May 9, 1933. L. G. M. TIMPSON 1,907,942

FOAM GENERATING APPARATUS

Filed June 18, 1929 2 Sheets-Sheet 1

Fig: 1.

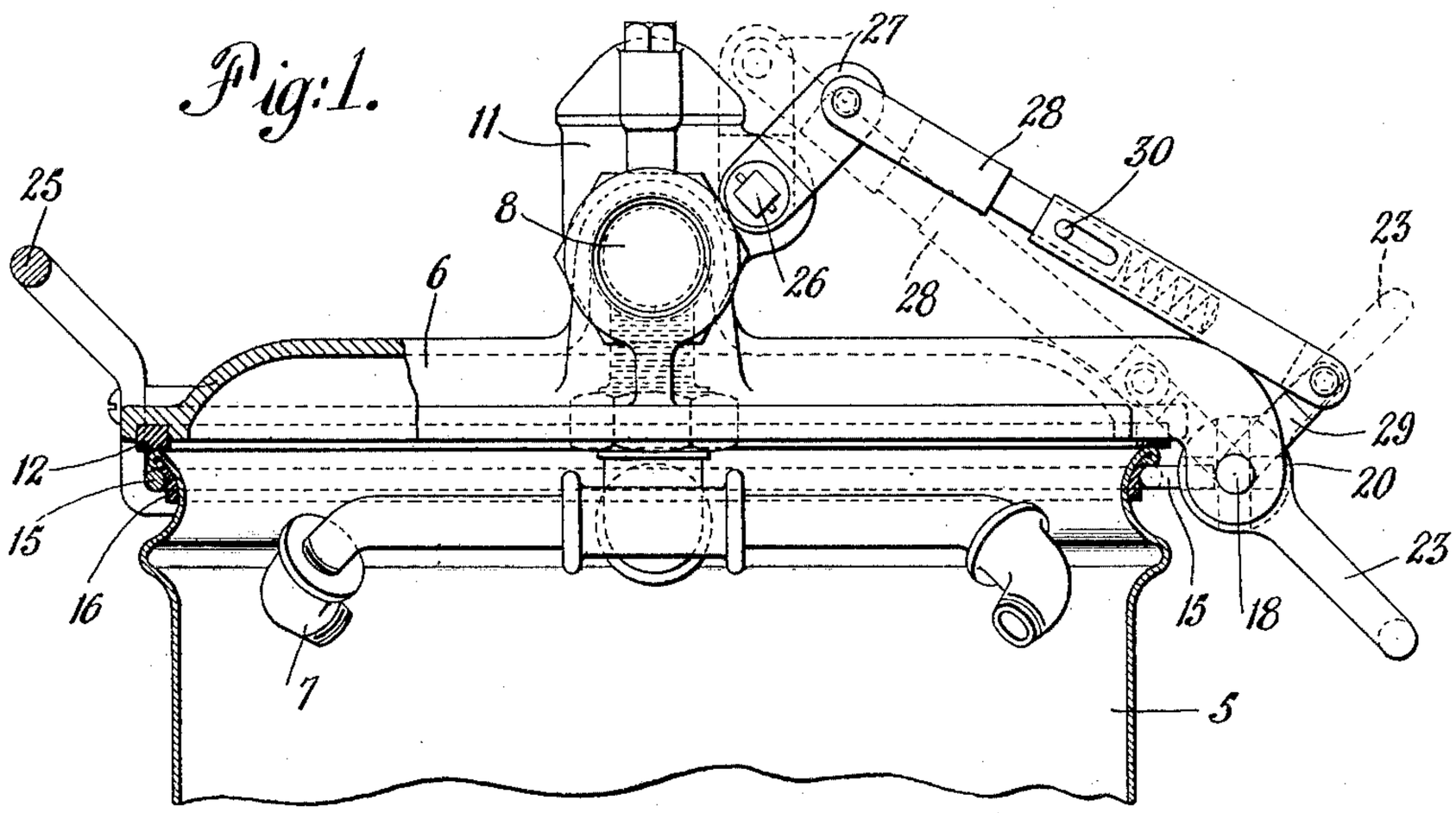

Fig: 2.

