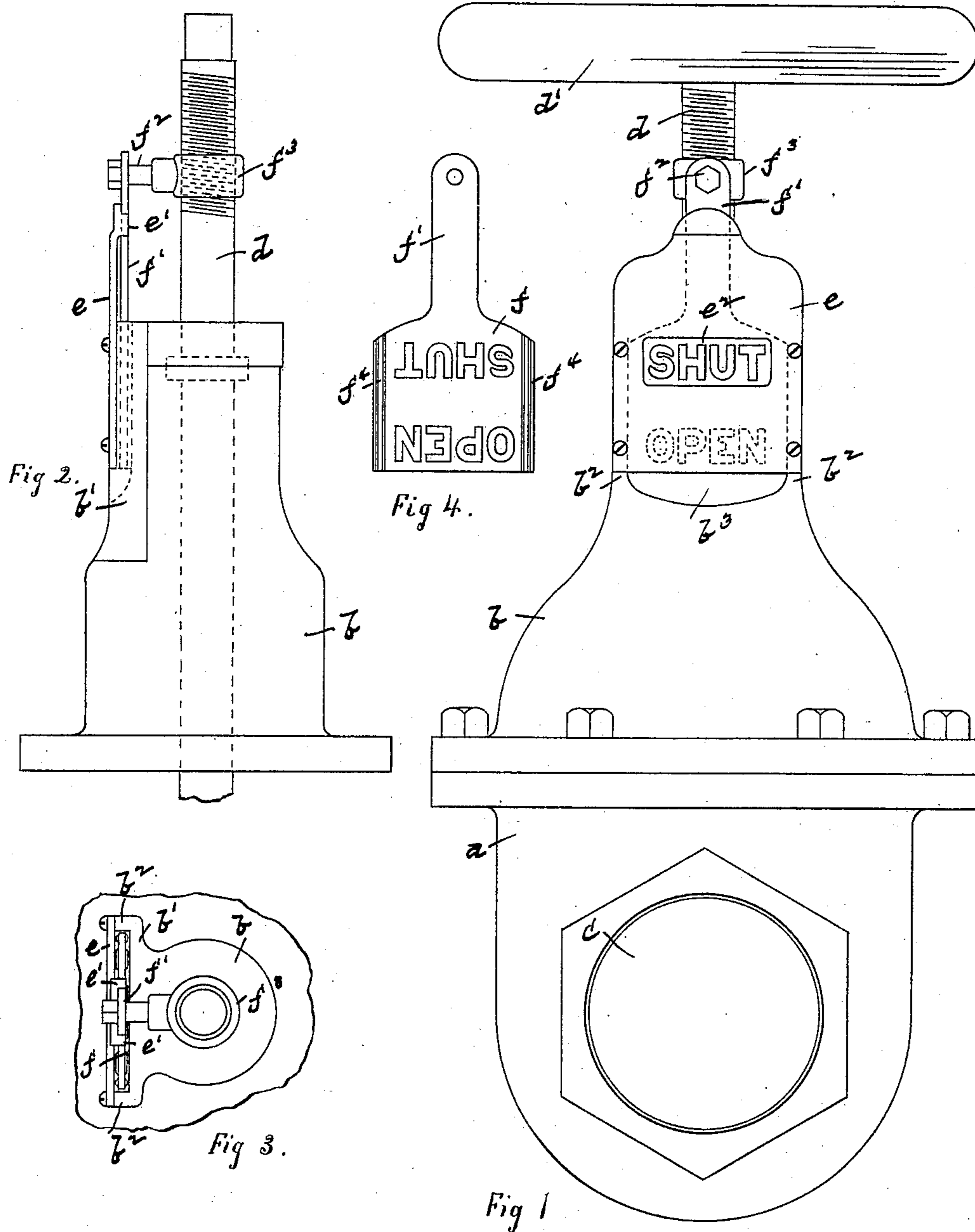


(No Model.)

J. GILES.
VALVE INDICATOR.

No. 486,610.

Patented Nov. 22, 1892.



WITNESSES:
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JASON GILES, OF INDIAN ORCHARD, MASSACHUSETTS.

VALVE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 486,610, dated November 22, 1892.

Application filed April 8, 1892. Serial No. 428,283. (No model.)

To all whom it may concern:

Be it known that I, JASON GILES, of Indian Orchard, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Valve-Indicators, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to that class of valves in which the gate or plug is operated by a stationary spindle—that is to say, a spindle which has no endwise movement—and especially to means for indicating at all times whether the valve be open or closed.

The object of my invention is to provide simple and inexpensive means for this purpose which will be sure and positive in its operation at all times and which will indicate clearly the position of the gate or plug to a person standing some distance from the valve.

A further object is to provide indicating means which can be used equally well upon a vertically or horizontally disposed valve.

The great importance of providing water-valves, and especially those which control a supply of water for fire-extinguishing purposes, with means for plainly indicating at all times whether the valve be open or closed, has become a recognized fact, and as a consequence various forms of indicating devices for accomplishing such result have been devised. So far as I am aware, however, the previous indicators which have been applicable to stationary-spindle valves have either been so complicated in their construction as to materially increase the cost of the valves to which they are applied and liable to get out of order, or when their construction has been simplified they have had their indicating words or symbols located upon a curved surface, so as to be read only from a point very near to the valve, or have had said words or symbols so disposed as to be read in but one position of the valve.

