109,697

PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

A Pocket Lighter and Lantern.

I, JEAN SCHMITT, of 7, rue de la Gare, Belfort, France, temporarily of 4, rue de la Gare, Vesoul, France, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention refers to a new manufactured article possessing all the advantages appertaining to existing pocket lamps as also to pocket lighters worked by means of or in conjunction with mineral spirit and ferro cerium stone without having their disadvantages.

The present invention consists in principle of the combination of a pocket lighter as above described, with a pocket lantern appropriately constructed as hereinafter described with a view to allowing the lighter to retain all its advantages as also those which it possesses as a mineral spirit lamp without involving the disadvantages of the same, in other words that without any dissociation of parts when used as a lighter the usual facilities obtain and when used as a pocket lantern the flame is protected from the wind.

Several modes of carrying this out are illustrated in the figures annexed to the present specification by way of examples of the manner in which the invention may be put into practice, it being well understood that other varieties and modifications of detail could be applied to this invention without departing from its principle.

In these drawings

Fig. 1 is a front elevation of the first mode of construction,

Fig. 2 being a plan of same.

Fig. 3 is a back elevation and

Fig. 4 a plan of Figure 3.

Fig. 5 is a back elevation of a second mode of construction, whilst

Fig. 6 represents a view of the reservoir forming the lantern, with its bottom used as a lid withdrawn therefrom.

Fig. 7 illustrates the bottom part of the reservoir after withdrawal of the lid.

Fig. 8 shows a third mode of construction in front elevation:

Fig. 9 is a plan of the top of the reservoir after withdrawal of same from its casing or lantern.

Fig. 10 is a fourth variety of construction in back elevation,

Fig. 11 being a plan of its bottom end showing the bottom of the reservoir.

Fig. 12 is a side elevation and

Fig. 13 a plan of its top portion partly showing in cross section the casing up to the height of the operating knob.

In accordance with Figures 1 to 4 showing the first mode of construction, the

[*Price* 6*d.*]

pocket lantern-lighter is mainly composed of a reservoir 1, provided with a wick carrier 2, and a wheel 3, acting frictionally on the ferro cerium stone placed below same, as is customary, the tube carrying the spring passing through the reservoir 1 and ending in the shackle 4 accommodating the wheel 3.

The reservoir 1 which constitutes the mineral spirit and ferro cerium lighter is also provided with a regulating device 5 of the spring and a filling plug 6 and the same is contained in and fixed to the bottom of a metallic casing 7, the shape of which may be as shown or otherwise, the said metallic casing forming the pocket lantern and being characterised by a preferably circular opening provided on one of its walls, about the height of the flame, such opening being glazed or more suitably provided with a lens 8, and a further or second opening 9 being provided on the opposite side of the casing 7, such second opening being obturated by means of a cover on hinges 10 (shown open in Figures 3 and 4) which acts as a reflector.

A third aperture is also reserved in the upper end of the casing 7, above the flame, and the same is obturated by a solid lid 11, which may be formed by the upper end itself, mounted on a hinge (as illustrated in Figures 3 and 4).

In order to ensure a better draught and the ejection of the products of combustion, the lid 11 of the end or of the upper extremity of the casing 7, may be provided with perforations 12^a of any shape and in any number, and the lower end 13 on to which the mineral spirit reservoir 1 is movably or otherwise fixed, and through which the filling plug 6 and the regulating screw 5 of the spring protrude, so as to render same accessible from without, may also be provided with such apertures.

In order to be able to act on the wheel 3 from without the lantern 7, the axis of the said wheel 3 is formed by a rod 14 the end which protrudes through the casing 7 being provided with a milled knob 15 for such purpose.

This construction of the pocket lantern-lighter allows same to be lighted by turning the knob 15, the flame of the lighter remaining protected against atmospheric changes whilst its illuminating power is intensified by the reflector 10 and the lens 8.

When used as a lighter, for the lighting of a cigarette or of a cigar, for instance, it will suffice to open the lid 11 at the open top end of the casing 7 and to place the extremity of the cigarette or of the cigar above the flame thus rendered accessible.

In the case of the lighting of a pipe, and so as not to have to invert the bowl, whereby particles of tobacco, lighted or otherwise, generally fall out, the reflector 10 forming the lid to the opening 9 will be used and this will allow the pipe to be placed against the flame, by slightly turning same sideways.

The characteristics of the second form of construction (Figs. 5, 6 and 7) consist in the casing or lantern 7 being of an oval section, the opening of the upper end of which being here obturated by the lid 11 which opens sideways instead of endways.

