

No. 754,032.

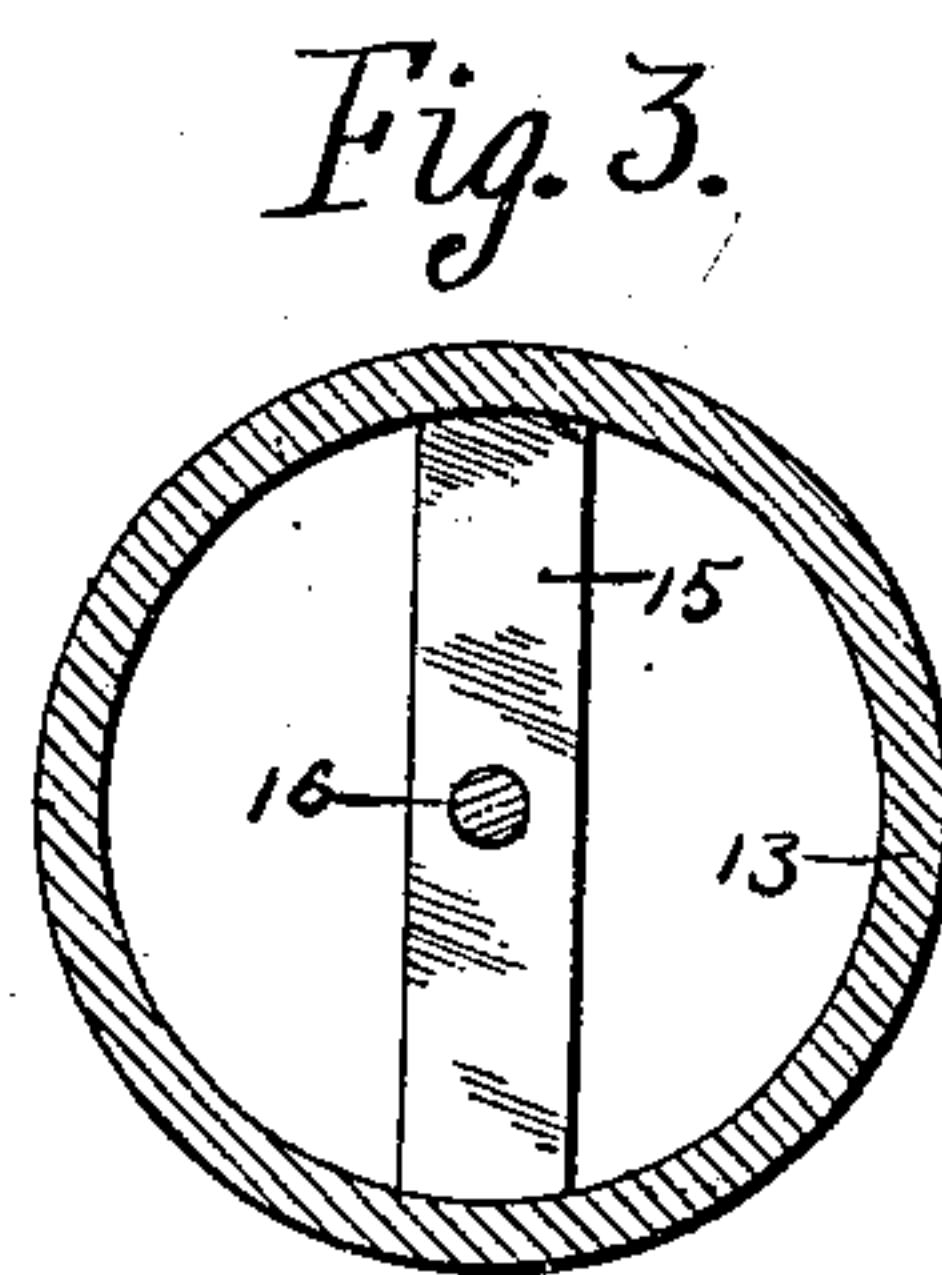
