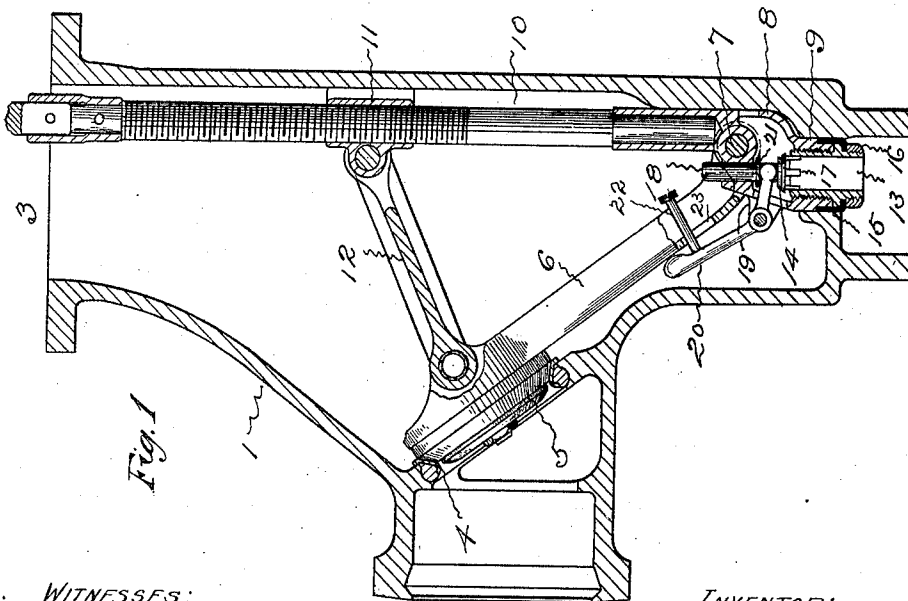
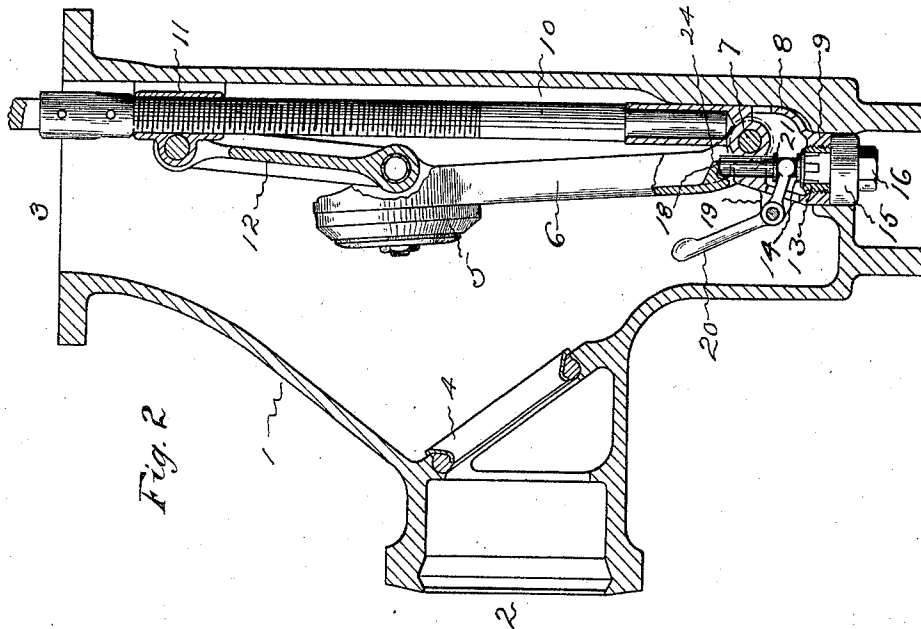


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HYDRANT.
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1,038,748.

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HYDRANT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. HAYDEN, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Hydrants, of which the following is a specification.

This invention relates to a hydrant which has a main port that is closed by a large swinging valve, and which has a drain outlet that is closed by a small reciprocating valve, the drain outlet being closed when the main port is opened, and when the main port is closed the drain outlet being opened to permit all water to drain from the hydrant and stand-pipe.

The object of the invention is to provide a simple, cheap, readily assembled and easily removable valve organization which is so designed that the main valve is quickly opened and tightly closed by powerful mechanism, and the drain valve is positively opened by the closing of the main valve, the parts being so connected and operated that relative adjustment between the valves is not necessary, consequently there is no chance for the parts to get out of adjustment or to be improperly assembled, either when first put together or after having been taken apart for repairs.

