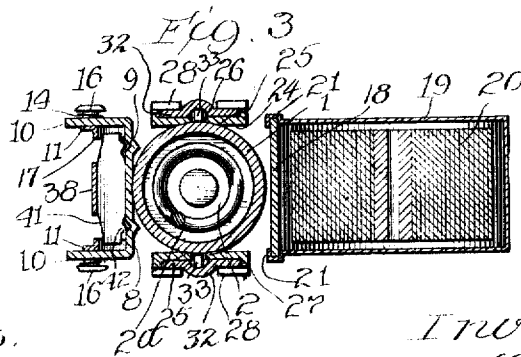
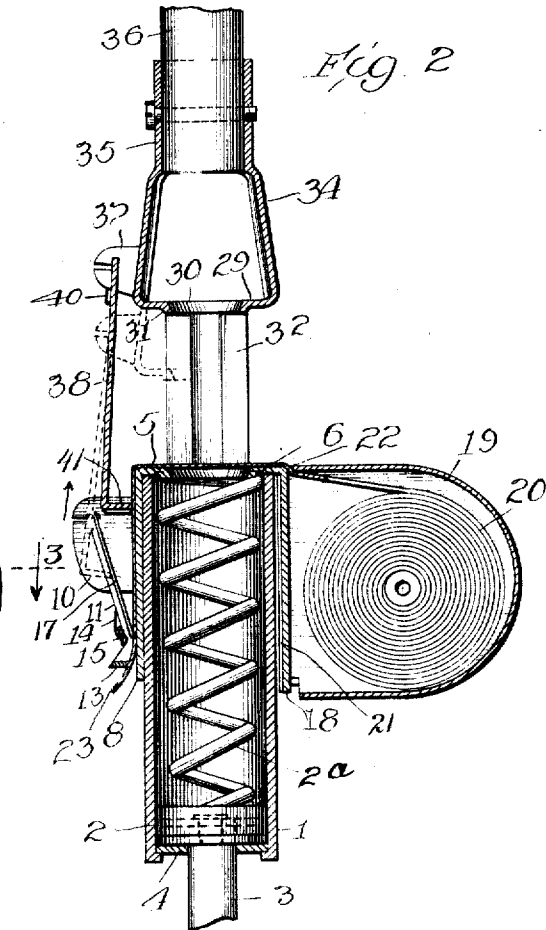
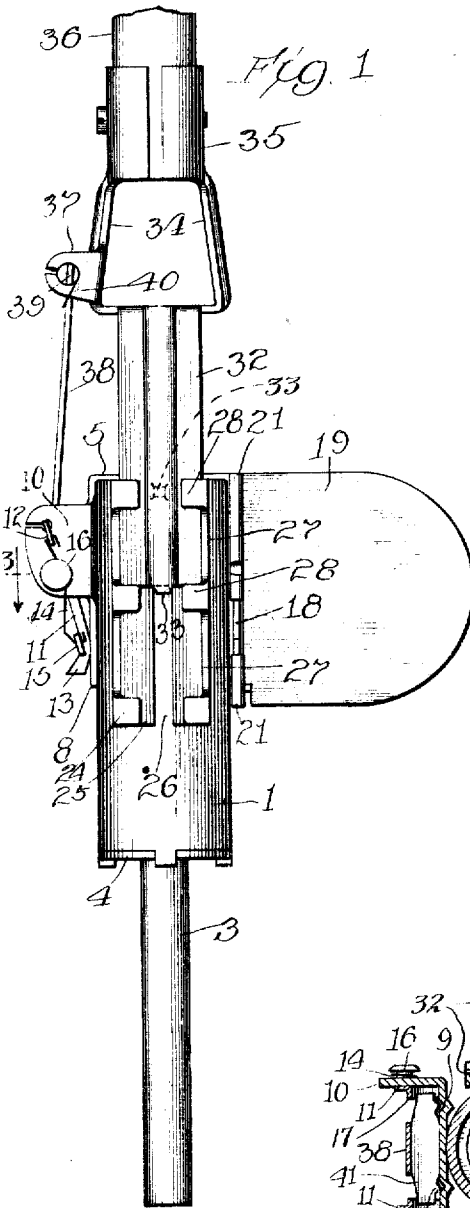


O. A. LANGOS.
 AUTOMATIC AIR TORPEDO.
 APPLICATION FILED JULY 27, 1910.

1,004,043.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



Witnesses.
 H. R. L. White
 R. A. White.