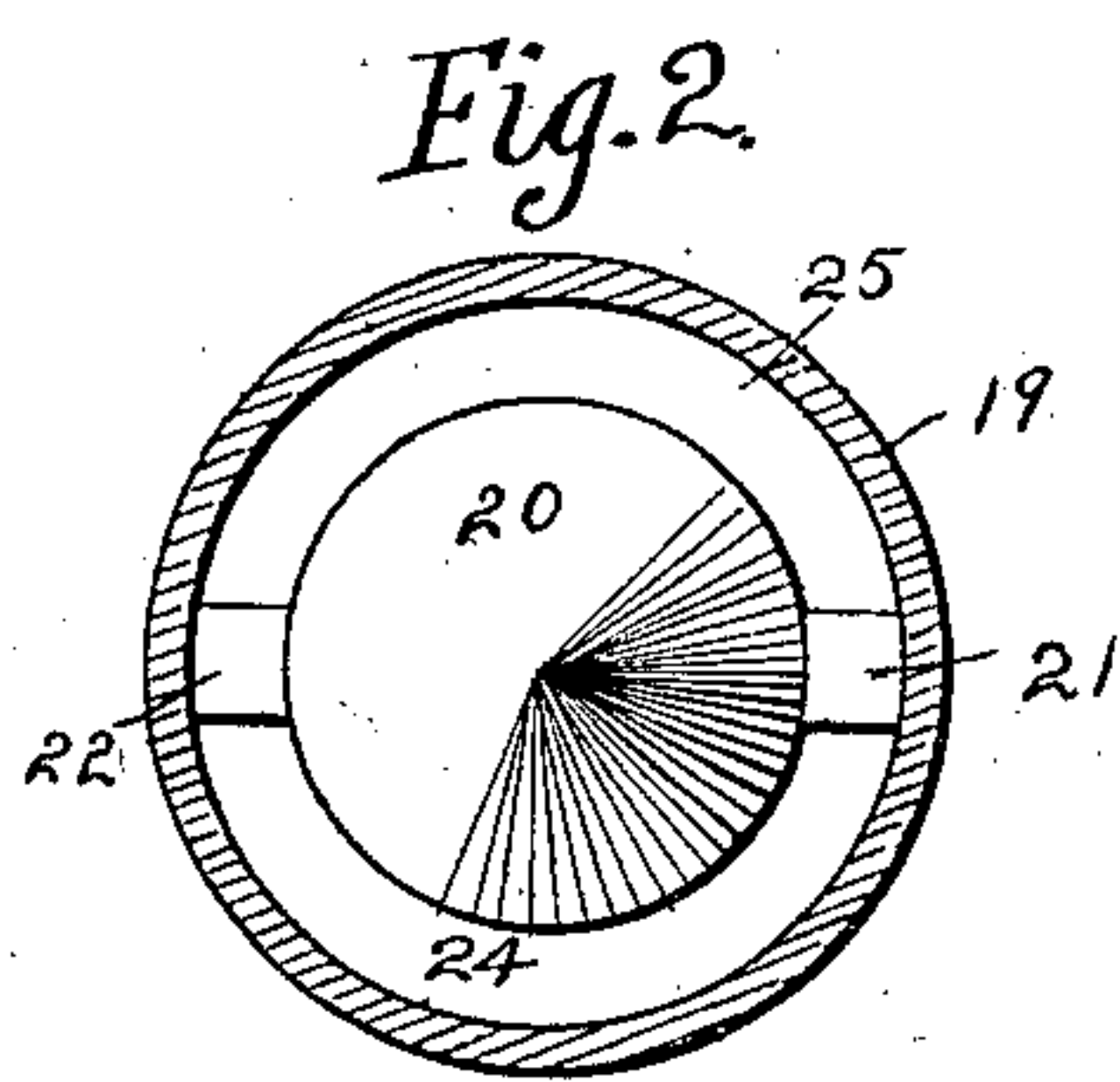
