

O. GERGACSEVICS.
MECHANICAL TINDER BOX.
APPLICATION FILED FEB. 17, 1910.

992,766.

Patented May 23, 1911.

2 SHEETS-SHEET 1.

Fig. 1

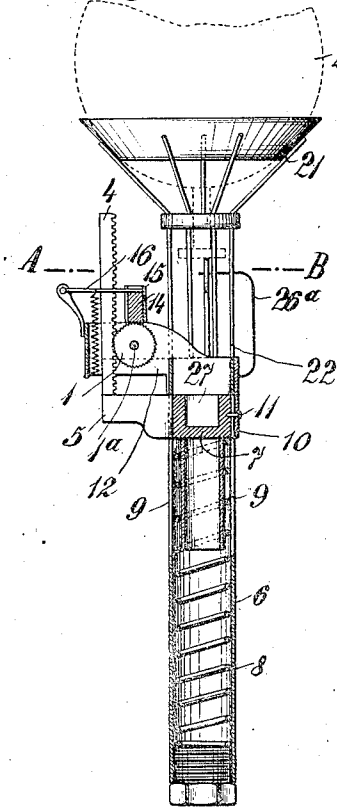


Fig. 2

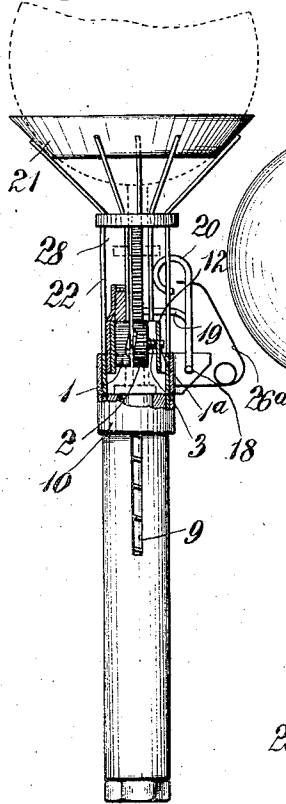


Fig. 4.

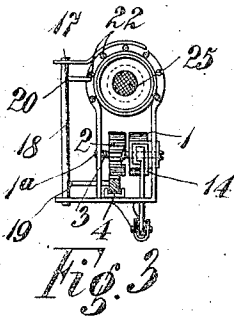
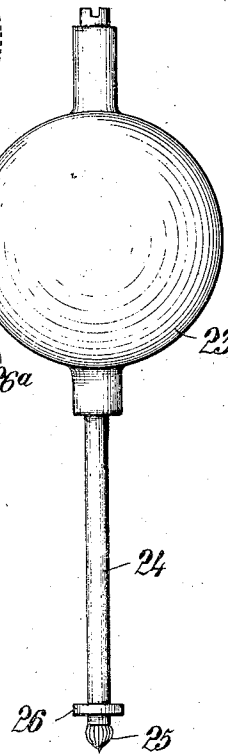


Fig. 3

Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

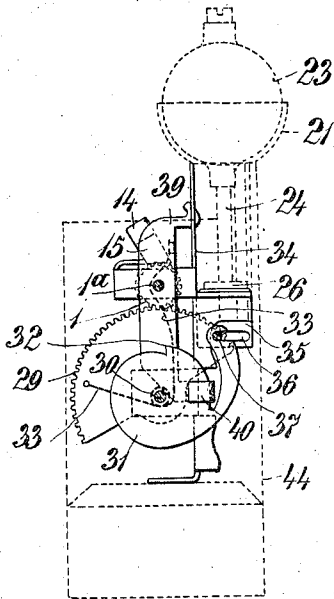


Fig. 6.

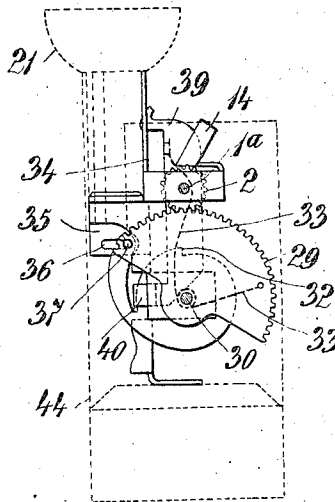


Fig. 8.