The hinge of the lid 11 is used for the purpose of also hinging the reflector 10 and the ventilation apertures 12 are provided slightly below the height of the flame, in one or more rows at the back or opposite side or wall of the casing 7.

The spirit reservoir 1 with its wick carrying tube 2 and its wheel 3 and shackle 4 forming the ferro-cerium stone lighter is movably fitted in the casing, it is placed within and withdrawn from same through the lower open end of the casing 7, which it closes up when once in its place.

This reservoir 1, maintained within the casing 7 by friction only, is provided with a movable bottom 16 replacing the filling plug, and the same is withdrawn for the purpose of filling the packing 17 and for regulating the tension of the spring by means of the screw 5.

The wheel 3 is of large diameter so as to protrude outside the casing or lantern 7 and passes through a slot 18 provided for this purpose and the parts 14 and 15 of the first mode of construction are thus dispensed with and the said

wheel can thus be operated directly with the finger. The slot 18 is made sufficiently long and the shackle 4 sufficiently high to allow the wheel 3 to enter the slot before the reservoir 1 enters the casing 7.

This second mode of construction of the lantern-lighter has neither sharp edges nor greatly protruding parts to cause inconvenience of carriage in the pocket and its mechanism is reduced to its greatest simplicity combined with the advantage of having a movable reservoir which can be readily placed into position and can be filled instantly without necessitating the employment of either funnel or special filling cans.

The third mode of construction (Figures 8 and 9) has the same characteristics as the second one, it is however differentiated by the fact that the wheel 3 is similar to that of the first mode of construction and is operated from without by an operating knob 15 which revolves and which is screwed from without, and through the wall of the casing 7, into the rod 14 forming the continuation of the axis of the wheel 3, after the movable reservoir 1 has been placed into position within the lantern 7.

For this purpose, the shackle 4 as also the rod 14 are fixed in a somewhat oblique position in respect to the main axis of the oval sectioned lantern in such a way as to make the knob 15 protrude only slightly, it being substantially contained within an angle formed by the intersection of the plane of the front of the lantern with another plane tangential to the oval ended protion of the casing 7.

The fourth mode of construction (Figures 10, 11, 12 and 13) is characterised in distinction to the preceding modes by its movable reservoir as also by the operating mechanism of the wheel 3, the lantern 7, remaining preferably of oval section.

As regards the movable reservoir 1 the latter is provided at the peripheries of its fixed ends with projecting parts 19, which alone come into contact with the inner walls of the casing 7 thus leaving between the said reservoir and the casing or lantern an oval space 20 which replaces the ventilating apertures made in the bottom end 13 of the lantern (Fig. 4) or in the opposite or back wall below the cover 10 (Fig. 5).

The firm fixing of the reservoir 1 within the lantern 7 is ensured by means of a screw 21 which passes through the casing 7 and screws into the small boss 22 soldered for this purpose on to the side wall of the reservoir 1. The operating mechanism of the wheel 3 is carried out in the following manner:—

By the side of the wheel 3, between the extended ends of the shackle 4 and on the same axis, a toothed wheel 23 is loosely mounted and pressed against such wheel 3 by means of a spring 24. The rotating motion of the toothed wheel 23, from right to left, (Fig. 13) takes the wheel 3 with it owing to the provision of helically shaped planes on the contact surfaces of the wheel 3 and of the toothed wheel 23.

The rotary movement of the said wheel 23, from left to right, does not in any way affect the wheel 3, the wheel 23 receding from the wheel 3 when the highest points of the planes pass each other, to be brought back into juxta position by the action of the spring 24.

The wheel 23 is operated upon by means of a rack-bar 25 provided along one of the edges of a metallic element 26 the lower part 27 of which is shaped to form a rod engaging in the orifice leading to the guide tube 28 passing through the reservoir 1. An adjustable collar 26^1 capable of being securely fastened to the upper part of the rack-bar 25, by means of the operating knob 15 acts as a guide being held in position between the wheel 23 which engages the rack-bar 25 and the inner curved wall of the lantern 7, respectively, and in this way the vertical longitudinal displacement of the knob 15 and of the element 26—27 is rendered possible by the provision of a slot provided in the end wall of the casing, such slot extending from *a* to *b* (Fig. 10).

