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RUPTURABLE TOY OBJECT

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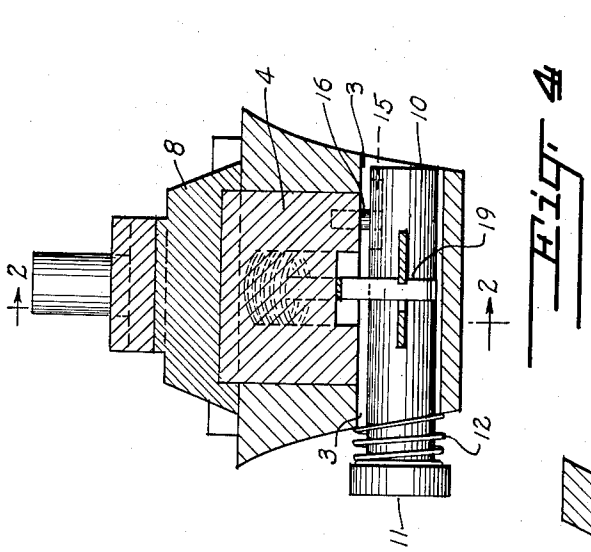


Fig. 4

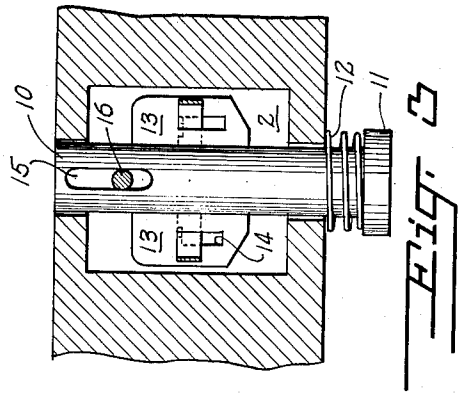


Fig. 3

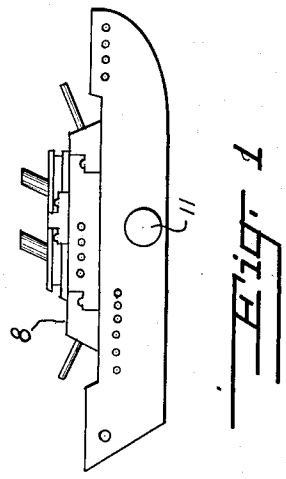


Fig. 1

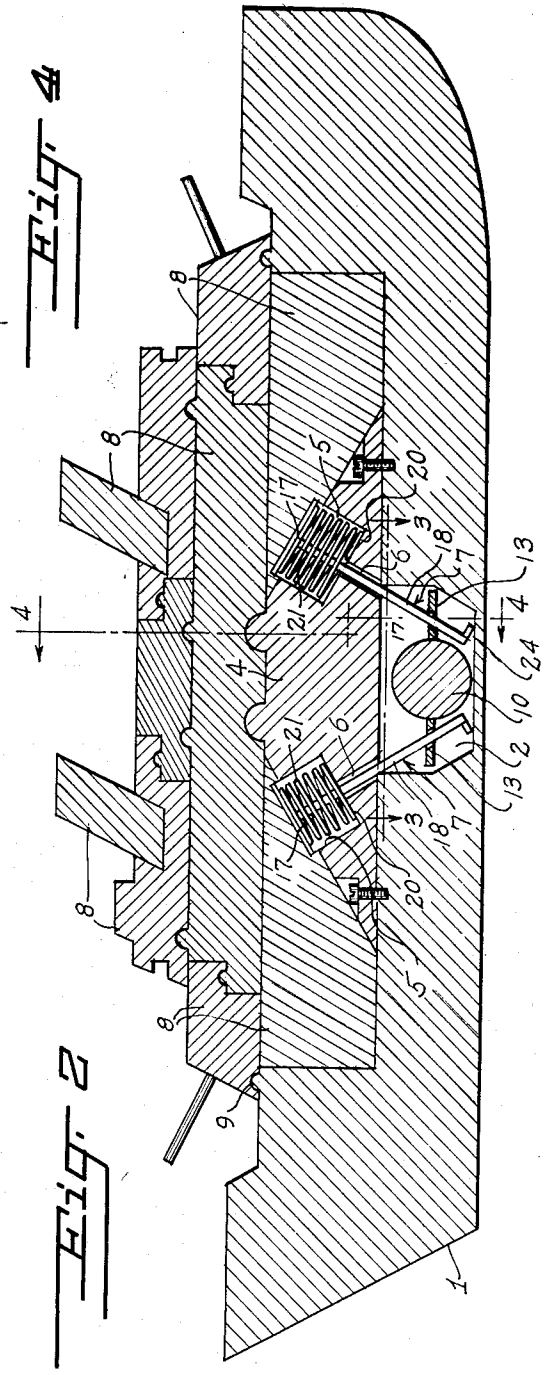


Fig. 2

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RUPTURABLE TOY OBJECT

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3 Claims. (Cl. 273—102.1)

This invention relates to a rupturable toy object.

An object of the invention is to provide a toy object which flies apart by mechanical action, in a simulated explosion, when struck at a given point by a projectile or other object.

Another object of the invention is to provide a rupturable toy object which is of simple and inexpensive construction but which is durable and dependable in operation.

A further object of the invention is to provide a structure which is quickly and easily assembled after having been thrown apart and in which there are no excessively small or frail parts to become lost or broken in the course of use.

Other objects and advantages of the invention will appear from the following description taken in conjunction with the accompanying drawings, in which:

Figure 1 is a side elevation view of an embodiment of the invention in the form of a toy battleship.

Figure 2 is an enlarged, vertical, longitudinal sectional view of the embodiment of Figure 1.

Figure 3 is a sectional view taken substantially along the line 3—3 of Figure 2.

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 2.

As shown in the drawings, the numeral 1 identifies the base of a toy, the hull of a ship as shown in the accompanying drawing. The base 1 has a recess 2 in the central portion of its upper surface. From the recess 2 cylindrical openings 3 pass through either side of the base 1. Bridging the recess 2 and fixed to the upper surface of the base 1 is a foundation block 4. The block 4 is provided with a pair of main bores 5 arranged in diverging relation, each bore being in communication with one end of a counterbore 6 also formed in the block. It is to be noted that the juncture of the one end of the counterbore with the main bore 5 forms a shoulder 20.

Superimposed upon the base 1 and the foundation block 4 is a series of blocks 8 of appropriate shape to simulate, when assembled in accordance with a predetermined pattern, the configuration of the upper portion of the object which the toy represents, in the embodiment shown in the drawings, the superstructure of a ship. The blocks are held in their proper places by a semicylindrical tongue and groove construction, as shown at 9, which prevents their horizontal movement with respect to each other or the base, but does not prevent them from being lifted vertically or at an angle.

