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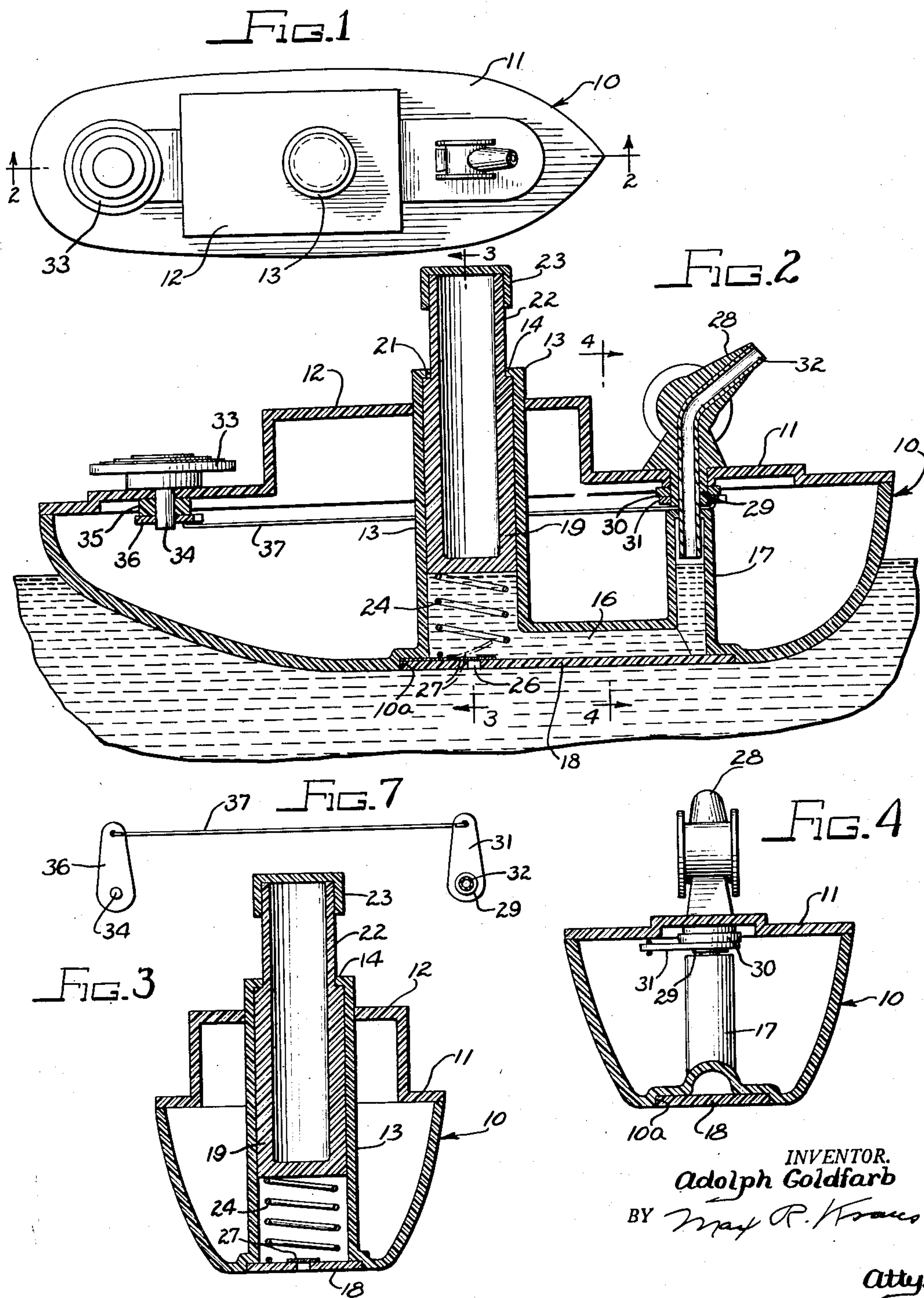
A. GOLDFARB

