

(No Model.)

H. ENGEL.
SAFETY WATER COLUMN.

No. 519,382.

Patented May 8, 1894.

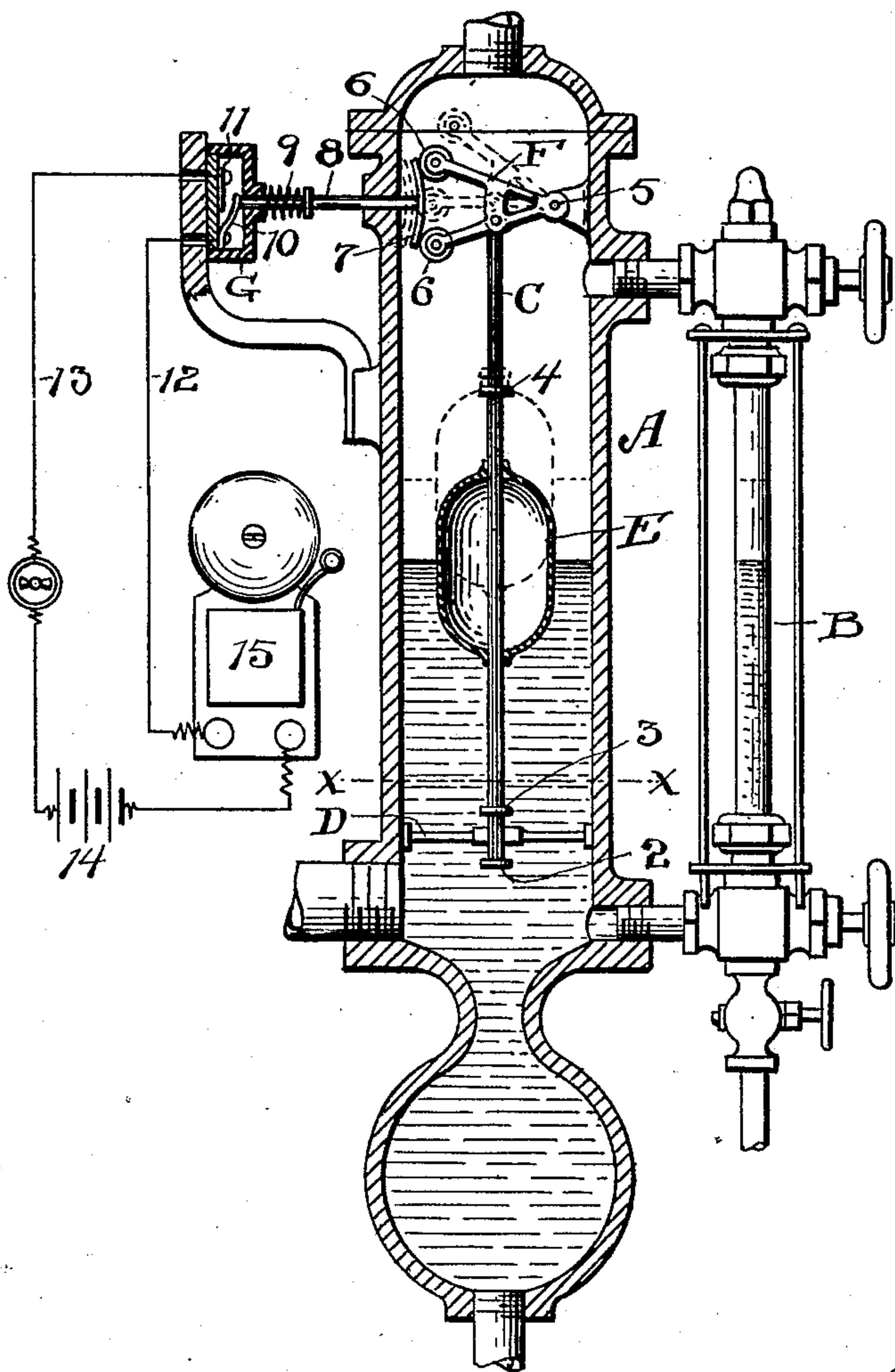


Fig. 1.

