one, and not liable to get out of order.

Valve C^5 , Fig. 6, is a modified form of construction for accomplishing the same general
50 results. The parts $L L'$ are hinged together by pivot m , the end m' of the pivot m extending out on each side into a loop, L^2 , fastened to the bottom C of the tank A . Stud $L^3 L^4$
55 are employed in this case, same as in Fig. 5; also, a slotted bar, L^5 . When the driver wishes to let water flow through the left-hand supply-pipe, he draws bar L^5 forward and turns stud L^3 and part L' up and in on hinge or pivot m ,
60 and if he wishes the water to flow through both pipes F at the same time he draws slotted bar L^5 forward until the end m^2 of part L strikes against end m^3 of part L' and lifts the part L' , so that water can flow under that into the right-
65 hand pipe, as well as into the left-hand end one. If, however, he desires to let water into the right-hand supply-pipe only, he forces bar

L^5 back and turns stud L^4 and part L' up and back, when water will flow through the right-hand supply-pipe.

Valves C' , C^2 , and C^3 are alike. The top or
70 sliding part M of valve C' is represented removed, Fig. 2, to show the openings in the bottom plate, M' . This sliding or modified
75 form of construction is shown upon an enlarged scale in Fig. 7. Plate M' is formed with two side overlapping flanges, $M^2 M^3$, and under
80 which flanges the edges $n n$ of the sliding part M works. Top part, M , has an upward projection, through which a hole is made for the
85 passage of the end of the operating-rod, a section of which is shown attached in Fig. 7. With this form of valve, to let water flow through the left-hand pipe, the driver draws
90 rod G' forward until the part M has been drawn off of the water-opening, (shown in dotted line, Fig. 7,) and if he desires to let water flow through both water-openings he draws valve-
95 rod G' forward until both water-openings are cleared; but if he only wishes to let the water flow through the right-hand opening; then he pushes valve-rod G' back to move part M off the right-hand water-opening. It will thus
be seen that the driver at his option can let water flow through both or either of the water-openings.

If preferred, the valve-rods and their levers
100 l may be so arranged and connected that levers l will project up through the water or man hole N .

The operation is as follows: In sprinkling
streets some places are very dry and dusty, while others being shaded or from other causes
are damp, and do not require so much water. Consequently, with my present invention, the
105 driver will find the lower rear sprinklers, D' , D^3 , and D^5 , sufficient for ordinary dry streets; but if he does not let on one or more of the upper sprinklers, D , D^2 , and D^4 , while when
110 he passes over portions of streets where the lower rear sprinklers alone would make them too wet, they are shut off, and the upper or
finer sprinklers, D , D^2 , and D^4 are used. Having the rear water or sprinkling chamber
115 divided into three divisions, enables the driver to shut off one or both of the end chambers in passing carriages. In some narrow streets
the rear sprinklers are not quite wide enough to sprinkle by one passage of the cart, and
120 two passages make some portions of the street too wet, and by the use of the side water chambers or sprinklers, E , E' , E^2 , and E^3 , this
difficulty is overcome, since if the street is quite narrow the rear sprinklers and one side
125 sprinkler will do the work by one passage of the cart, while if still wider the rear and both
side sprinklers are used. This arrangement saves much time and expense, while the work
is more uniform and satisfactory. The side
130 sprinklers and chambers, as before explained, are made in sets of two—one above the other—one fine and one coarse, same as the rear
sprinklers, and for the same purposes.

In wide streets, with the use of the side

sprinklers the passage of the cart back and forth is quite sufficient. Then, again, with the side sprinklers or water-chambers, the driver in passing carriages standing next to the curbing can sprinkle in between them, and thus in a great measure keep the whole street well sprinkled, although carriages may be standing on both sides thereof.

Having described my improvements in street-sprinklers, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination, in a water-sprinkler, of a series of upper and lower rear water-discharge chambers, D, D', D², D³, D⁴, and D⁵, and side water-discharge chambers, E E' and E² E³, and a separate water-supply pipe for each

water-discharge chamber, and a single valve and lever for each set of water-discharge chambers, whereby one or both chambers of each set of water-discharge chambers can be used or thrown out of action by a single lever, substantially as and for the purposes set forth.

2. In a water-sprinkler, the combination, with each set of water-supply pipes F F, bottom C of the water reservoir or tank A, and slotted bar J, of the parts K, K', and K², hinged together at h h' and to the bottom C at h², substantially as and for the purposes set forth.

JOHN A. BANCROFT.

Witnesses:

THOS. H. DODGE,
WILLIAM C. CURTIS.