2,628,451

TOY FIRE BOAT

Filed May 23, 1951

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

FIG. 5

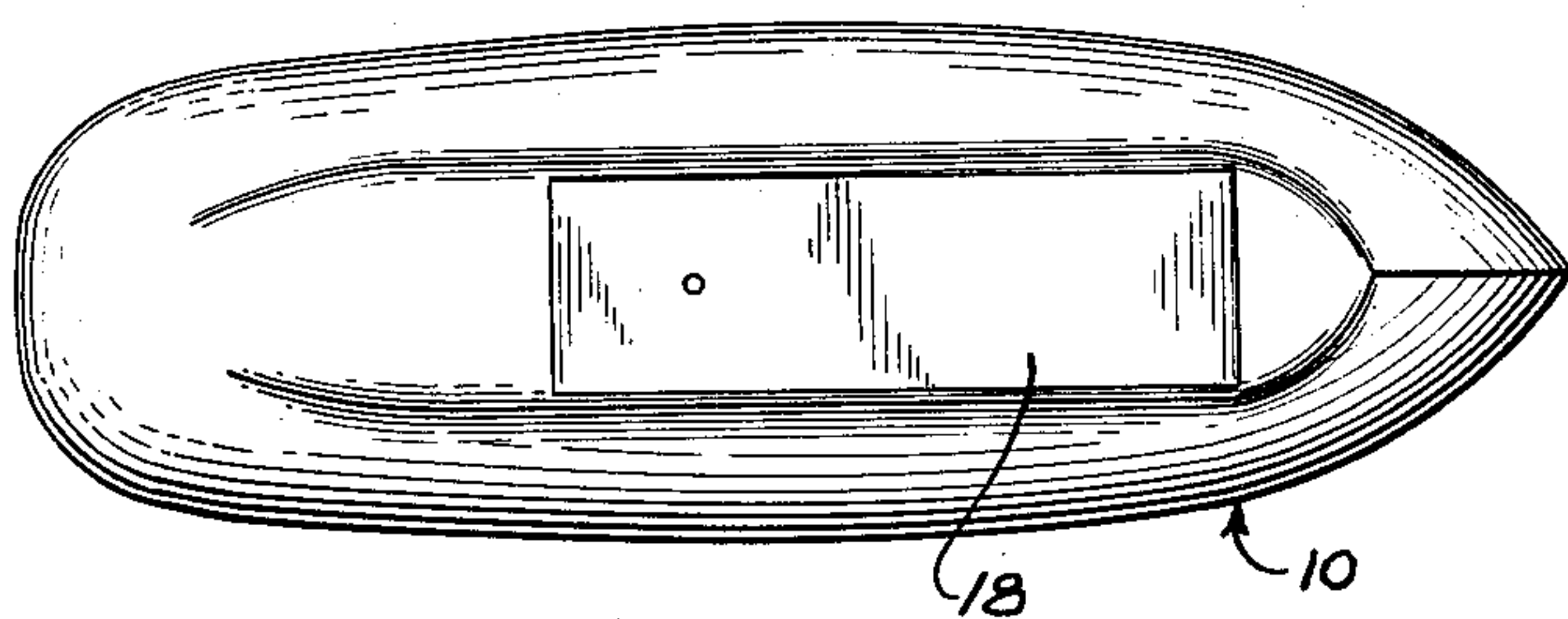


FIG. 6

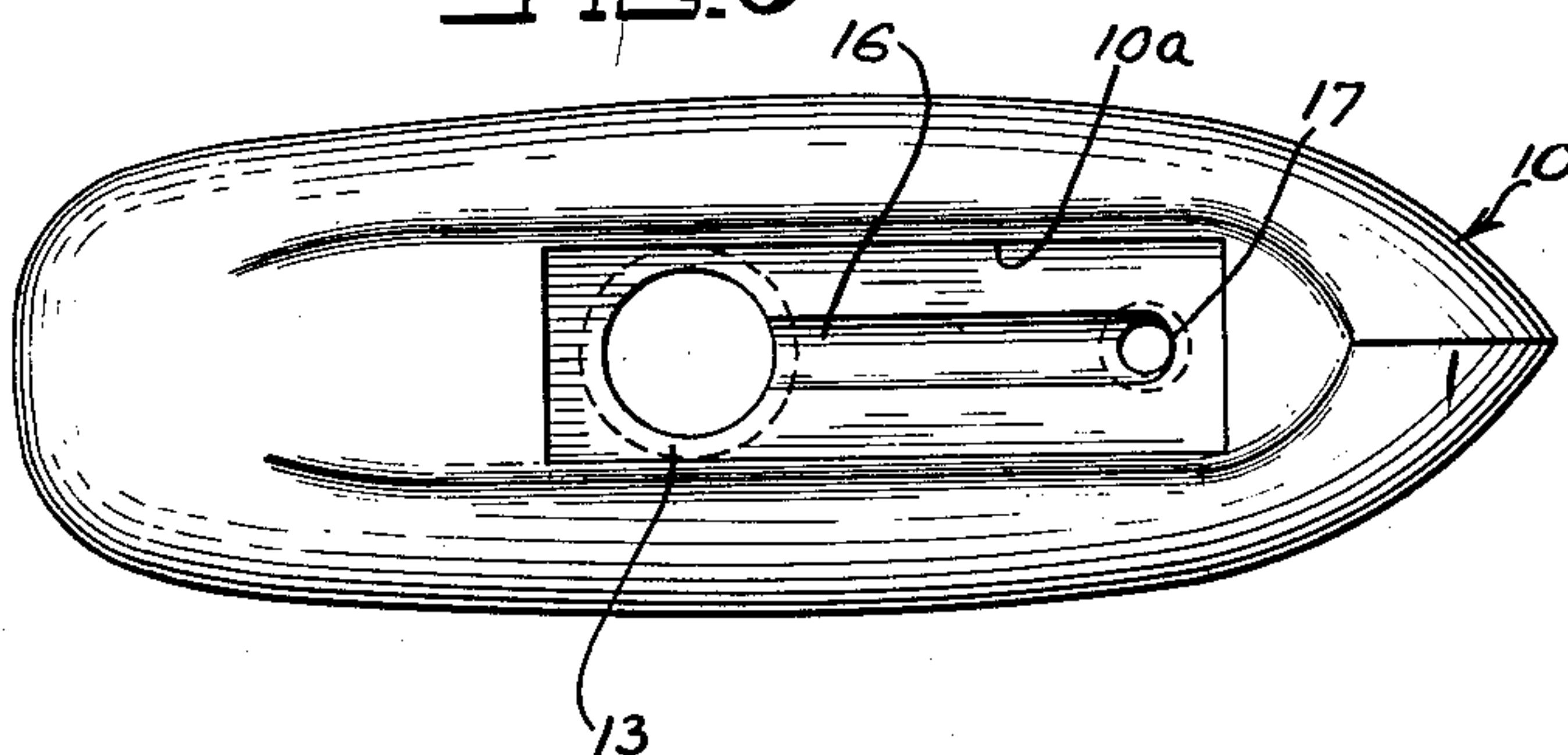
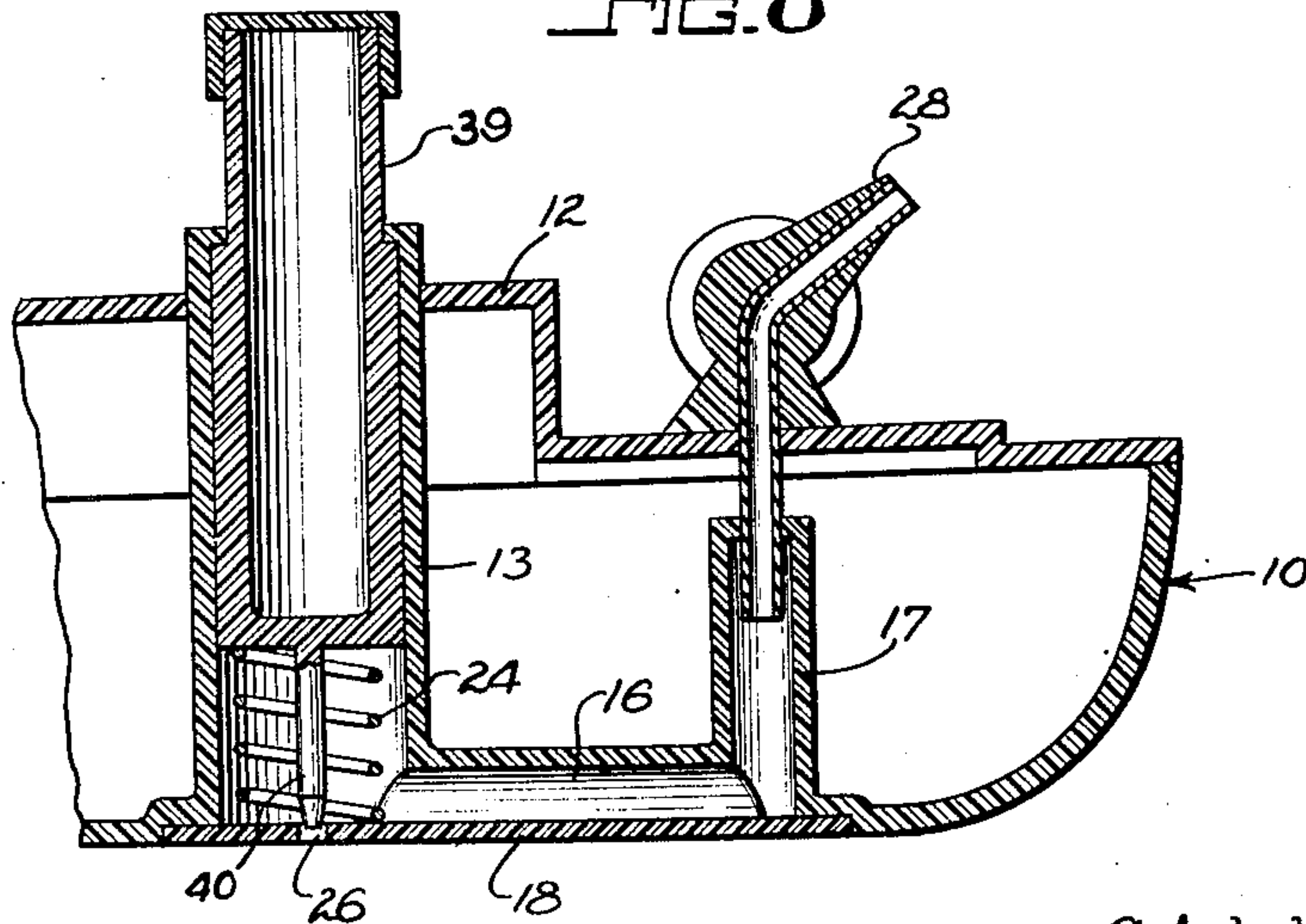


