

No. 692,251.

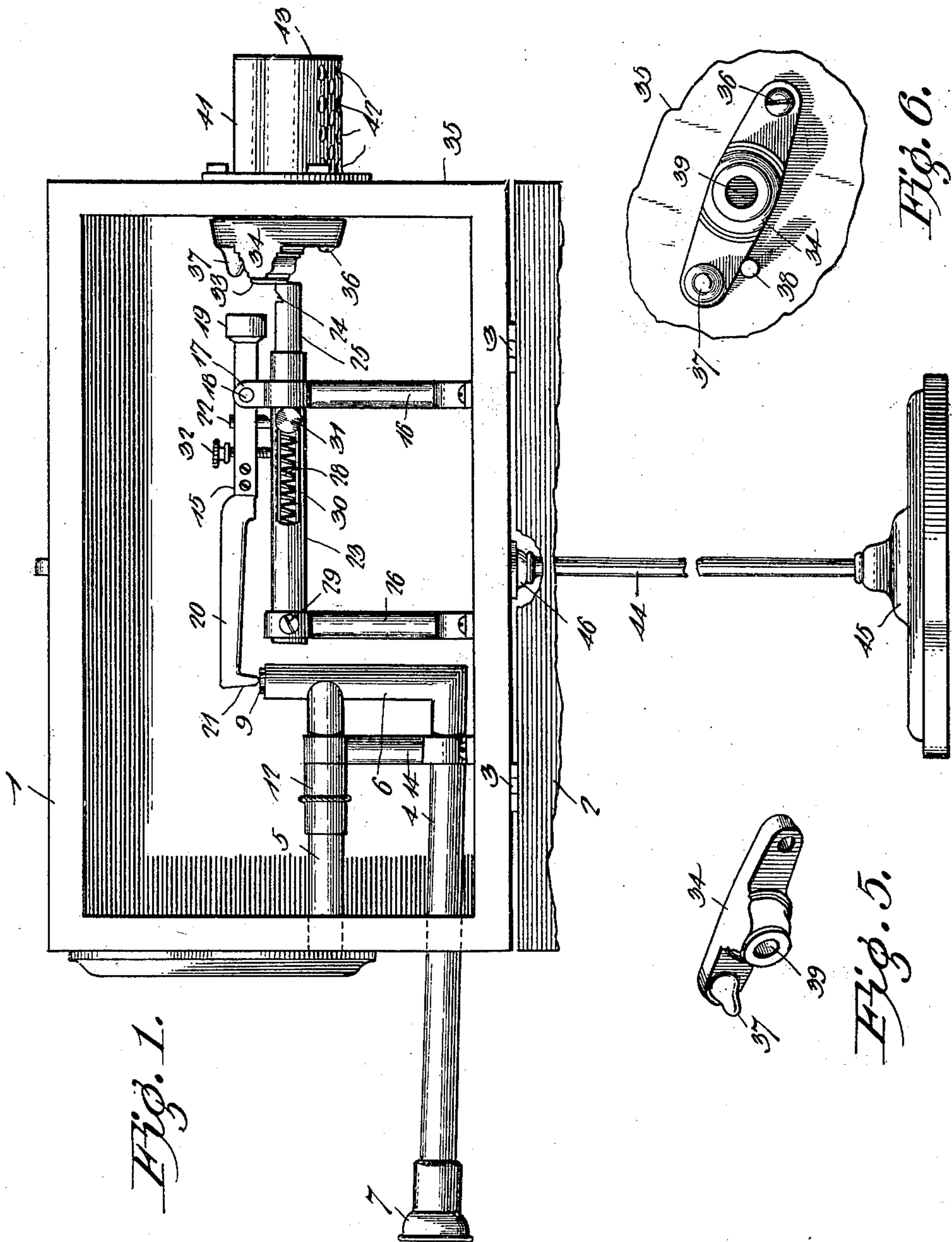
Patented Feb. 4, 1902.

