

No. 792,545.

E. G. NICEWANER.
STREET CLEANER.

PATENTED JUNE 13, 1905.

APPLICATION FILED JAN. 11, 1904.

3 SHEETS—SHEET 1.

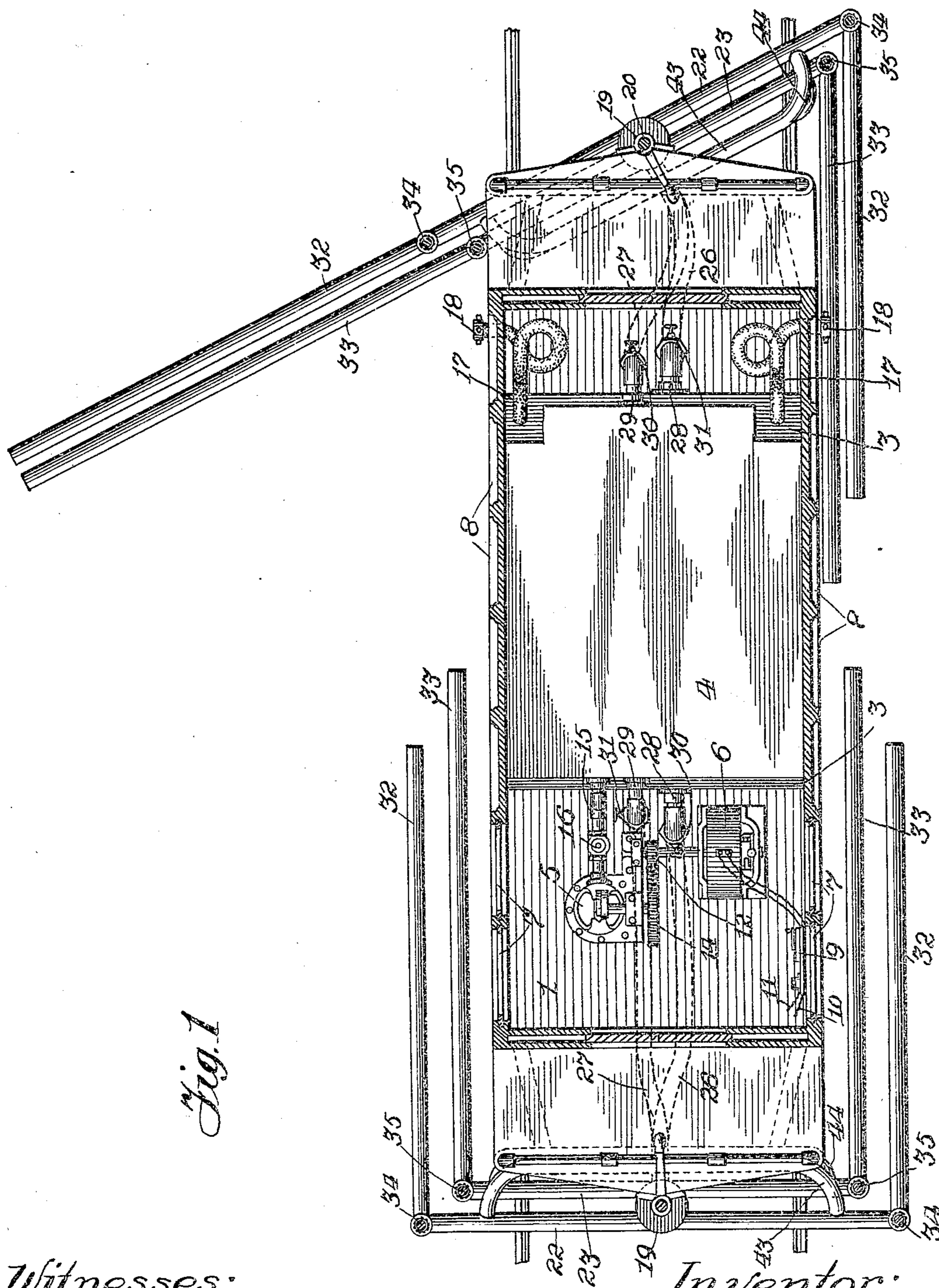


