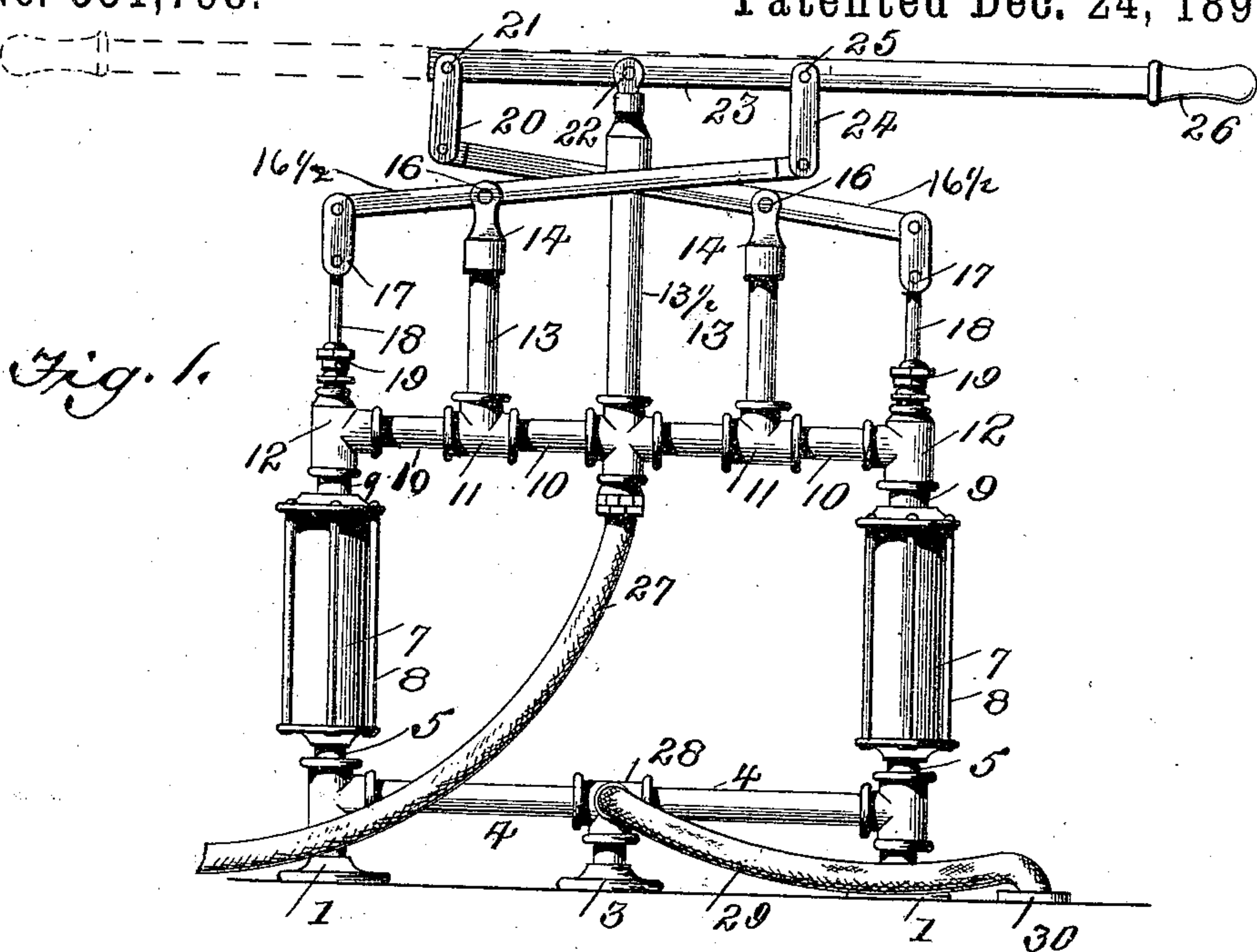


(No Model.)

