J. W. REGISTER.

PUMP.

APPLICATION FILED NOV. 2, 1920.

1,391,503. **Patented Sept. 20, 1921.**

2 SHEETS—SHEET 1.

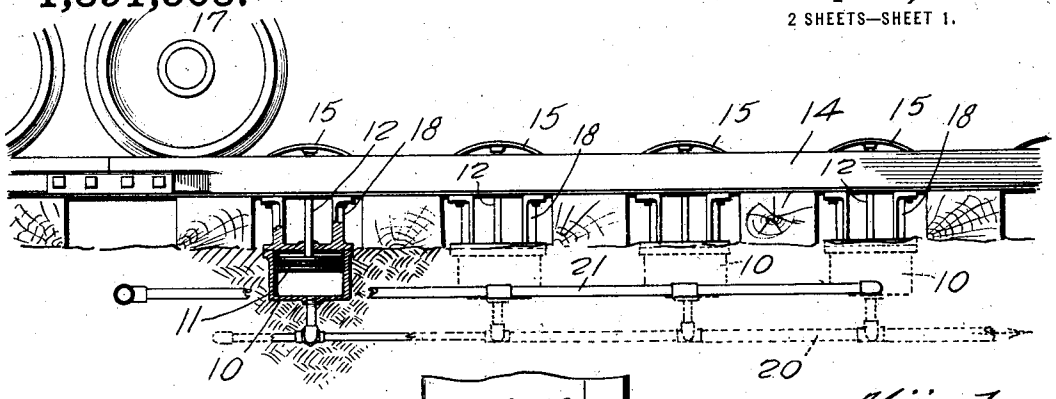


Fig. 1.

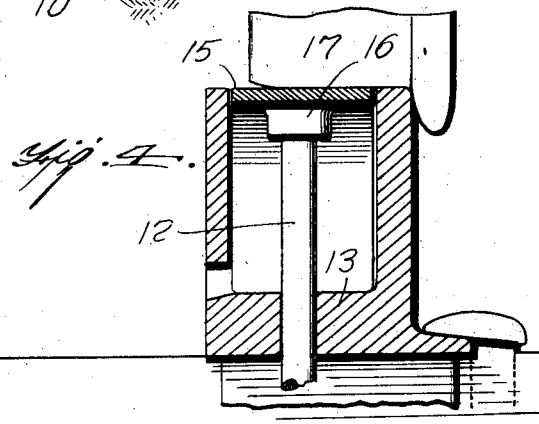


Fig. 4.

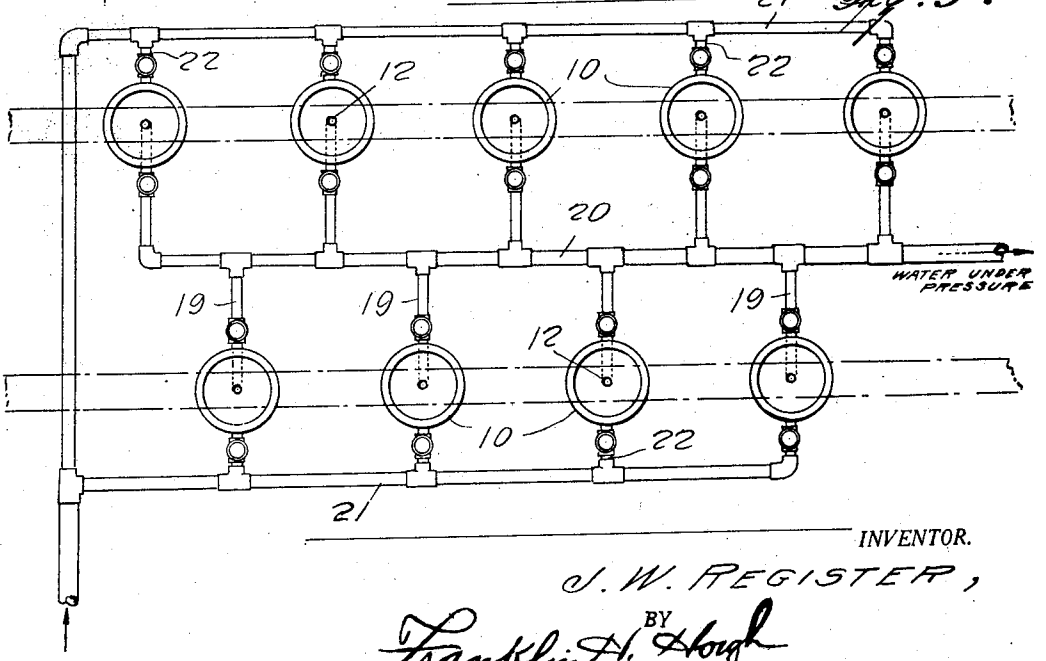


Fig. 5.

