

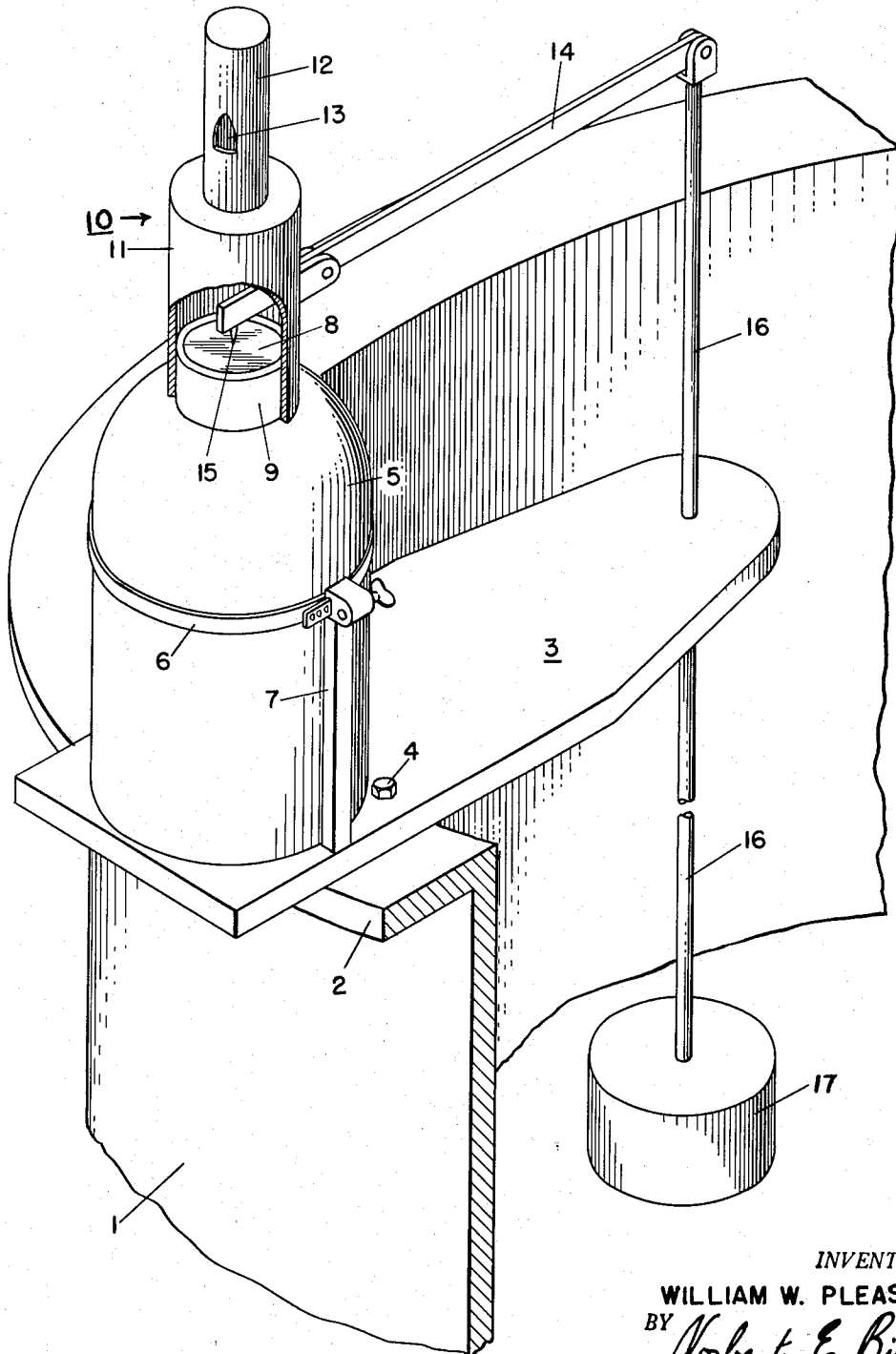
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STORAGE TANK OVERFLOW ALARM

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STORAGE TANK OVERFLOW ALARM

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2 Claims. (Cl. 116—109)

This invention is related to a device for indicating the overflow of fluid storage tanks. More particularly, it is concerned with an overflow alarm for petroleum storage tanks.

