

No. 711,676.

Patented Oct. 21, 1902.

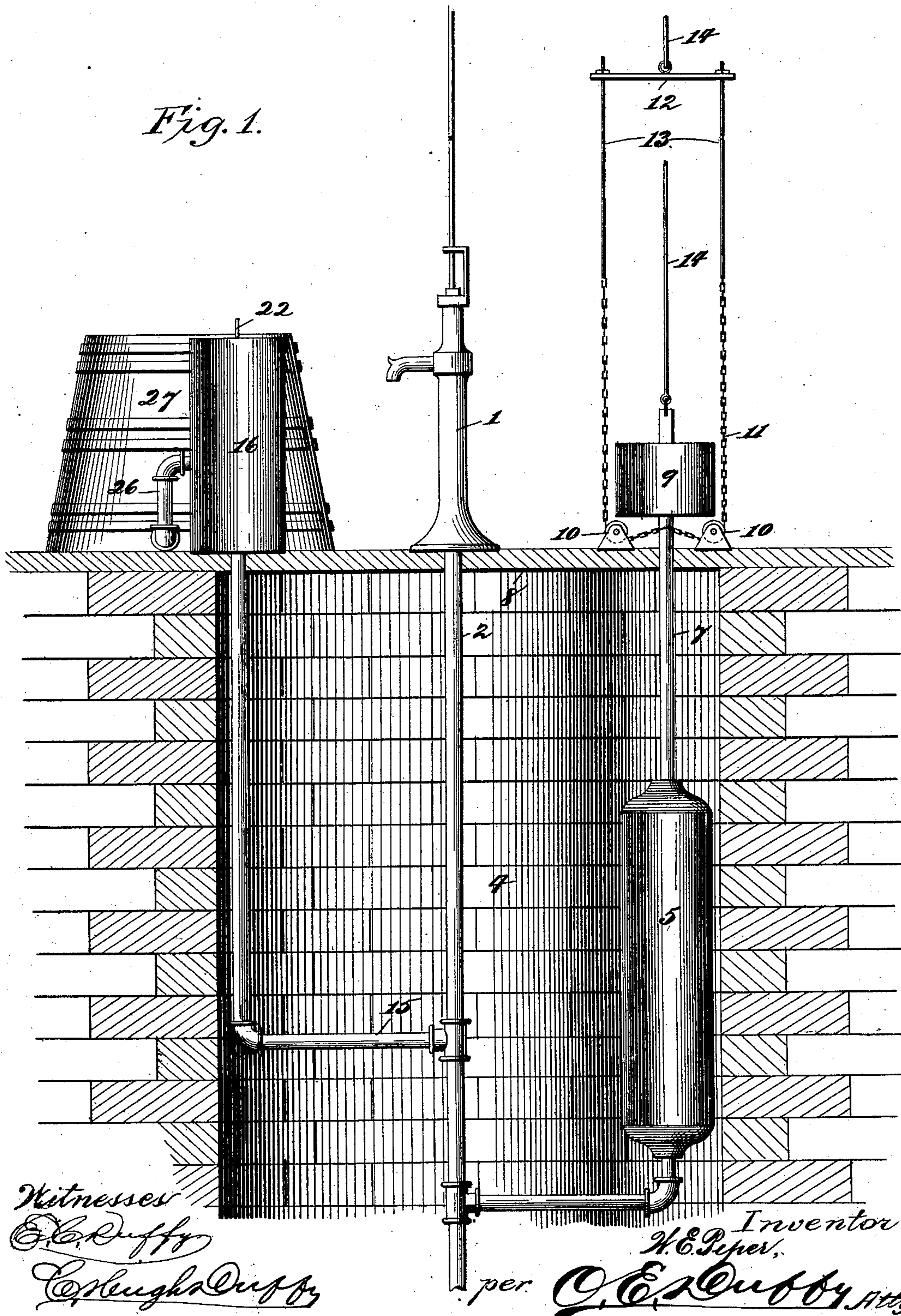
W. E. PIPER.
WINDMILL REGULATOR.