Inventor.
 Otto A. Langos
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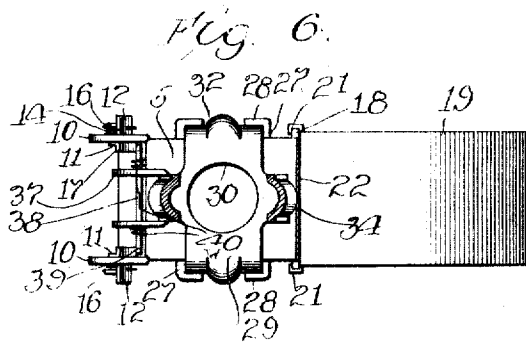
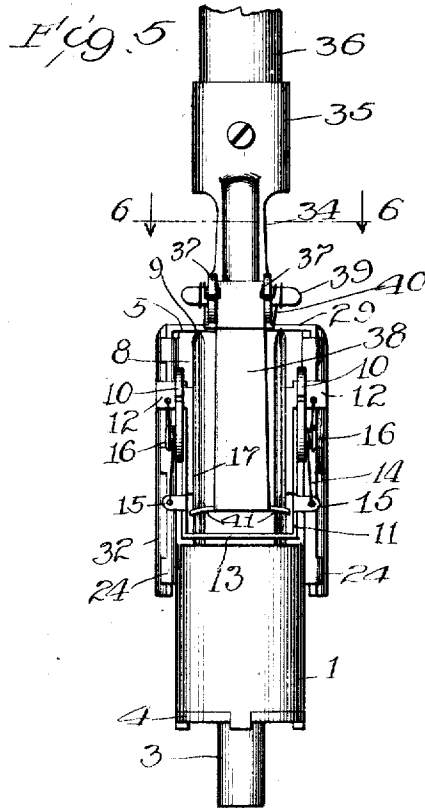
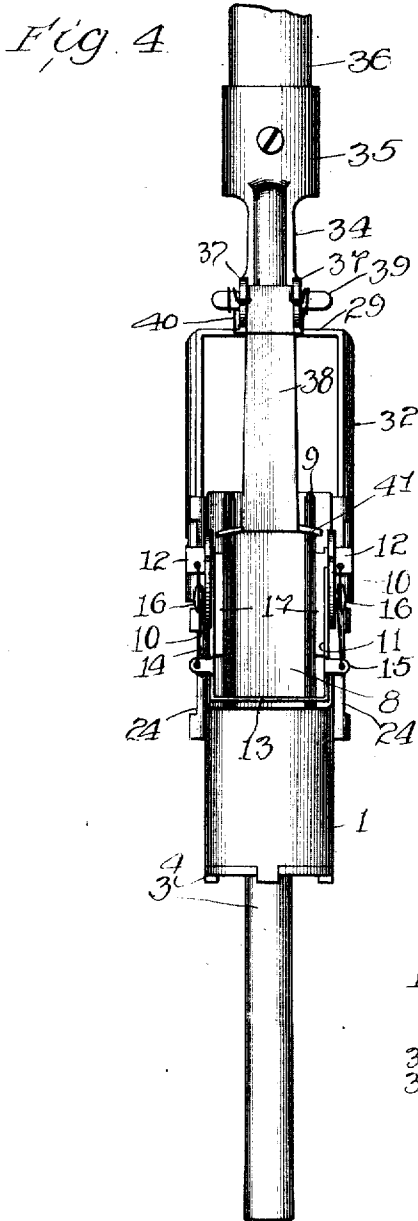
By

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2 SHEETS—SHEET 2.



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H. B. White
R. A. White

Inventor:
Otto A. Langos
Per *Rev. H. J. May*

By

UNITED STATES PATENT OFFICE.

OTTO A. LANGOS, OF CHICAGO, ILLINOIS.

AUTOMATIC AIR-TORPEDO.

1,004,043.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed July 27, 1910. Serial No. 574,064.

To all whom it may concern:

Be it known that I, OTTO A. LANGOS, a subject of the King of Hungary, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Automatic Air-Torpedoes, of which the following is a complete specification.

The main objects of this invention are to provide a toy adapted to produce an audible report similar to that produced by a gun, common torpedo, or firecracker, but without the use of dangerous explosives; to provide a toy capable of producing loud explosions or reports, and in which all elements of danger from the explosion have been eliminated; and to provide a repeating, pneumatic torpedo which is capable of being operated to produce a large number of reports with but slight expense.