The lighting up is effected by lifting the knob 15 up to the extreme upper

end of slot 29 and rapidly pressing same downwards by hand thereafter when the wheel 3 is operated upon by means of the rack-bar 25 engaging the wheel 23 owing to the helical surfaces of the said wheel and of the wheel 3 being kept in contact.

Modifications of details may be made in these various modes of construction whilst adhering to the principle of the invention without departing from its main features.

I am aware that it has been proposed to use a spirit lighter having a ferro cerium igniting device as a lamp and I do not claim such a device broadly.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1st. In a pocket lantern-lighter comprising a pocket lighter provided with mineral spirit and ferro cerium stone ignition device within a casing forming a pocket lantern, the arrangement in one of the walls of the casing and at a level approximately the same as that of the flame, of a glazed opening or an opening provided with a lens whilst the opposite wall is provided with a similar opening capable of being obturated by means of a cover acting as a reflector and intended to allow the lighting of a pipe or other article, the upper end of the casing carrying a cover for an aperture intended to be used for lighting a cigarette, a cigar or other article, the bottom of the casing accommodating the mineral spirit lighter.

2nd. In a pocket lantern-lighter as claimed in Claim 1 using the upper closing end of the casing, provided with a hinge, so as to act as a lid to the opening above the flame.

3rd. In a pocket lantern-lighter as claimed in Claim 1 the arrangements for increasing the draught of the flame and the relief of the products of combustion comprising apertures provided for such purpose in the lid to the opening above the flame and also in the lower or bottom end of the casing.

4th. In a pocket lantern-lighter as claimed in Claim 1 the arrangement of a reservoir with its wick accommodating tube and its ferro cerium stone wheel, fixed within or removable from the lantern casing, the bottom of such reservoir being provided with a filling plug and with a spring adjusting screw.

5th. In a pocket lantern-lighter as claimed in Claim 1, the arrangement of a wheel axle protruding to the outside of the lantern and provided at its extremity with a milled operating knob for operating the mechanism of the lighter wheel from without the lantern.

6th. In a pocket lantern-lighter as claimed in Claims 1, 2 and 3, the use of a lid for the top opening of the casing adapted to open laterally, the hinge of same being common to the said lid and to the lateral cover forming reflector.

7th. In a pocket lantern-lighter as claimed in Claim 1, the use of a mineral spirit reservoir capable of being removed and frictionally held in the lower end of the casing to close same, the bottom of the said reservoir acting as a closing device to allow the direct filling of the packing and the regulating of the screw acting on the spring.

8th. In a pocket lantern-lighter as claimed in Claims 1 and 3, the provision of ventilating holes at the lower part and in the back wall of the lantern slightly below the level of the flame, in one or more rows.

9th. In a pocket lantern-lighter as claimed in Claim 1, the use of a striker wheel of suitable diameter adapted to somewhat protrude to the outside of the casing, through a slot provided in the rounded end thereof, so as to allow its being operated upon by the finger.

10th. In a pocket lantern-lighter as claimed in Claims 1 and 5, the arrangement of the operating mechanism of the striking wheel with an outer knob, placed axially in a direction slanting in respect to the main axis of the reservoir so that the outer operating knob be substantially within an angle formed by the

intersection of the plane of the lateral face of the lantern and of another plane tangential to the oval end of same.

11th. In a pocket lantern-lighter as claimed in Claims 1 and 4, the use of a movable reservoir with solid end pieces provided with a filling plug and a regulating screw, such end pieces being provided round their outer edges with projecting parts for the purpose of tightly and frictionally keeping same in position within the lantern, whilst forming an oval shaped space for the ventilation of the lantern.

12th. In a pocket-lantern-lighter as claimed in Claims 1 and 4, the arrangement of an operating mechanism of the striking wheel composed of a rack bar guided between the inner wall of the lantern and such wheel, a guide tube passing through the reservoir, said rack bar being operated upon from without by means of a knob capable of being displaced along a slot provided in the wall of the lantern-casing and operating on a toothed wheel mounted by the side of the striking wheel so as to actuate same only in one direction by means of helically shaped surfaces formed on the contact faces of the said toothed wheel and of the striking wheel, and a spring disposed on the same axis, between the shackle ends for the purpose of ensuring their being kept in contact with each other.

Dated this 23rd day of November, 1916.

FELL & JAMES,
Agents for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1917.

Fig. 3.

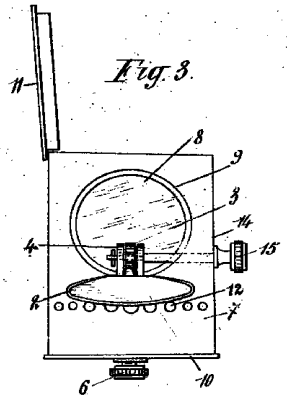

Fig. 1.