As before stated, it is the object of my invention to provide a valve-indicator which will be free from these objections; and to this end it consists in the indicating means constructed and operating as hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, in which like

letters designate like parts in the several views, Figure 1 is an end view of a gate-valve having applied thereto an indicator embodying my invention. Fig. 2 is a side view of the upper portion or cap and a portion of the spindle. Fig. 3 is a plan view of the parts shown in Fig. 2. Fig. 4 is a detail view of the movable sign-plate or target.

The letter *a* designates the body, *b* the cap, *c* the gate or plug, and *d* the stationary spindle, of a common form of gate or straight-way valve, said spindle carrying the usual hand-wheel *d'*. It will be understood without further description that revolution of said spindle in one direction raises the gate or plug and in the opposite direction lowers the latter, the spindle having no endwise movement.

In the practice of my invention I form upon one side and at the upper end of the cap *b* a rectangular projection or shoulder *b'*, which shoulder terminates at each side in a vertical flange *b²*, thereby forming in the face of said projection, between said flanges, a vertically-disposed recess or pocket *b³*, which at its lower end is preferably curved outwardly to the surface of the cap, as represented by broken lines in Fig. 2. To form the outer side of said pocket, I secure to said flanges *b²* by screws or otherwise a plate *e*, which at its lower end preferably terminates a short distance above the lower end of the recess *b³*, as shown, thereby leaving an opening to permit the escape of dirt, &c., from said pocket. At its upper end said plate projects above the upper end of cap *b* and is provided with two inwardly-projecting lugs *e'*, which serve as guides for the sign-plate or target *f*. Said sign-plate or target consists of a thin metallic plate of a proper width to enable it to slide freely within the pocket in the cap and having the upwardly-projecting stem *f'*, which passes between the lugs *e'* on plate *e*, as shown in Figs. 2 and 3, and is connected at its upper end by a bolt *f²* or otherwise to an internally-threaded sleeve *f³*, which engages a threaded portion of spindle *d* between the hand-wheel *d'* and the cap *b*. Formed upon the sign-plate, preferably by raised letters, are the words "Shut" and "Open," arranged one above the other, or other symbols of a similar nature, and the plate *e* is provided with a slot *e²* of such dimensions as to entirely expose one of said

words on said sign-plate. The sleeve f^3 , being confined against rotation by its connection with the sign-plate, is caused to travel up and down upon the spindle as the latter is revolved in opposite directions, and the pitch of the thread with which said sleeve engages is so graduated relatively to the thread at the lower end of the spindle by which the gate or plug is raised and lowered and to the distance between the two words on the sign-plate that the movement of said spindle to shift the gate or plug from one of its positions to the other will cause the corresponding word on the sign-plate to be exposed through the slot in plate e . If desired, graduations can be made upon the sign-plate or its stem f' to indicate intermediate positions of the gate or plug. The sign-plate is preferably provided with a projecting rib f^4 at each side thereof to prevent the letters thereon from rubbing against the plate e . It will be obvious from Fig. 1 that while the letters on the sign-plate are in proper position for readings so long as the valve occupies a vertical position, as therein shown, if the valve were turned to a horizontal position said letters would be inverted with respect to a person operating the hand-wheel d' , and to enable the same sign-plate to be used in either of said positions of the valve I form upon the reverse side of said plate the same words or symbols inverted, as shown in Fig. 4, so that by simply reversing the sign-plate the valve can be set in either a vertical or horizontal position, as may be desired.

The indicator thus described is extremely simple and inexpensive in construction, the shoulder b' and flanges b^2 on the cap being formed when the latter is cast by means of a suitable core and the plate e and sign-plate being capable of being completed at a single operation. The ease of movement of the sign-plate within the pocket in the cap insures perfect operation thereof under all conditions, while by using a flat sign-plate of considerable area, as shown, the letters thereon can be distinctly seen at a considerable distance from the valve, which is oftentimes a great convenience. By simply removing the bolt f^2 the sign-plate can be reversed as often as

is necessary to suit changed positions of the valve.

By forming the words or symbols on the sign-plate of raised letters, as described, it is possible to ascertain the position of the valve-plug in the night-time by the sense of touch merely.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a stationary-spindle valve having at the upper end of its body a recess or pocket, said pocket having in the outer side thereof a transverse slot, of a sign-plate adapted to have free vertical movement within said pocket, said plate having upon both the front and rear sides thereof letters or symbols to indicate the position of the valve-plug when exposed to view through the slot in said pocket, the letters or symbols upon one side of said plate being arranged in an inverted position relatively to those upon the opposite side thereof, an internally-threaded sleeve engaging a threaded portion of the valve-spindle, and means for detachably connecting said sign-plate to said sleeve, arranged and operating substantially as described, whereby said sign-plate is adapted to be reversed to enable the valve to be used in either a vertical or a horizontal position.

2. The combination, with valve-body a b and the stationary spindle d , said body having at its upper end the square shoulder b' , provided at its outer side with the side flanges b^2 and intermediate recess b^3 , of plate e , adapted to be secured to said flanges, said plate having therein the slot e^2 and having at its upper end the inwardly-projecting lugs e' , sign-plate f , adapted to have free movement within the recess in said shoulder and having the stem f' , adapted to be guided between said lugs e' , sleeve f^3 , engaging a threaded portion of said spindle d , and a bolt or similar device connecting the stem f' of said sign-plate to said sleeve, arranged and operating substantially as described.

JASON GILES.

Witnesses:

W. H. CHAPMAN,
J. E. CHAPMAN.