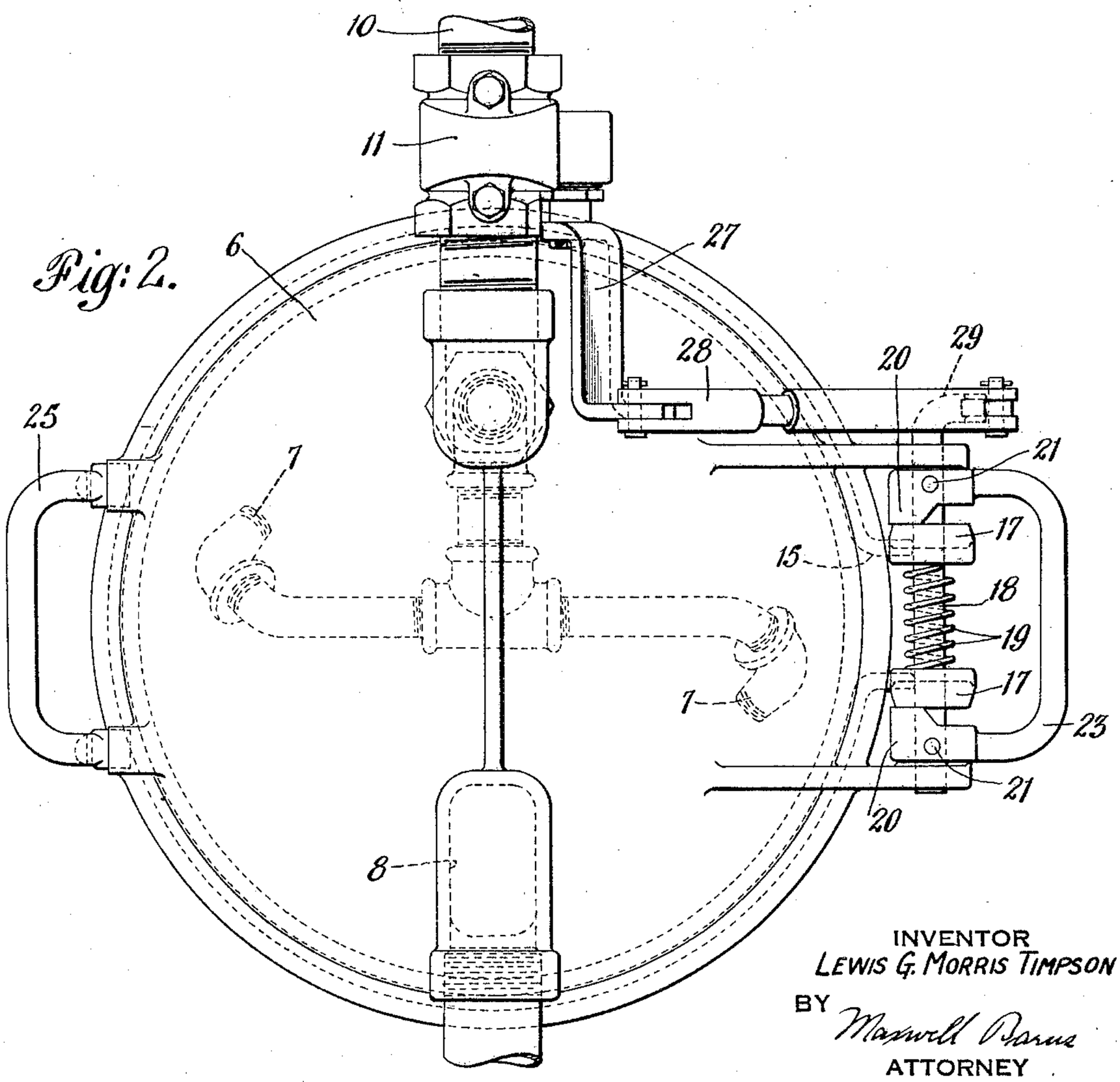

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