Fig. 1

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E. E. Potter

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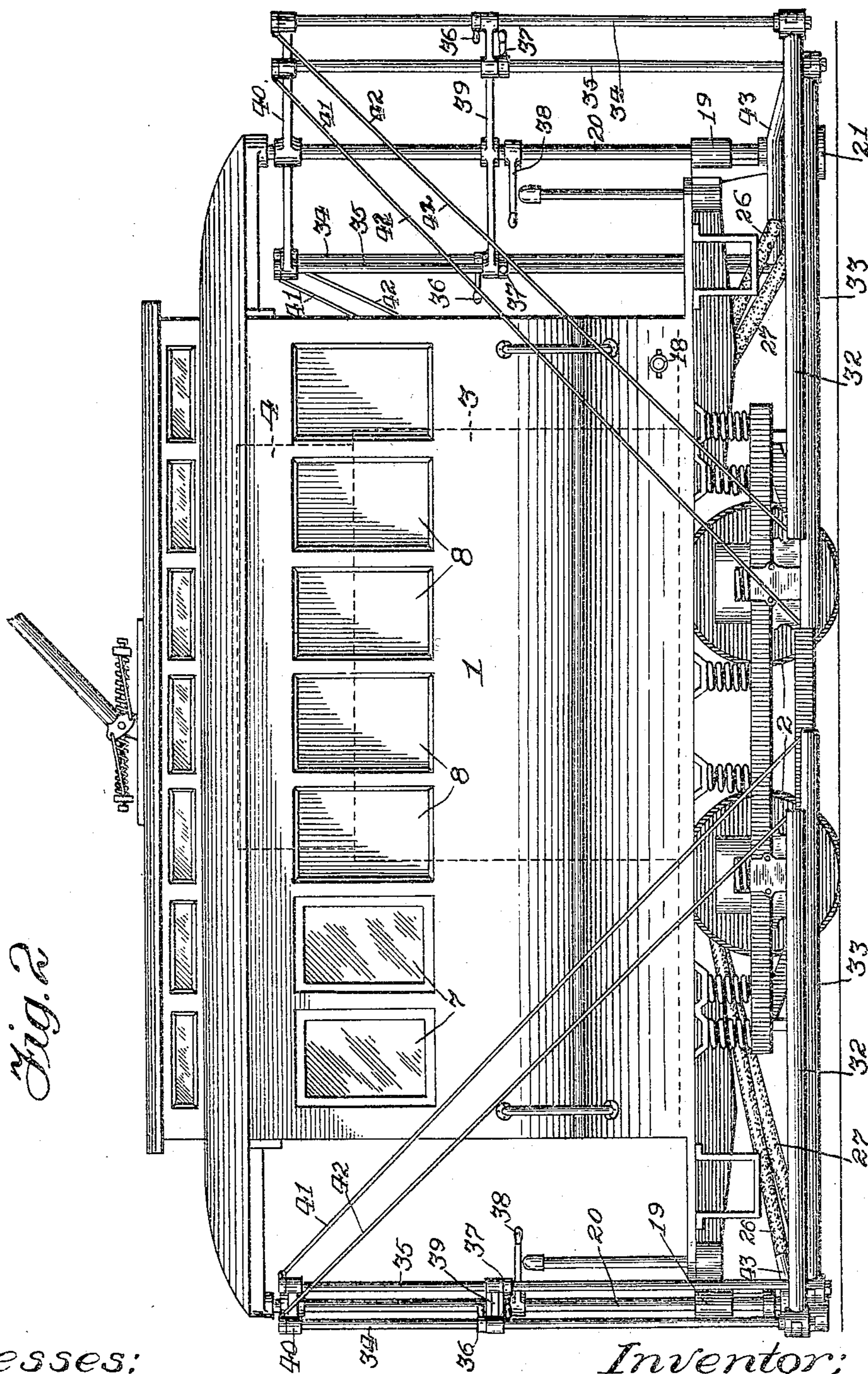