**E. & U. S. DE MOULIN.
DUMMY LUNG TESTER.**

(Application filed July 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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UNITED STATES PATENT OFFICE.

EDMUND DE MOULIN AND ULYSSES S. DE MOULIN, OF GREENVILLE, ILLINOIS.

DUMMY LUNG-TESTER.

SPECIFICATION forming part of Letters Patent No. 692,251, dated February 4, 1902.

Application filed July 20, 1901. Serial No. 69,139. (No model.)

To all whom it may concern:

Be it known that we, EDMUND DE MOULIN and ULYSSES S. DE MOULIN, citizens of the United States, residing at Greenville, in the county of Bond and State of Illinois, have invented a new and useful Dummy Lung-Tester, of which the following is a specification.

The invention relates to improvements in dummy lung-testers.

10 The object of the present invention is to improve the construction of dummy lung-testers designed to be employed in initiatory work of secret societies and to increase the effectiveness of such devices.

15 A further object of the invention is to provide a device of this character designed for firing a blank cartridge and for discharging a quantity of flour or other material in the face of the candidate or other person blowing into the device and capable of being readily adjusted to secure a proper operation of the firing mechanism and adapted to prevent carpet or furniture from being burned by the discharge of a cartridge.

25 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is a side elevation of a dummy lung-tester constructed in accordance with this invention, the hinged side being open. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a front elevation. Fig. 4 is a detail perspective view of the valve-operated lever. Fig. 5 is a similar view of the pivoted cartridge-support. Fig. 6 is a detail view illustrating the manner of mounting the cartridge-support.

40 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a box or casing having a hinged side 2, forming a door and adapted to be opened, as indicated in Fig. 1 of the accompanying drawings, to expose the mechanism and afford access to the same. The hinges 3 are arranged at the lower edge of the side, and a suitable fastening device is provided for holding the hinged side in its closed position. Within the box or casing, which is rectangular, is disposed an approximately U-shaped

tube composed of a lower side 4, an upper side 5, and a vertical connecting portion 6, which extends from the inner end of the lower side 4 to a point above the inner end of the upper side 5. The lower side 4 is extended in advance of the casing and is provided at its outer end with a suitable mouth-piece 7, and the upper side terminates at the front of the casing at an opening 8. The vertical connecting branch or portion 6 of the tube receives a vertically-movable valve 9, normally supported upon a seat 10 and adapted to be thrown upward to admit a blast of air to the upper side of the tube and also to trip a firing mechanism, hereinafter described. The air passing through the upper side or branch of the tube causes a quantity of flour or other suitable material to be discharged through the opening 8 into the face of the person blowing into the lower side or branch of the tube. The valve 9 consists of a cylindrical shell open at the lower end and closed at the top and having sufficient weight to remain upon the seat until the desired pressure is produced by the person blowing into the tube. When the desired pressure is obtained, the valve is raised and the material is discharged. The upper side 5 of the tube is provided at the top with an opening 11, located within the casing and normally covered by a sliding sleeve 12, which is adapted to be moved longitudinally on the upper side or branch of the tube to cover and uncover the opening 11 for enabling a charge of flour or other desired substance to be placed in the tube. After the charge has been placed in the outlet or discharge branch of the tube the sleeve is arranged over the opening to prevent the escape of the air or the powdered material at that point.

The opening 8, which is preferably in the form of a crescent, is arranged at the bottom of a gage or indicator located at the front of the casing in full view of the person blowing into the tube. The gage or indicator is designed to be provided with a scale and with a hand or pointer, as shown, and it will impart to the device the appearance of a testing-machine. The graduated dial and pointer or hand, which constitute the gage or indicator, may, if desired, be mounted at any other point on the machine. The upper and

lower branches or sides of the tube are supported by a suitable post or bracket 14, which is provided with upper and lower openings for the reception of the upper and lower branches or portions of the tube.