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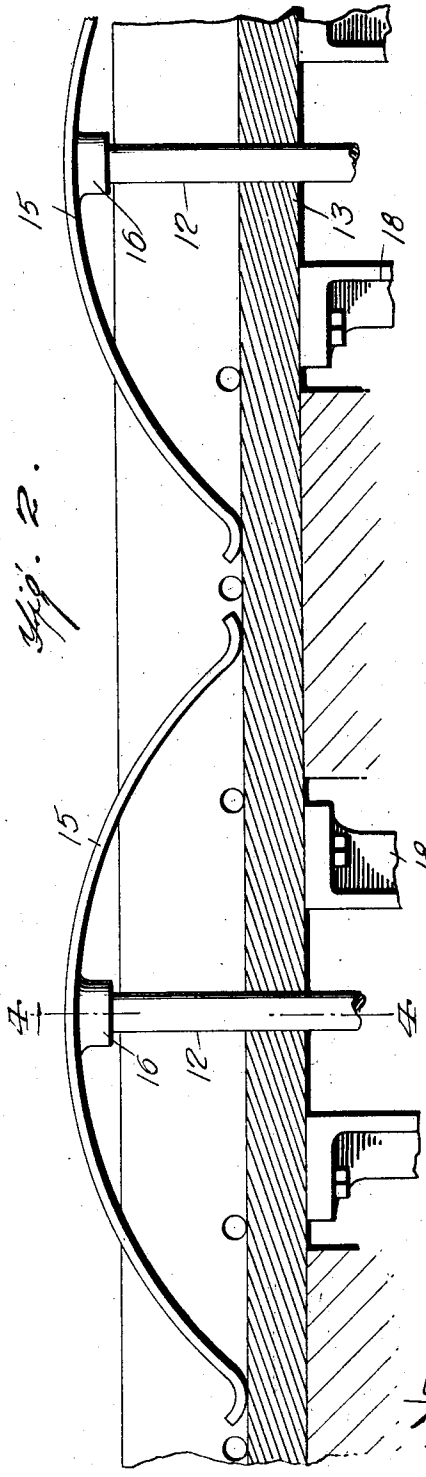


Fig. 2.

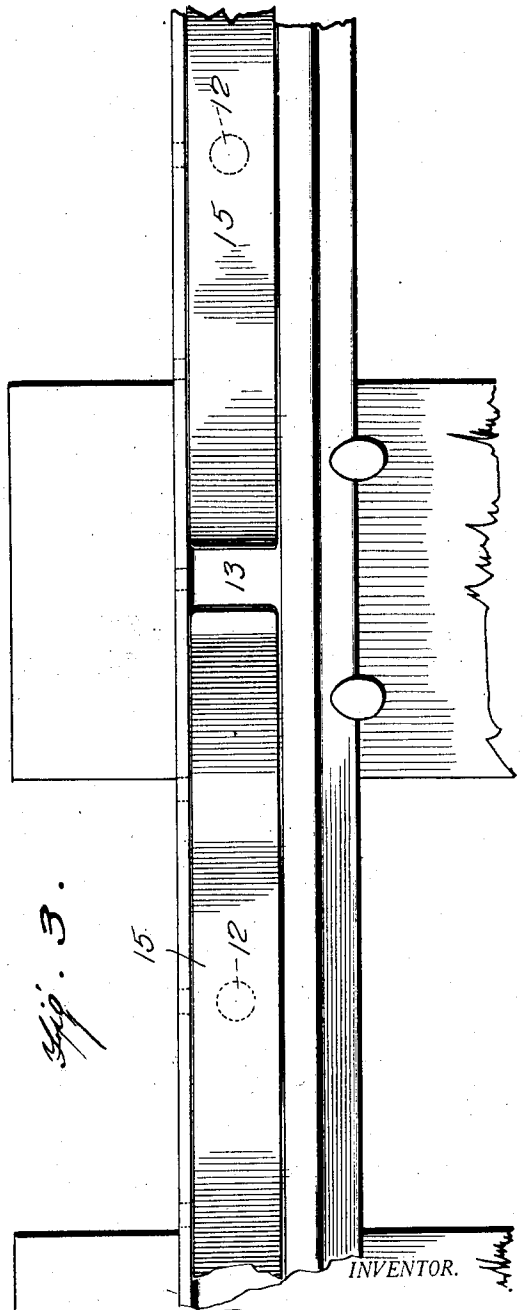


Fig. 3.

