

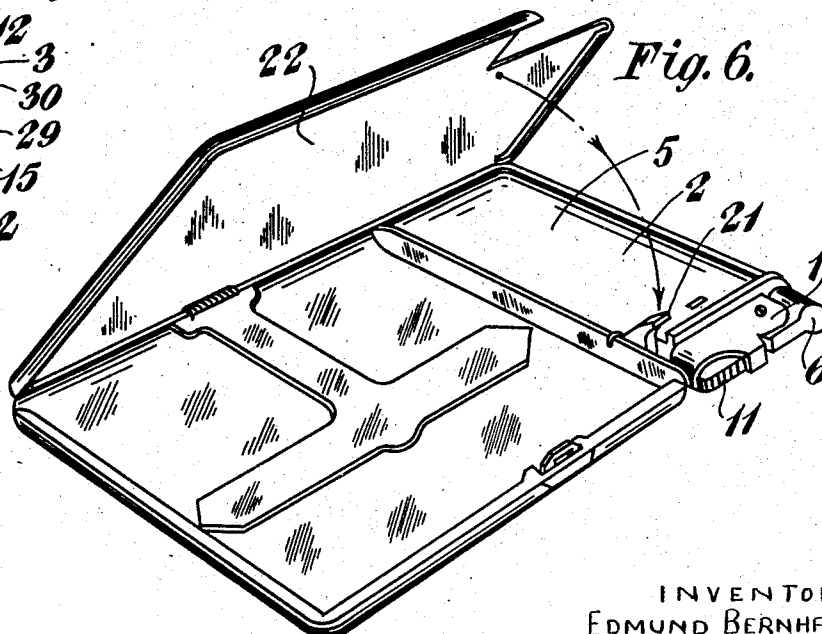
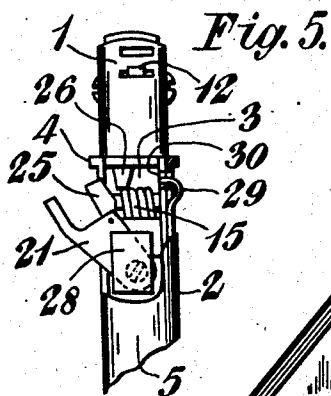
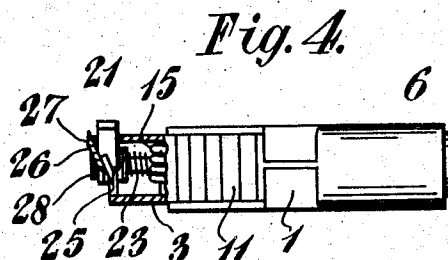
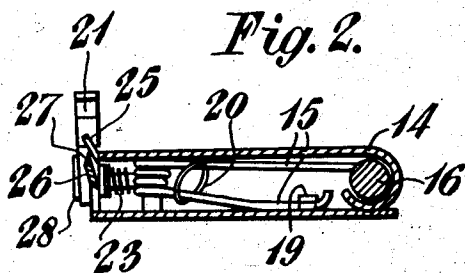
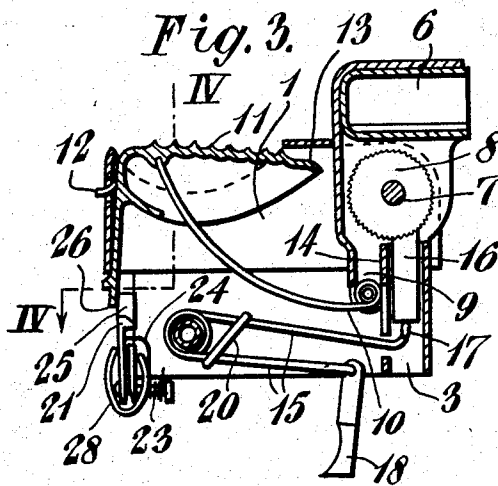
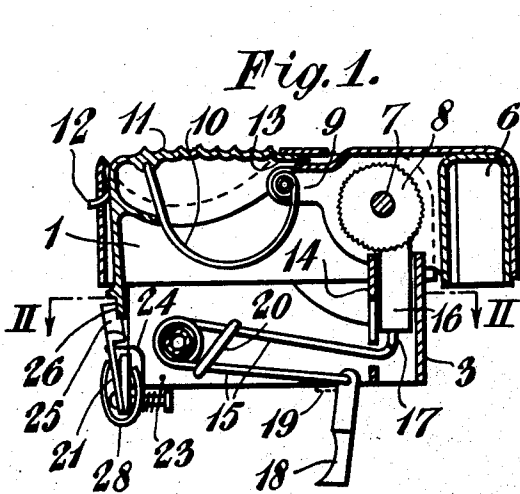
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E. BERNHARDT