A horizontally disposed plunger 10 extends transversely through the recess 2 and is slidably supported in the openings 3 of the base 1, one end of the plunger being exteriorly of the base. On the exterior end of the plunger there is a hand actuable means or head 11. A spring means is operatively connected to the plunger for biasing it to its outward movement position, such means comprising a coil spring 12 circumposed about the plunger and having one end against the head 11 and the other end fixed to the base. On the portion of the plunger 10 within

the recess 2 are opposed vanes or plates 13, each of which is provided with an aperture 14. The plunger 10 is provided with a closed longitudinal slot 15 which slidably receives a pin 16 projecting from the underside of the block 4, the slot and pin serving to limit the inward movement of the plunger. Mounted in the bores 5 and 6 of the foundation block 4 for projectile and retractile movement are the members 7, the members being arranged in an upstanding diverging relation and each having the converging end portion extending slidably through the aperture 14 in the adjacent vane 13, with the diverging end contacting the adjacent portion of the superstructure. Since the members 7 are of identical construction, only one will be specifically described. The member 7 comprises a bar 18 slidably supported in the aperture 14 of the adjacent vane 13. The lower end of the bar 18 has a projection 24 thereon. On the upper end of the bar 18 is a disc 17. The converging end portion of the bar 18 is provided with a means or notch 19 which is engageable with the wall of the aperture 14 of the vane 13 for holding the member 7 in its retractile movement position. Surrounding the portion of the bar 18 inwardly of the disc is a coiled spring 21, one end of the spring bearing against the disc and the other end bearing against the shoulder 20.

When the toy is to be placed in operation, the actuating mechanism is cocked by pressing the plunger 10 toward the base 1 against the action of the spring 12 while at the same time depressing the members 7 against the springs 21 until the notches 19 in the bars 18 engage the edges of the apertures 14. The blocks 8 are then set in place upon the base 1 and the foundation block 4.

