J. A. A. HEYDEGGER.

OVERFLOW ALARM.

APPLICATION FILED OCT. 31, 1908.

**915,348.** Patented Mar. 16, 1909.

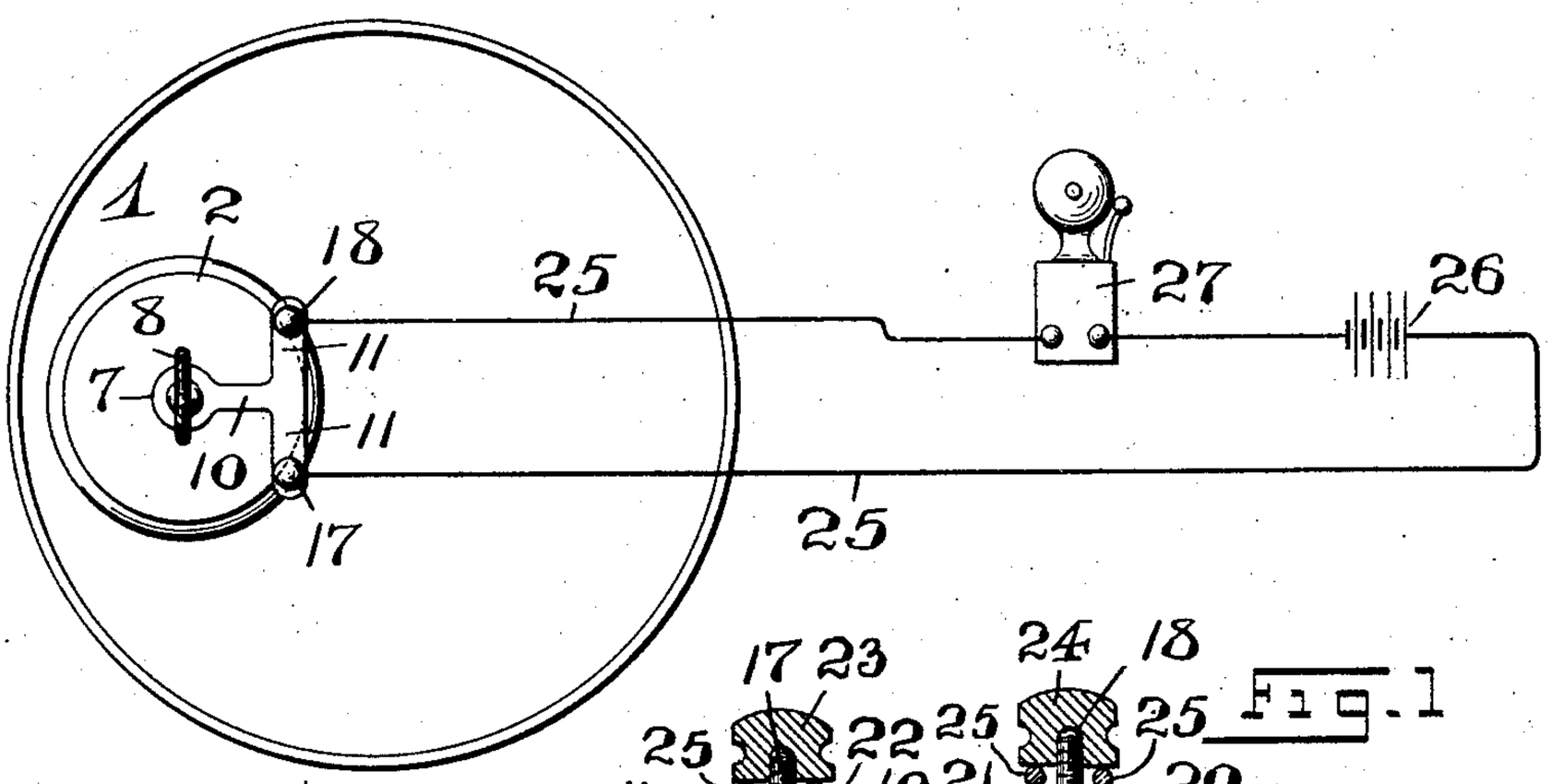


Fig. 1

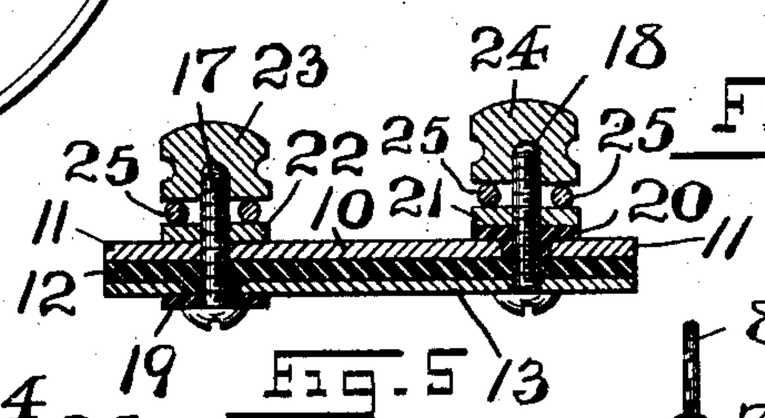


Fig. 5

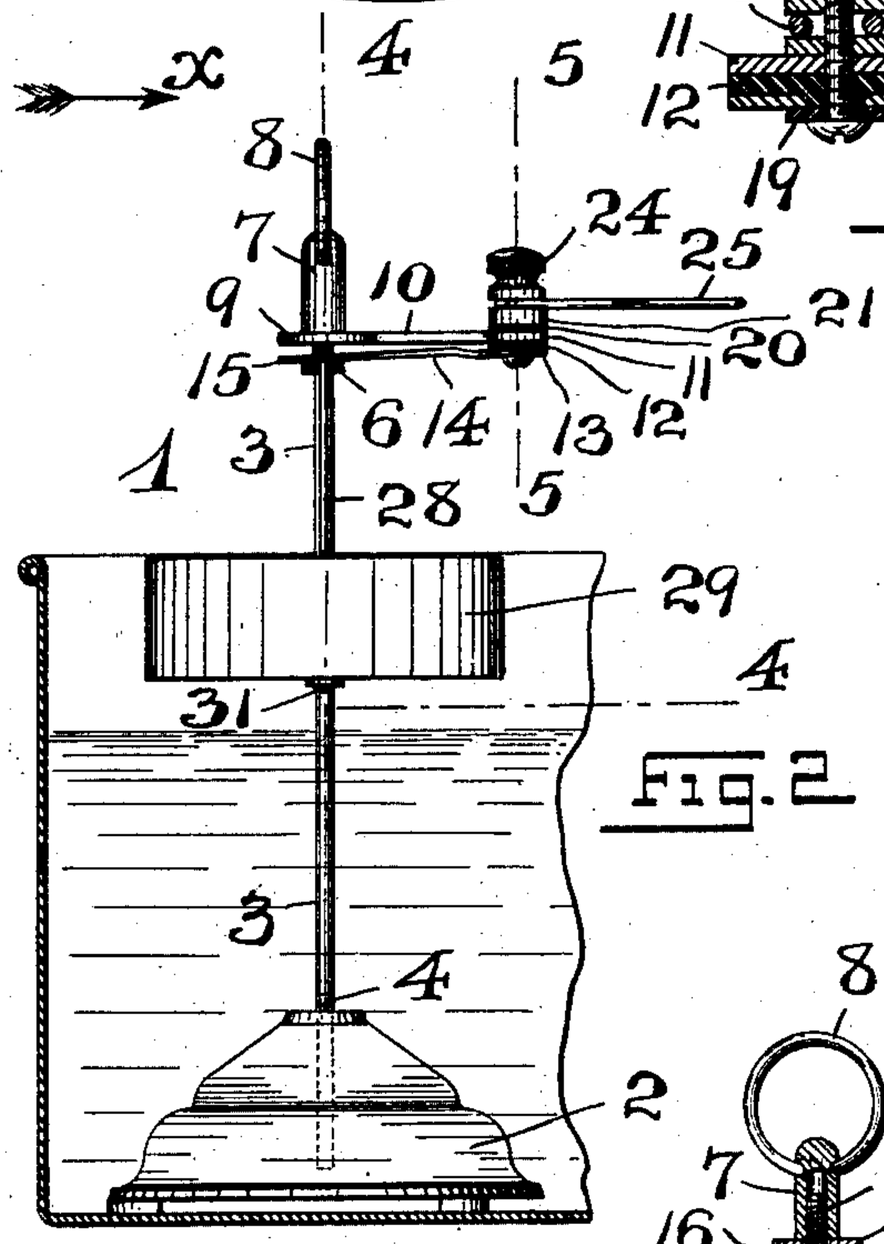


Fig. 2

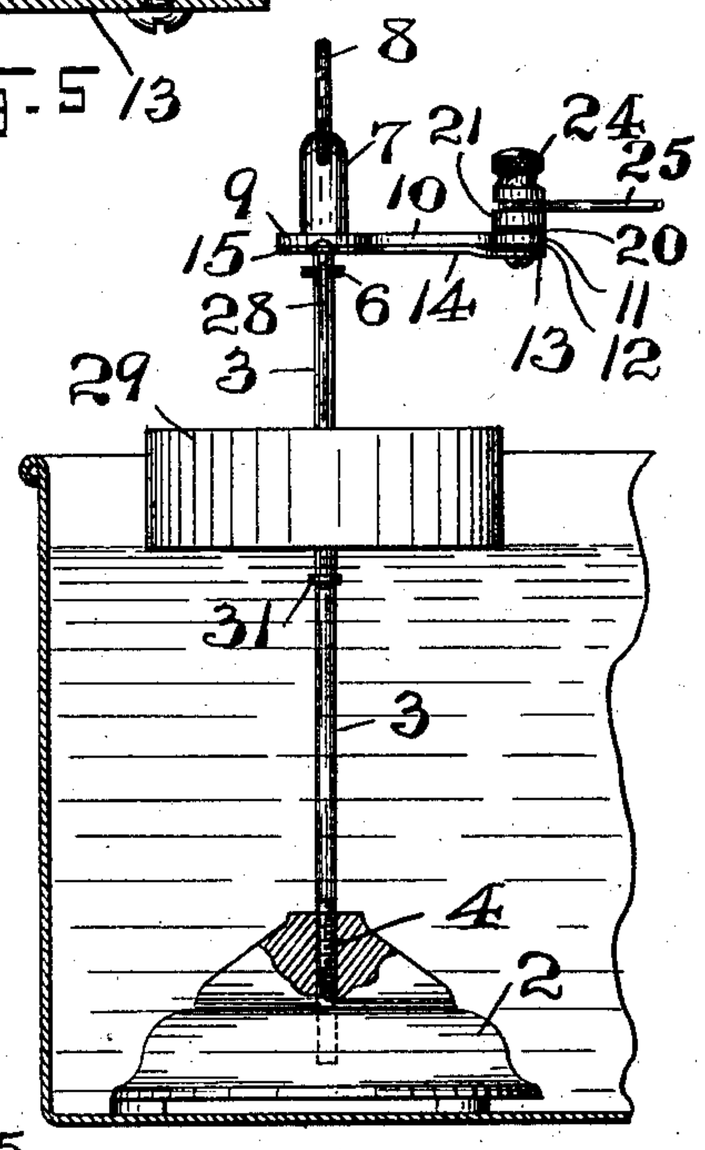


Fig. 3

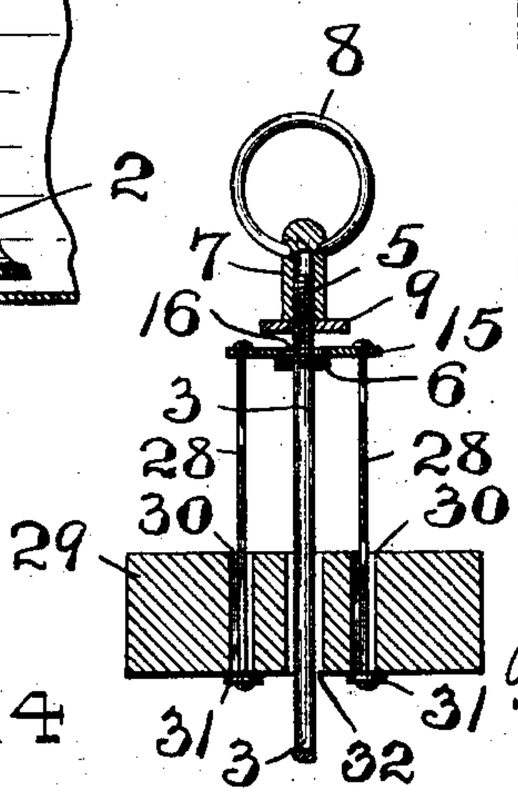


Fig. 4

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## OVERFLOW-ALARM.

No. 915,348. Specification of Letters Patent. Patented March 16, 1909.

Application filed October 31, 1908. Serial No. 460,391.

*To all whom it may concern:*

Be it known that I, JULIUS A. A. HEYDEGGER, citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Overflow-Alarms; and I 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, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to overflow-alarms; and, the invention relates, more particularly, to a novel construction of overflow-alarm which is especially adapted for use with the drip-pans of refrigerators, but may also be used with tanks containing water or liquids which are subject to rising levels and where there is danger of an overflow.