Fig. 2

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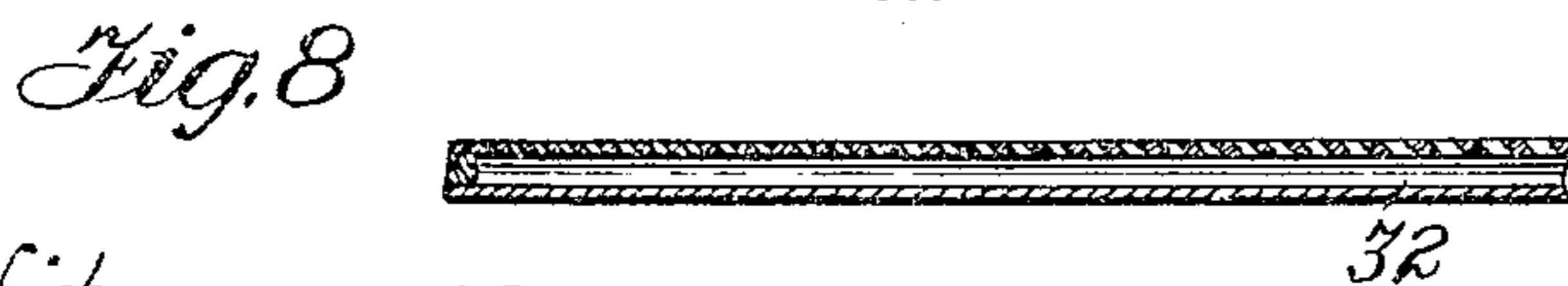
