Nov. 14, 1950 C. A. FORTIN 2,530,328

POCKET LIGHTER

Filed March 18, 1950

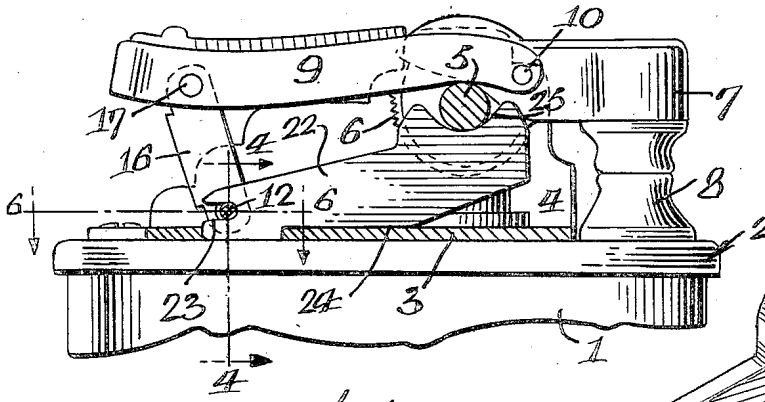

Fig. 1

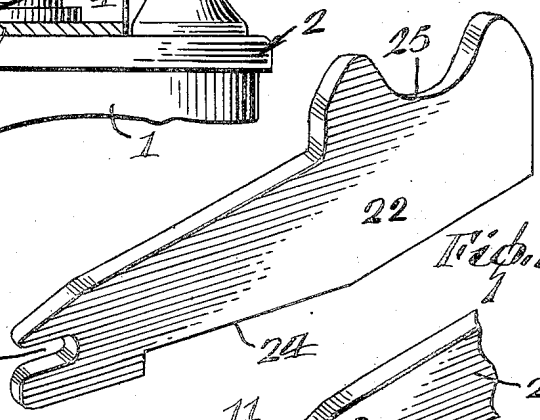

Fig. 2

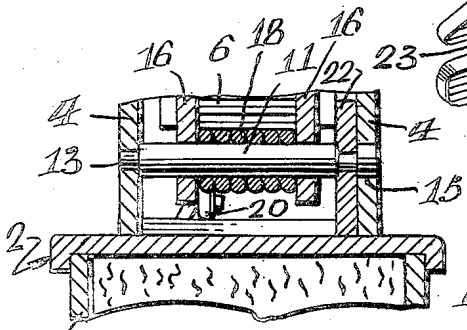

Fig. 4

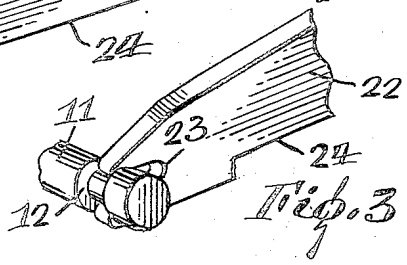

Fig. 3

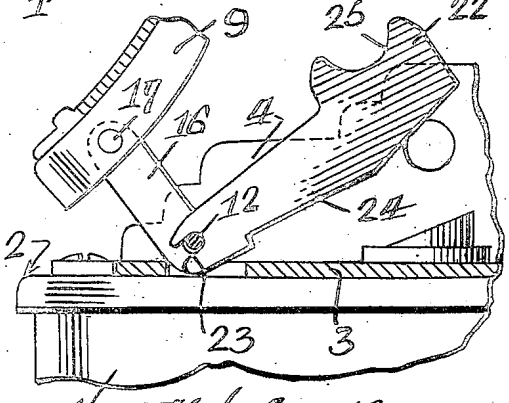

Fig. 5

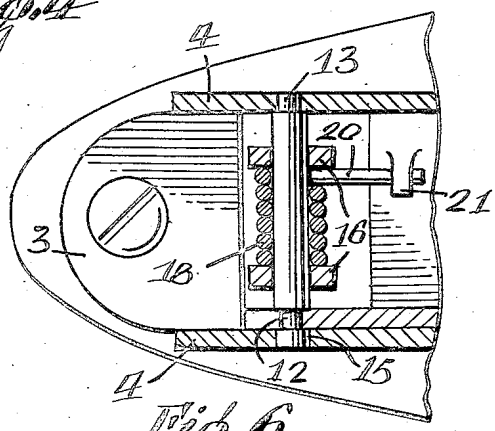

Fig. 6

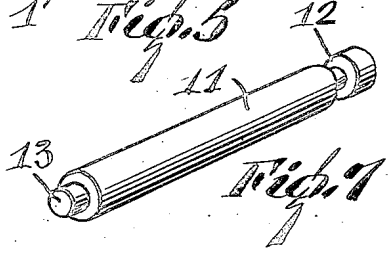

Fig. 7

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## POCKET LIGHTER

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Application March 18, 1950, Serial No. 150,359

5 Claims. (Cl. 67—7.1)

1

The present invention pertains to a novel pocket lighter for smokers, and especially of the type wherein the tension spring for the operating lever is mounted on an axle.

In previous constructions, the axle is mounted in such a manner that it must be destroyed for removal in replacing the spring. The object of the present invention is to provide a construction that does not require destruction of the axle, so that it may be used again after the repair has been made.

Another object is to provide for easy removal of the axle, without laborious mechanical operations and without tools. Still another object is to provide a simple and inexpensive construction having the properties set forth.