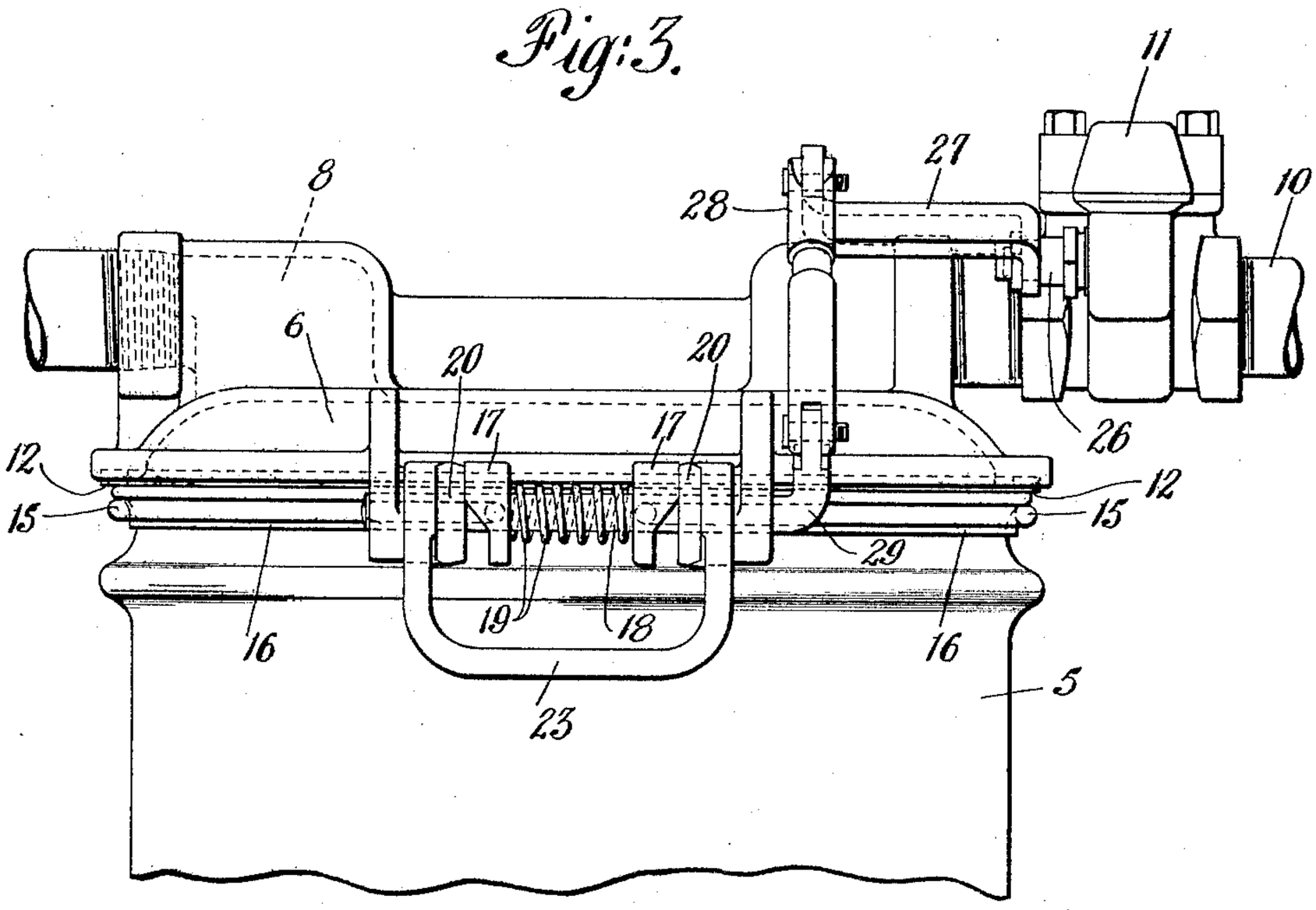
Fig: 3.



