

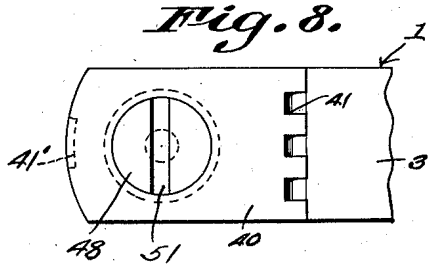
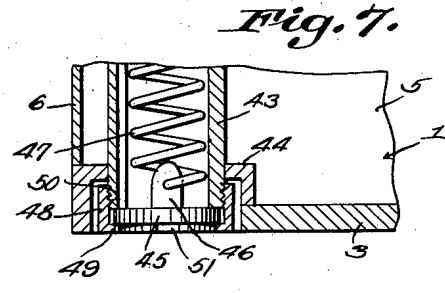
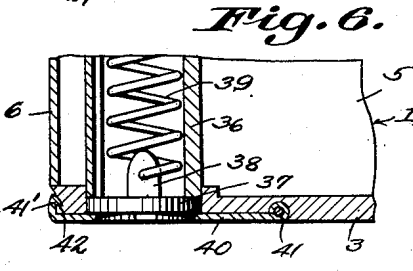
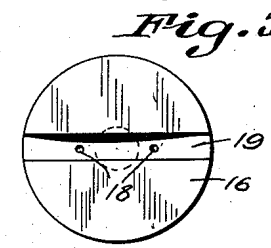
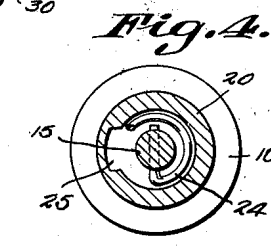
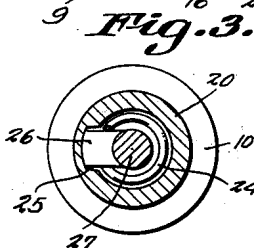
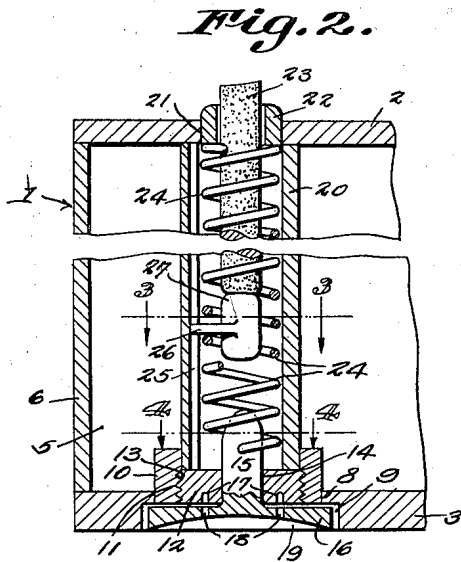
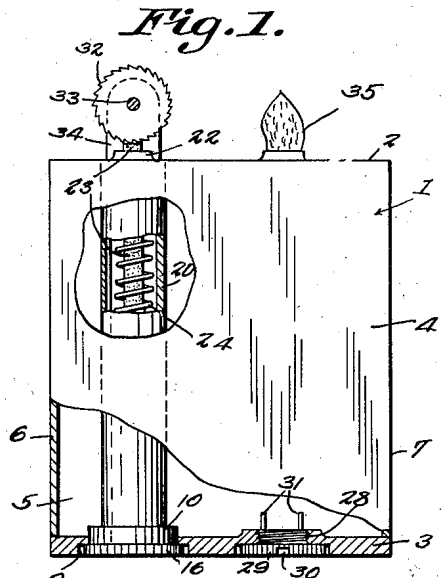
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S. RODAK

2,501,918

FLINT HOLDING AND FEEDING MECHANISM FOR LIGHTERS

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S. Rodak

INVENTOR

BY *Chas. Leo.*
ATTORNEYS.

