

April 17, 1951

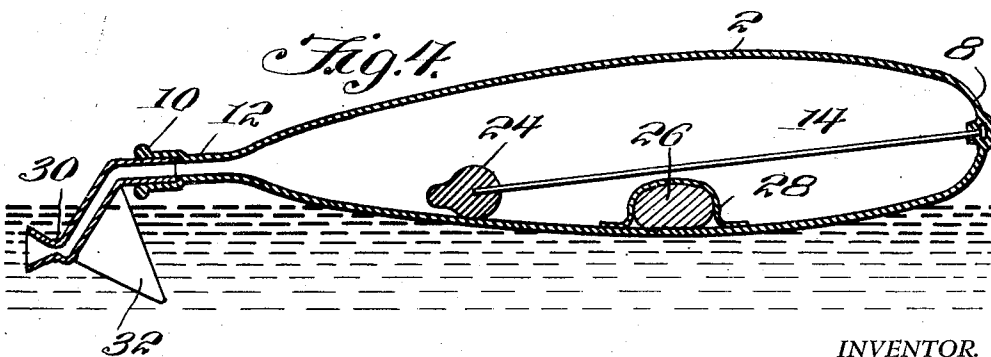
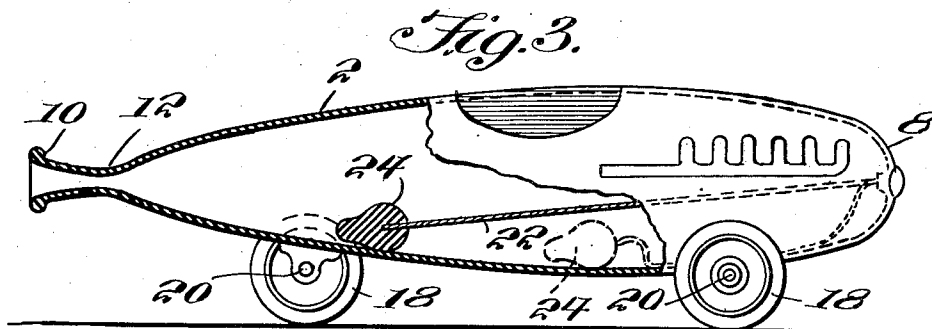
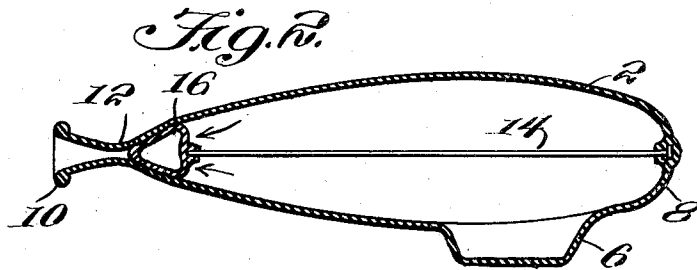
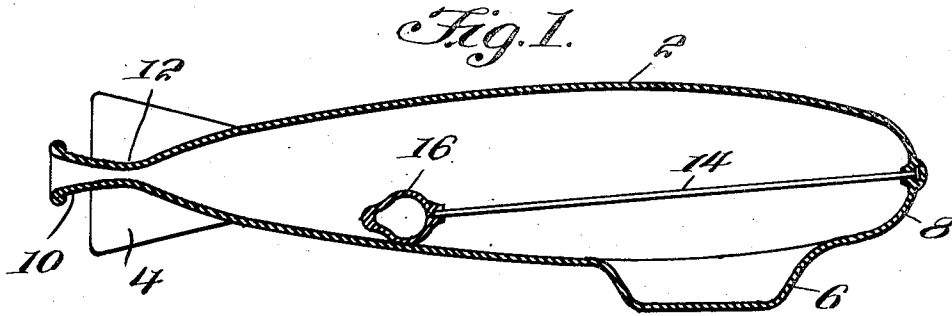
L. COSTEA