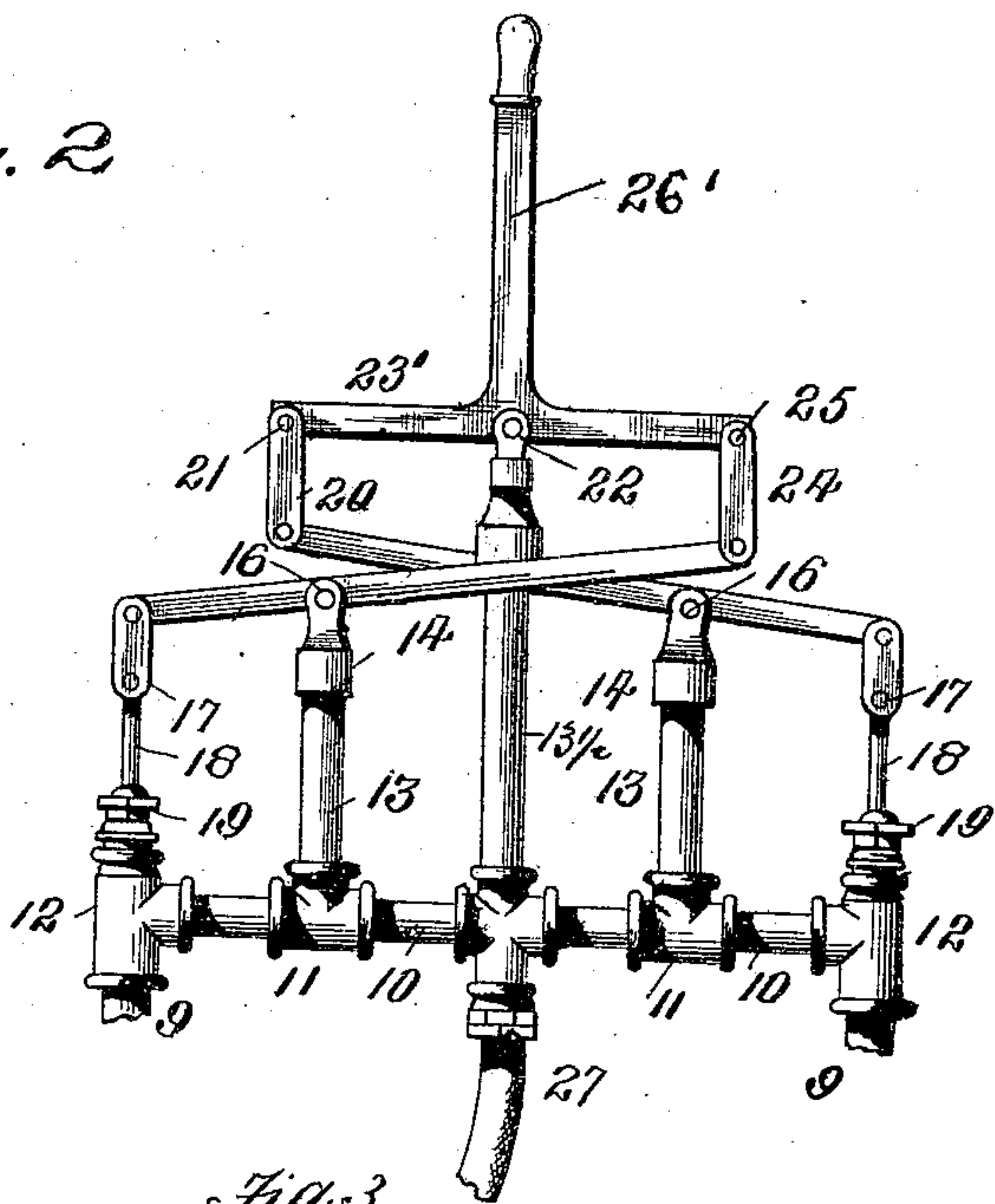
B. A. STRAIGHT.  
FORCE PUMP.

No. 551,798.

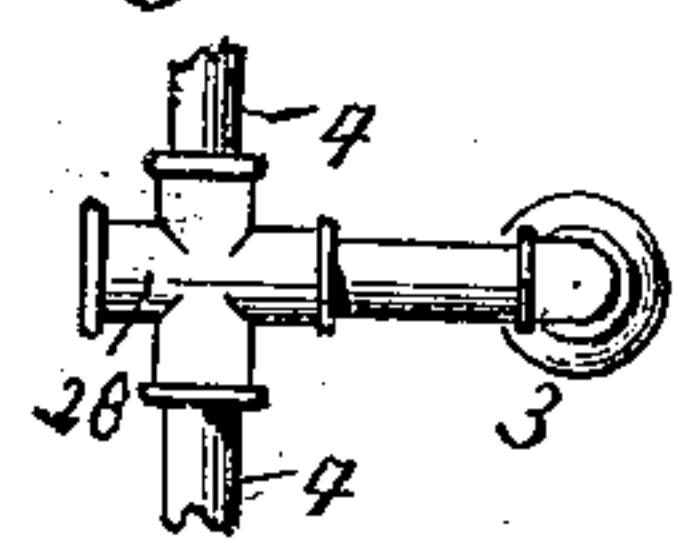
Patented Dec. 24, 1895.



