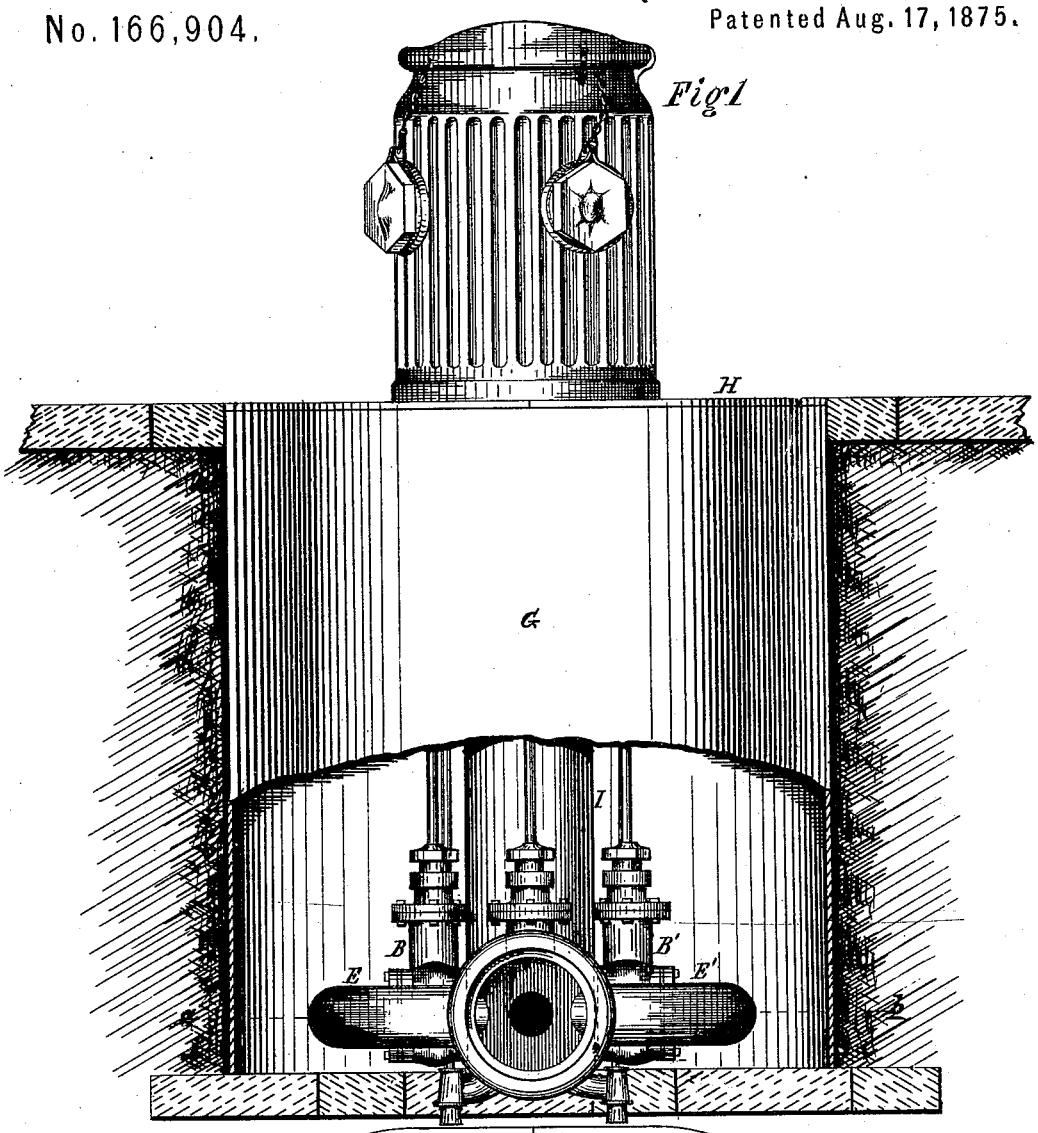
2 Sheets--Sheet 1.

R. T. H. STILEMAN.

Steam Fire-Engine Hydrants.

No. 166,904. Patented Aug. 17, 1875.

Fig 1



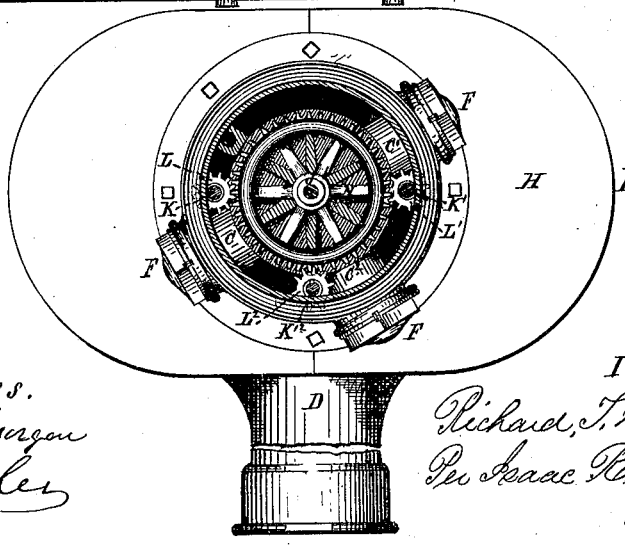


Fig 2

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2 Sheets--Sheet 2.