The upper end of the vertical connecting portion 10 of the tube is located beneath one arm of a lever 15, which is fulcrumed between its ends on a post or support 16, which is provided at its top with perforated ears. The lever is arranged between the perforated ears 17 and is fulcrumed on a pivot 18, which passes through the lever and the ears. The end 19 of the lever is weighted to partially counter-balance the other arm 20, which is provided at its end with a depending extension 21, located directly above the vertical portion of the tube and arranged to be engaged by the vertically-movable valve.

The lever is provided near its fulcrum with a depending projection 22, consisting of a pin and extending through an aperture of a guide-tube 23 and engaging a notch 24 of a spring-actuated firing-pin 25. The guide-tube 23, which forms a casing or housing for the firing-pin, is supported at one end by the post or support 16 and at the other end by a similar post or support 26, which is provided at the top with an opening for the reception of the tubular casing of the firing-pin. The supports 16 and 26 are provided at their lower ends with suitable feet and are secured to the bottom of the box or casing 1, as clearly indicated in Fig. 1 of the accompanying drawings. The inner end 27 of the tubular casing 23 is closed to form a bearing for the coiled spring 28, which is interposed between the firing-pin 25 and the said end 27 and which is adapted to throw the firing-pin forward or outward when the latter is tripped or released, as hereinafter explained. The upper end of the post or support 26 is provided with a threaded perforation for the reception of a screw 29, which engages the guide tube or casing 23 to secure the same at the proper adjustment. One side of the tubular casing is provided with a longitudinal slot or opening 30 for the reception of a pin or screw 31, arranged in the plane of the movement of the lever and having an exterior head and adapted to form a handle for moving the firing-pin inward for setting the firing mechanism. The firing-pin is provided near its outer end with the notch 24, which is engaged by the depending projection 22. The lever 15 is provided at its arm 20 with an adjusting-screw 32, located adjacent to the depending projection and mounted in a threaded perforation of the lever and engaging the top of the tubular guide for the firing-pin and adapted to support the arm 20. By adjusting the screw the arm may be raised or lowered to cause the projection to extend into the notch 24 to a greater or less extent to secure the desired operation of the firing-pin. When the valve is moved upward with the necessary force, it engages the depending ex-

tension 21 of the lever, and the arm 20 is thereby raised and the depending projection 22 is carried out of engagement with the notch of the firing-pin to cause the latter to be thrown forward into engagement with a cartridge 33. The firing-pin is arranged to engage the rim of the cartridge; but the firing mechanism may be constructed and arranged for operating on any form of cartridge, as will be readily understood.

The cartridge is arranged within a bore or opening of a pivoted cartridge-support 34, secured to the rear end 35 of the box or casing by a screw 36 or other suitable fastening device, which passes through a perforation of one end of the support, and the latter is provided at its other end with a projection or knob 37, forming a handle or grip to enable the cartridge-support to be swung outward and inward. The cartridge-support has its free end resting upon an arm or projection 38 of the casing, whereby the support is held in proper position with relation to the firing-pin. When the support is swung outward, it is carried to the open side of the casing 1 to permit the cartridge-shell to be readily extracted and to facilitate loading. The bore or opening 39 for the reception of the cartridge is arranged opposite an opening 40 of the rear end of the box or casing when the cartridge-support is in position for firing, and the box or casing 1 is provided at its rear end with a cylindrical receptacle 41, surrounding the opening 40 and forming a muffler to receive the smoke and gases resulting from the discharge of a cartridge. The muffler, which is preferably cylindrical, is provided with a flange, which is perforated for the reception of fastening devices for securing it to the box or casing 1. The cylindrical receptacle, which is also adapted to receive the wad of the cartridge to prevent the same from burning or otherwise injuring carpet or furniture, is provided at its bottom with perforations 42, and its outer end 43 is closed. The inner end of the receptacle is open and communicates with the opening 40. This receptacle forms an efficient guard and prevents any injury from resulting from the discharge of the cartridge, and persons may stand close to the device without liability of being injured by the discharge of a cartridge.