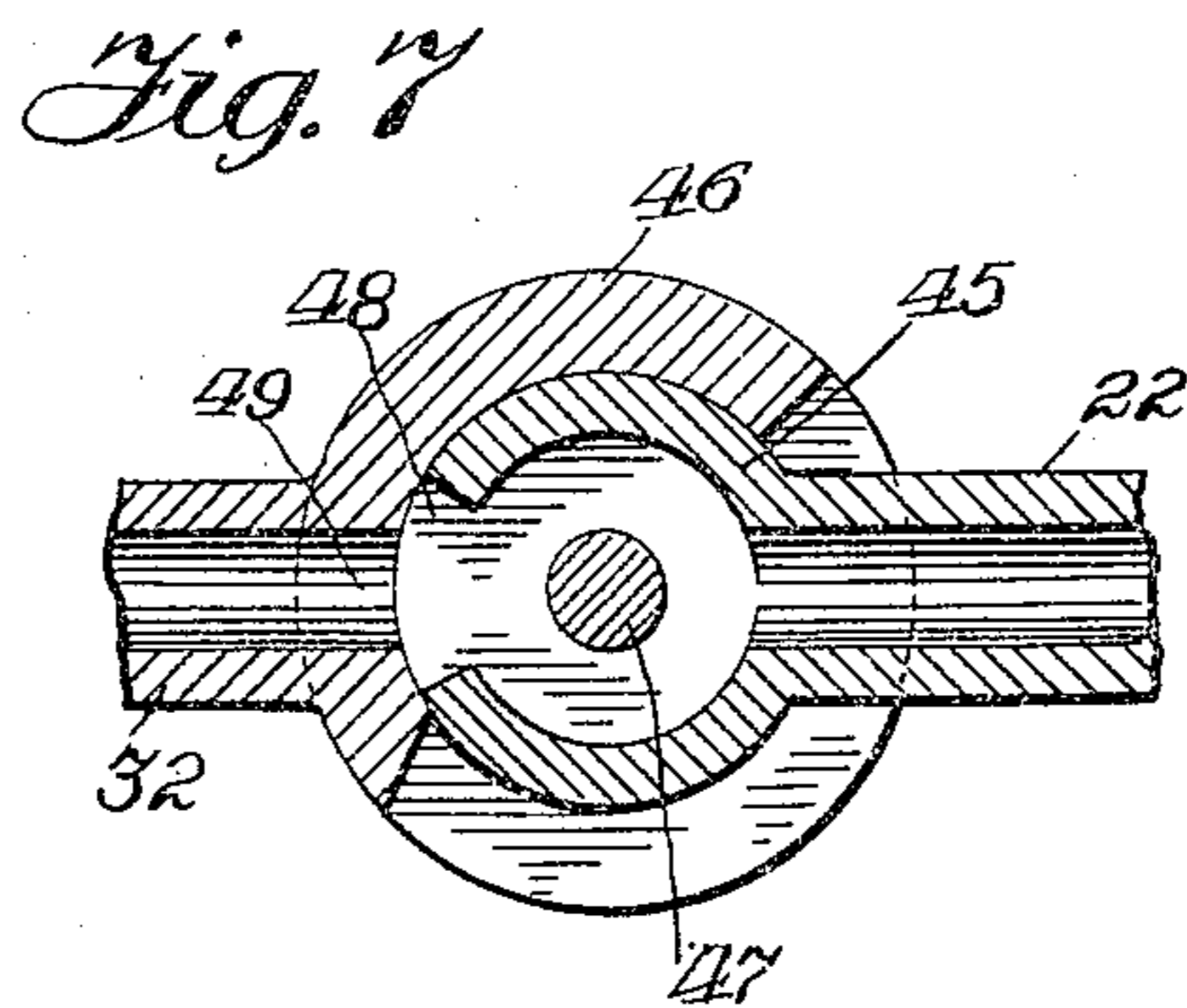
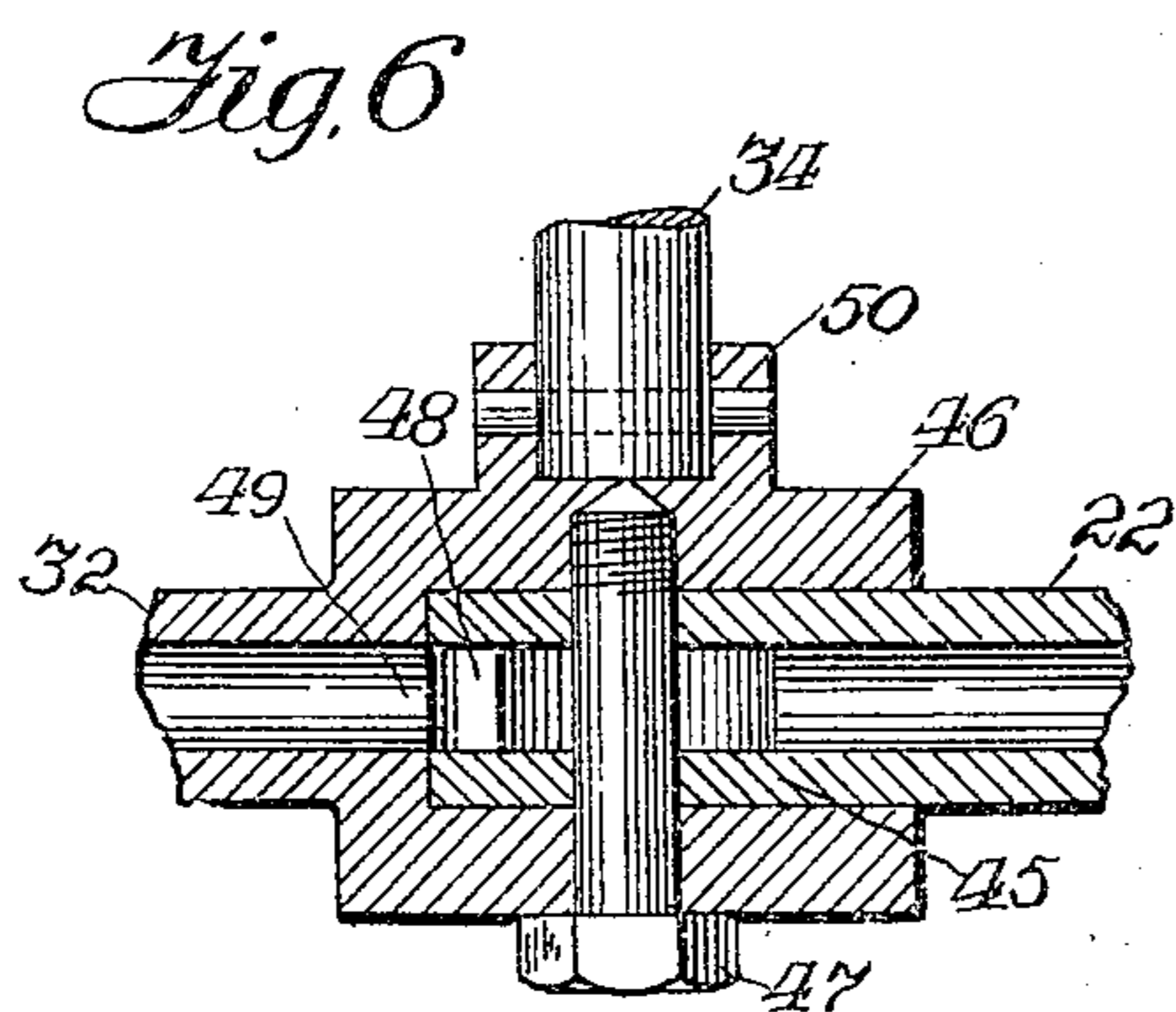
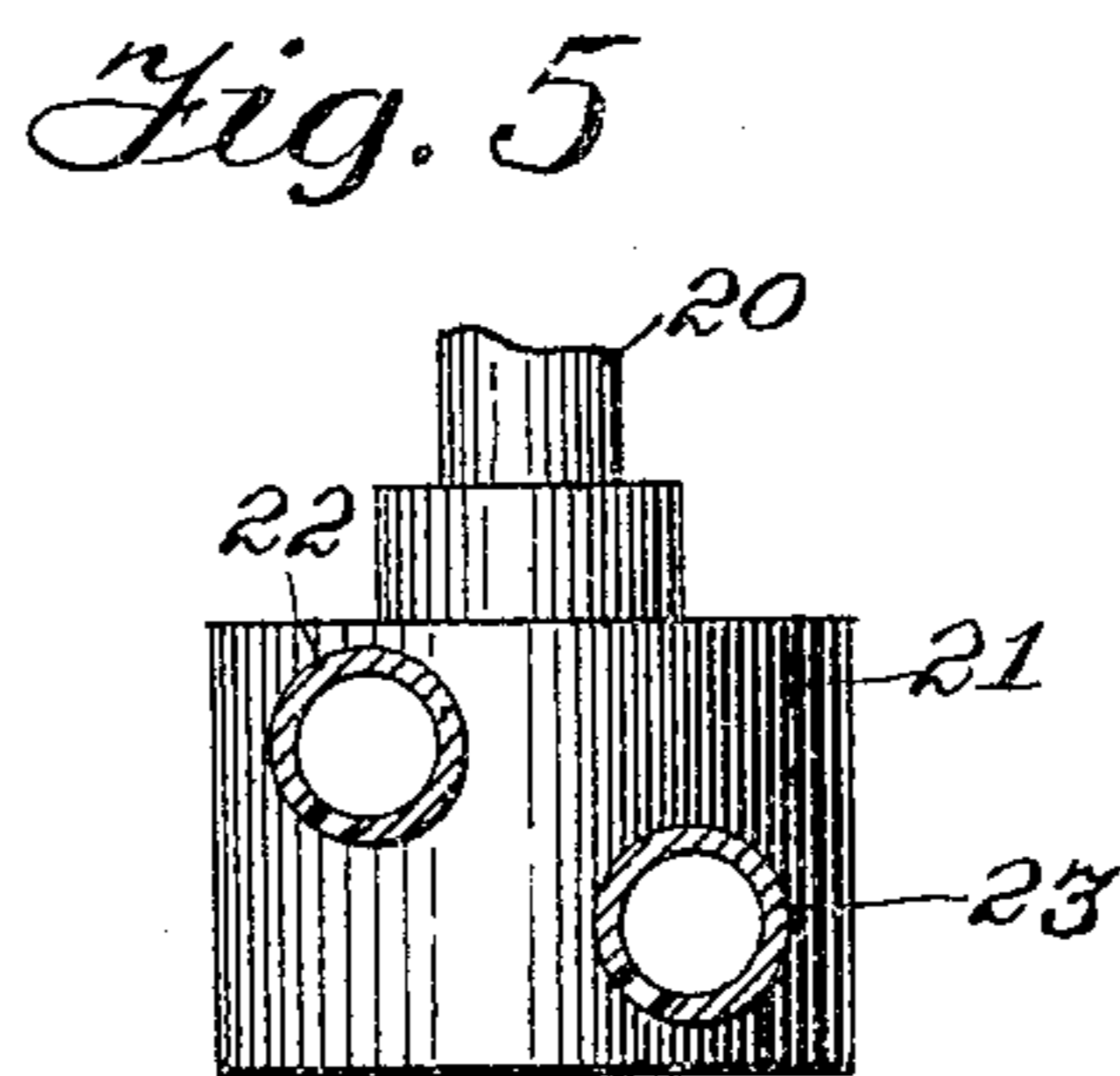