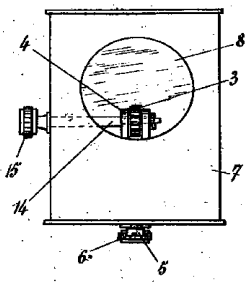

Fig. 5.

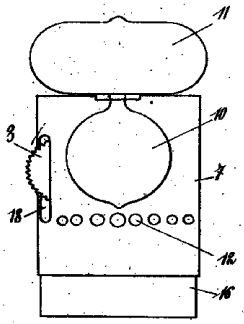

Fig. 6.

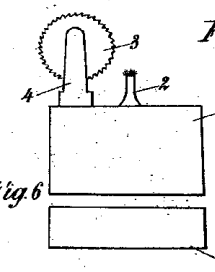

Fig. 8.

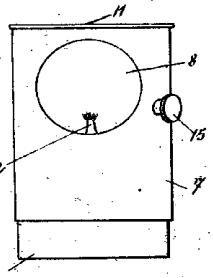

Fig. 7.

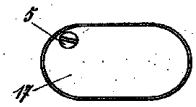

Fig. 9.

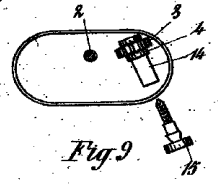

Fig. 4.

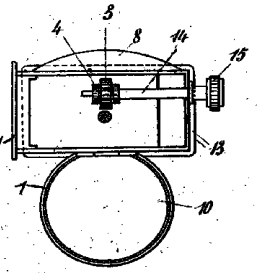

Fig. 2.

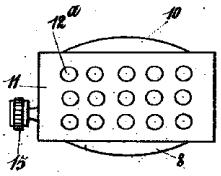

Fig. 10.

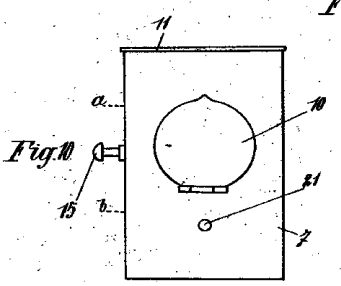

Fig. 11.

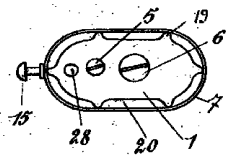

Fig. 12.

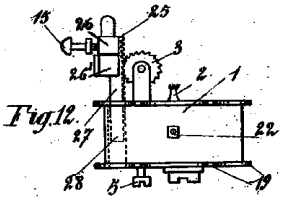

Fig. 13.

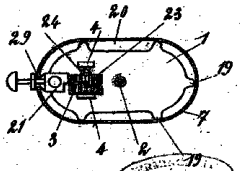

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Fig. 3.

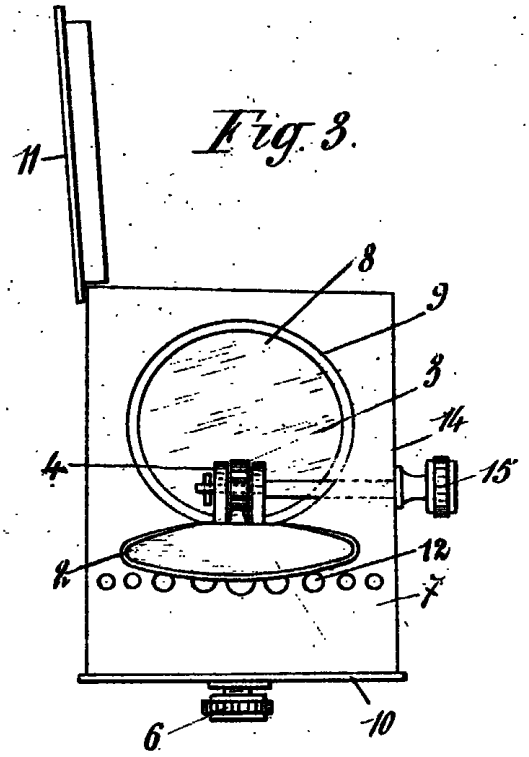
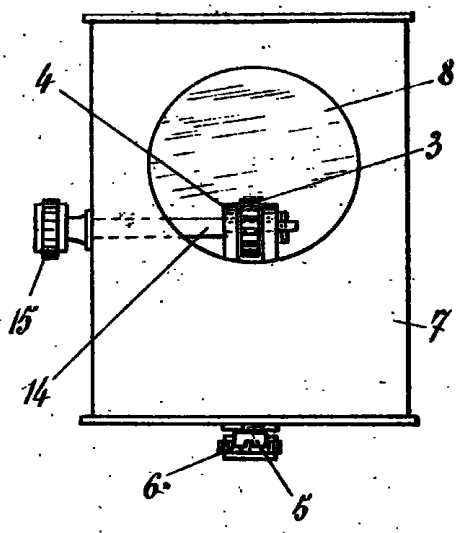