2,549,428

INFLATABLE JET PROPELLED ELASTIC TOY

Filed Oct. 17, 1947

3 Sheets-Sheet 1



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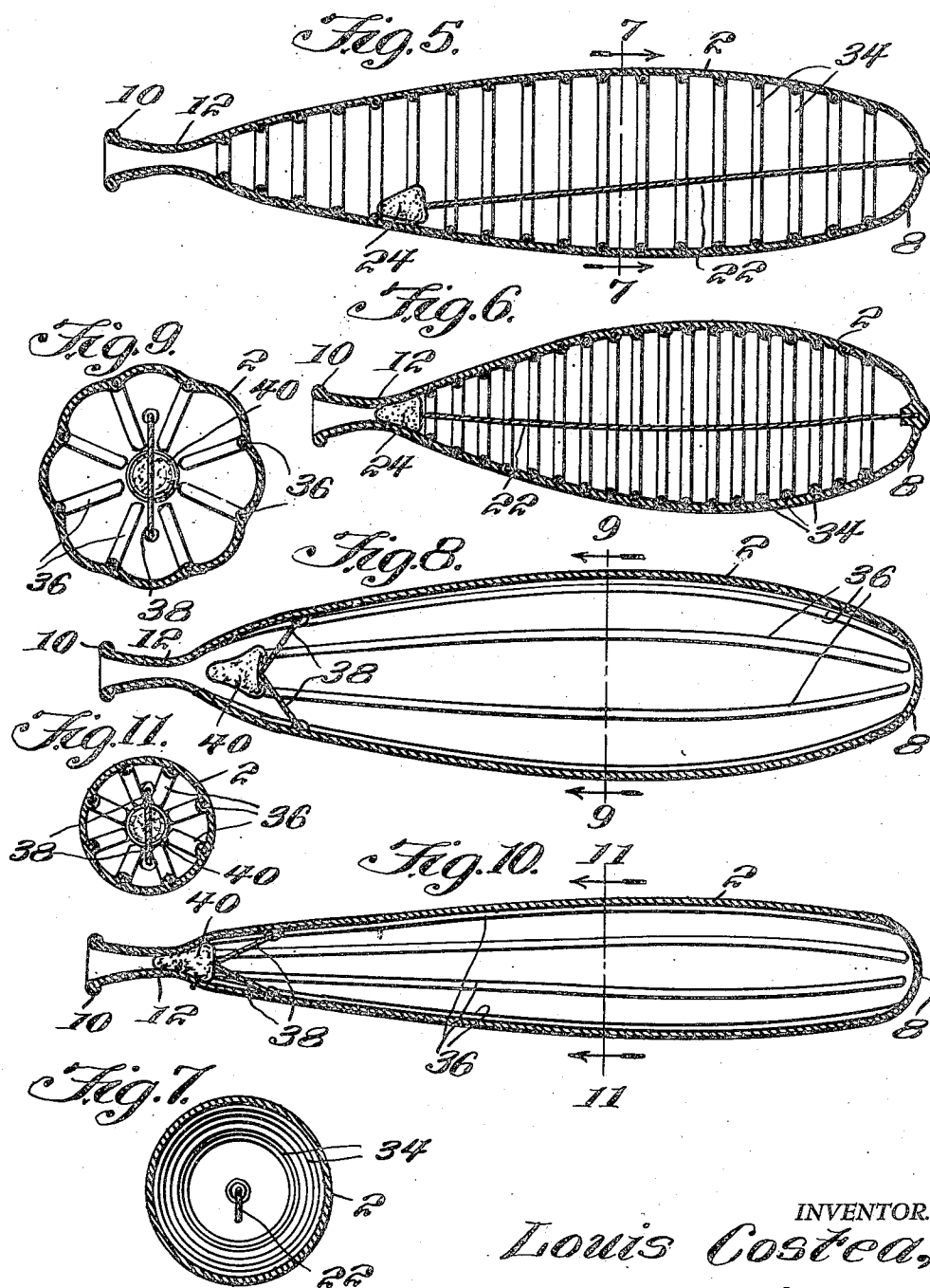
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INFLATABLE JET PROPELLED ELASTIC TOY

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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

Fig. 12.