(Application filed Apr. 12, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



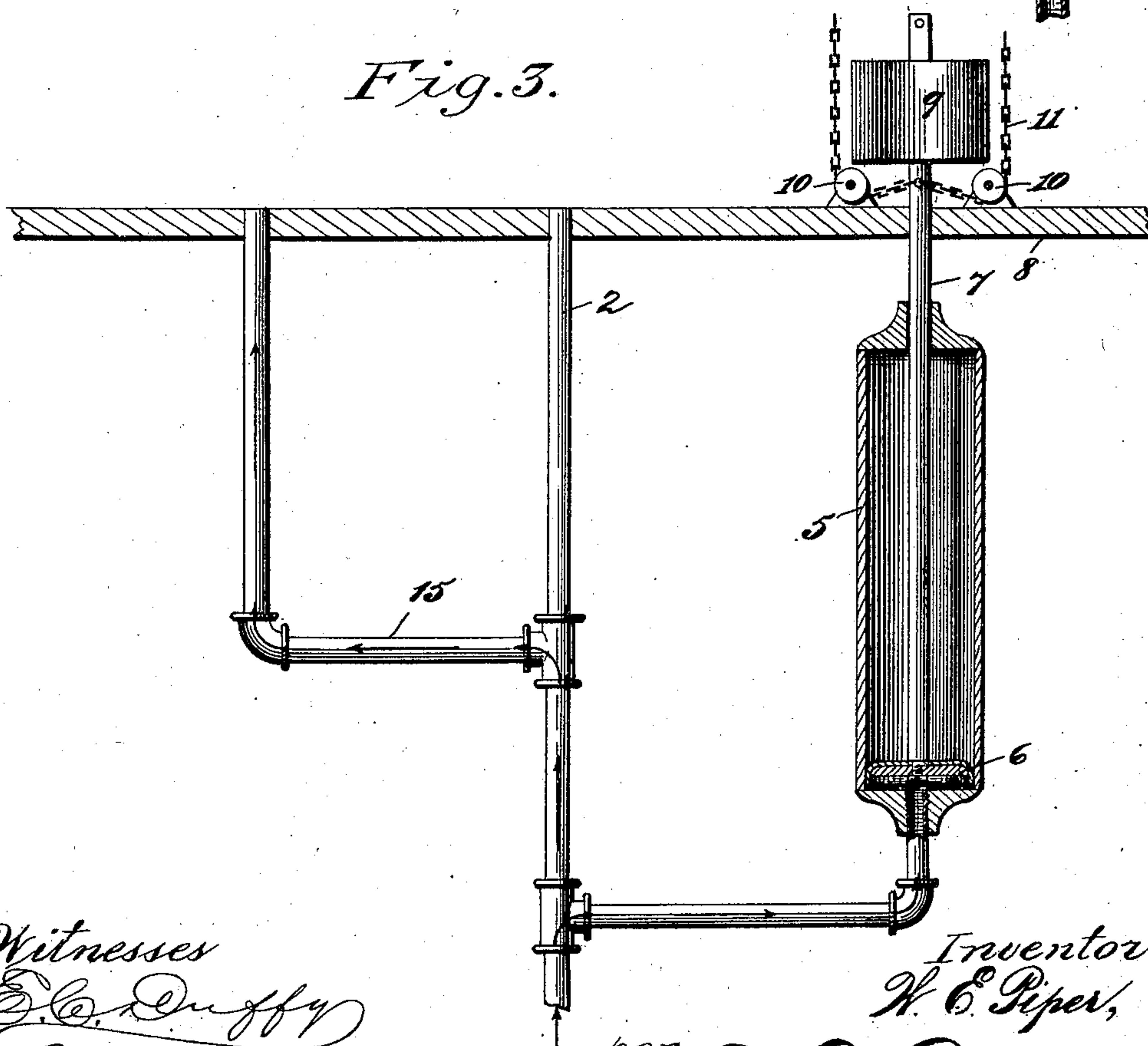
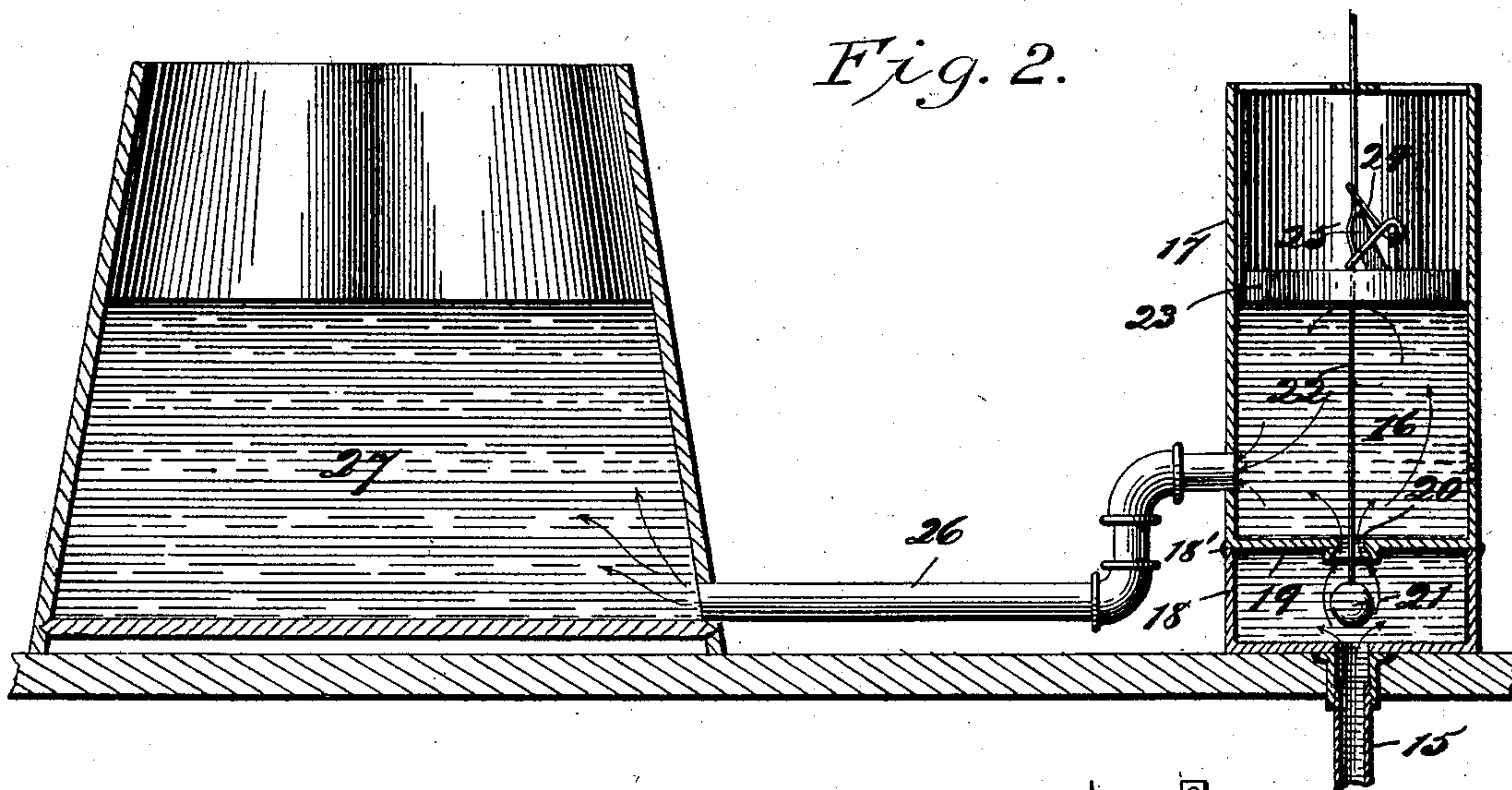
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2 Sheets—Sheet 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM ELLERY PIPER, OF UNION STAR, MISSOURI.