The invention has for its principal object to provide a novel, simple and cheaply constructed overflow-alarm or device which is especially adapted for use with the ordinary drip-pan of a refrigerator, ice-box, or the like, and which, when the water within the pan reaches a certain height, serves as an indicator or annunciator that the water within the pan has reached a predetermined height, and thereby serves as a warning that the drip-pan should be emptied, so as to avoid the danger of an overflow.

My invention has for its further purpose to provide a portable device of the general character hereinafter set forth which can be placed in any suitable receptacle or tank containing water or other liquid having varying levels, the device being placed in an electric circuit with a source of electricity and an indicator, as an alarm-bell, and the parts of the device being such that at a predetermined time the rising water or liquid will actuate such parts of the device and cause the same to complete the electric-circuit and sound an alarm upon the annunciator, or otherwise indicate the fact upon the indicator.

Other objects of this invention not at this time more particularly mentioned will be clearly understood from the following detailed description of the same.

The invention consists, primarily, in the novel overflow-alarm or device hereinafter set forth; and, the invention consists, furthermore, in the various arrangements and combinations of the devices and parts, as well as in the details of the construction of the same, all of which will be hereinafter more fully described and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 represents a plan or top view of an overflow alarm embodying the features of the present invention, and a top view of a drip-pan in which the device is placed, said view showing also in electrical circuit with the device, an electric battery and an alarm-bell. Fig. 2 is a vertical sectional representation of a portion of a drip-pan, and a side elevation of the overflow-alarm showing the parts of the device in their normal initial positions when the electrical connection between the parts is interrupted or broken; and Fig. 3 is a similar view of the same parts represented in said Fig. 2, but showing the parts of the overflow-alarm in their operated positions making electric contact to establish and complete an electric circuit through the battery and annunciator. Fig. 4 is a vertical section taken on line 4—4 in Fig. 2 of the drawings, looking in the direction of the arrow *x;* and Fig. 5 is a transverse vertical section, said section being taken on line 5—5 in said Fig. 2.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring now to the said drawings, the reference-character 1 indicates one form of overflow-alarm embodying the principles of my present invention, the said alarm or device comprising a suitably formed and ornamental base 2 provided with a screw-threaded socket 3′ with which is adjustably connected, substantially in the manner shown in Figs. 2 and 3 of the drawings, by the screw-threaded end-portion 4, a post 3. The upper end-portion of the said post is also made screw-threaded, as at 5, and has secured thereon a disk or washer 6 which is made from material which is a non-conductor of electricity. Suitably arranged upon the said screw-threaded part 5 is an element or member 7 which may be provided with a ring or loop 8 and which serves as a finger-piece for carrying the device, as will be clearly evident.

Suitably secured in a fixed position upon said screw-threaded part 5 of the post 3, directly beneath the element 7 is a contact-plate or member 9 which is formed with a rearwardly extending main body-portion 10 provided with the laterally extending arms 11, substantially as shown. Separated from that portion of the contact-member formed by the said arms, by means of a piece of insulating material 12, is a second contact-making element or member 13, which is made from a suitable spring-metal, and is formed with a forwardly extending arm 14, arranged beneath the body-portion 10, said arm being made with an enlarged end 15 in which there is a hole or opening 16 through which the rod 3 extends, substantially in the manner illustrated in Fig. 4 of the drawings, the said hole 16 being made much larger than the cross-area of the rod 3, so that these parts in their assembled relation will not touch, and that there can not be any possible short-circuiting of the electric current. The said arms 11and the member 13 are operatively connected by means of two screws 17 and 18, an insulating sleeve 19 encircling the screw 17 between its head and the metal member 13, and an insulating sleeve 20 encircling the screw 18 and being arranged between a metal washer 21 and the metal arm 11. A washer 22 is also arranged upon the screw 17, suitable binding nuts 23 and 24 being respectively arranged upon the screws 17 and 18, for the attachment to said screws of the respective ends of the circuit-wire 25 connected with a battery 26, or other source of electricity, and having arranged in said circuit an annunciator or electric bell 27. Extending downwardly from the said enlarged end-portion 15 of the contact-making member or element 13 are rods 28, having their lower end-portions extending into and through correspondingly placed holes or ducts 30 in a float 29, said float under normal conditions being supported upon disks or washers 31, or other suitable supporting means, with which the lower ends of said rods 28 are provided, as will be clearly evident. The float 29 is also provided with a central hole or duct 32 of larger cross-sectional area than that of the rod 3, said rod extending through the said hole 32, and the float being capable of a free movement upon said rod, as will be clearly understood from an inspection of said Fig. 4 of the drawings.