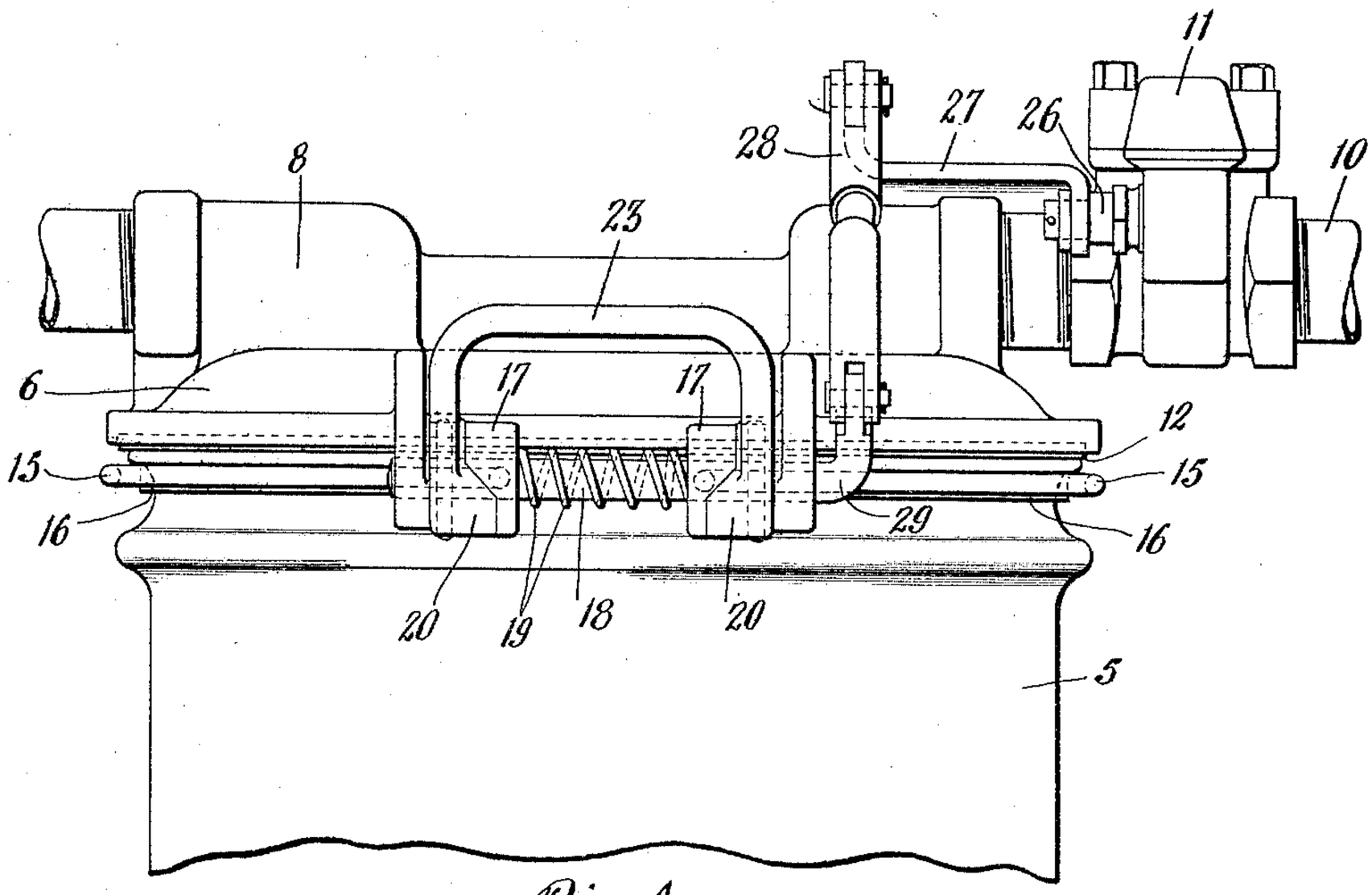


Fig: 4.

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UNITED STATES PATENT OFFICE

LEWIS G. MORRIS TIMPSON, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO PYRENE-MINIMAX CORPORATION, A CORPORATION OF DELAWARE

FOAM GENERATING APPARATUS

Application filed June 18, 1929. Serial No. 371,840.

The present invention relates to fire fighting apparatus and has for an object to provide an improved foam generator.

The invention provides a generator of the type adapted to be connected with a water supply for charging a stream of water flowing through the generator with chemicals to form foam. The generator is so designed that the main body forms a chemical container which can be economically manufactured and may serve as the container for transporting the chemicals, and all of the connections for the water supply pipe and the foam outlet conduit are formed in the cover member. The cover member can be quickly and readily attached to any number of similar containers.

The nature and objects of the invention will be better understood from a description of a particular embodiment for the purpose of which description reference should be had to the accompanying drawings forming a part hereof and in which—

Figure 1 is a side view of a generator embodying the invention, part of the powder container being broken away,

Fig. 2 is a top plan view of the same,

Figs. 3 and 4 are side views taken at right angles to the position from which Fig. 1 is taken and showing the handle which operates the clamping means and the valve in different positions.

The generator shown for the purposes of illustrating the principles of the invention comprises a container 5 and a cover 6 attachable thereto. The generator is so constructed that the inlet nozzles, the foam outlet and all operating parts are carried in and as a part of the cover which may be attached to any one of a number of similar containers and those containers may be of simple and relatively inexpensive construction.