Fig. 1



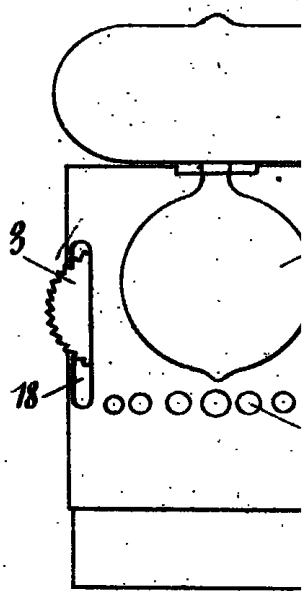


Fig. 5

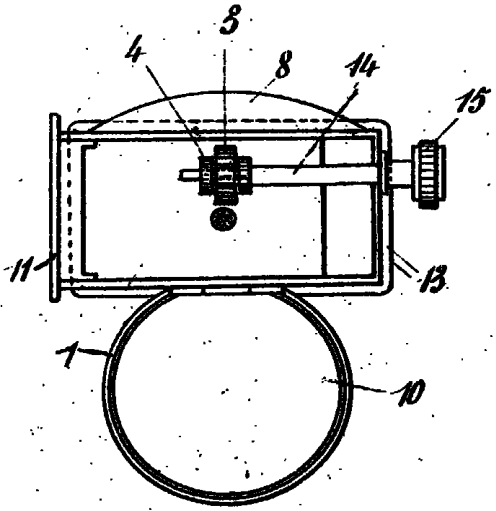


Fig. 4.

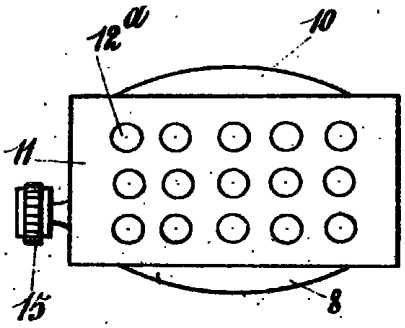


Fig. 2.

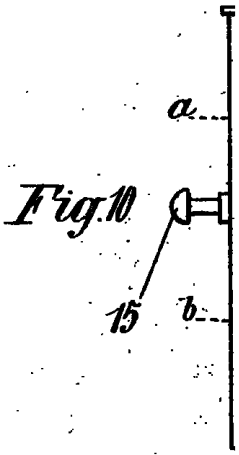
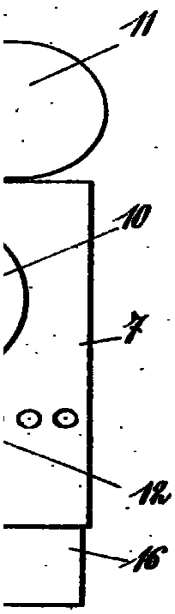


Fig. 10

Fig. 11.