Under normal conditions, when the overflow-alarm or device 1 is placed in a drip-pan 33, as shown in Figs. 1 and 2 of the drawings, the float 29 is supported upon the disks or washers 31 of the rods 28, the weight of the float causing the spring-contact to be deflected with its enlarged portion 15 resting directly upon the disk or washer 6 of the rod 3, so that the electric circuit with the battery and the bell is interrupted, as will be clearly understood. However, as soon as the level of the water or fluid in the drip-pan, or other receptacle, rises to a height so that the float 29 will float thereon, the still rising condition of the water, or the like, will permit the float to move in an upward direction upon the rod 3, and by thereby relieving the weight previously carried by the rods 28 from said rods, permits the spring-arm 14 to move in an upward direction, so as to bring the enlarged metal portion 15, directly against the metal end-portion or contact-plate 9 of the body-member 10. Immediately a complete electric circuit is established between these parts, by means of the circuit-wires with the battery and the annunciator or electric bell, the latter sounding an alarm. The device is thereupon removed from the drip-pan, and the latter emptied of its contents.

From the foregoing description it will be clearly evident that I have devised a simply constructed and effectively operating device which can be employed as an alarm-overflow in connection with the drip-pans of refrigerators, ice-boxes, and the like; and may also be used in other respects with liquid-storing tanks or reservoirs to indicate when the level of the water or liquid is at any previously determined height.

I am aware that changes may be made in the general arrangements and combinations of the devices and parts, as well as in the details of the construction of the said parts, as described in the foregoing specification and as defined in the claims which are appended to said specification. Hence I do not limit my invention to the exact arrangements and combinations of the devices and parts as set forth in the said specification, nor do I confine myself to the details of the construction of any of the said parts, as illustrated in the accompanying drawings.

I claim:—

1. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a second contact-member movably arranged upon said rod, said members being electrically insulated from each other, and a float connected with said movable contact-member, substantially as and for the purposes set forth.

2. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a second contact-member movably arranged upon said rod, said members being electrically insulated from each other, and a float connected with said mov-

able contact-member, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

3. An overflow-alarm comprising a base, a main rod mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said rod, a means of electrical insulation between said members, binding posts connected with said members, and a float connected with said spring-like contact-member, substantially as and for the purposes set forth.

4. An overflow-alarm comprising a base, a main rod mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said rod,a means of electrical insulation between said members, binding posts connected with said members, rods extending downwardly from the said perforated end-portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, substantially as and for the purposes set forth.

5. An overflow-alarm comprising a base, a main rod mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said rod, a means of electrical insulation between said members, binding posts connected with said members, and a float connected with said spring-like contact-member, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

6. An overflow-alarm comprising a base, a main rod mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said rod, a means of electrical insulation between said members, binding posts connected with said members, rods extending downwardly from the said perforated end-portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

7. An overflow-alarm comprising a base, a main rod adjustably mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding posts connected with said members, and a float connected with said spring-like contact-members, substantially as and for the purposes set forth.

8. An overflow-alarm comprising a base, a main rod adjustably mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding-posts connected with said members, rods extending downwardly from the said perforated end-portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, substantially as and for the purposes set forth.

9. An overflow-alarm comprising a base, a main rod adjustably mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding posts connected with said members, and a float connected with said spring-like contact-member, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

10. An overflow-alarm comprising a base, a main rod adjustably mounted upon said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding posts connected with said members, and a float connected with said spring-like contact-members, rods extending downwardly from the said perforated end portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

11. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a main rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding-posts

connected with said members, and a float connected with said spring-like contact-member, substantially as and for the purposes set forth.

12. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a main rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding-posts connected with said members, rods extending downwardly from the said perforated end-portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, substantially as and for the purposes set forth.

13. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a main rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact-member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding-posts connected with said members, and a float connected with said spring-like contact-member, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

14. An overflow-alarm comprising a base, said base being provided with a screw-threaded receiving socket, a main rod provided with a screw-threaded portion screwed into said socket, so as to be adjustable with relation to said base, a contact-member fixed upon said rod, a laterally extending body-portion connected with said contact-member, a spring-like contact member having a perforated end-portion movably arranged upon said main rod, a means of electrical insulation between said members, binding-posts connected with said members, and a float connected with said spring-like contact-member, rods extending downwardly from the said perforated end-portion of said spring-like contact-member, and a float movably mounted upon said rods and the main rod which extends from the said base, and a fingerpiece upon the upper end-portion of said rod, substantially as and for the purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 24th day of October, 1908.

JULIUS A. A. HEYDEGGER.

Witnesses:
FREDK. C. FRAENTZEL,
FREDK. H. W. FRAENTZEL.