Obviously now, when the toy is in the cocked condition a blow upon the head 11 of the plunger 10, from a projectile shot against it or from any other source, will move the plunger 10 inwardly toward the base 1 against the spring 12. As the plunger 10 moves inwardly carrying the vanes 13 with it, the edges of the apertures 14 will disengage themselves from the notches 19, allowing the members 7 to project upwardly under the action of the springs 21, raising and tilting sharply the blocks in immediate contact with said members and throwing the other blocks apart, giving the appearance of an explosion of the superstructure. The upward movement of the members 7 will be sharp and of sufficient magnitude to throw off the superstructure, but the extent of the movement will be limited by the projections 24 at the lower ends of the bars 18, which will strike the edges of the apertures 14 when the members 7 have reached a certain point in their upward movement and will prevent them from going completely out of the bores 5 and 6. The inward movement of the plunger 10 under the impact of the blow which fires the apparatus is limited in extent by the movement of the pin 16 in the slot 15, as is the returning outward movement of the plunger 10 under the action of the spring 12.

Although a preferred embodiment of the invention has been described above, alternatives of form, details, proportion, arrangement of parts and mode of operation may be adopted without departing from the spirit and conception of the invention. Instead of the ship used to illustrate the invention in the accompanying drawing, a land vehicle, building, or any other suitable object might have been used without exceeding the scope of the disclosure or of the claims hereinafter made.

What is claimed is:

1. In a rupturable toy, a base having a recess opening through a side of the base, a block secured to said base and bridging said recess, said block having a top surface, a plunger mounted on said base for movement crosswise of the base, said plunger having an outer portion extending through said opening and reaching beyond one side of the base, said plunger having an inner portion located

within said recess, at least one vane fixed on and projecting laterally from said inner portion of the plunger, said vane having an opening defining a retaining edge on the vane, at least one projecting member, said projecting member comprising a vertical bar positioned through the vane opening, said bar having a lower end having a stop for engagement with the underside of the vane and an upper end, a depression in the top surface of said block, an upper portion of said bar being located in said depression, a retaining disc on the upper end of the bar, a projecting helical spring circumposed on the bar and compressed between said disc and a portion of said depression, said bar having a notch intermediate its ends, said notch being engageable with said retaining edge on the same in a compressed condition of the projecting member, and a retracting helical spring on said outer portion of the plunger, said retracting spring being compressed between a portion on said plunger and the said one side of the base, said retracting spring serving to releasably maintain said retaining edge engaged in said notch.

2. In a rupturable toy, a base having a top surface, a recess in said base opening through said top surface, a base block secured to said top surface and bridging said recess, said recess opening through one side of the base, said block having separated upper surfaces, projectile blocks resting upon said separated upper surfaces, a spring actuated projecting member mounted on said base beneath each of said projectile blocks, each of said projecting members comprising a spring pressed bar mounted in the base block and having a lower end portion positioned in said recess, and a single plunger mounted on said base for endwise movement crosswise of the base, vanes projecting from opposite sides of the plunger within said recess, each vane having a retaining edge, each of said projecting member bars having a notch releasably engaged by the related vane retaining edge, and spring means acting between said plunger and said base end

urging said plunger endwise in a direction to hold the retaining edges engaged in said notches.

3. In a rupturable toy, a base having a top surface, a recess in said base opening through said top surface, a base block secured to said top surface and bridging said recess, said recess opening through one side of the base, said block having separated upper surfaces, projectile blocks resting upon said separated upper surfaces, a spring actuated projecting member mounted on said base beneath each of said projectile blocks, each of said projecting members comprising a spring pressed bar mounted in the base block and having a lower end portion positioned in said recess, and a single plunger mounted on said base for endwise movement crosswise of the base, vanes projecting from opposite sides of the plunger within said recess, each vane having a retaining edge, each of said projecting member bars having a notch releasably engaged by the related vane retaining edge, and spring means acting between said plunger and said base end urging said plunger endwise in a direction to hold the retaining edges engaged in said notches, said plunger being located between the projecting member bars, and individual spring means acting between said bars and said base block and urging the bars upwardly to project the projectile blocks from the base block when the plunger is moved in a direction to disengage the retaining edges from the notches.

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