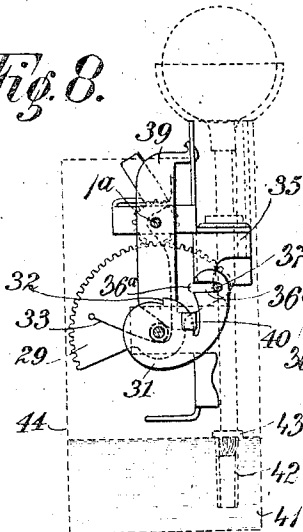


Fig. 7.

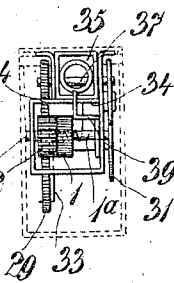
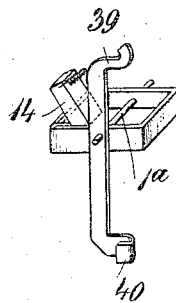


Fig. 9.



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UNITED STATES PATENT OFFICE.

OTTO GERGACSEVICS, OF VIENNA, AUSTRIA-HUNGARY.

MECHANICAL TINDER-BOX.

992,766.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed February 17, 1910. Serial No. 544,353.

To all whom it may concern:

Be it known that I, OTTO GERGACSEVICS, royal and imperial lieutenant, residing at Hohe Warte 29, Vienna, XIX, in the Empire of Austria-Hungary, a subject of the Emperor of Austria-Hungary, have invented new and useful Improvements in Mechanical Tinder-Boxes, of which the following is a specification.

My invention relates to mechanical tinder boxes in which igniting mechanism operates automatically in conjunction with a support for a tinder container, and the objects of my invention are to provide, first, a suitable support for the tinder container when not in use, and second, means automatically connected to an element of the support which, upon the removal of the tinder container, will ignite the tinder. I obtain these objects by the mechanism illustrated in the accompanying drawings in which:

Figure 1, is a vertical section of the support and automatic igniting apparatus. Fig. 2 is an elevation of the same partly in section. Fig. 3, is a cross sectional view on the line A—B of Fig. 1. Fig. 4, is an elevation of the tinder container. Figs. 5 and 6 are sectional views showing a modification of the invention. Fig. 7, is a plan view of Fig. 5. Fig. 8, is a sectional view showing a further modification. Fig. 9 is a perspective view showing a part of the trip mechanism used in operating the devices shown in Figs. 5–8, and a portion of the apparatus adjacent thereto.

The casing 6, movable plunger 7, resting on the spring 8 contained therein, and the funnel shaped ring 21, connected to the casing 6 by means of uprights 22, constitute a support for the tinder container shown in Fig. 4 which comprises a reservoir 23 for inflammable material, a tubular projection 24 containing a wick 25 and a collar or stop 26 located at the end of the tube. An arm 5 carrying a vertical rack 4 projects laterally of the plunger 7 and is attached thereto by means of the collar 10 and a pin 11, the arm 5 and the pin 11 adapted to guide slots 9 in the casing 6.

At the upper end of the casing 6 is a support or bracket 12 for the spark producing means. This comprises a spindle 1^a on which are rotatably mounted cogwheels 2, meshing with the rack 4, and the wheel 1. These wheels 1 and 2 have clutches which by means of the spring 3 engage when the

cogwheel is rotated by an upward movement of the rack 4, but disengage upon its downward movement. The bracket 12 also supports the receptacle 14 located above the wheel 1 and containing a spark producing body 15, for example a pyrophoric such as cerium iron alloy, which is pressed by means of the spring actuated lever 16 against the periphery of the wheel 1.

A spindle 18, rotating in the support 17 fixed to the chamber 6, is furnished with a pawl 19 and a lever 20. A spring 26^a normally holds the free end of the lever 20 between the uprights 22, into the path of the stop 26, and the pawl 19 into the path of the rack.

The operation of the device is as follows: When the tinder container is placed on the support the plunger 7 is forced down compressing the spiral spring 8, the collar 26 of the tube 24 resting on top of the plunger. The plunger 7 is held in this position, by means of the pawl 19 springing over the rack 4, until, upon removing the tinder container, the collar 26 trips the pawl 19 by coming in contact with the lever 20. Thus released the plunger is rapidly raised by the expansion of spiral spring 8 causing the cogwheels, together with the wheel 1 to rotate rapidly. In doing this sparks are produced which ignite the inflammable material. Ignition is facilitated by the current of air passing through the openings 28. To extinguish the flame the wick 25 is placed into the recess 27 of the piston 7, which recess is sealed by the stop 26, thus killing the flame and preventing the evaporation of the inflammable material.