*Fig. 2*



*Fig. 3*



Witnesses  
*John Amie*  
*A. A. Baldwin*

Inventor  
*Byron A. Straight*  
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Attorney

# UNITED STATES PATENT OFFICE.

BYRON A. STRAIGHT, OF JAMESTOWN, NEW YORK.

## FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 551,798, dated December 24, 1895.

Application filed March 19, 1895. Serial No. 542,427. (No model.)

*To all whom it may concern:*

Be it known that I, BYRON A. STRAIGHT, a citizen of the United States, residing in the city of Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Force-Pumps; and I hereby declare that the following is a full and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to make a strong and durable force-pump that may be used for fire purposes, spraying, and other such uses as may be desired.

The improvement consists in the combination and arrangement of parts as will be fully understood by this specification and the accompanying drawings, in which—

Figure 1 shows a side elevation of pump having my improvements. Fig. 2 shows a sectional elevation with lever in vertical position. Fig. 3 is a detail showing construction of pump-base.

In the drawings, 1 1 show floor or base standards attached to suitable T's for connecting the side frames by the pipes 4 4 and T 28, as shown in Fig. 1.

3 is a base screwed into T 28; but I sometimes put a cross in place of T 28, and connect it with 3 by a short pipe, like 4, so as to form a triangular base, as shown in Fig. 3, as this will hold the pump upright without other devices.

5 5 form the base to support the working barrels 7 7 of the pump, which are made of brass and having any suitable inside mechanism for producing the best results. These barrels are held in position by the long bolts 8 8 and suitable caps, as shown in Fig. 1. Above the working-barrel cap are nipples 9 9 entering T's 12 12.

18 18 are piston-rods of the pump working through caps 19 19 and T's 12 12, which T's are connected by nipples 10 10 to T's 11 11, and from the top of which I insert the short pipes 13 13, having caps 14 14. The pipes 13 13 serve the purpose of air-chambers as well as standards, with their caps 14 14 for pivot-fulcrums 16 16 for levers 16½ 16½ to turn on.

13½ is the center pipe extending from the center cross higher than pipes 13 13 and has a cap, into the top of which the lever 26 is pivoted. This center pipe forms the center air-chamber.

17 17 are connecting-links from pistons 18 18 to levers 16½ 16½.

20 and 24 are connecting-links to connect the ends of levers 16½ 16½ with lever 26 at 21 and 25.

27 is the hose-outlet for pump, and 29 the inlet-hose, extending into cistern or other reservoir 30.

I sometimes extend lever 26, as indicated by the dotted line, Fig. 1, which makes it double, and sometimes I place it in a vertical position, as shown in Fig. 2.

It is found that the extra air-chambers 13 13 equalize the pressure and are much better than to have one large air-chamber in the center, and this I do without extra cost.

By the use of compound levers all the power necessary is attained for even fire purposes.

It will be observed that nearly all parts of the pump are made from malleable fittings found at any plumber's shop.

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

1. In a double cylinder pump, the combination with two cylinders and suitable pistons and valves therefor, of a rigid pipe connection between the upper ends, comprising pipe sections and three coupling pieces, a discharge pipe connected to one coupling piece, three air chambers mounted upon said coupling pieces, a lever mounted upon each air chamber, those upon the two side air chambers being connected to the pistons, and that upon the middle air chamber being connected to the others, substantially as shown and for the purpose set forth.

2. In a double cylinder pump, the combination with two pump cylinders and suitable pistons and valves therefor, of feet upon which the cylinders rest, a rigid connection between the lower ends of said cylinders, having a coupling at its middle point, a suction pipe connected to said coupling piece, a third foot and rigid connection between it and said



coupling piece, whereby the pump is supported in a triangular space, a rigid pipe connection between the upper ends of said cylinders, and suitable discharge passages and  
5 piston operating mechanism, substantially as shown and for the purpose set forth.

In testimony that I claim the foregoing I

subscribe my name in the presence of two witnesses.

BYRON A. STRAIGHT.

Witnesses:

S. A. BALDWIN,  
MILO HARRIS.