WINDMILL-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 711,676, dated October 21, 1902.

Application filed April 12, 1902. Serial No. 102,572. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ELLERY PIPER, a citizen of the United States, residing at Union Star, in the county of Dekalb and State of Missouri, have invented certain new and useful Improvements in Windmill-Regulators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to windmill-regulators, and has for its object to provide a device of this class which is simple in construction and easy and positive of operation.

With this object in view my invention consists in the particular manner of operating the furl-wire.

My invention further consists in the particular construction of my float-tank and also in the manner of adjusting and securing the float.

My invention also consists in certain other novel features of construction and in combination of parts, which will be first fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawings, Figure 1 is an elevation of my invention in an operative position. Fig. 2 is a vertical section through the stock-tank and float-tank. Fig. 3 is a vertical section through the regulating-cylinder and piston.

Like numerals of reference indicate the same parts throughout the several figures, in which—

1 is the pump, and 2 the pipe. Connected to said pipe within the well 4 is the regulating-cylinder 5, within which is the piston 6 and piston-rod 7, extending through the well-cover 8.

9 indicates a weight carried on said piston-rod, near the upper end thereof, and 10 indicates pulleys secured substantially below said weight.

11 indicates a chain connected to the piston-rod at a point on a line with or above the centers of the said pulleys 10. The chain 11 is connected to a bracket 12, either directly or by

means of connecting-rods 13, and said bracket is connected to the furl-wire 14. This construction is applicable only for those mills that pull out of the wind; but for that class of mills that pull into the wind I simply connect the furl-wire directly to the piston-rod above the weight, both constructions being shown in the drawings.

15 indicates a pipe connected to the pump-pipe 2 at a point above the regulating-cylinder connection, and said pipe 15 connects with the float-tank 16, which may be any distance from the mill, but which is shown in front of the pump 1 for the sake of convenience.

The tank 16 is composed of two sections 17 and 18, the upper section 17 having a solid bottom 19, provided with a valve-seat 20 in the center thereof. The lower section 18 also has a solid bottom with a central opening therein through which the water passes, said sections being secured together at 18'.

21 indicates a ball located within the lower section 18 and which is carried by a wire or rod 22, to which is adjustably secured the float 23, by means of the spring 24 and finger 25, said wire passing through the center of said float.

26 indicates a pipe leading from the float-tank to the stock-tank 27.

Having thus described the several parts of my invention, its operation is as follows: When the mill is in operation, the pump raises the water and the same runs into the regulating-cylinder and into the float-tank. The force of the water, however, not being great enough to raise the piston in the regulating-cylinder against the weight carried on the piston-rod it passes through the valve in the float-tank into the stock-tank, filling said tank. The height of water, however, in the stock-tank is regulated by the height of the float in the float-tank, and as the water seeks its level in both tanks the float rises in the float-tank as the water rises in the stock-tank. When the water reaches a certain point, the float seats the ball in the valve-seat and shuts the water out from the upper section of the float-tank and from the stock-tank. The pump is of course still operating, and the egress of the water being shut off by the valve, as described, it is forced into the regulating-cylinder and

raises the piston therein. The center of the chain carried on the piston-rod is thereby raised, which draws down on the ends of said chain, drawing the bracket and furl-wire down and pulling the mill out of gear. For those mills, however, that are pulled into the wind the furl-wire is simply attached to the end of the piston-rod, and when the piston-rod is raised it slackens the furl-wire, thus letting the mill out of the wind.

The float in the float-tank is, as aforesaid, capable of adjustment on the float rod or wire. The ends of the float-spring have a normal tendency to separate, and as the float rod or wire is passed through the ends thereof the said rod or wire is brought in contact with the finger on the top of float, which securely holds the float fast to the rod or wire.

When it is desired to raise the float, the lower end of the spring is grasped and pulled up. This operation brings the free ends of the spring closer together and reduces the friction between the finger and rod or wire, thereby allowing the float to be readily raised. When the float is to be lowered, the upper end of the spring is grasped and pushed down, with the same result, allowing the float to be easily slid down the rod or wire.

Having thus described my invention, I do

not wish to be understood as limiting myself to the exact construction as herein set forth, but consider myself entitled to all changes and modifications as fall within the scope of my invention as defined by the following claims.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a windmill-regulator the combination, of a float-tank, a valve located therein, a float adapted to operate said valve, connecting means between said valve and said float, a spring connected to said float adapted to engage said connecting means, and further means on said float to engage said connecting means.

2. In a windmill-regulator, the combination, of a float-tank, a valve located therein, a float-wire adapted to operate said valve, a spring connected to said float, and adapted to engage said wire, and a finger carried on said float to engage said wire.

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

WILLIAM ELLERY PIPER.

Witnesses:

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L. E. TRACHSEL.