Figs. 5 to 7 show the cogwheel 2 meshing with a toothed sector 29, the arbor 30 of which is provided with a locking disk 31 having a ratchet tooth 32. A spring 33 engaging the sector 29 tends to retain the same, as well as the disk 30, in the position shown in Figs. 5 and 6. Uprights 34 are provided between the funnel-shaped ring 21 and the plunger 35 which has, as shown in Figs. 5 and 6, a horizontal slot 36 and pierced by a bolt 37 carried by the sector 29 and the locking disk 31. The plunger 35, together with the ring 21 and the uprights 34 constitute a support for the tinder container. When the tinder container is placed on the support, stop 26 forces the plunger 35 down thereby rotating, by means of the pivot 37, the sector 29 and the disk 31, the

end of the arm 40 going thereupon behind the tooth 32 of the disk 31 holding it against the action of the spring 33. Upon removing the tinder container the arm 39 is pressed back by the stop 26 and the arm 40 releases the disk 31 the moment the wick 25 is located opposite the wheel 1. The spring 33 causes the sector 29 to return to the position shown in Figs. 5 and 6, thus rapidly rotating the wheel 2, which in turn acts upon the spark producing mechanism, causing sparks which ignite the tinder. The mechanism may be inclosed by a suitable casing 44.

15 In the modification shown in Fig. 8 the plunger 35^a is provided on each side with a bolt 37^a one engaging a horizontal slot 36^a of the sector 29 and the other a horizontal slot 36^b of the disk 31. This enables the toothed sector 29 and the locking disk 31 connected therewith to rotate when the tinder container is placed in the support, or removed therefrom, the operation of the device being substantially the same as described in previous modification. The tube 25 extends below the stop 26 through the hollow plunger part 35^a. At the bottom of the casing 44 is situated a benzin holder 41 provided with an opening also with safety gauze and benzin absorbing material 42, which acts as a supplementary reservoir for saturating the wick 25 in case the reservoir 23 should be empty. A collar 43 at the end of the tube 24 enables the opening to be sealed.

Having now described my invention, what I claim as new and ask to secure by Letters Patent is:

1. A mechanical tinder box comprising in combination, a support, a spring controlled element movable on said support, means provided with an inflammable portion and adapted to be manually engaged with said element to move the same against the action of its spring, and spark-producing means actuated upon movement of said element and disposed in igniting proximity with said inflammable portion.

2. A mechanical tinder box comprising in combination, a support, a spring con-

trolled element on said support, means provided with an inflammable portion adapted for manual operation to engage said element and move the same against the action of its spring, spark-producing mechanism actuated upon movement of said element and disposed in igniting proximity with said inflammable portion, and trip mechanism actuated by said means for releasing said spark mechanism.

3. A mechanical tinder box comprising in combination, a support, a spring controlled element movable on said support, spark-producing means arranged for actuation by said element, a trip device preventing operation of said spark mechanism upon movement of said element in one direction, and means provided with an inflammable portion adapted to be manually operated to engage said element and move the same in one direction against the action of its spring and release said trip device to permit operation of said spark-producing mechanism.

4. A mechanical tinder box comprising in combination, a spring actuated element, a spark-producing mechanism actuated by said element, a trip device for locking said element, and means provided with an inflammable member for moving said element into a locked position and arranged to actuate said trip device to release said element and effect operation of said spark mechanism.

5. A mechanical tinder box comprising in combination, a tubular guide, a spring actuated plunger therein, spark-producing mechanism, means connecting said mechanism with said plunger to operate said mechanism on movement of the plunger in one direction and permit said mechanism to remain inoperative upon movement of the plunger in another direction, and means provided with an inflammable member and movable in said guide for actuating said plunger.

In testimony whereof I affix my signature in presence of two witnesses.

OTTO GERGACSEVICS.

Witnesses:

TRAUNER KARL,
AUGUST FUGGER.