In the petroleum industry one of the greatest difficulties in storing petroleum products has been in determining when a storage tank was about to overflow. The overflowing of storage tanks has resulted in serious loss of petroleum products and also has created a potential hazard. The difficulty in finding a device which will work satisfactorily in the storage tanks for petroleum has been caused by the location of the storage tanks and the inherent danger from the use of any electrical indicator.

An object of this invention is to provide an overflow alarm for storage tanks.

Another object of this invention is to provide an overflow alarm for petroleum storage tanks, such alarm not requiring any electrical or other external source of power.

Other objects of my invention will become inherent upon reading the following description in conjunction with the drawings wherein there is shown a perspective of my overflow alarm mounted on the top edge of a storage tank.

Referring to Figure 1 there is shown a tank 1 in which the liquid is to be stored. On the top edge 2 of tank 1 there is mounted a support leg 3. Support leg 3 is fixedly mounted to the edge 2 by means of bolts 4. On one end of support leg 3 is mounted a pressure cylinder 5 which can be mounted on the leg by any well known means, for example, by means of strap 6 and support member 7. A frangible diaphragm 8 is sealed to the neck 9 of pressure cylinder 5. This diaphragm 8 can be made of any well known material which can be easily punctured, for example, a paper or plastic material is satisfactory. Extending over the neck of diaphragm 8 is a whistle 10 which comprises a base 11 and a flute 12 having hole 13 therein. Accordingly, when the air under pressure in the cylinder 5 is allowed to escape through neck 9 and diaphragm 8, the air will rush through the flute 12 causing a whistle-like noise.

Lever 14 is pivotally mounted on whistle 10 and it has on the end thereof a pointed member 15 which normally is located on or immediately above the puncture dia-

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phragm 8. It should be apparent that if lever 14 is actuated in an upward direction, pointed member 15 will puncture diaphragm 8 causing the air to escape from pressure cylinder 5 and rush through flute 12 causing a whistle sound.

Lever 14 is actuated in accordance with the level of liquid in tank 1. This is accomplished by means of float 17 which is fixedly mounted on the bottom of rod 16 which is connected at its upper end to lever 14. Preferably rod 16 is pivotally connected to lever 14, as shown; however, it should be realized that any connection is possible as long as the arrangement of such elements provides for the puncturing of diaphragm 8 by pointed member 15 when the level in tank 1 rises above a predetermined point.

Having described the overflow alarm of this invention, its operation should be readily apparent. Briefly, when the liquid level of the tank approaches the edge 2 of the tank, float 17 is pushed upwardly thereby actuating lever 14 and causing pointed member 15 to puncture diaphragm 8. When diaphragm 8 is punctured the air under compression in cylinder 5 rushes out of the neck 9 and through the whistle 10 causing the whistle to give the alarm that the liquid level of the tank is approaching the overflow level.

It should be realized that although I have described my invention in its simplest form that many deviations can be made without departing from the scope of this invention.

I claim:

1. An alarm for indicating the level of a liquid in a container comprising a gas under pressure, a pressure vessel to contain said gas, an opening in said pressure vessel, a diaphragm extending over and sealing said opening, first means located adjacent said diaphragm for puncturing said diaphragm, second means movable with the liquid level of said container, inter-connecting means interconnecting said first and second means for causing said first means to puncture said diaphragm when said second means is at a predetermined position, and a whistle mounted adjacent said opening whereby when said diaphragm is punctured said whistle gives an alarm.

2. A device for indicating the level of a liquid in a container comprising a float located in a container, a rod extending upwardly from said float and connected to one end of the pivoted lever, a pointed element on the other end of said lever, a pressure cylinder having a diaphragm at the top end thereof, said diaphragm being located immediately below said pointed element, a whistle immediately above the upper end of said cylinder whereby when said float is pushed upwardly by the liquid in said container said pointed element will puncture said diaphragm causing the air to rush out of said cylinder and through said whistle thereby giving an indication that a predetermined level of said liquid has been reached.

No references cited.