The box or casing is preferably mounted upon a stand consisting of a rod 44, secured at its lower end to a base 45 and having its upper end threaded and connected to the bottom of the box or casing by means of a nut or plate 46, having a threaded opening to receive the rod; but any other suitable means may be employed for supporting the box or casing and for securing the same to a stand.

It will be seen that the firing mechanism is exceedingly simple and inexpensive in its construction, that it is positive and reliable in its operation, and that it may be readily adjusted to secure a proper operation of it. It will also be apparent that the guard or

muffler forms a receptacle for the smoke and gases and the wad of the cartridge and that no injury to persons, furniture, carpet, or other objects can result from the firing of cartridges; also, it will be clear that the cartridge-support is conveniently mounted and is adapted to be readily swung outward to afford access to the same for removing the shell and for reloading the device.

10 What we claim is—

1. A device of the class described comprising a casing, a tube adapted to be blown into, a valve, firing mechanism arranged to be tripped by the valve, a cartridge-support, and
15 a receptacle forming a guard and arranged to receive the wad of a cartridge and the smoke and gases resulting from the discharge of the same, substantially as described.

2. A device of the class described comprising a casing having an opening, means for supporting a cartridge at the said opening, firing mechanism, and an exterior receptacle mounted on the casing at the said opening and forming a guard, substantially as described.

25 3. A device of the class described comprising a casing having an opening, means for supporting a cartridge at the said opening, firing mechanism, and an exterior receptacle having an open inner end located at the said opening, said receptacle being closed at the outer end and provided with suitable perforations or openings for the escape of gas, substantially as described.

35 4. A device of the class described comprising a casing provided at the back with an opening, an exterior receptacle arranged at the opening and forming a guard, a pivotally-mounted cartridge-support arranged at the back of the casing and having a bore or opening for the reception of the cartridge and adapted to be swung to and from the opening of the casing, firing mechanism, and means for operating the firing mechanism, substantially as described.

45 5. A device of the class described comprising a casing, a cartridge-support pivoted at one end to the casing and adapted to be swung inward and outward, a spring-actuated firing-pin mounted within the casing and arranged to engage a cartridge held by the said support, a lever for holding the firing-pin in its retracted position, and a tube adapted to be blown into and provided with a valve arranged to engage the lever to release the firing-pin, substantially as described.
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6. A device of the class described comprising a casing, a reciprocating spring-actuated firing-pin, a lever provided with means for engaging the firing-pin to hold the same in its retracted position, an adjusting device for supporting the lever to vary its engagement with the firing-pin, said adjusting device extending from the lever in the same plane as that of the movement of the lever, and a tube adapted to be blown into and provided with a valve for engaging the lever, substantially as described.

7. A device of the class described comprising a casing, a reciprocating spring-actuated firing-pin, a lever provided with means for engaging the firing-pin, an adjusting-screw carried by the lever and adapted to support the same, said adjusting-screw extending from the lever in the same plane as that of the movement of the lever, and a tube adapted to be blown into and provided with means for engaging the lever, substantially as described.

8. In a device of the class described, the combination of a tubular guide, a reciprocating spring-actuated firing-pin mounted in the guide, a lever provided with a projection engaging the firing-pin, an adjusting-screw mounted on the lever and engaging the guide and supporting the lever, said screw being arranged in the plane of the movement of the lever, and a tube adapted to be blown into and provided with means for engaging the lever, substantially as described.

9. In a device of the class described, the combination of a tubular guide, means for supporting the same, a reciprocating spring-actuated firing-pin mounted in the guide and provided with an aperture, a lever located above the guide and fulcrumed between its ends and having one arm weighted, a pin mounted on the other arm and arranged to engage the notch of the firing-pin, an adjusting device for supporting the lever arranged in the plane of the movement of the latter, a blow-tube, and a valve mounted in the blow-tube and arranged to engage the lever, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

EDMUND DE MOULIN.

ULYSSES S. DE MOULIN.

Witnesses:

REUBEN S. DENNY,

H. C. DIEHL.