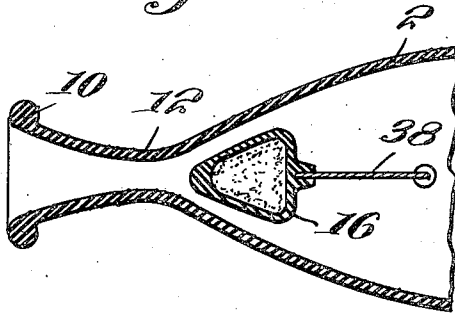


Fig. 13.

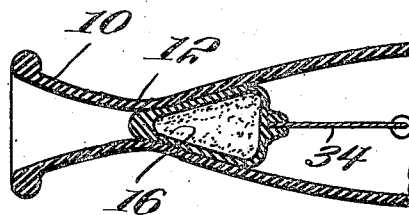


Fig. 14.

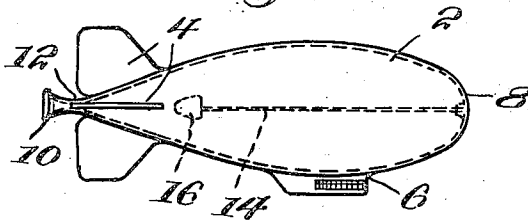


Fig. 15.

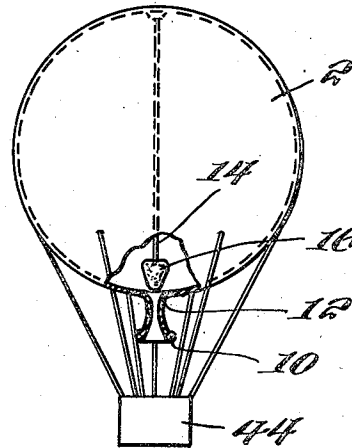


Fig. 16.

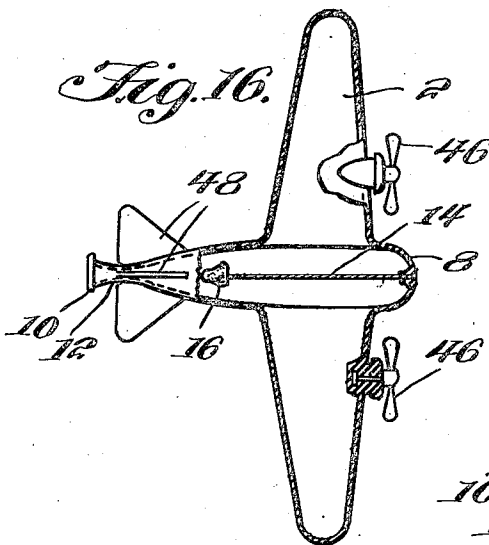
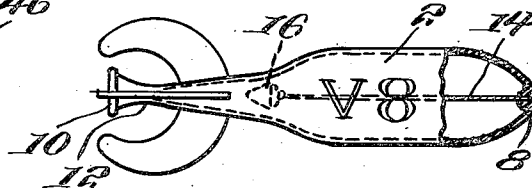


Fig. 17.



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UNITED STATES PATENT OFFICE

2,549,428

INFLATABLE JET-PROPELLED ELASTIC TOY

Louis Costea, Brea, Calif.

Application October 17, 1947, Serial No. 780,392

2 Claims. (Cl. 46—87)

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My present invention relates to an improved inflatable jet propelled elastic toy and more particularly to the structure embodied therein whereby the craft formed to simulate various types of air and land or water vehicles may be inflated and the craft released so that the jet exhaust of the compressed air through the rear orifice will propel the craft, and whereby the novel and unique valve means for the orifice will actuate after a short delay to shut off the exhaust forcing the vehicle to continue in partially inflated condition along its directed course.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention according to the best mode I have thus far devised but it will be understood that various changes and alterations may be made in the exemplified structure within the scope of the appended claims.

In the drawings:

Figure 1 is a longitudinal sectional view of one form of the craft of my invention in inflated and jet propelled condition;

Figure 2 is a similar view with the craft partially deflated and the valve seated;

Figure 3 is a side elevational view partially in section, of the invention as embodied in a land vehicle;

Figure 4 is a similar view of the invention as embodied in a water borne craft;

Figure 5 is a longitudinal sectional view of a modified form of the craft in inflated position;

Figure 6 is a similar view of the craft partially deflated;

Figure 7 is a transverse sectional view thereof;

Figure 8 is a longitudinal sectional view of a further modified form, and Figure 9 is a sectional view transversely thereof;

Figure 10 is a longitudinal sectional view of the form of Figure 8 in partially deflated condition and

Figure 11 is a transverse sectional view thereof;

Figure 12 is an enlarged detailed view of the rear orifice of the inflatable body showing the valve in open position;

Figure 13 is a similar view showing the valve closed;

Figures 14, 15, 16 and 17 are views of the inflatable toy of my invention as embodied in various other vehicle forms.

