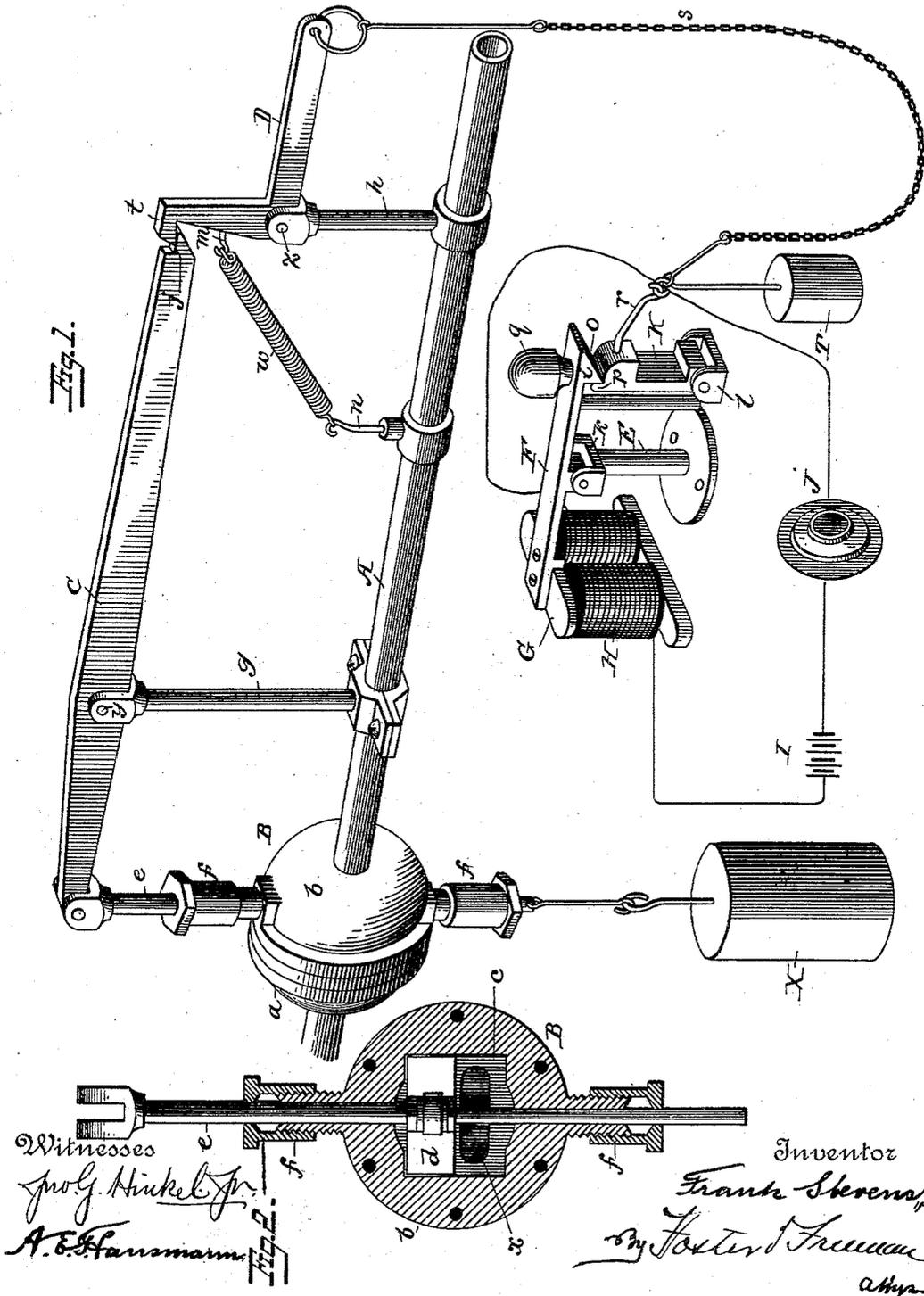


(No Model.)

F. STEVENS.  
ELECTRIC VALVE DEVICE.

No. 411,908.

Patented Oct. 1, 1889.



# UNITED STATES PATENT OFFICE.

FRANK STEVENS, OF PHILADELPHIA, PENNSYLVANIA.

## ELECTRIC VALVE DEVICE.

SPECIFICATION forming part of Letters Patent No. 411,908, dated October 1, 1889.

Application filed August 9, 1889. Serial No. 320,292. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK STEVENS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric Valve Devices, of which the following is a specification.

