PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Pyrophoric Lighters.

I, GASTON BOBILLIER, a Swiss Citizen, of 85, Hatton Garden, London, E.C.1, do hereby declare the nature of this invention to be as follows:—

This invention consists in improvements in or relating to pyrophoric lighters in which a watch is carried in a side wall of the case of the lighter.

According to the present invention, such a lighter is characterised in that a key-hole slot extends inwardly from one edge of an end wall of the case to receive in it the winding stem of the watch. The winding stem has two portions of different diameters, the smaller portion only of which will pass through the entrance neck of the slot and, when the watch is in place, the portion of larger diameter will be presented to the neck of the slot and will be received within the larger inner end thereof.

Thus, with the watch in this position, the stem cannot be drawn outwardly through the neck of the slot by a straight pull.

Preferably, the portion of smaller diameter will be in a position to pass through the neck only when the stem is raised as, for example, to a position which in some winders is necessary for setting the hands of the watch.

On the other hand, the dimensions of the portions of larger and smaller diameter lengthwise of the winding stem may be such that, having regard to the relationship of the recess in which the watch fits, and the distance from it of the key-hole slot, the portion of smaller diameter can be brought to register with, and pass through, the neck of the slot by tilting the watch instead of, or in addition to, raising the same in the manner above mentioned. Similarly, in order to insert the watch in position, the portion of smaller diameter is first introduced through the neck of the slot by tilting the watch and thereafter the watch is swung downwardly into the recess in the wall of the lighter casing.

The term "key-hole slot" is intended to refer to any slot having a relatively narrow entrance neck which opens into an inner end portion of greater width.

The invention also comprises a combined lighter and watch, wherein a depression is formed inwardly from a side wall of the case and is of such dimension as to receive the body of the watch snugly within it. Conveniently, the winding stem is received in an end wall adjacent the recess in the manner above described. The depression in the side wall of the case may be formed by first making a hole in the side wall, the outline of which will conform to the outline of the watch case, and then brazing or soldering or otherwise securing within the hole a shallow tray of corresponding configuration. The fitting of the watch within the recess is preferably a light jamming fit.

The invention also comprises a combined lighter and watch wherein the watch is let into one side wall of the case and between the back of the watch, or the base of a depression in the wall of the case in which the watch is received, and an opposed wall of the case, there is a fuel space, for example, a space suitable for the accommodation of an absorbent material to be impregnated with a liquid fuel.

The end wall in which the key-hole slot is formed is preferably that on which the co-operating portions of the pyrophoric ignition device is mounted. The winding stem of the watch is, in the examples described above, of the type which is pulled outwardly from the case of the watch in order to set the hands, and in order to engage the winding train it must be again moved inwardly. As the inward position is the normal position for the winding stem it will be appreciated that the watch will be retained in position owing to the fact that the larger portion of the winding stem is received within the inner end of the key-hole slot and is unable to pass through the entrance neck.

The watch case itself may have secured to it, if desired, a flange to overlie the outer surface of the side wall of the case and thereby give to the article a better finish than would be the case if the flange were omitted.

By spacing the back of the watch or the back wall of the watch recess from the

[Price 1/-]

inner surface of the opposed wall a space is provided extending completely through the lighter case into which the absorbent material can be charged. Hitherto, when a watch has been combined with a lighter it has generally been the custom to so set the watch in the case that the latter is divided into two compartments and, consequently, only a small quantity of fuel or absorbent material therefor could be accommodated. By the present invention this accommodation is greatly increased.

Instead of the usual disc-like winding knob, the latter may be replaced by a winding handle hinged to the head of the winding stem so that it will lie flat over the end wall of the casing and may be held more or less in position by a part of the ignition device that is normally moved away from, or swung relatively to, the end of the casing in the operation of the ignition device.

Dated this 17th day of March, 1930.
BOULT, WADE & TENNANT,
111 & 112, Hatton Garden,
London, E.C.1,
Chartered Patent Agents.

COMPLETE SPECIFICATION.

Improvements in or relating to Pyrophoric Lighters.

I, GASTON BOBILLIER, a Swiss Citizen, of 85, Hatton Garden, London, E.C.1, 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:—

This invention consists in improvements in or relating to pyrophoric lighters of the type in which a watch is carried in a side wall of the case of the lighter.

In one form according to the present invention a lighter of the type described is characterised in that a key-hole slot extends inwardly from one edge of an end wall of the case to receive in it the winding stem of the watch, said stem having two portions of different diameter, the smaller portion only of which will pass through the entrance neck of the slot, and, when the watch is in place and the stem retracted, the portion of larger diameter will be presented to the neck of the slot and will be received within the larger inner end thereof.

Thus, with the watch in this position the stem cannot be drawn outwardly through the neck of the slot by a straight pull.

Preferably the portion of smaller diameter will be in a position to pass through the neck only when the stem is raised, as, for example to a position which in some winders is necessary for setting the hands of the watch.