In the accomplishment of these objects, the axle is slidably mounted in the side plates of the top structure, such that it is readily removable therefrom. The axle is held against sliding by means of an arm having a forked end interlocked with a groove in the axle. The other end of the arm has a seat that receives the main shaft, whereby the arm is maintained in locking position.

In making a repair on a lighter, it is custommary first to remove the main shaft. Thereupon the locking arm is freed, and the axis can be withdrawn to release the spring. After the repair has been made, the top structure is re-assembled with the same axle.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a side elevation of the construction, partly in section;

Figure 2 is a perspective view of the axle locking plate;

Figure 3 is a detail of Figure 2, showing also the tension axle;

Figure 4 is a section on the line 4—4 of Figure 1;

Figure 5 is a side elevation showing a different position of parts;

Figure 6 is a section on the line 6—6 of Figure 1; and

Figure 7 is a perspective view of the axle.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown the body 1 of a pocket lighter surmounted by a top assembly 2 including a top plate 3. Two side plates 4 in the top assembly support a main shaft 5 on which is mounted the usual friction wheel 6 for sparking

2

the flint. A cap 7 for the wick tube 8 is operated by an operating lever 9 which is joined to the cap at 10 and rests on the shaft 5, as shown in Figure 1.

Below the free end of the lever 9, the plates 4 support a tension axle 11 which, in this case, has a special construction. Near one end is formed a groove 12, for a purpose presently to be described, while the other end is reduced at 13 for insertion in the adjacent plate 4. The end next to the groove 12 is of normal diameter and received in an aperture 15 in the remaining plate 4. Thus, the axle may be inserted and withdrawn through this aperture. The means for holding the axle against sliding will presently be described.

A U link 16 secured on the axle 11 is pivoted at 17 to the operating lever 9. A coil spring 18 surrounding the axle has one end secured to axis 17 and the other end extended at 20 and hooked at 21 in the plate 3, as shown in Figure 6. The purpose of the spring is to normally hold the lever 9 elevated.

For holding the axle 11 from sliding, there is provided a plate or arm 22 having a forked end 23 that straddles the axle at the groove 12. The arm has a straight lower edge 24 that rests on the plate 3, and its remaining end is formed with a seat 25 that receives the shaft 5. Thus, the axle 11 cannot be removed until the shaft 5 is removed.

In prior constructions, the axle is mounted in such a manner that it must be destroyed for removal when the spring 18 must be replaced. The present invention obviates this necessity.

In dismantling the lighter for any repair, the main shaft 5 is usually removed. When this is done, the arm 22 is released at its upper end, as in Figure 5, and can be withdrawn from the axle 11, whereupon the axle can be removed through the aperture 15 as previously indicated. On replacement of the spring, the same axle may be used, and the remainder of the top structure assembled.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:

1. In a pocket lighter, a top plate, a pair of side plates thereon, a main shaft mounted in said side plates, a wick cover on said shaft, an operating lever pivoted to said cover, an axle mounted

in said side plates below the free end of said lever, links joining said axle to said lever, a spring surrounding said axle and having one end secured to said top plate, one of said side plates having an aperture receiving an end of the axle and of a size to receive the maximum diameter of the axle, the other end of the axle being slidably received in the remaining side plate, said axle having a groove, and a locking arm having one end fitted in said groove and its other end fitted to said shaft.

2. In a pocket lighter, a top plate, a pair of side plates thereon, a main shaft mounted in said side plates, a wick cover on said shaft, an operating lever pivoted to said cover, an axle mounted in said side plates below the free end of said lever, links joining said axle to said lever, a spring surrounding said axle and having one end secured to said plate, one of said side plates having an aperture receiving an end of the axle and of a size to receive the maximum diameter of the axle, the other end of the axle being slidably received in the remaining side plate, said axle having a groove, and a locking arm having one end forked and interlocked with said axle at said groove and its other end fitted to said shaft.

3. In a pocket lighter, a top plate, a pair of side plates thereon, a main shaft mounted in said side plates, a wick cover on said shaft, an operating lever pivoted to said cover, an axle mounted in said side plates below the free end of said lever, links joining said axle to said lever, a spring surrounding said axle and having one end secured to said plate, one of said side plates having an aperture receiving an end of the axle and of a size to receive the maximum diameter of the axle, the other end of the axle being slidably received in the remaining side plate, said axle having a groove, and a locking arm having one end forked and interlocked with said axle at said groove and its other end formed with a seat receiving said shaft.

4. In a pocket lighter, a top plate, a pair of side plates thereon, a main shaft mounted in said side plates, a wick cover on said shaft, an operating lever pivoted to said cover, an axle mounted in said side plates below the free end of said lever, links joining said axle to said lever, a spring surrounding said axle and having one end secured to said top plate, one of said side plates having an aperture receiving an end of the axle and of a size to receive the maximum diameter of the axle, the other end of the axle being reduced and slidably received in the remaining side plate, said axle having a groove, and a locking arm having one end fitted in said groove and its other end fitted to said shaft.

5. In a pocket lighter, a top plate, a pair of side plates thereon, a main shaft mounted in said side plates, a wick cover on said shaft, an operating lever pivoted to said cover, an axle mounted in said side plates below the free end of said lever, links joining said axle to said lever, a spring surrounding said axle and having one end secured to said plate, one of said side plates having an aperture receiving an end of the axle and of a size to receive the maximum diameter of the axle, the other end of the axle being reduced and slidably received in the remaining side plate, said axle having a groove, and a locking arm having one end forked and interlocked with said axle at said groove and its other end fitted to said shaft.

CHARLES AIMÉ FORTIN.




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