Figure 1 of the accompanying drawings shows a central vertical section of the lower section of a hydrant casing provided with an organization which embodies this invention, the main valve being shown closed and the drain valve shown opened. Fig. 2 shows a similar section with the main valve opened and the drain valve closed.

The casing 1 is usually cast to shape of iron with an inlet 2 on one side that is adapted to be attached to the water main, and an outlet 3 at the top that is designed to be connected with a hydrant stand-pipe of common construction. Adjacent to the inlet is the main port which is surrounded by the valve seat 4. The main valve 5 is carried by an arm 6 which is hinged by a pin 7 to the casting 8. This casting rests upon the inside of the bottom of the hydrant casing and at its lower end has a hollow hub 9 that fits into an opening through the bottom of the hydrant. Stepped in a socket in the upper end of the casting is the lower end of the spindle 10. A length of this spindle is threaded, and on this thread is a

nut 11. A link 12 connects this nut with the back of the free end of the main valve arm. When the spindle is turned the nut is carried up or down the threaded portion according to the direction of rotation, and through the link swings the valve toward or from the seat around the main port.

Screwed into the hub at the lower end of the casting which forms the bed for the valve arm and the step for the spindle, is a sleeve 13. The upper end of this sleeve provides a seat for the drain valve 14. A packing 15 may be arranged around this sleeve and the lower end of the casting for making tight the joint between the wall of the casting and the wall of the opening through the bottom of the hydrant. This packing can be held in place by a tubular nut 16 screwed upon the end of the sleeve. The drain valve, which is adapted to open and close the passage through the sleeve, has guiding prongs 17 that project into the sleeve and has a stem 18 that is guided by an opening in the casting.

Projecting from the casting are lugs 19, and pivoted between these is a lever 20. One end of this lever is forked and embraces the drain valve stem beneath a collar 21. The other end of this lever extends upwardly into the path of the arm that carries the main valve. Just as the main valve is closed the arm which carries it engages the free end of the lever and causes it to raise the drain valve from its seat. This allows the escape of all water from the hydrant casing and stand-pipe to a drain when the main water port is closed. When the main water valve is opened, the swinging up of the main valve arm releases the drain valve lever and allows the drain valve to shut under the water pressure so that when the main port is opened, the drain port will be closed. A headed stud 22 may be passed through an opening 23 in the valve arm 6 into the lever 20 (Fig. 1). When the arm is swung up, if the drain valve sticks or is sluggish in its movement, the head of the stud will be engaged so as to move the drain valve toward its seat. This may be accomplished by arranging a cam 24 on the valve arm in such position that when the arm is raised the cam will engage the end of the stem and close the drain valve.

The construction of the mechanism which embodies this invention is very simple. The

main valve is moved positively and power-
fully and yet rapidly so that the water port
can be closed tightly or opened quickly. The
drain port is positively opened when the
5 main port is closed so as to insure a proper
draining of the hydrant. The means pro-
vided for opening the drain valve are very
simple, they require no adjustment, and con-
sequently they cannot be assembled or re-
10 assembled out of time. All the parts are so
connected that the main valve and drain
valve can be readily lifted by the spindle out
of the hydrant casing, after the main valve
has been opened, for the purpose of clean-
15 ing, renewing, or repairing, and the parts
can be properly re-assembled without dis-
turbance of the casing.

The invention claimed is:

1. A hydrant having a casing with a main
20 port and a drain outlet, a casting seated on
the inside of the bottom of the casing, an
arm hinged to the casting, a valve mounted
on the arm, a spindle stepped in the casting,
a portion of said spindle being threaded, a
25 nut moving on the threaded portion of the
spindle, a link connecting the nut and the
valve arm, whereby the rotation of the
spindle causes the valve to swing toward and

from the main port, a valve adapted to close
the drain outlet, and a lever adapted to be 30
engaged by the valve arm and to lift the
drain valve when the main valve is closed.

2. A hydrant having a casing with a main
port and a drain outlet, a casting remov-
ably seated in the bottom of the casing, an 35
arm hinged to said casting, a valve carried
by the arm, a spindle stepped in said casting,
a portion of the spindle being threaded, a
nut moving on the threaded portion of the
spindle, a link connecting the nut and the 40
valve arm, whereby when the spindle is ro-
tated, the valve is swung toward and from
the main port, a sleeve screwed into the lower
end of the casting, the upper end of the
sleeve forming a valve seat, a valve having 45
a stem guided by the casting, said valve being
adapted to seat on the end of said sleeve, and
a lever engaging the valve stem, said lever
extending into the path of the main valve
arm and engaged thereby when the main 50
valve is closed for lifting the drain valve
from its seat.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."