In the structure shown there is employed a container of standard type, in fact a standard putty pail. In use the foam forming powder is supplied in similar containers and the cover is attached to first one and then another of these containers. As shown, the cover 6 has formed therein a pair of nozzles 7 arranged to direct the water downwardly and at an angle into the foam forming powder in the container to provide a swirling motion of the water and a foam outlet 8 for leading the foam formed to the point of use. If the inlet nozzles are not formed integral as a part of the cover casting, they may be constructed of suitable pipe fittings as indicated in the drawings. The flow of water through the inlet 10 to the nozzles 7 is controlled by a suitable valve 11 to permit shutting off of the flow of water when moving the cover from one container to another.

The connection between the cover and the powder container may be made in any suitable manner but it is desirable that the same should be air-tight to prevent leakage of foam or gas during the operation. To this end the cover is provided with a resilient packing ring 12 placed in an annular recess in the cover and positioned to engage the top edge of the container. A suitable clamping means is provided to draw the cover securely onto the container. As shown the clamping means comprises a strap 15 which carries a soft rubber pad 16 and which surrounds the top of the container and operates when contracted to draw the cover tightly onto the container. The ends of the clamping ring 15 terminate in collars 17 loosely mounted on a rock shaft 18 and urged apart by a spring 19. These collars constitute cams for operating with mating cams 20 keyed to the shaft as by pins 21 and connected by a handle 23. When the handle 23 is moved downwardly to the position shown in Figs. 1, 2 and 3, the ring 15 is contracted but when the handle 23 is lifted to the position shown in Fig. 4 and in dotted lines in Fig. 1, the clamping ring is expanded and the cover may be freely removed from the container. The handle 23 serves with the handle 25 for lifting the cover from one container to place it on another and the release of the cover and the removal from one container involves practically one continuous movement of the hand engaging the handle 23.

The valve 11 is also controlled by the han-

dle 23 as best shown in Fig. 1. The rock shaft 26 of the valve 11 carries an arm 27 which is connected by link 28 to the arm 29 on the rock shaft 18. The valve operating arm 27 is shown in Fig. 1 in open position in full lines and in closed position in dotted lines. It is desirable to make provision for a variation in the extent of downward movement of the handle 23 with containers which vary slightly in size and to this end an extensible yieldable connection is provided in the shaft 28 as indicated at 30. The operation of the valve closing arm and the clamping cams are timed to maintain the cover tight while the valve is open, the valve and cams operating successively.

The foregoing particular description is illustrative merely and is not intended as defining the limits of the invention.

I claim:

1. In an apparatus for generating fire foam comprising a container for foam forming chemicals, a cover attachable to said container, a clamping ring engageable with the outer periphery of said container, and means for contracting said clamping ring to seal the cover on the container, said means comprising a handle serving as a lifting handle for the cover and operable to tighten said clamping means.

2. In an apparatus for generating fire foam comprising a container for foam forming chemicals, a cover attachable to the container comprising a sealing ring engageable with the top of the container, clamping means for drawing said sealing ring into close engagement with the container, and an operating handle serving as a lifting handle for the cover and movable relatively to the cover to operate said clamping means.

3. Apparatus for generating fire foam comprising a container for foam forming chemicals, a cover attachable to the container comprising a sealing ring engageable with the top of the container, said cover having a water inlet for admitting water therethrough to the container, a valve controlling the flow of water through said inlet, clamping means for drawing said sealing ring into close engagement with the container, a movable lifting handle connected to the cover and means connected to said movable handle for operating said valve and clamping means.

4. Apparatus for generating fire foam comprising a container for foam forming chemicals, a cover attachable thereto and having a water inlet terminating in a nozzle directed into said container said cover also having a foam outlet, a valve controlling the flow of water through said inlet, clamping means for securing said cover to the container, and an operable handle movable to actuate both the inlet control valve and the clamping means.

5. Apparatus for generating fire foam comprising a chemical container, a cover for said container, a water inlet carried by said cover, a valve in said water inlet, a handle for lifting said cover, and connections from said handle for closing said valve as an incident to lifting the cover.

In testimony whereof, I have signed my name to this specification this 10th day of June 1929.

LEWIS G. MORRIS TIMPSON.