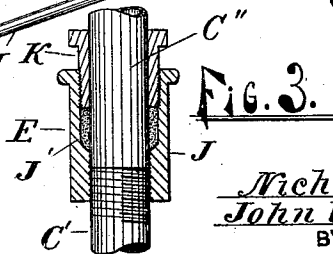
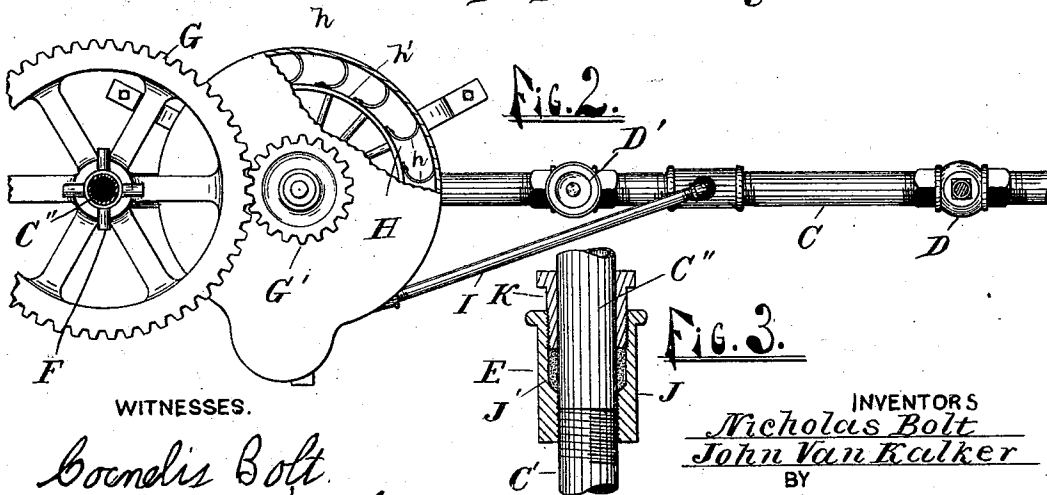
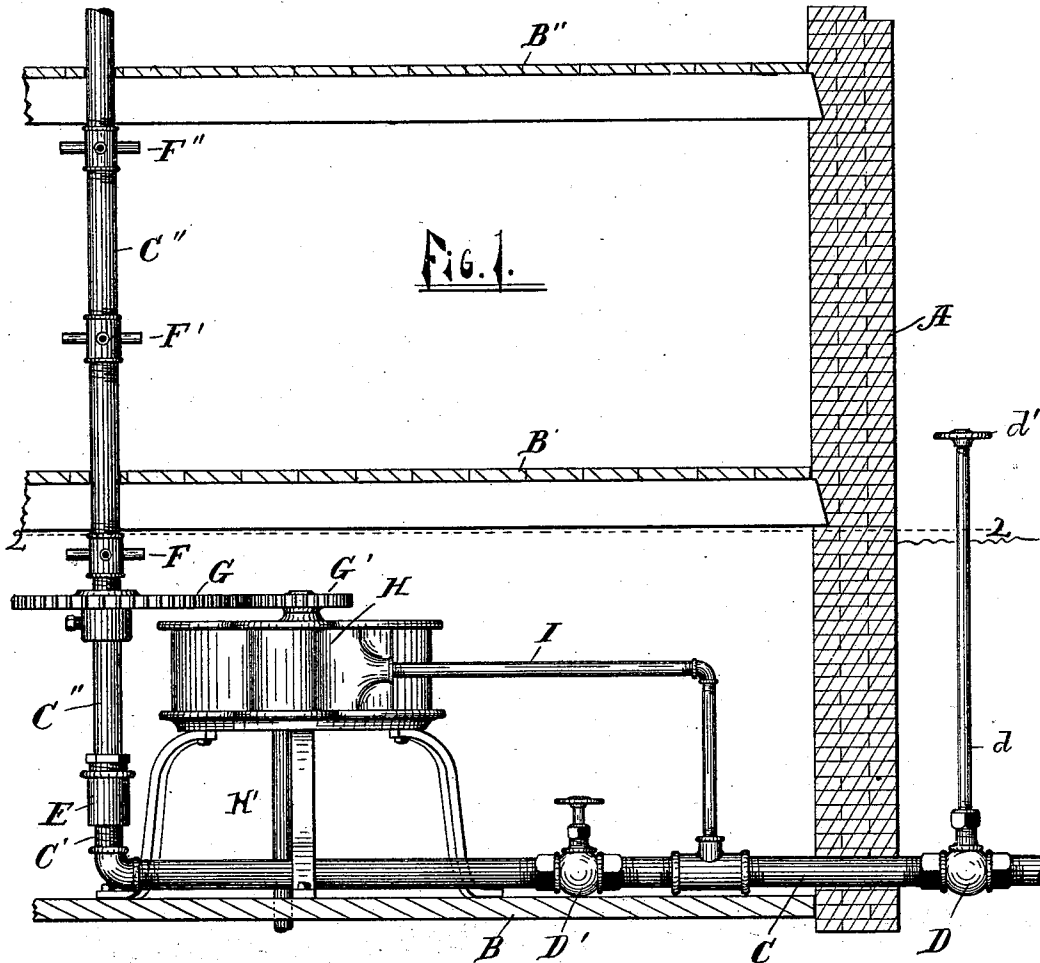


(No Model.)

J. VAN KALKER & N. BOLT.
FIRE EXTINGUISHER.

No. 517,780.