The term " key-hole slot " is intended to refer to any slot having a relatively narrow entrance which opens into an inner end portion of greater width.

In a modified form of the invention a pyrophoric lighter of the type described has a watch whereof the winding stem extends through a slot or aperture in an end wall of the casing, a winding handle pivoted to the stem and capable of swinging towards the end wall into an inoperative position (for example, to lie flat on the end wall) and a retainer (for example, the arm of the ignition device when retained in its cocked position) to prevent the handle from moving unintentionally from its inoperative position to its operative position.

In order that the invention may be more clearly understood, two examples of a lighter according to the present invention will now be described with reference to the accompanying drawings in which:—

Figure 1 is a front elevation of the lighter showing the winding handle raised to its operative position;

Figure 2 is a plan of Figure 1 showing the winding handle lowered to its inoperative position with the ignition device in the cocked position.

Figure 3 is a vertical section along the lines 3—3 of Figure 2;

Figure 4 is an enlarged view in perspective of the winding stem and slot therefor as shown in Figures 1 and 2.

Figure 5 is an enlarged view in perspective of a modified form of securing the winding stem of the watch in the casing.

Like reference numerals refer to like parts throughout the several figures.

A lighter 6 has mounted on an end wall 7 a pyrophoric ignition device comprising a spring urged arm 8, carrying a steel wheel and a catch 9 for retaining the arm and steel in their cocked position. The lighter casing 6 has a depression formed inwardly from a side wall of the case and of such dimension as to receive the body of a watch 10 snugly within it.

Conveniently as shown in the drawings the winding stem 11 of the watch is received in the end wall 7. The depression

in the side wall of the case may be formed by first making a hole in the side wall, the outline of which will conform to the outline of the watch case, and then brazing or soldering or otherwise securing within the hole a shallow tray 12 of corresponding configuration. The lower side wall of the tray 12 is preferably bellied as at 13 on figure 3, to grip more positively the side of the watch 10. The fitting of the watch within the recess is preferably a tight jamming fit.

One way of mounting the watch on the lighter is shown in Figures 1 to 4. The winding stem of the watch is, in this case of the type which is pulled outwardly from the case of the watch in order to set the hands, and in order to engage the winding train it must again be moved inwardly.

The casing 6 is provided with a slot 14 extending from the top of the recess to the end wall 7 of the casing. The width of this slot is just sufficient to receive the portion 11 of the winding stem. The end wall is provided with a key hole slot, the narrow entrance neck being of the same width as the slot 14, and the inner end portion 15 being of greater width and large enough to receive the enlarged portion 16 of the winding stem.

To fix the watch in the casing 6, the winding stem is pulled outwardly from the watch so that the enlarged portion 16 of the stem will be clear of the end wall 7. The watch is then placed in the recess and the portion 11 of the winding stem fitted into the narrow slot 14. When the watch is in position, the winding stem is pressed inwardly into its normal position, and the portion 16 into the inner end portion 15 of the keyhole slot. It will be appreciated that the watch will be retained in position owing to the fact that the enlarged portion 16 of the winding stem is received within the inner end of the keyhole slot and is unable to pass through the entrance neck 14.

In figure 4 the winding stem is shown pulled outwardly so that the portion 16 is clear of the end-wall 7. When the stem is in this position it is possible to remove the watch from the casing.

A winding handle 17 is pivoted to the end of the winding stem. In figures 1, 4 and 5 this handle is shown raised and in its operative position. In figures 2 and 3 the handle 17 is shown lying flat on the end wall 7 in its inoperative position with the arm 8 retained in its cocked position, so that until this arm 8 is released it is not possible to raise the handle 17 sufficiently to wind the watch.

In figure 5 there is shown a modified form of mounting the watch in the casing. In this case the winding stem 111 is of the same diameter throughout, and is merely passed through an aperture in the end wall 7 of the casing.

It will be seen from figure 3 that the back wall of the watch recess 12 is spaced from the inner surface of the opposed wall of the casing 6, thus providing a space extending completely through the lighter case into which the absorbent material can be charged.

If desired, a small screw-driver 18 may be provided on the inner end of the plug 19 of the fuel receptacle for setting the screw which enters the container from the bottom flat face thereof and which regulates the compression of the spring holding the flint against the roughened steel wheel.

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:—

1. A pyrophoric lighter of the type described, characterised in that a keyhole slot extends inwardly from one edge of an end wall of the case to receive in it the winding stem of the watch, said stem having two portions of different diameter, the smaller portion only of which will pass through the entrance neck of the slot, and, when the watch is in place, and the stem retracted, the portion of larger diameter will be presented to the neck of the slot and will be received within the larger inner end thereof.

2. A pyrophoric lighter according to Claim 1, wherein the portion of smaller diameter will be in a position to pass through the neck only when the stem is raised (for example, to a position which in some winders is necessary for setting the hands of the watch).