A specific construction embodying the invention is illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a device embodied in my invention with the handle broken away. Fig. 2 is a vertical section of the device shown in Fig. 1, with the position of the feed dog during its upward travel shown in dotted lines and showing the ribbon in place. Fig. 3 is a section taken on line 3--3 of Fig. 1. Fig. 4 is a front elevation of the device with the ribbon removed. Fig. 5 is a front elevation of the device with the parts in the position they assume at the time of the report. Fig. 6 is a section taken on line 6--6 of Fig. 5.

In the construction shown the pneumatic cylinder 1 is provided with a movable piston 2 which has a piston rod 3 of greater length than the cylinder, which rod projects through an aperture in the lower head 4 of the cylinder. A coiled spring 2^a is carried in said cylinder with one end resting on the piston and the other end resting against the upper cylinder head 5. Said spring acts to normally hold the piston at the lower limit of its movement with the piston rod 3 extended. Said head 5 is rigidly secured on the upper end of the cylinder and has an axial aperture or port 6 therein affording a seat. Extending downwardly from said head in close proximity to the front side of the cylinder is the feed plate 8 which has two longitudinal grooves 9 therein. Extending forwardly from the lateral edges of said feed plate are the parallel ears 10 in which

is pivoted the U shaped presser-foot 11. The upper ends 12 of said foot extend through said ears and the foot inclines from its pivotal point downwardly and rearwardly to the feed plate against which it bears near its lower end 13, and said lower end is turned forwardly out of contact with said plate. For the purpose of normally holding the presser-foot in contact with the feed plate, springs 14 are secured at one end to the ends 12, and at their other ends to outwardly turned ears 15 on the lower end of the presser-foot, and are coiled centrally around studs 16 on the ears 10. On each side member of the presser-foot is an in-turned guide flange 17, which terminates at its lower end at a point above the outwardly turned portion 13 of the presser-foot.

Extending downwardly from the rear edge of the head 5, and slightly wider than said head, is an attaching plate 18, on which is detachably secured the receptacle 19 for the roll of paper ribbon 20. Said receptacle may be secured to the plate 18 in any desired manner, but as shown, it is provided with attaching flanges 21 adapted to hook behind the edges of the plate 18. The receptacle 19 is provided with a slot 22 at its upper front corner through which slot the ribbon passes, and the end 23 of the ribbon extends across the head 5 and down in close contact with the feed plate 8, and projects from beneath the end 13 of the presser foot.

Rigidly supported on each side of the cylinder, intermediate the plates 8 and 18, is a guide 24. Each guide comprises a pair of angle bars, each having one flange 25 lying against the cylinder and spaced a slight distance from the corresponding flange of the other bar to provide a groove 26, and the other or lateral flange 27 of each bar is directed outwardly from the cylinder at the outer edge of the flange 25. Lugs 28 are turned inwardly from the side flanges 27 and are spaced a distance from the flanges 25.

For the purpose of pressing the ribbon firmly upon the head 5 to provide an air tight joint between the ribbon and the port 6 preparatory to making a report, a compression plate 29 is provided, which has an aperture 30 adapted to register with the port 6, and surrounding which is a downturned flange 31 adapted to seat on the ribbon above the port or seat 6. Guide arms 32 extend downwardly from the sides of said plate 29 into the guides 24 and are adapted to guide

the plate 29 so that the flange 31 will seat squarely on the seat 6. On the inner side of each arm 32, adjacent to its lower end, is a lug 33 which travels in the groove 26 and when said arms are raised said lugs abut against the head 5 and limit the upward movement of the plate 29.

Extending upwardly from the compression plate are two arms 34, having a ferrule 35 at their upper ends in which is secured the handle 36. Apertured ears 37 extend forwardly from one of said arms 34, and a feed dog 38 is pivoted in said ears 37. Said dog is provided with laterally directed lugs 39 at its upper end which are pivoted in said ears 37, and a spring 40 is carried on said lugs and ears and bears against the dog and acts to normally hold the lower end 41 of the dog against the feed plate. Said end 41 is turned inwardly against the feed plate 8 and is provided with teeth 42 adapted to travel in the grooves 9 in the feed plate. Said end 41 also projects laterally from both sides of the dog into position to travel behind the flanges 17 of the presser-foot when the dog is traveling downwardly as shown in Fig. 3, and to travel on the front side of said flanges when the dog is traveling upwardly. When said end is passing downwardly behind the presser-foot it forces the latter away from the cylinder, and after the end has passed below the flanges 17 the presser-foot is forced back to the cylinder by its spring, and when the dog is again raised the lateral extremities of the end 41 pass in front of the flanges 17, thereby carrying the dog out of contact with the ribbon.