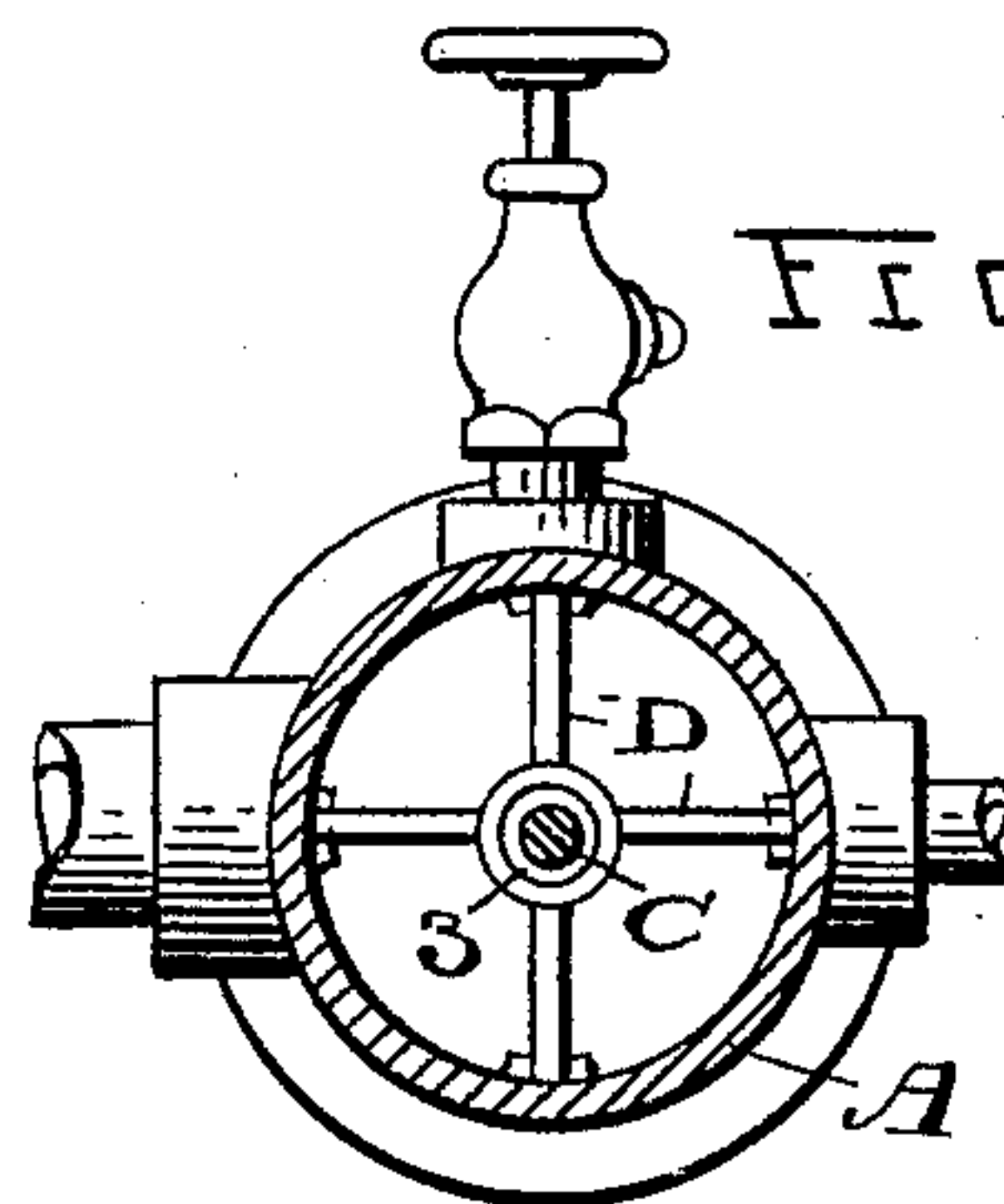


Fig. 2.

ATTEST

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SAFETY WATER COLUMN.

SPECIFICATION forming part of Letters Patent No. 519,382, dated May 8, 1894.

Application filed February 9, 1894. Serial No. 499,593. (No model.)

To all whom it may concern:

Be it known that I, HENRY ENGEL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Safety Water Columns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to improvements in safety water columns, and the object of the invention is to provide a water column with electrical appliances and connections, whereby an alarm will be sounded whenever, from any cause, the water rises to high water mark, or falls to low water mark, said mechanism being under the control of a float and other parts in said column, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical central sectional elevation of the water column equipped with my improved mechanism, and Fig. 2 is a cross section on line *x, x*, Fig. 1.