UNITED STATES PATENT OFFICE

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FLINT HOLDING AND FEEDING MECHANISM FOR LIGHTERS

Stanley Rodak, Pensacola, Fla.

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2 Claims. (Cl. 67-7.1)

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This invention relates to an improved lighter construction.

An object of the invention is to provide an improved flint holding and feeding mechanism for lighters.

Another object of the invention is to provide an improved flint holding and adjustably tensioned resilient flint feeding mechanism for lighters.

A further object of the invention is to provide an improved adjustable resiliently tensioned follower fed holder and feed mechanism for lighters.

A still further object of the invention is to provide an improved flint holding and feeding mechanism for lighters which will be highly efficient in operation and relatively inexpensive to manufacture and produce.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of this application,

Figure 1 is a side elevation of the improved lighter with parts thereof being broken away and in section.

Fig. 2 is an enlarged detail vertical sectional view through the flint holding and feeding mechanism of the improved lighter.

Fig. 3 is a sectional view taken on the line 3-3 of Fig. 2.

Fig. 4 is a sectional view taken on the line 4-4 of Fig. 2.

Fig. 5 is a bottom plan view of the improved retaining plug for the flint feed mechanism.

Fig. 6 is an enlarged detail vertical sectional view of a modified form of flint feed mechanism retaining device.

Fig. 7 is an enlarged detail vertical sectional view of a second modified form of flint feed mechanism retaining device.

Fig. 8 is a bottom plan view of the retaining device shown in Fig. 6.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out the invention, there is shown and provided an improved lighter and flint holding and feed mechanism therefor including a hollow body 1 adapted to hold a supply of lighter fluid, said body comprising a top 2, a bottom 3, opposite sides 4 and 5, and opposite ends 6 and 7.

A circular aperture 8 is formed through the bottom 3 of the lighter body 1 and is enlarged at its lower end to form an annular seat 9. A

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sleeve 10 is secured in any desired manner in the aperture 8 and is internally threaded at 11 at its lower end to receive the head disc 12 which is externally threaded as at 13, and is centrally apertured at 14 to receive the upstanding stud 15 formed integrally on the tensioning disc head 16 which is received in the enlarged lower end of the aperture 8.

Oppositely disposed pin receiving sockets 17 are formed in the lower portion of the head disc 12, while oppositely disposed pin receiving apertures 18 are formed through the tensioning disc head 16, and are adapted to be vertically aligned with said sockets 17. A kerf 19 is also formed in the lower surface of the tensioning disc head 16, in which a coin (not shown) may be inserted for flint advancing purposes hereinafter more fully described.

A flint supporting tube 20 is disposed with its lower end within the sleeve 10, with its lower end in engagement with the head disc 12 and its upper end in engagement with the inner surface of the top 2 of the lighter body 1.

An opening 21 is formed through the top 2 axially of the tube 20 and supports a guide bushing 22, through which a long length of flint 23 is slidably and swingably received.

A coil spring 24 is anchored transversely through the stud 15 at its lower end and surrounds the flint 23 with its upper end in engagement with the top 2 of the lighter body 1.

A vertical offset guide channel 25 is formed in the tube 20 and is adapted to receive the laterally extending guide finger 26 formed on the follower 27 which is disposed within the coil spring 24 in contact with the bottom of the flint 23, said finger 26 extending between adjacent convolutions of the coil spring 24 and serving as a screw to raise or lower the follower 27 in the tube 20 as the tensioning disc head 16 is rotated in one direction or a reverse direction.

A threaded filling opening 28 is formed in the bottom 3 of the lighter body 1 and is adapted to be closed by the threaded closure disc 29, which is formed with a kerf 30 in its lower surface. Spaced upstanding actuating pins 31 are formed on the upper or inner end of the closure disc 29, and when said disc is removed from the opening 28, the pins 31 may be inserted through the aligned openings 18 and into the sockets 17 for rotating the disc head 12 when removing the same, or for tightening the head disc 12 to hold the flint mechanism in place. A rotatable serrated striking wheel 32 is mounted upon the axle 33 disposed between the upstand-

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ing ears 34 on the top 2 of the lighter body 1, and is adapted to be rotated in contact with the upper end of the flint 23 to produce sparks for igniting the lighter.