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1,391,503. Specification of Letters Patent. Patented Sept. 20, 1921.

Application filed November 2, 1920. Serial No. 421,387.

To all whom it may concern:

Be it known that I, JAMES W. REGISTER, a citizen of the United States, residing at Jasper, in the county of Hamilton and State of Florida, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to pumps and has for an object to provide a pumping system actuated by passing trains, whereby use is made of the speed of momentum and weight of trains for actuating the pumps for various purposes, such, for instance, as supplying water to a municipality, pumping water for a railroad water tank, or for any other purpose where water under high pressure is required.

A further object of the invention is to provide pumps in juxtaposition to the rails of a railroad, having yielding arms actuated by the passing wheels, which, in turn, actuate the pistons of the pumps to accomplish pumping in the usual well-known manner.

In the drawings:

Figure 1 is a view in side elevation of an installation of the pumping system in conjunction with conventional rail and wheels, one cylinder being shown in section;

Fig. 2 is an enlarged detail view of the yielding arms and piston rods;

Fig. 3 is a top plan view of the mechanism shown at Fig. 2;

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2; and

Fig. 5 is a diagrammatic view showing the installation of a battery of pumps relative to the rails of a railroad.

Like characters of reference indicate corresponding parts throughout the several views.

The improved pumping system which forms the subject matter of this application is made up of a plurality of pump cylinders 10 which may be of any size and length, and in which reciprocates a piston 11. The piston 11 is attached to a piston rod 12 which extends upwardly through the bottom plate 13 of the rail 14, which is apertured to accommodate the bowed springs 15, which are secured to the piston rods 12 in any approved manner, as by the use of bosses 16, and form yielding ramps over which pass the wheels 17 of a railroad train, or other rolling stock. The cylinders 10 are secured beneath the rail in any approved manner, as by the use of struts 18, the specific attaching means forming no part of the present invention. The cylinders and pistons are provided with the usual valves ordinarily employed for the purpose in such pumping installations, such valves being not shown.

It is designed that a plurality of pumps be installed in a single installation, as shown diagrammatically at Fig. 5, being properly spaced upon both sides of the railroad track, so that the wheels upon both sides of the trains operate and actuate the pumps by passing over the yielding ramps 15, depressing the pistons 11, forcing the water from such cylinders to the pipes 19 into the common pipe 20, receiving water in turn through the pipes 21 and branches 22. The wheel having passed off from the ramp 15, the resiliency of the ramp itself raises the piston attached thereto to such position that the next impingement of a wheel thereon repeats the operation.

The pumps may be assembled in any number as may be deemed desirable, depending upon the amount of water to be pumped, which, of course, is in turn controlled to a considerable extent by the number of wheels passing over the several ramps per day. The pumps assembled, as shown at Fig. 5, are only intended to indicate the grouping and without any limit to the number being intended thereby.

In operation, the pipes 21, being connected with a source of water supply, the actuation of the pistons 11 in the cylinders 10 will draw water from such pipes and force it through the pipe 20 to storage in the usual well known manner of actuating pumps. The passing of each wheel over each of the ramps will cause a single stroke of the piston and the number of units employed and the number of wheels passing will determine the amount of water supplied by the installation.

The foregoing description of the construction and operation of the device, as well as the illustration, in conjunction with a railroad, employing the passing wheels of a rolling stock for actuating the pump, is thus shown and described merely as a preferred form and preferred means of operation. It is obvious that with a spring return

piston the application of weight thereto by any means will accomplish the purpose whether it be by a vehicle, the passage of live stock, or in any other manner. The spring return has also been shown as a bowed spring 15, and when used in conjunction with a railroad would be a ramp. The specific form of spring is immaterial, so that a spring return for the piston is provided, and if used in connections other than with a railroad, some other form of spring than that shown might be found to operate to greater advantage.

What I claim to be new is:

1. The combination with an apertured railroad rail of a cylinder mounted beneath the rail, a piston mounted within the cylinder, a piston rod extending above the cylinder and within the aperture of the rail, and a spring ramp secured to the piston rod and located within the aperture.

2. The combination with an apertured railroad rail of a pump cylinder mounted beneath the rail, a piston mounted to reciprocate within the cylinder, a piston rod carried by the piston extending upwardly within the aperture and above the lines of the rail, a spring ramp having its opposite ends bearing upon the bottom of the aperture and its upwardly bowed center bearing upon the piston rod and conduits connected with the cylinder.

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

JAMES W. REGISTER.

Witnesses:
S. M. PERKINS,
HILDA REGISTER.