FIG. 8



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## UNITED STATES PATENT OFFICE

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## TOY FIRE BOAT

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5 Claims. (Cl. 46—93)

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My invention relates to toys generally and more particularly to a toy embodied in the representation of a boat and having means actuable to project a stream of water.

One of the objects of my invention is the provision of a toy of the foregoing character which is particularly suitable as a child's bathtub toy or beach toy and which may be manipulated to project a stream of water from a nozzle forming a part of the said toy and which has means for rotating the nozzle to vary the direction of the stream of water thereby creating a high degree of entertainment value.

Another object of my invention is the provision of a toy of the foregoing character which is simple and durable in construction and economical to manufacture.

Other and further objects and advantages of my invention will become apparent from the following description when considered in connection with the accompanying drawings in which:

Fig. 1 is a plan view of a toy boat in accordance with my invention.

Fig. 2 is a cross sectional view on an enlarged scale taken substantially on lines 2—2 of Fig. 1.

Fig. 3 is a cross sectional view taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a cross sectional view taken substantially on line 4—4 of Fig. 2.

Fig. 5 is a bottom plan view of the toy of my invention.

Fig. 6 is a similar view with the bottom plate removed.

Fig. 7 is a top plan view of the means for rotating the nozzle, and

Fig. 8 is a fragmentary longitudinal cross sectional view showing a modified embodiment of my invention.