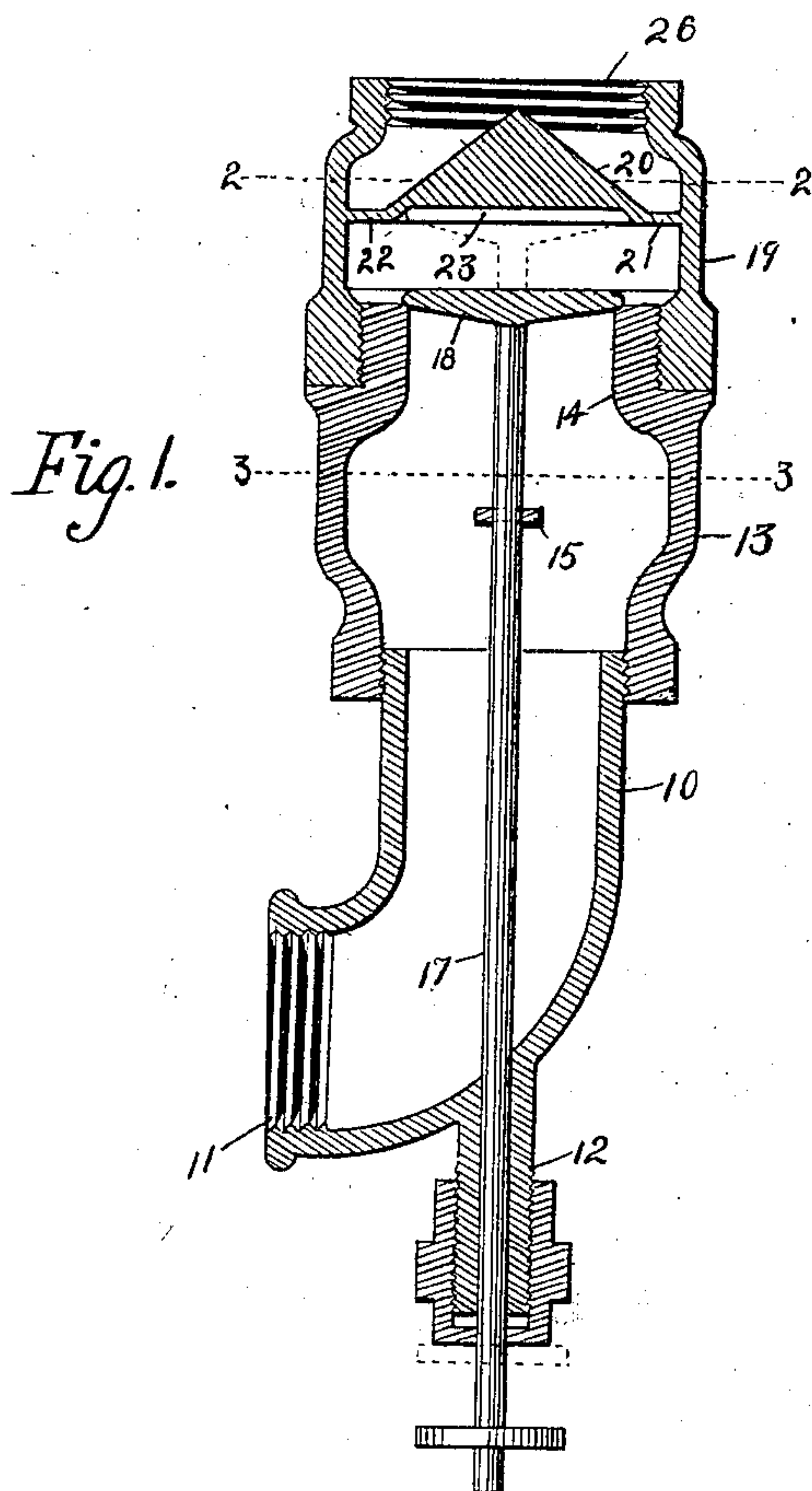
PATENTED MAR. 8, 1904.