A represents the water column proper, constructed and connected as usual and having the usual attachments of water gage B, gage cocks and other necessary parts. In the column A I arrange a rod C centrally and lengthwise therein and supported at its lower end in what is here shown as a spider D, having two or more arms which rest against the inside of the tube A and are held in any suitable way. The rod C is designed to have a limited up and down movement denoted by the space between the head —2— and the collar —3— at its lower end on opposite sides of said spider, and the movement and position of the rod C are controlled by the float E. This float may be of any suitable material and construction, and is threaded upon the rod C and adapted to slide up and down thereon between the collars —3— and —4— on said rod. At its upper end the said rod is pivoted to the triangular or A shaped part F, which is pivoted at the intersection of its two stems on the inside of the tube A at —5—. This part or triangle lies transversely to the water column near its top and has small rollers —6— in the ends of its stems to give it easy movement. These rollers are adapted to bear against the shoe —7— on the inside of the column and apart therefrom and which is attached to the inner end of a rod —8— projecting laterally out and through the column. This rod —8— at its outer end extends into an electrical box G, and a spring —9— encircles the said rod and bears against the said box and a collar on the rod and serves to normally press the rod inward toward the triangle or part F. Electrical contact points or pieces —10— and —11— are placed in this box G, and wires —12— and —13—, respectively, connect said points with the battery —14— through the bell or other sounding device —15— in the circuit. The normal position and relation of the triangle F is shown in Fig. 1 with the contacts —10— and —11— apart and the circuit open. When the water rises to the high water mark, the float will rise with it until it reaches the point indicated by dotted lines for said float, and the part F will be moved into the position shown in dotted lines, so that the lower stem of the triangle will bear directly against the shoe —7— and rod —8— and thus force the contact points —10— and —11— into electrical touch, thereby closing the circuit and causing the alarm to be sounded. When the float drops so as to bear upon the collar —3— of rod C and presses said collar down upon the spider D, the upper arm of the triangle will be drawn down into a horizontal position and bear the electrical contact points —10— and —11— together again and close the circuit and sound the alarm. Neither of the rollers —6— can press the center of shoe —7— without actuating rod —8— sufficiently to close the circuit at —10—, —11—, and causing an alarm to be sounded, and neither roller will come to that position without one or the other extreme of the float E and rod C having been reached. A primary battery or any other equivalent source of electrical energy, and equivalent conducting and contact mechanism to that shown may be used. So, also, may the mechanism in the water column be changed and varied from that shown and still be within the spirit of the invention.

ers —6— in the ends of its stems to give it easy movement. These rollers are adapted to bear against the shoe —7— on the inside of the column and apart therefrom and which is attached to the inner end of a rod —8— projecting laterally out and through the column. This rod —8— at its outer end extends into an electrical box G, and a spring —9— encircles the said rod and bears against the said box and a collar on the rod and serves to normally press the rod inward toward the triangle or part F. Electrical contact points or pieces —10— and —11— are placed in this box G, and wires —12— and —13—, respectively, connect said points with the battery —14— through the bell or other sounding device —15— in the circuit. The normal position and relation of the triangle F is shown in Fig. 1 with the contacts —10— and —11— apart and the circuit open. When the water rises to the high water mark, the float will rise with it until it reaches the point indicated by dotted lines for said float, and the part F will be moved into the position shown in dotted lines, so that the lower stem of the triangle will bear directly against the shoe —7— and rod —8— and thus force the contact points —10— and —11— into electrical touch, thereby closing the circuit and causing the alarm to be sounded. When the float drops so as to bear upon the collar —3— of rod C and presses said collar down upon the spider D, the upper arm of the triangle will be drawn down into a horizontal position and bear the electrical contact points —10— and —11— together again and close the circuit and sound the alarm. Neither of the rollers —6— can press the center of shoe —7— without actuating rod —8— sufficiently to close the circuit at —10—, —11—, and causing an alarm to be sounded, and neither roller will come to that position without one or the other extreme of the float E and rod C having been reached. A primary battery or any other equivalent source of electrical energy, and equivalent conducting and contact mechanism to that shown may be used. So, also, may the mechanism in the water column be changed and varied from that shown and still be within the spirit of the invention.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A water column, a vertically movable rod in said column and a float on said rod, in combination with a push rod through said column having a shoe on its inner end and a part with two separated contact points to bear against said shoe and actuated by the float rod, substantially as set forth.
2. A safety column, a vertical rod confined wholly within the column, a float and a stop on said rod engaged by the float in its upward movement, a push rod extending into said column and contact points actuated with said float rod to operate the push rod, substantially as set forth.
3. The safety water column described, a rod in said column having stops to limit its movement and having both its ends within the column, in combination with a float on said rod and free to rise and fall thereon, and a stop on the rod engaged by the float, a part having separate contact points pivoted in the col-

umn and pivotally connected with said rod, and a push rod to make electrical contact extending into the said column and engaged by said contact points, substantially as set forth.

4. The water column, the float in the column the rod passing through the float and having a stop above the float and engaged thereby when the float rises to its upward limit, and stops between which said rod has limited movement, in combination with a double contact device in said column and connected with said rod, a lateral push rod actuated by said device and electrical contact points outside the column having electrical connection with said push rod, substantially as set forth.

Witness my hand to the foregoing specification.

HENRY ENGEL.

Witnesses:

H. T. FISHER,
GEORGIA SCHAEFFER.