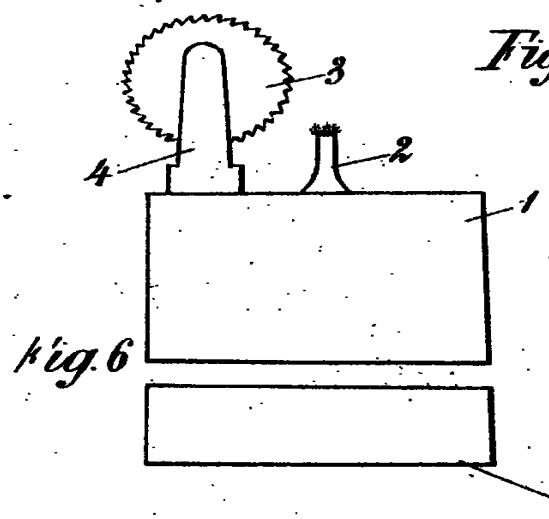
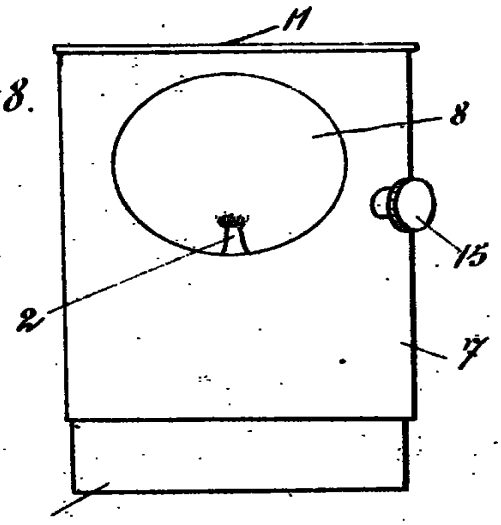
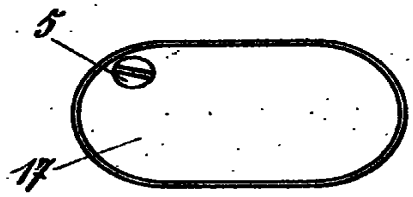


Fig. 6.

Fig. 8.





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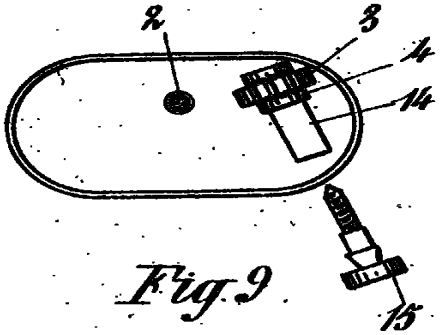
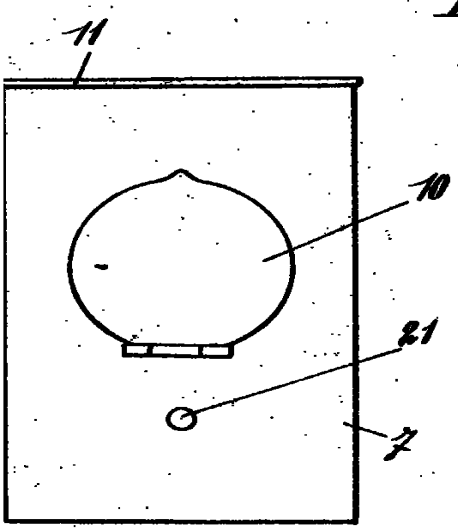
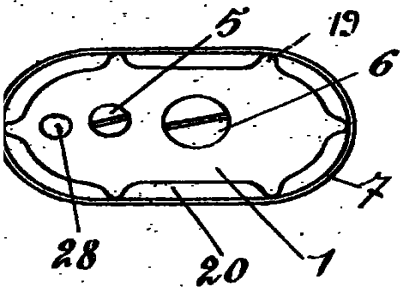
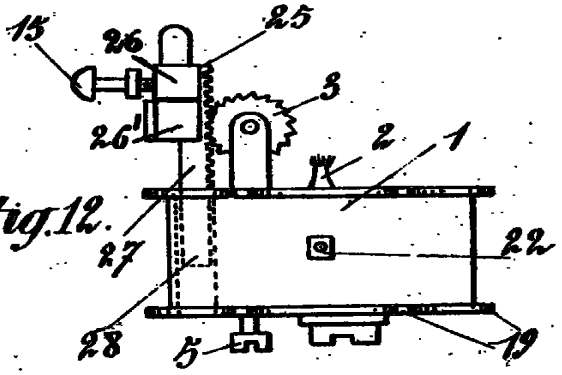


Fig. 9.







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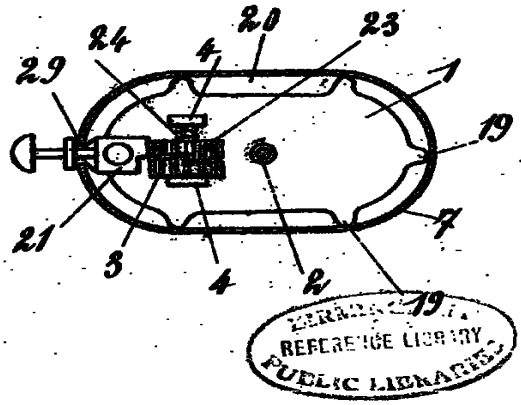

Fig. 13.

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