Referring now to the drawings, wherein like characters indicate like parts, I have illustrated the present preferred embodiment of my invention as comprising an elastic inflatable body 2 of rubber or other suitable material. In Figures 1

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and 2 of the drawings, the body 2 is formed with a rear stabilizer 4 and a cab 6 simulating a lighter than air craft and having a nose 8 and a rear exhaust orifice 10, through which the body is also inflated. The body is constricted immediately adjoining the mouth as at 12, and the rod 14 secured to the body through the nose has at its rear free end a resilient body valve 16.

In operation, the body is inflated through the mouth or by other suitable means such as an aspirator pump or other pressuring means if a higher pressure is desired than can be obtained orally. During inflation, the length of the body is increased due to the structural formation thereof, and the rod being of fixed length assumes the position of Figure 1 with the valve removed from proximity to the orifice. The body is then released and the exhaust of air under pressure will propel the body forwardly. As the pressure gradually decreases from the exhaust, the length of the body will decrease, and the valve resting upon the bottom of the body will ride up to the orifice and will finally close the orifice, as seen in Figure 2.

The body then partially deflated will continue to follow a course forwardly, due to inertia, and will finally come to rest at the altitude of the starting point, unless of course the propulsion is permitted to start from an elevated point.

The body may then and repeatedly be inflated and released.

In Figure 3, I have illustrated the body of the craft of my invention as simulating a land vehicle having wheels 18 on the axles 20, and in this form I have shown the valve 24 connected to the nose of the vehicle by a flexible string 22 instead of the rod.

The body of the craft may take limitless forms, and for illustration I have shown various other types of craft. As in Figure 4, the craft is water-borne, and is provided with a weight ballast 26 secured by cover 28 to the bottom of the body, and an under water exhaust extension 30 is provided with the rudder 32.

In Figures 5, 6 and 7 and 8, I have illustrated the body with transverse ribs 34 or longitudinal ribs 36 which may be of the selfsame material or may be reinforced, either of which manner of ribs may be employed to control the inflation of the body transversely or longitudinally.

Also in the structure embodying the longitudinal ribs, although not necessarily confined thereto, I have illustrated a further valve connection including the vertically arranged flexible cord or string 38 for the valve 40. In all of these

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different embodiments of the structure of my invention, the principle is the same, namely, inflation of the body, release thereof, a short period of exhaust propulsion, and actuation of the valve stopping the exhaust, and the continued forward motion of the body.

In Figures 12 and 13, I have shown in detail how the valve of compressible material, such as rubber, will be forced into the constricted portion of the body to seal the orifice and this seated valve will be unseated by the following inflation of the body.

Figures 14 through 17 show applications of the structure of my invention to various types of aircraft and missiles, and the application forms of the principles of my invention are numerous.

From the above description of the construction and operation of the craft of my invention it will be apparent that the toy will afford amusement and entertainment to old and young alike, the toy being inexpensive to manufacture and extremely simple to use.

The operation is entirely automatic and the formation of the elastic body and/or the valve and rod may be varied to control the period of propulsion and the delayed action of the valve.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

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1. An exhaust propelled craft comprising an expansible body portion, an exhaust portion extending therefrom and having an orifice, a valve means seating under contraction of the expanded body portion and unseating under expansion of the body portion to permit a limited exhaust and substantially stiff means in said body portion and attached to said valve means for directing the same into said orifice upon contraction of said body portion.

2. The combination with an inflatable body expansible longitudinally and having an orifice at one end, of a valve for the orifice, a rod connecting the valve to the opposite end of the body, the said valve being operable to close the orifice upon longitudinal contraction of the expanded body.

LOUIS COSTEA.

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

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