A wick 35 will extend from within the lighter body 1 through an opening (not shown) in the top 2 in lateral position to be ignited by sparks from the flint 23 when said striking wheel 32 is rotated.

In Figs. 6 and 8, a slight modification is shown, the tube 36 being in direct contact with the disc head 37 upon which the stud 38 is mounted, and the coil spring 39 extending through the stud 38 at its lower end. A closure plate 40 is hinged at 41 to the bottom 3 of the lighter body 1 and is adapted to underlie the disc head 37 to hold the same in position. A spring catch 41' is formed on the end of the closure plate 40 remote from the hinge 41 and is adapted to snap into the locking notch 42 in the edge of the bottom 3 of the lighter body 1.

A still further modification is shown in Fig. 7 and here the tube 43 is supported in an inset partition 44 formed in the bottom 3 of the lighter body 1 and the disc head 45 and stud 46 with coil spring 47 attached and held in position by the internally threaded bushing 48 formed with the inwardly extending flange 49 on its lower end. The lower end of the tube 43 is threaded at 50 to receive the bushing 48. A kerf 51 is also formed in the lower surface of the head disc 45 whereby a coin (not shown) or other object may be used to rotate the said head disc.

From the foregoing description it will be apparent that the preferred embodiment of the instant invention has been illustrated and described, and it will be understood that it is not intended to limit the scope of the invention thereto, as many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A lighter including a hollow lighter fluid containing body formed with vertically aligned openings through its top and bottom, a flint supporting tube formed with a vertical offset channel extending throughout its length, insertable through the opening in the bottom of the body adapted to be disposed in said body in axial alignment with said openings and forming a liquid tight seal at its ends with the top and bottom of the body, a removable threaded disc having a central opening fitted in the opening in the bottom of the tube, said disc being formed with pin openings, a rotatable sparking wheel on the top of said body above the opening therethrough and adjacent to the upper end thereof, a flint stick slidably mounted within the tube, a coiled spring

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in said tube in which the flint stick is slidably disposed, the flint stick being extensible through the opening in the top of the lighter body, a follower disposed in said coiled spring, engageable with the inner end of said flint stick, a guide finger extending from the follower and being disposed between the coils of the spring, a rotary member in the lower end of the tube, a stud extending from the rotary member and passing through the opening in the disc, said spring being secured to said stud to rotate therewith, advancing the follower and flint stick to hold the stick in engagement with the sparking wheel.

2. A lighter including a hollow lighter fluid containing body having a filling opening formed with vertically aligned openings through its top and bottom, a flint supporting tube positioned within the lighter body with its ends disposed opposite to the openings in the top and bottom, said tube having a longitudinal groove formed in the wall, a rotary disc closing the lower end of the tube, said disc having a central opening, a tensioning disc head mounted in the opening in the bottom of the lighter fluid containing body, a stud extending from the disc head and passing through the opening of said disc, a coiled spring mounted within the tube, the lower end of the spring being secured to said stud whereby said spring is rotated, a follower mounted within the coiled spring, a guide finger extending from the follower, said finger being disposed between the coils of the spring urging the follower longitudinally of the spring, as the spring is rotated, a flint stick supported within the coiled spring and resting on the follower whereby the flint stick is moved with the follower, and said disc and disc head having registering openings, a closure disc normally closing the filling opening, spaced pins extending from the closure disc, said pins adapted to be inserted in the registering openings of the disc closing the lower end of the tube and disc-head, whereby the disc of the lower end of the tube and disc-head may be rotated and removed.

STANLEY RODAK.

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