The operation of the construction shown is as follows: A roll of paper ribbon is placed in the receptacle 19 and the end of the ribbon is passed through the slot 22, across the head 5, down the feed plate 8, and beneath the end 13 of the presser-foot. The guide arms 32 reciprocate freely in the guides 24, and when the device is suspended by the handle 36 the cylinder is at the lower limit of its movement on said guide arms. When the lower end of the piston 3 is placed on the floor or other firm surface, and downward pressure is exerted on the handle, the compression plate is brought down on to the head 5 with the flange 31 pressing the ribbon firmly against the seat 6. This downward movement of the handle causes the feed dog 38 to travel downwardly along the feed plate 8. The spring pressed presser-foot 11 forces the end 41 of the dog into gripping engagement with the ribbon, and thereby causes the dog to draw the ribbon from the receptacle. As the dog reaches the lower limit of its movement the end 41 passes from beneath the flanges 17 of the presser-foot. Further downward pressure on the handle forces the cylinder 1 down the piston rod 3, and causes the piston to com-

press the air in the cylinder. When the air has secured a certain amount of compression it will burst the ribbon with a loud report and escape from the cylinder through the port 6. The device is then lifted by the handle and the spring 2^a returns the piston to normal position and the feed dog travels on the front side of the flanges 17 out of contact with the ribbon until it nearly reaches its upward limit when it leaves said flanges and is forced into contact with the ribbon by means of its spring 40.

With this construction the ribbon is automatically fed forwardly before each explosion to bring an unpunctured portion of the ribbon above the port 6, and to enable the device to make a large number of explosions or reports without reloading.

While I have shown and described but one specific embodiment of the invention it will be understood that various details of the construction may be varied or omitted without departing from the scope of the claims.

I claim:

1. An automatic air torpedo, comprising a cylinder having an outlet port, means adapted to clamp the ribbon onto said port, means adapted to compress air in the cylinder and burst the ribbon above the port, and means for automatically feeding the ribbon across the port.
2. An air torpedo, comprising means adapted to support a ribbon, means adapted to intermittently feed the ribbon from said supporting means, and means adapted to intermittently puncture the ribbon with an air blast and produce an audible report.
3. An air torpedo, comprising a cylinder having an outlet port therein, feed mechanism adapted to automatically feed a ribbon across said port, and means adapted to compress air in the cylinder and puncture the ribbon with an audible report.
4. An air torpedo, comprising a cylinder having a port therein, a ribbon support on said cylinder, reciprocating means on the cylinder adapted to intermittently feed the ribbon across said port, and means in the cylinder adapted to force a blast of air through the ribbon covering the port.
5. An air torpedo, comprising a cylinder having a port therein, a piston in the cylinder, a compression plate mounted on the cylinder and adapted to secure the ribbon over the port, and coacting means supported on said compression plate and adapted to feed the ribbon across the port.
6. An air torpedo, comprising a cylinder having a port therein, pressure producing means in the cylinder a ribbon support, an apertured compression plate mounted to reciprocate on the cylinder and clamp a ribbon over said port, a feed dog carried on said plate, and means adapted to throw the dog into and out of engagement with the ribbon.

7. An air torpedo, comprising a cylinder having a port therein, a piston in said cylinder, a ribbon receptacle removably mounted on the cylinder, a feed plate on the cylinder opposite from said receptacle, a spring pressed presser-foot mounted on said plate and adapted to hold the end of the ribbon against the plate, guides on said cylinder, a compression plate mounted in said guides and adapted to clamp the ribbon over said port, a feed dog pivotally mounted on said compression plate and adapted to move the ribbon across the port, and means on said presser-foot adapted to throw the dog out of contact with the ribbon when the dog is returning to normal position.

8. An air torpedo, comprising a cylinder having a port therein, a piston in the cylinder, a piston rod projecting from the lower end of the cylinder, a ribbon receptacle mounted on the cylinder and adapted to carry a roll of paper ribbon, a feed plate on the front side of the cylinder, a presser-

foot mounted on the feed plate and adapted to clamp the ribbon against the plate, guides on the cylinder, an apertured compression plate, downwardly directed arms on said compression plate adapted to reciprocate in said guides, upwardly directed arms on said plate, a handle secured in said upwardly directed arms, a feed dog pivotally mounted on one of said upwardly directed arms and adapted to engage the ribbon against said feed plate and move it forwardly when the compression plate is moved toward the cylinder, and means on the presser-foot adapted to release the dog from the ribbon when the dog is returning to normal position.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

OTTO A. LANGOS.

Witnesses:

S. F. LONSE,
GUS. HAUSER.