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Fig 5

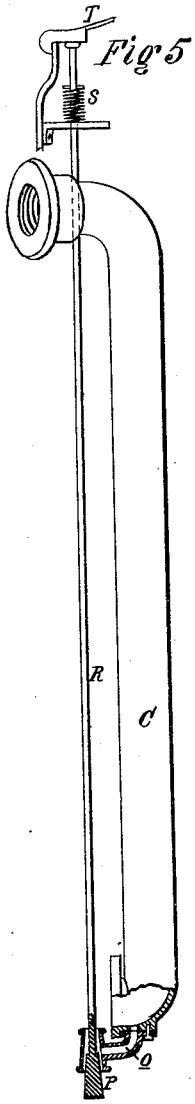


Fig 3

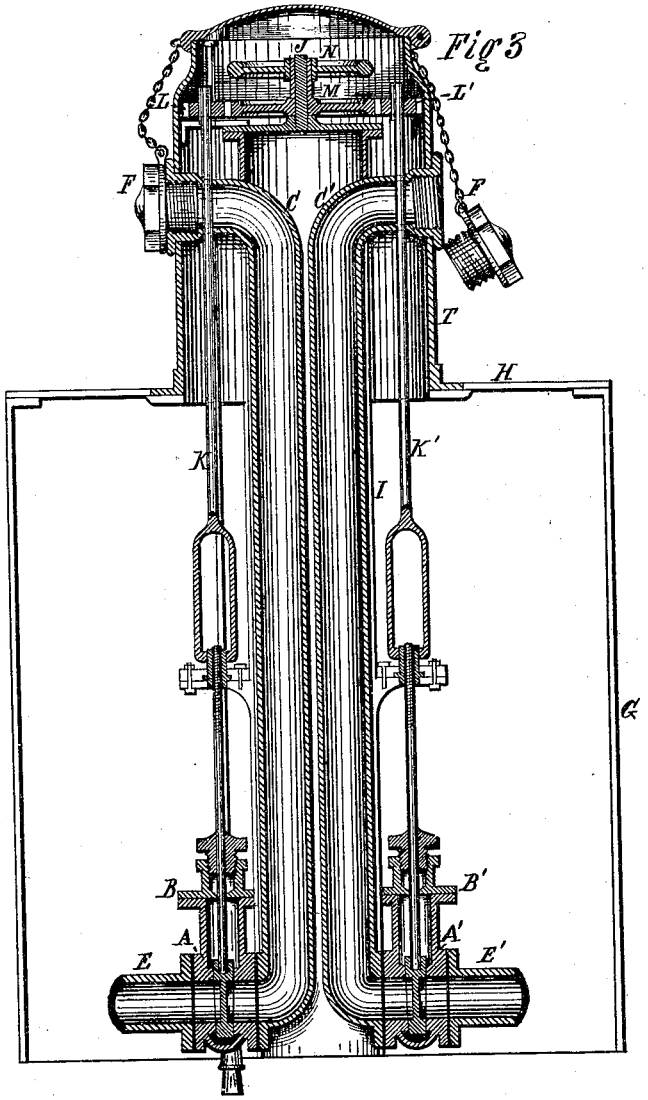
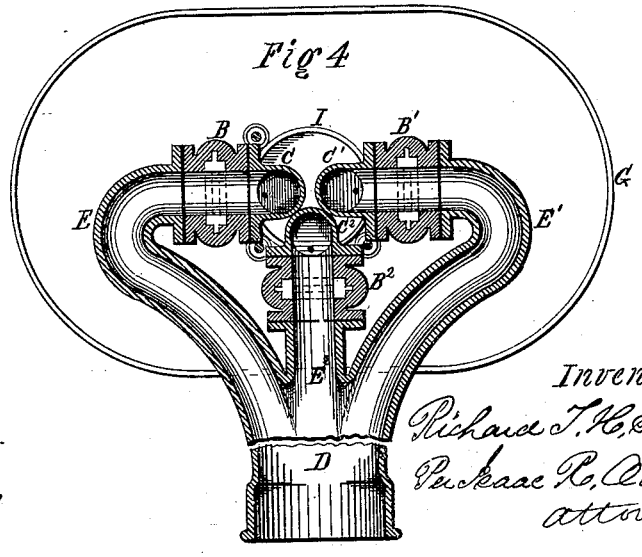


Fig 4



Witnesses.

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UNITED STATES PATENT OFFICE.

RICHARD T. H. STILEMAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STEAM FIRE-ENGINE HYDRANTS.

Specification forming part of Letters Patent No. **166,904**, dated August 17, 1875; application filed June 10, 1875.