Referring to the drawings, particularly Figs. 1 to 7, the numeral 10 indicates a hull provided with a deck 11 having a cabin or superstructure 12 and a cylinder 13 simulating a funnel. As will be seen by reference to Figs. 2 and 3, the cylinder 13 is integrally formed with the hull 10, extending upwardly therefrom through the cabin 12. The bottom of the hull is provided with a substantially rectangular opening 10a, the marginal edges of which are stepped, as illustrated in Figs. 2, 3 and 4, providing a recess to receive a closure plate 18 which is cemented in place. Communicating with the cylinder 13 and also integrally formed with the walls of the hull is an inverted channel 16 which provides communication between the cylinder 13 and a second cylinder 17. It will be apparent when the closure plate 18 is cemented in position that a water tight connection is established between the cylinders 13 and 17.

A piston 19 is adapted to be received within

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the cylinder 13 and to be reciprocable therein. The piston 19 is provided with a shoulder 21 which cooperates with the annular shoulder 14 on the cylinder 13 to limit the upward travel of the piston 19 within the cylinder 13. The piston 19 has a reduced upper portion 22 on which is secured a cap 23, the said cap serving to limit the downward travel of the piston. The piston 19 is assembled into the cylinder 13 before the bottom closure plate 18 is placed in position, the cylinder 19 being pushed upwardly through the bottom of the cylinder and then the cap 23 is applied and fixed in position.

A coil spring 24 abuts against the under side of the piston 19 and serves to maintain the piston in the "up" position as illustrated in Figs. 2 and 3, the spring being placed in position after the piston is assembled and before the plate 18 is applied. The closure plate 18 is provided with an aperture 26 and a flapper valve 27 in the form of a piece of pliable plastic is adapted to lie thereover, the said valve being anchored between the plate 18 and the bottom of the cylinder 13, as illustrated in Fig. 2. The flapper valve 27 opens inwardly to permit the entrance of water through the aperture 26. However, when the piston 19 is actuated downwardly against the compression of the spring 24, the flapper valve 27 is caused to close the aperture 26 so as to prevent the passage of water there-through.

Supported on the deck 11 is a nozzle 28, the said nozzle being preferably molded of plastic and having a depending extension 29 which passes through an opening in the deck 11. The nozzle 28 is provided with a bore to accommodate a section of flexible tubing 32, which extends preferably from the mouth of the nozzle 28 and into the cylinder 17 in substantially water tight engagement therewith. By the foregoing means, communication is established between the cylinder 13 and the nozzle 28. A washer 30 is loosely positioned on said extension 29, and an arm member 31 is securely fastened to said extension 29 to swivably rotate therewith and to prevent separation of the parts.

Supported on the opposite end of the deck 11 is a disc 33 which has a depending portion 34 extending through an opening in the deck 11. A washer 35 is mounted on said depending portion and an arm 36 is fixedly secured to said depending portion to rotate with said disc and to prevent separation of the parts. A rigid wire connecting member 37 is secured at its opposite ends to the arms 36 and 31. Rotation or operation of the disc 33 will thus correspondingly rotate the nozzle 28.

In Fig. 8 is shown a modified construction in which the piston 39 is provided with a depending extension 40 of reduced diameter, the said



extension being adapted to fit substantially snugly into the aperture 26 in the bottom closure plate 18. Thus when the piston 39 is in the position illustrated in Fig. 8, the aperture 26 is open so as to permit the passage of water into the cylinder 13. However, when the piston 39 is depressed, the extension 40 closes the opening 26 so as to prevent the passage of water through the aperture thereby preventing the loss of water through the aperture and causing all of the water within the chamber of the piston and connecting passages to be discharged through the nozzle.

If desired, the bottom of the hull 10 with the plate 18 may be integrally formed as one bottom and the cylinder 13 may be separately formed and suitably secured to the hull when the parts contained therein are put in place.

