

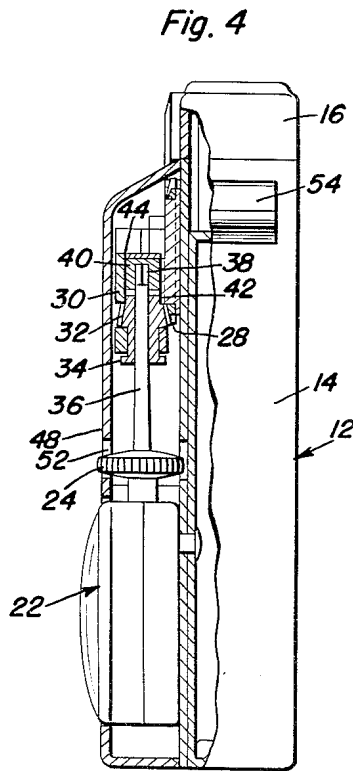
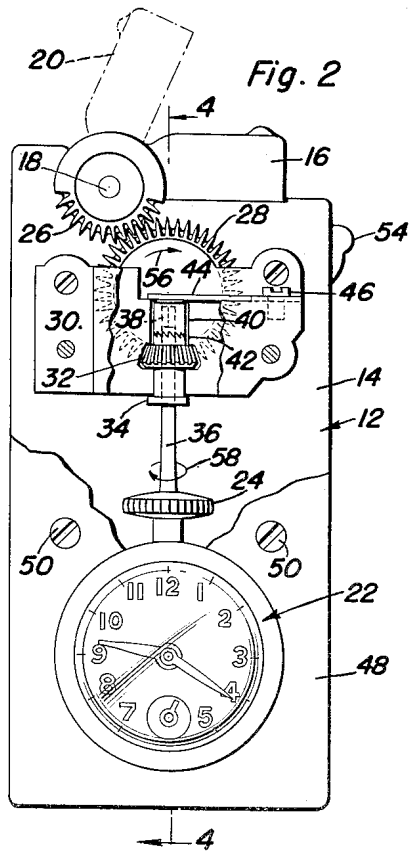
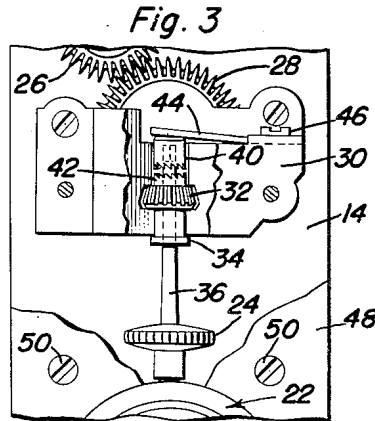
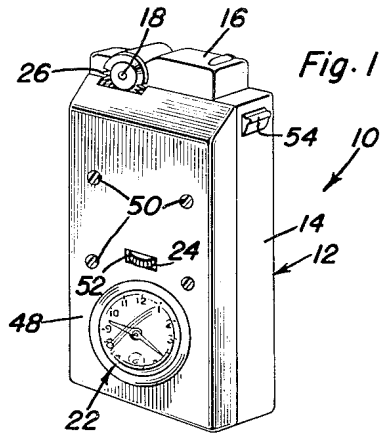
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2,577,679

COMBINED LIGHTER AND WATCH

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COMBINED LIGHTER AND WATCH

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1 Claim. (Cl. 58—80)

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This invention relates to new and useful improvements and structural refinements in pyrophoric pocket lighters and pocket watches, the principal object of the invention being to combine a watch with a lighter in such manner that the watch is wound each time the lighter is actuated.

This object is achieved by mounting a watch on the housing of a lighter and providing an operative connection between the usual oscillatory snuffer cap of the lighter and the winding crown of the watch.

An important feature of the invention resides in the provision of means for automatically disconnecting the operative connection between the lighter and the watch when the winding crown of the watch is used for time setting.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient and dependable operation, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the invention;

Figure 2 is a front elevational view thereof, this being partially broken away so as to reveal its construction;

Figure 3 is a fragmentary view, similar to that shown in Figure 2, but with the mechanism disengaged, and

Figure 4 is a vertical sectional view, taken substantially in the plane of the line 4—4 in Figure 2.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a combined lighter and watch which is designated generally by the reference character 10 and embodies in its construction a conventional pyrophoric lighter 12 including a housing 14 and a snuffer cap 16 which is swingable about a fulcrum 18 from its closed position shown by full lines to an open position shown by dotted lines 20 in Figure 2.