My invention is an improvement in electric valve-operating devices specially designed for use in connection with the steam or other supply pipe of a motor-engine, whereby, in case of an accident or otherwise, the engine may be quickly and easily stopped from any adjacent or distant point by closing a valve and cutting off the motor fluid; and my invention consists in the novel construction hereinafter set forth, by which such valve-operating devices are rendered more simple, efficient, and easy and certain of operation.

In the drawings, Figure 1 is a perspective view of an electric valve device embodying my invention, and Fig. 2 is a cross-section of the controlling valve.

A designates a supply-pipe supported in any suitable manner and connecting the motor-engine with a steam-generator or other source of power, as usual, and in the line of the pipe is arranged a valve device B of any desired form. As shown, the valve device consists of an approximately spherical casing composed of two sections *a b*, firmly bolted together, and having threaded openings, in which the ends of the supply-pipe are secured. The section *b* is provided with a rectangular recess *c*, in which is seated a valve *d*, adapted to reciprocate across the port *x* in the casing, the stem *e* of the valve projecting with its opposite ends through stuffing-boxes *f*, and having a weight X suspended from its lower end.

A lever C is pivotally supported at *y* upon a standard *g*, preferably carried by the supply-pipe, and is connected at one end to the valve-stem *e*, while its opposite or free end is provided with a shoulder *j*. An L-shaped detent or catch-lever D, pivoted at *z* to the standard *h*, also supported by the pipe A, terminates at its upper end in a lip *t*, adapted to engage the shoulder *j* of the lever C and act as a retainer therefor, and a spiral spring *w*, connected to hooks *m n*, respectively, on

the lever D and supply-pipe, tends to swing the catch-lever upon its pivot to hold said lip and shoulder in engagement and thus maintain the valve *d* normally in an elevated position, as shown. 55

A standard E, supported upon any convenient base adjacent to the above-described parts, terminates at its upper end in a forked bracket *k*, between the arms of which is pivoted the lever F, having at one end a depending shoulder *i* with a beveled face *o*, while at its opposite end is arranged an armature G, below which is placed an electro-magnet H, in circuit with a battery I, and one or more push-buttons J, or other similar device, located in any desired part or parts of the building. A dog K, pivotally supported in a bracket *l*, is provided at its upper extremity with a lip *p*, adapted to engage the shoulder *i* on the lever F, a weight *q*, carried by the latter, serving to keep the parts normally in engagement. 60 65 70

A weight T is suspended from a hook *r*, carried by the free end of the dog K when the apparatus is in its normal condition, and this weight is connected by a comparatively long chain or cords to the outer end of the catch-lever D. 75 80

It will thus be seen that whenever it becomes necessary or desirable to arrest the movement of the motor-engine, this may be readily and quickly done from any part of the building in which the latter is located by means of the push-button or other equivalent circuit-closing device. Upon depressing the push-button, as will be understood, the magnet will become energized by a current from the battery and attract the armature on the lever F, swinging the latter upon its pivot and liberating the dog K. The weight T will then become disengaged from its suspending-hook as the dog swings forward, and in its descent will pull down the free end of the catch-lever against the action of the spring and liberate the lever C and permit the weight X to descend with and close the valve. 85 90 95

Although I have described my invention as particularly applicable to the supply-pipe of an engine, it will be obvious that it may with like facility be employed for many other purposes. 100

Without limiting myself to the exact con-

struction and arrangement of the parts shown, I claim—

1. In an electric valve device, the combination of the supply-pipe, a weighted valve in  
5 the line thereof, a standard on the pipe, a lever pivoted to the standard and connected to the valve, a detent adapted to engage the free end of the lever, a spring, a weight connected to the detent, a pivoted dog normally  
10 carrying said weight, and an electro-magnet and connections controlling the dog, substantially as set forth.

2. In an electric valve device, the combination of the supply-pipe, a weighted valve in  
15 the line thereof, a standard on the pipe, a lever pivoted to the standard and connected

to the valve, a second standard also carried by the pipe, an L-shaped detent pivoted to the latter standard and adapted to engage the free end of the lever, a spring, a weight  
20 loosely connected to the detent, a pivoted dog normally carrying said weight, and an electro-magnet and connections controlling the dog, substantially as described.

In testimony whereof I have signed my  
25 name to this specification in the presence of two subscribing witnesses.

FRANK STEVENS.

Witnesses:

ISRAEL W. DURHAM,  
J. WESLEY DURHAM.