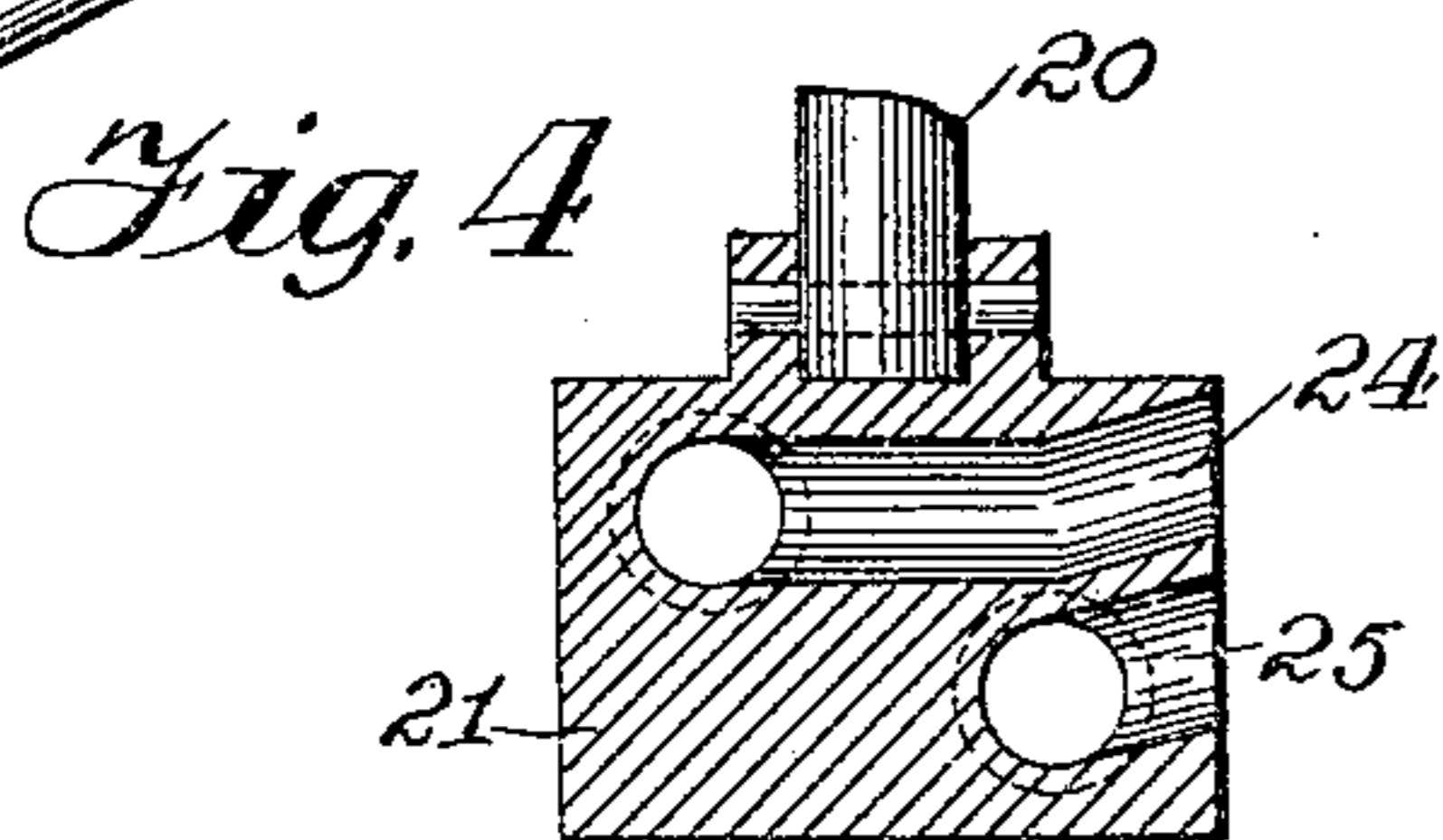
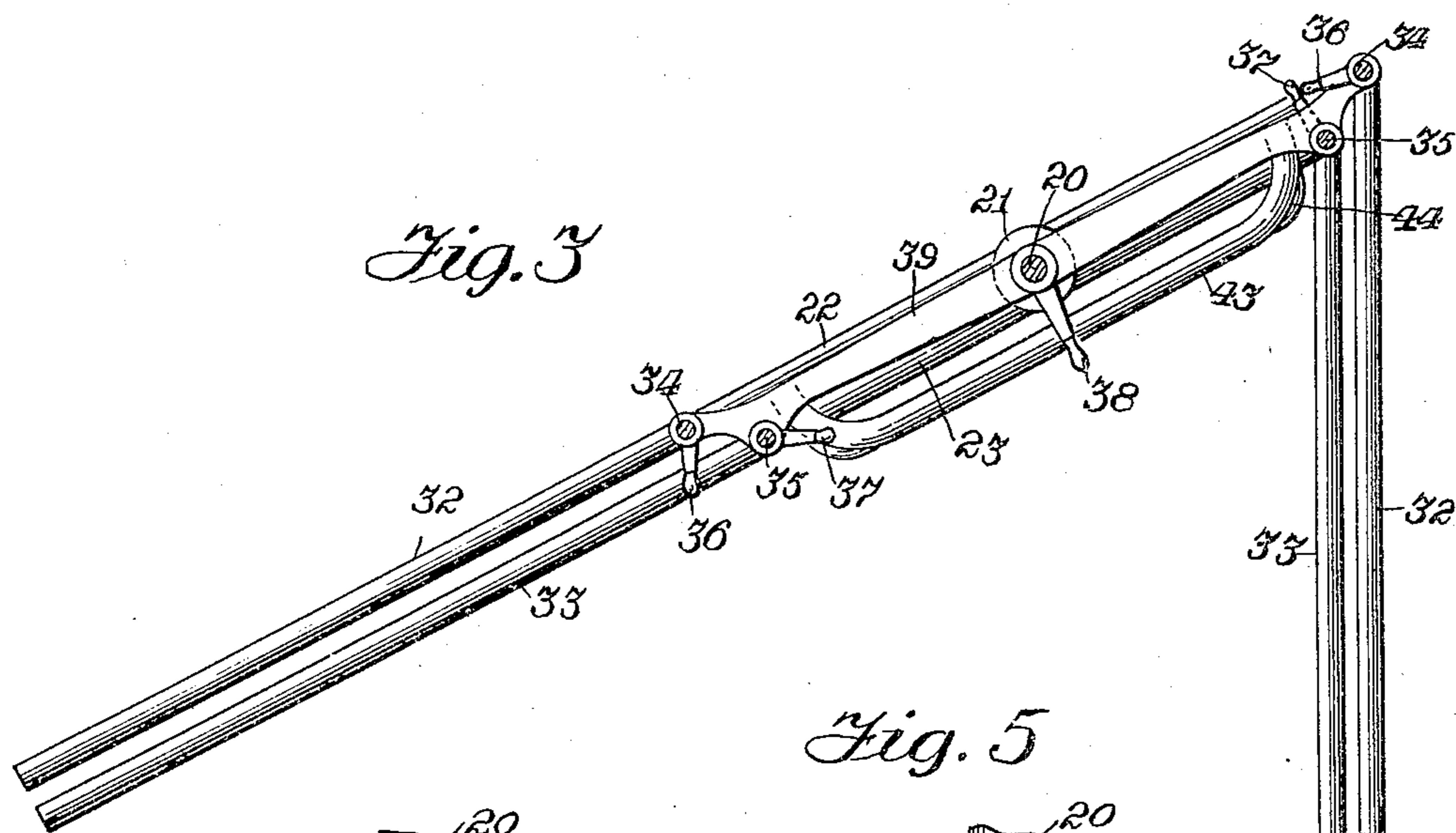
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3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN G. NICEWANER, OF PITTSBURG, PENNSYLVANIA.