The operation of my toy device should be apparent from the foregoing description but briefly stated it is as follows:

When the toy is placed in water its inherent buoyancy will cause the same to float but the lower portion of the hull will be submerged below the surface of the water level. The boat can be properly weighted so that the bottom will be submerged to the level shown in Fig. 2. The upward pressure of the water against the bottom surface of the hull will cause water to pass through the aperture 26 and flapper valve 27 thus filling the chamber in the cylinder 13 as well as the passage 16 and the chamber and cylinder 17. It is of course understood that the height of the column of water in the cylinders 13 and 17 will coincide with the level of the water outside of the boat since the water will tend to seek its own level within the said chambers. Since the flapper valve 27 can open inwardly it is readily apparent that water can pass easily from the surrounding area into the cylinder chambers. The spring 24 serves normally to retain the piston in its upward position, as illustrated in Figs. 2 and 3. Upon depressing the piston 22 the flapper valve 26 is caused to seat against the aperture 26 and to close the same and the water is forced from the cylinder 13 through the passage 16 through the cylinder 17 and through the tube 32 to discharge outwardly through the nozzle 28.

In the modified embodiment illustrated in Fig. 8, the operation of the toy is identical with the preferred embodiment hereinabove described and the extension 40 depending from the piston serves in the same manner as the flapper valve 27 to close off the aperture to prevent the discharge of water therethrough.

It will be understood that various changes and modifications may be made without departing from the spirit and scope of the appended claims.

I claim:

1. A toy boat including a hull adapted to be partially submerged in water, a first cylinder therein extending to the bottom of said hull with an opening adjacent the bottom thereof, a second cylinder in said hull extending to the bottom of said hull with an opening adjacent the bottom thereof, a nozzle connected to said second cylinder, an inverted channel in the bottom of the hull connecting said first and second cylinders, a closure plate secured to said hull and closing the bottom of said channel and the cylinder openings, an inlet opening in said closure plate adjacent said first cylinder, a valve member positioned over said inlet opening permitting water to enter into said first cylinder as said

hull is partially submerged, a piston operable in said first cylinder, spring means within said first cylinder for normally maintaining the piston in elevated position, said piston when depressed causing the water in said first cylinder to pass through said channel and said second cylinder and to be ejected through said nozzle.

2. The combination as set forth in claim 1 in which said nozzle has means connected thereto and operated at a distance from said nozzle for rotating said nozzle to adjust the direction of discharge of water.

3. A toy boat comprising a hull adapted to be partially submerged in water, a deck for said hull, a cylinder in said hull and having a water inlet therein adjacent the bottom thereof, valve means for said inlet permitting water to enter into said cylinder as said hull is partially submerged, a piston operable in said cylinder and extending above the top of said deck, a second cylinder in said hull, a nozzle connected to said second cylinder, a conduit adjacent the bottom of said hull communicating said first mentioned cylinder with said second cylinder, said piston when operated causing the water in said first mentioned cylinder to pass through said conduit and said second cylinder and be discharged through said nozzle.

4. A toy boat comprising a hull adapted to be partially submerged in water, a deck for said hull, a cylinder in said hull and having a water inlet adjacent the bottom thereof, a valve positioned over said inlet permitting water to enter into said cylinder as said hull is partially submerged, a piston operable in said cylinder and extending above the top of said deck, spring means for urging said piston in a direction away from said inlet, a nozzle extending above said deck, a conduit communicating said cylinder with said nozzle, said piston when urged toward said inlet acting to discharge the water in said cylinder through said nozzle and when released being returned to its former position and causing water to enter said cylinder through said inlet.

5. A toy boat including a hull adapted to be partially submerged in water and having a cylinder therein and a water inlet in the bottom of said cylinder, a valve member positioned over said inlet permitting water to enter into said cylinder, a piston operable in said cylinder, a spring for maintaining said piston in elevated position, a nozzle on said hull, a conduit communicating said cylinder with said nozzle, said piston when depressed causing the water in said cylinder to pass through said conduit and be discharged through said nozzle, and means comprising a rotatable member connected by a connecting link to said nozzle for rotating said nozzle.

ADOLPH GOLDFARB.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
278,420	Eldridge	May 29, 1883
691,266	Hill	Jan. 14, 1902
1,595,828	Fuller	Aug. 10, 1926
2,119,641	Marx	June 7, 1938

#### FOREIGN PATENTS

Number	Country	Date
64,553	Germany	Sept. 24, 1892
373,302	Italy	July 24, 1939