3. A pyrophoric lighter of the type described or according to either of the preceding Claims and having a watch whereof the winding stem extends through a slot or aperture in an end wall of the casing, a winding handle pivoted to the stem and capable of swinging towards the end wall into an inoperative position (for example, to lie flat on the end wall) and a retainer (for example, the arm 8 when retained in its cocked position) to prevent the handle from moving unintentionally from its inoperative position into its operative position.

4. A pyrophoric lighter according to Claim 1 or Claim 2 or Claim 3, wherein a depression or recess is formed inwardly from a side wall of the case, and is of

such dimensions as to receive the body of the watch snugly within it (for example, a tight jamming fit).

5. A pyrophoric lighter according to Claim 4, wherein between the base of the depression or recess in which the watch is received and an opposed wall of the case, there is a fuel space, that is, a space suitable for the accommodation of an absorbent material to be impregnated with a liquid fuel.

6. A pyrophoric lighter according to Claim 4, or Claim 5, wherein the depression or recess in the side wall of the case may be formed by first making a hole in the side wall, the outline of which will conform to the outline of the watch case, and then brazing or soldering or otherwise securing within the hole a shallow tray of corresponding configuration.

7. A pyrophoric lighter according to Claim 5 or Claim 6, wherein a portion of a side wall of the depression is bellied out towards the centre thereof to grip the side of the watch when in position.

8. A pyrophoric lighter of the type described constructed and arranged substantially as described with reference to Figures 1, 2, 3 or the modification in Figure 4 of the accompanying drawing.

Dated this 17th day of December, 1930.
BOULT, WADE & TENNANT,
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London, E.C.1,
Chartered Patent Agents.

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Fig. 1.

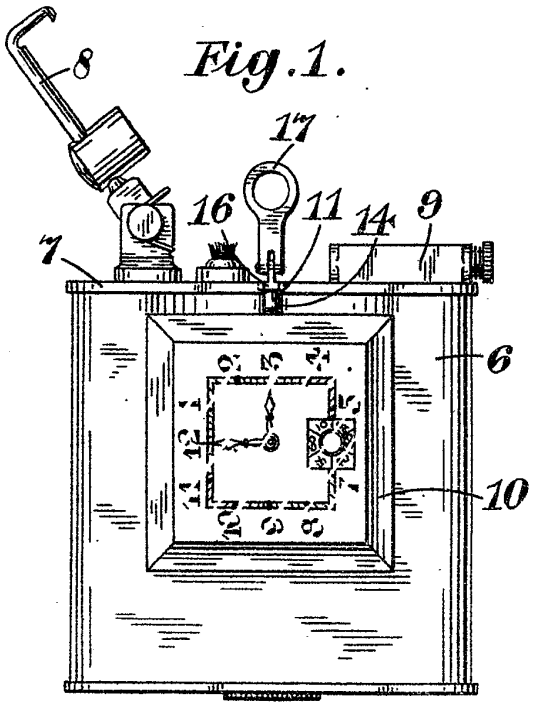


Fig. 3.

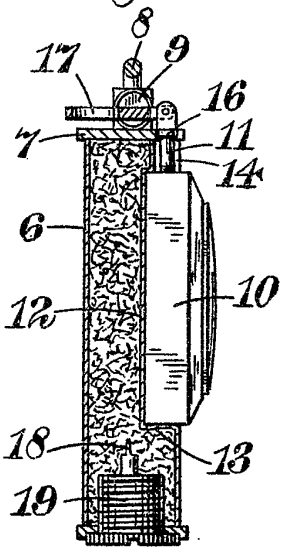


Fig. 2.

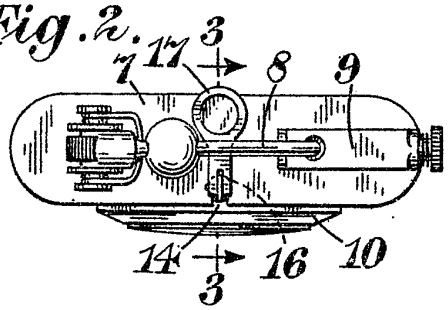


Fig. 4.

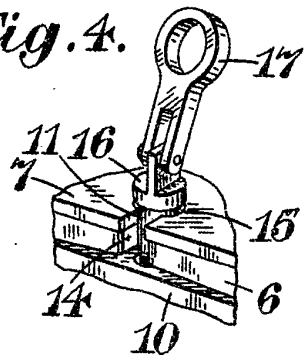
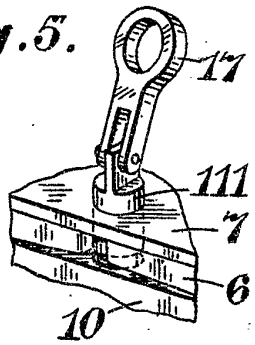


Fig. 5.



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