STREET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 792,545, dated June 13, 1905.

Application filed January 11, 1904. Serial No. 188,508.

To all whom it may concern:

Be it known that I, EDWIN G. NICEWANER, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Street-Cleaners, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in street-cleaners, and relates more particularly to a cleaner wherein the operating mechanism is carried on a suitable vehicle and wherein the street is first
15 sprinkled before the cleaning operation takes place, thereby overcoming a large amount of dust which would otherwise be present.

The object of this invention is to provide a street-cleaning apparatus which may be carried on a trolley-car or other suitable truck and wherein a supply of water is first applied to the street and the dirt or refuse is afterward forced to the curb by a suitable air-discharge.

25 A further object of this invention is to provide a machine which will be compact and suitably folded when not in use, whereby the spray and air-discharge pipes may be folded against the sides of the car.

30 A still further object of this invention is to so arrange the parts that they may be all carried upon a suitable trolley-car or vehicle and that the same will carry all the necessary apparatus for the complete operation of the
35 device.

Briefly described, my invention consists in providing in a car of suitable construction an air-tank and a water-tank, the water-tank being filled at any suitable point and the air-tank being constantly supplied by the air-compressor, which is driven by a motor which receives its current from the trolley-circuit. Folding spray-pipes are provided on each end of the car, one of said pipes being slightly
40 in advance of the other and connected with the water-tank, whereby the street will first be sprayed with a suitable supply of water. The other of said pipes is connected with the air-tank, whereby the air passing from said
45 pipe will cause the dirt and refuse on the

street to be blown or forced toward the curb. These pipes are preferably made in sections, whereby when one section is not needed in the operation of the device the same may be folded against the side of the car, making the
50 device much more compact.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate
60 like parts throughout the several views, in which—

Figure 1 is a sectional plan view of my improved apparatus. Fig. 2 is a side elevation of the same. Fig. 3 is a detail sectional view
65 of the discharge-pipes, one set of which are located on each end of the car. Fig. 4 is a sectional elevation of the central head to which these pipes are connected. Fig. 5 is a side elevation of the same. Fig. 6 is a sectional elevation of the joints which are provided in these discharge-pipes. Fig. 7 is a sectional plan of the same. Fig. 8 is a sectional view showing the discharge-outlets provided in the discharge-pipes.
75

The reference-numeral 1 indicates the car-body, which may be mounted upon any suitable form of truck 2, the said car-body having mounted on its interior a water-tank 3 and air-tank 4. The car-body wherein these
80 tanks are provided has a chamber at its rear, wherein the air-compressor 5 and motor 6 for operating the said compressor are located. Windows 7 are provided in the sides of the car.

It is obvious that a flat car could be used
85 in place of the car indicated in the drawings without in any way affecting the operation of my device.

The motor 6 is operated by a trolley-circuit which is conducted to the switchboard
90 9 by the wires 10 11, the said motor being geared to the compressor through the medium of gears 12 14, as indicated in Fig. 1. The pipe 15, leading from the compressor to the air-tank 4, has a regulating or escape
95 valve 16 placed therein for the purpose of regulating the pressure within said tank.

The water-tank 3 has connected with its upper sides filling-pipes 17 17, which extend through the sides of the car and have a coup-
100

ling or hydrant connection 18 on their outer end.