A. B. WRIGHT.

VALVE.

APPLICATION FILED MAR. 23, 1903.

NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

ABNER BENONI WRIGHT, OF GILBERT STATION, IOWA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 754,032, dated March 8, 1904.

Application filed March 23, 1903. Serial No. 149,037. (No model.)

To all whom it may concern:

Be it known that I, ABNER BENONI WRIGHT, a citizen of the United States, residing at Gilbert Station, in the county of Story and State of Iowa, have invented certain new and useful Improvements in Valves, of which the following is a specification.

The object of my invention is to provide a valve in which the operating mechanism is protected by means of a conical-shaped protector in the upper portion of the valve.

A further object is to allow the valve to be thrown open, so as to allow free passage of the substance through the valve-opening and yet not cause the valve to be forced downwardly to a closed position.

My valve is particularly designed to be used in connection with scales or other weighing mechanisms where the scale-beam operates the valve and causes it to be forced upwardly when the weight is causing the forward end of the scale-beam to be forced downwardly and the rear end thereof upwardly, so as to raise the valve which is in engagement with the rear end of the scale-beam,

It is my object, further, to prevent the scale-beam being affected in any way by the flowing of the substance through the valve-opening, so that the valve will be closed only when the outer end of the scale-beam is at its upper limit of movement.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the complete valve. Fig. 2 is a cross-sectional view of the valve on the line 2 2 of Fig. 1, and Fig. 3 is a cross-sectional view of the device cut through line 3 3 of Fig. 1.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the lower tubular portion of my valve-casing, having the screw-threaded opening 11 at its lower end. Extending from the portion 10 is an extension 12, having a circular opening in its central portion designed to admit the

rod which supports the valve and allow said rod to be moved vertically in said circular opening. Screwed to the lower portion 10 is the middle portion 13, being substantially circular in cross-section. At the upper portion of the middle portion 13 I have provided an inwardly-extending projection 14, which extends around the entire interior of the middle portion 13. Connecting the interior sides of the middle portion 13 is the bar 15, having a circular opening in its central portion, said circular opening being in line with the opening in the projection 12 and designed to admit the upper portion of the rod portion of the valve. Extending through the openings in the projection 12 and the opening 16 in the connecting-bar 15 is the rod 17, having a valve 18 at its upper portion. This valve is substantially circular in cross-section, and its edges rest against the upper portion of the projection 14, so as to form a complete cut-off from above this valve portion 18 when it is in engagement with the projections 14. As the rod 15 is moved upwardly the valve 18 will be thrown open.

Screwed to the upper end of the middle portion 13 is a valve-protector portion 19. This portion is substantially circular in cross-section and contains the conical-shaped protector 20, said conical-shaped protector being held in place on the interior of the protector portion 19 by means of the supports 21 and 22 and is an opening between the outside of the lower portion of the valve-protector and the interior portion of the valve-protector portion 19, so as to allow the substance flowing into the valve-protector portion and from above the valve-protector to pass through the openings between the outside of the valve-protector and the inside of the valve-protector portion. It has been particularly advantageous to make the conical protector conical-shaped, so that the milk or other substance which is to flow through the pipe will strike the apex of the conical-shaped protector, will be evenly supported, and flow over the entire surface of the conical-shaped protector and through the openings formed beneath the outside of the conical-shaped protector and the interior of the pipe. It has been found in using a flat

top protector that the milk will oftentimes be forced upwardly, and this would prevent a rapid flowing of the milk through the pipe owing to the upward movement of the milk
5 caused by being forced rapidly down upon the flat top protector, which was used experimentally by the applicant. By the use of this conical-shaped protector the milk flows evenly through the pipe and there is no backward or
10 upward movement of the milk. In the lower part of the conical-shaped protector I have cut a portion away to form a circular opening 23, designed to receive the valve 18 when it is at its upper limit of movement. It will be
15 clearly seen that as the valve is raised upwardly by means of the rod 17, to which it is attached, and rests in the opening 23 the substance which flows over the valve-protector 20 through the openings 24 and 25, which are
20 between the outside portions of the valve-protector and the valve-protector portion, the fluid substance will be allowed to pass freely through the valve-opening and without affecting the valve 18 in any way. At the top of
25 the valve-protector portion 19 is the screw-threaded portion 26, so that this portion of the device can be readily attached to a screw-threaded pipe or tube.

In practical use my device is designed to be
30 mounted immediately above the scale-beam, and as the rear end of the scale-beam causes the valve to be forced to its upper limit of movement, as shown in dotted lines in Fig. 1, and the milk or other substance is allowed to
35 flow through the valve-opening and out through the screw-threaded portion 11 and the bucket at the rear of the scale-beam is filled, so as to cause the forward end of the scale-beams to be raised and the rear end low-
40 ered, the valve will be released from en-

gagement with the scale-beam and allow to close, thus shutting off the flow of the fluid through the valve-opening.

Having thus described my invention, what I claim, and desire to secure by Letters Pat- 45 ent of the United States therefor, is—

1. In a device of the class described, a conical-shaped protector, in a pipe having a portion thereof cut away, a valve movably mounted in said pipe and designed to enter the por- 50 tion of the conical-shaped protector which is cut away.

2. In a device of the class described, a pipe, a conical-shaped protector mounted in the pipe having a portion thereof cut away to receive 55 a valve, supports for maintaining the conical-shaped protector in position in the pipe in such a way as to form openings beneath the exterior of the conical-shaped protector and the interior of the pipe, a valve movably 60 mounted in said pipe designed to enter the opening in the conical-shaped protector, formed by cutting away a portion thereof.

3. In a device of the class described, a pipe, a valve capable of vertical movement in the 65 pipe, a bar extending across the pipe for preventing the valve from moving horizontally, a conical-shaped protector having its under surface cut away to receive the valve when it is at its upper limited movement, supports for main- 70 taining the conical-shaped protector in position on the interior of the pipe attached to the extreme lower portion of said protector to form openings beneath the exterior portion of the conical-shaped protector and the interior por- 75 tion of the pipe, for the purposes stated.

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Witnesses:

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