A conventional watch 22 is secured in any suitable manner to the housing 14 of the lighter 12 and includes a rotatable winding crown 24 which, when pulled upwardly, may also be used for time setting the watch.

The essence of novelty in the invention resides in the provision of a mechanism for operatively connecting the lighter to the watch, this mechanism including a toothed segment 26 mounted on the fulcrum 18 for oscillation with the snuffer cap 16, the segment 26 meshing with a combined bevel and spur gear 28.

The gear 28 is rotatably mounted in a suitable bracket 30 secured to the lighter housing 14 and meshes with a bevel pinion 32 which is rotatable in the bracket 30 and is provided with a flange or shoulder 34 to prevent its axial shifting movement.

A stem 36, secured to the winding crown 24, is rotatable and slidable in the pinion 32 and has a polygonal upper end portion 38 secured in an overrunning clutch member 40. A coacting clutch member 42 is provided integrally on the pinion 32, and a leaf spring 44, secured to the bracket 30 by a screw 46, bears against the upper end of the clutch member 40 so as to urge the same into engagement with the clutch member 42.

A suitable case 48 is secured by the screws 50 to the lighter housing 14 so as to cover the watch 22 and the actuating mechanism already described, it being noted that the case 48 is provided with a recess or an opening 52 through which a portion of the crown 24 projects outwardly, so that the crown may be rotated for winding as well as pulled upwardly and rotated for time setting.

The lighter 12 is actuated in a conventional manner by depressing an actuating member 54 on the housing 14, this causing the snuffer cap 16 to swing upwardly to open position while the igniting mechanism (not shown) is energized. During this action the gear 28 is rotated in the direction of the arrow 56 (see Figure 2) and the interfitting serrations or teeth on the coacting clutch members 40, 42 are cut in such manner that rotation of the clutch member 42 simply lifts the clutch member 40 upwardly against the resiliency of the spring 44, and no rotation is imparted to the stem 36 and the winding crown 24.

However, when the snuffer cap 16 is swung downwardly so as to extinguish the lighter, the gears 26, 28 and 32 rotate the clutch member 42 in a relatively opposite direction, that is, in the direction of the arrow 58 in Figure 2, which rotational movement is transmitted to the clutch member 40 and through the stem 36 to the winding crown 34 so that the watch is wound each time the snuffer cap 16 is pressed to its closed position.

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When it is desired to time set the watch, the crown 24 is pressed upwardly, which movement lifts the stem 36 and the clutch member 40 against the resiliency of the spring 44, thus disengaging the clutch member 40 from the clutch member 42 and permitting the crown 24 to be rotated for time setting without imparting any movement to the clutch member 42 and the pinion 32.

It is noted that the watch 22 used in the invention is preferably of the type which has conventional built-in mechanism for preventing the watch from over winding. In other words, when the watch is fully wound, the crown 24 may still be rotated by closing of the snuffer cap 16, without injuring or over winding the watch spring.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

The combination of a pyrophoric lighter including a housing and a snuffer cap swingable in opposite directions on said housing between closed and open positions, a watch carried by the housing and including a rotatable and slidable winding and time setting crown, and an operative connection provided between said snuffer

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cap and said crown, said connection including a toothed segment operated by said snuffer cap, a combined bevel and spur gear driven by said segment, a pinion driven by said gear, a stem secured to said crown, an overrunning clutch member secured to said stem, a cooperating clutch member fixed to said pinion, said overrunning clutch member being disengageable from said cooperating clutch member by axial shifting of the stem as when the crown is manually shifted for hand setting, and a leaf spring bearing against said overrunning clutch member and biasing the same into engagement with the cooperating clutch member, whereby said crown may be intermittently rotated in one direction only to wind said watch by successive swinging movements of said cap and whereby the watch hands may be set when the clutch members are disengaged.

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