Located on each end of the car is a bracket 19, in which a vertical supporting-rod 20 has
 5 a bearing, and mounted on the lower end of this rod 20 is the central head 21, with which the pipes 22 23 are connected. Apertures 24 25 are provided in this head, the said apertures being connected with the water and
 10 air supplies, respectively, by the flexible pipes 26 27, which are connected with pipes 28 29, and said pipes 28 29 have valves 30 31 interposed within their length for the purpose of controlling the water and air passing through
 15 same. The pipes 22 23 have pivotally connected to them the pipes 32 33, the pivotal connection being of such construction that a valve is formed therein, which when the
 20 said extensions are in their inoperative or folded position the water or air passing through the same is cut off. These pivotal connections have vertically-extending rods 34 35, upon which controlling-handles 36 37
 25 are secured for the purpose of actuating the same. The rod 20 also has a controlling-handle 38 secured thereto, whereby the position of the said rods and pipes connected with the same may be controlled. Secured
 30 to the rod 20 at suitable points intermediate its length are arms 39 40, the outer ends of which are provided with suitable bosses in which the rods 34 35 are supported, and connected with the upper ends of these rods are
 35 stay-wires 41 42, which extend to the outer ends of the extension-pipes 32 33 for the purpose of supporting the same. The supply of water and air to the discharge-pipes is connected at more than one point for the purpose
 40 of obtaining a more even distribution, this being accomplished by the supply-pipes 43 44, which connect with said pipes at their outer end at a point adjacent to the joints in said pipe. All these vertical supporting-
 45 rods are connected at their lower ends by a pin connection, and the construction of the valvular joint in said pipes will now be described, special reference being had to Figs. 6 and 7. Each of the pipes 22, which are connected
 50 to its outer end the male member 45 of the joint, the said member being adapted to operate in a suitable aperture formed in the female member 46, this member being connected with the pipe extension. These members 45 46
 55 are suitably fitted together, and a bolt 47 is provided for the purpose of securing the same in position, and the aperture 48, provided in the male member, is adapted to register with the opening 49 in the female member when
 60 the two sections of pipe are in alinement, thereby forming a passage through said joint; but when the said pipes are not in alinement the aperture 48 will not register with aperture 49, thereby cutting off the passage between
 65 said pipe-sections. The member 46 is

provided on its upper end with a boss 50, in which is pinned one of the vertical controlling-rods. It will thus be seen that any pipe extension which is in the operative position may be supplied with water or air; but when
 70 the same is swung around to the inoperative position the same will be cut off from the water or air supply. The apertures in said pipes are preferably on an angle, as indicated in Fig. 8, and the said apertures gradually decrease
 75 in size toward the end of the pipe, whereby the refuse which does not have to be forced or blown a great distance does not receive as much air or water as is the case where the same must be forced from the center
 80 of the street to the curb.

The operation of my improved device will be as follows: The water-tank 3 having been filled with a suitable supply of water through
 85 one of the pipes 18, the motor 6 is started, whereby the compressor 5 will force air into the tank 4 to a predetermined pressure, and the device will then be ready for operation, at which time one of the water-controlling
 90 valves 30 and the corresponding air-controlling valve 31 will be opened, the handle 34 will be actuated to such position that the pipes 22 23 on the front end of the car will be disposed at a suitable angle, and two of the
 95 handles 36 37 will be so actuated that the discharge-pipe extensions on one side of the car will be moved outwardly, whereby they are in alinement with the before-mentioned pipes. The water being discharged through
 100 pipe 22 and its extension 32 will sprinkle the street, thereby laying the dust, and the air-pipe 23, having the extension 33, will by the discharge of the air from said pipe through the apertures formed therein force the dampened
 105 refuse toward the curb, whereby the same may be readily gathered up.

It will be seen by reference to Fig. 1 that this device can be used in whichever direction the car is moving and that the same can be used on either side or both sides of the car,
 110 if desired.

While I have herein shown and described my invention, it will be obvious that many changes may be made in the details of the piping and in the general construction of the machine without departing from the spirit of
 115 my invention.

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

1. In a device of the character described, the combination of a truck, a tank mounted thereon, a swiveled head mounted at the end of the truck, a perforated main spray-pipe attached at its center to said head, connections
 120 between the head and the tank, a valve on each end of said spray-pipe, a supplemental perforated spray-pipe connected to each valve, said valves being so constructed that when the supplemental spray-pipes are turned
 125 130

at an angle to the main spray-pipe the ports of the valve will be closed.

2. In a device of the character described, the combination of a truck, two tanks carried on the truck, means for maintaining fluid under pressure in one of said tanks, a swiveled head mounted on the truck, a plurality of main spray-pipes connected to said head, a feeder-pipe leading from each of said tanks to said head, each feeder-pipe communicating through said head with one of said main spray-pipes, valves arranged on the ends of said main spray-pipes and extension

spray-pipes connected to said valves, the latter being so constructed and arranged that the supplemental spray-pipes may be moved to a position at an angle to the main spray-pipes and so that when in such position, passage through the valves will be cut off.

In testimony whereof I affix my signature in the presence of two witnesses.

EDWIN G. NICEWANER.

Witnesses:

H. C. EVERT,
K. H. BUTLER.