Patented Apr. 3, 1894.



WITNESSES.

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JOHN VAN KALKER AND NICHOLAS BOLT, OF GRAND RAPIDS, MICHIGAN.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 517,780, dated April 3, 1894.

Application filed July 31, 1893. Serial No. 482,030. (No model.)

To all whom it may concern:

Be it known that we, JOHN VAN KALKER, a subject of the Queen of the Netherlands, and NICHOLAS BOLT, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Fire-Extinguishers; and we do hereby 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.

Our invention relates to improvements in fire extinguishers, and consists in the novel construction thereof substantially as herein-after described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying our invention; Fig. 2 a horizontal section on the line 2—2 of Fig. 1, with a portion broken away to show construction; and Fig. 3 a detail showing construction of stuffing box.

Like letters refer to like parts in all of the figures.

The particular object of our invention is to provide a device, consisting of the fewest possible elements, which will effectually extinguish fires, and in which the rotatability of the sprinkling part may be tested without supplying water thereto, and also in which water may be supplied to said sprinkling part to extinguish fires without necessitating entrance to the building for the purpose.

A is the outer wall of the building; B the basement floor, and B' and B'' the floors above. A water main C is laid through the outer wall and along the floor to any convenient part of the basement. Outside of said wall, said main is provided with the valve D, and at any convenient point inside the basement, with the valve D'. The valve D is provided with a vertical post, *d*, having at its top a hand wheel, *d'*, located in convenient position to be operated to turn the water on or off, as desired. The inner end of said main is provided with an elbow, and from said elbow extends a short vertical pipe C'; to the end of said pipe is secured by means of the stuffing box E, the rotary stand pipe C'', which extends through the several floors and is pro-

vided at intervals with the nozzles F, F', F''. On said pipe C'' near its lower end is secured the gear wheel G, which engages a pinion G', fixed on the end of the shaft of the water motor, H, said motor consisting of a wheel *h'*, curved fans or blades *h* secured to the circumference of said wheel, and a casing inclosing said wheel and blades, as clearly indicated in Fig. 2. The water main C is provided with a T between valves D and D' and from it extends a small pipe I, to the water motor H.

To prevent leakage and at the same time allow the stand-pipe C'' to revolve freely against the end of the pipe C', a stuffing box constructed as follows is provided:—On the end of the stationary pipe C' is secured the sleeve, or box J, which has in its upper end an internally threaded chamber partially filled with the packing J'. The gland K in which the stand pipe C'' turns freely, is screwed into said chamber by means of the head in its outer end, and thus compressing the packing in the lower end of said chamber, prevents the escape of water.

The operation of our device is as follows:—When the outer valve D is opened the water rushes through the main C, up the pipe C', and stand pipe C'', and out at the nozzles F, F', F''. A portion of the water also goes through the pipe I and motor H, thus rotating the stand pipe C'' by means of the gears G and G', and thus causing the water escaping from the nozzles to be thrown in all directions. The condition of the devices may be tested without throwing water from the nozzles, by shutting the valve D' and opening the valve D. The stand-pipe C'' will then remain empty, while the water will flow through the motor and revolve the same and leave the motor through the waste pipe H'. It will be noted that in my device the water motor is connected with the supply pipe by a single valveless pipe, which simplifies the construction and makes it possible to supply water thereto by opening but one valve which, being located outside of the building, makes it unnecessary to enter the room where the motor is located in order to supply water to extinguish fire. This is of prime importance as fires frequently gain such headway before discovered as to make it dangerous to enter the building in

which it is located. The valve D' is normally open and is closed only when it is desired to test the rotatability of the sprinkling pipe without supplying water thereto.

5 What we claim is—

1. The herein described fire extinguisher, consisting of a stationary supply pipe, having two valves and provided at one end with a stationary vertical extension a rotatable pipe,
10 connected with said extension, and provided at intervals throughout its length with series of nozzles, a gear wheel fixed to said rotatable pipe, a water motor, connected with said supply pipe between the valves thereof, and a
15 pinion, fixed on the shaft of said motor and engaged by said gear wheel.

2. In a fire extinguisher, the combination with a stationary supply pipe having a vertical extension at its inner end, said extension
20 having threads on its outer surface, and a stuffing box having a reduced threaded lower end engaging the threaded part of said extension, of a rotatable pipe, having its lower end projecting into the larger upper part of
25 said stuffing box into contact with the upper end of said extension, a packing in said larger part of the stuffing box surrounding the lower end of said rotatable pipe, a gland, threaded into the upper end of the larger part
30 of the stuffing box and compressing and hold-

ing the packing therein, and series of nozzles projecting at intervals from said rotatable pipe, substantially as described.

3. A means designed to be located in buildings for extinguishing fires therein, consisting of a horizontal stationary supply pipe extending into the building from the outside thereof, a rotatable pipe extending upward through the building and provided at intervals with discharge nozzles, said rotatable
35 pipe being connected with said supply pipe, a water motor, designed to be located inside the building and geared with said rotatable pipe, a single valveless pipe connecting said motor with said supply pipe, a normally open
40 valve in the part of said supply pipe inside the building and rearward of the pipe connecting the supply pipe with the motor, a normally closed valve located in the part of the supply pipe without the building, and
45 means for operating said last-mentioned valve, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN VAN KALKER.
NICHOLAS BOLT.

Witnesses:

EVERETT D. COMSTOCK,
CORNELIS BOLT.