To all whom it may concern:

Be it known that I, RICHARD T. H. STILEMAN, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Steam Fire-Engine Hydrant, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to certain improvements in a multivalve hydrant or fire-plug with branch pipes and nozzles for supplying a number of steam fire-engines. The improvements consist in inclosing the valves and the lower portion of the hydrant beneath the ground surface with an iron or wooden casing provided with an adjustable cover, which forms a compartment of sufficient capacity to readily admit a person for the purpose of oiling or repairing the valves, while at the same time the necessity of digging up the ground in case of repairs and the liability of freezing in winter are avoided; also, in operating the valves by means of a spur-wheel or spur-wheels and pinions, so arranged that the valves may be opened or closed in unison, or one or two valves may be operated independently of the others, for the purpose of supplying one or two engines, as the case may be.

Figure 1 is a side elevation of my improvement in steam fire-engine hydrants, with the lower portion of the casing broken away. Fig. 2 is a plan view of the same with the lid of the hydrant or plug case removed. Fig. 3 is a vertical section of Fig. 1. Fig. 4 is a transverse section on line *a b* of Fig. 1. Fig. 5 is a side elevation of one of the vertical discharge-pipes, showing the lower end of the pipe and the waste-water valve in section.

In this specification and accompanying drawings, the sluice-valves A, A^1, and A^2, with their casings B, B^1, and B^2 referred to, are arranged on the discharge-pipes C, C^1, and C^2, similar to the valves and casings arranged on the hollow stem, as shown in the patent to R. STILEMAN, January 20, 1863, of which I am at present the sole owner.

The main pipe D, Figs. 1 and 4, which is of some ten or twelve inches diameter, is formed with three branches, E, E^1, and E^2, each of which is about four inches diameter. Two of these branches, E and E^2, form return bends, and are attached to the valve-casings B and B^1, and the center branch E^2, which projects parallel with the axis of the main, is attached to the valve-casing B^2. Connected with the said casings B, B^1, and B^2, and forming communications with the branch pipes E, E^1, and E^2, are three vertical discharge-pipes, C, C^1, and C^2, the upper ends of which are curved outward and furnished with screw nozzles and caps F. The lower portion of the discharge-pipes, with the valves, valve-casings, and branch pipes E, E^1, and E^2, are placed beneath the ground surface in a pit prepared for the purpose, and are surrounded with an iron or wooden casing, G, as shown in Figs. 1, 3, and 4. This casing, which is of sufficient capacity to admit a person for the purpose of oiling or repairing the valves, or for the removal and replacing of any of the parts, is furnished with an adjustable cover, H, resting level with the pavement. The compartment formed by said casing is made as near air-tight as possible, to prevent freezing in winter, or it may be packed for that purpose with sawdust. In the drawings, a shell or casing, I, Figs. 1, 3, and 4, is arranged around the pipes C, C^1, and C^2, and is provided on top with a stud, J, upon which is placed a hand and gear wheel for manipulating the main valves. On the side of the said casing are also formed brackets for supporting the nuts on the upper end of the valve-stems. In most cases this shell or casing may be dispensed with and the stud and brackets arranged directly on the vertical pipes. Placed loosely on a feather on the upper ends of the rods K, K^1, and K^2, which serve as wrenches or keys to operate the main valves A, A^1, and A^2, are pinions L, L^1, and L^2, which gear with a spur-wheel, M, on the stud J. Connected with the hub of the spur-wheel M is a hand-wheel, N, through which motion is communicated to open or close the main valves. The valves are operated together when all the pinions are in gear, but, in supplying a single steam fire-engine, it is only necessary to open one valve. In this case the remaining pinions are thrown out of gear by simply elevating each one above the spur-wheel and turning them until they rest upon the upper end of the feather on each rod. If necessary, the use of one large spur-wheel may be dispensed with and each valve

operated independently by a separate hand and spur wheel, each spur-wheel gearing with its appropriate pinion on each valve-rod. Placed on the lower end of each of the vertical discharge-pipes C, C^1, and C^2, and communicating with the interior of the same through a passage, *o*, is a waste-water valve, P, the stem or rod R of which passes up and is furnished near the upper end with a coiled or rubber spring, S, as shown in Fig. 5. When the lid of the hydrant or plug case T is thrown back the spring S expands, causing the valve to be drawn up into its seat and the communication *o* closed while the main valves are open. In closing the lid it bears upon the projecting end of the rod, depresses it, and lowers the waste-water valve from its seat, thereby opening the communication *o* and permitting the water to escape after the main valves are closed.

What I claim as my invention is—

1. The combination of the main pipe D, branches E, E^1, and E^2, valve-casings B, B^1, and B^2, and vertical discharge-pipes C C^1 C^2, substantially as herein shown and described.

2. The combination, in a steam fire-engine hydrant, of a casing, G, provided with an adjustable cover, H, and made of sufficient capacity to admit a person for the purpose of oiling or repairing the valves or any of the parts beneath the ground surface, substantially as shown and described.

3. The combination of the valve-rods K, K^1, and K^2, pinions L, L^1, and L^2, spur-wheel M, and hand-wheel N, arranged to operate the main valves in unison or independently, as occasions require, substantially as shown and described.

RICHARD T. H. STILEMAN.

Witnesses:

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I. Q. A. ZIEGLER.