2,294,270

CIGARETTE CASE

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## UNITED STATES PATENT OFFICE

2,294,270

## CIGARETTE CASE

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2 Claims. (Cl. 206—41.4)

This invention relates to cigarette cases of the kind having a built-in pyrophoric lighter.

According to the invention in a cigarette case having a built-in pyrophoric lighter means are provided whereby the lighter is automatically ignited upon closing the lid of the case. Preferably a control member is provided which projects into the range of movement of the lid of the case, and adjustably mounted on the lighter the said control member by its displacement brought about by the closing of the lid of the case moving the trigger of the lighter into a position and releasing it for effecting the ignition of the lighter.

In order that the invention may be clearly understood, reference is directed to the drawing filed herewith in which an embodiment of the invention given by way of example is illustrated.

Figure 1 shows in longitudinal section and in the closed position the ignition device of the lighter, constructed for semi-automatic operation, and

Figure 2 a section of the lighter along line II—II of Fig. 1.

Figure 3 shows the ignition device of the lighter after the actuation of the trigger, that is to say, after the ignition of the wick not shown, while

Figure 4 shows a section on its line IV—IV of Fig. 3.

Figure 5 shows in elevation part of one end of a lighter, while

Figure 6 illustrates in perspective view a cigarette case opened complete with the inserted or built-in lighter.

The ignition device 1 of a lighter 2 is slidably insertable by means of the projecting walls 3 into a suitable recess 4 (Fig. 5) forming part of the top of the petrol container 5. The ignition device 1 is constructed in a manner known in itself and consists of the wick cap 6 which can be rotated around an axis 7 upon which axis the friction wheel 8 is rotatably mounted in a known manner. A projection 9 on the cap 6 engages a spring 10, which is fastened at its other end to a trigger 11. The trigger 11 can be swung about a pin 12 and co-operates with the projection 9 of the cap 6 through the intermediary of the end 13 of the trigger. The guide and pressing means 14 and 15 for the flint are fitted between the walls 3. The pressing means for the flint consists of a wire spring 15 one end 17 of which rests against the flint 16, and the other end against the abutment 19, it being possible by means of a handle 18 to remove the

spring when it is desired to release the flint 16 by lifting it off an abutment 19. In order to prevent the two straight ends of the spirally wound wire spring 15 spreading too far apart under the influences of the elastic forces thereof, a tensioning ring 20 is provided which, when the end of the spring is lifted away from the abutment 19, so that the end of the spring 17 pressing against the flint 16 is released, keeps the two ends thereof in suitable relative position.

Between the walls 3 of the ignition device 1 a control member 21 is adjustably mounted to project into the range of movement of the lid 22 of a cigarette case and by its displacement caused by the closing of the lid of the case, moves the trigger 11 of the lighter 2 into a position to bring about the ignition of the wick of the lighter. The control member in the example illustrated is constructed as a switch lever 21 rotatably fastened to the lighter 2, and which lever is interposed in the path of rotation of the lid 22 of the case by means of a spring 23 having a straight line extension 24 inserted into the switch lever 21. The switch lever 21 has a cam surface 25, with which is associated a guide surface 26 connected with the trigger 11 of the lighter. The cam surface 25 of the switch lever 21 which projects into the arcuate range of movement of the lid of the case and is rotatable by the lid out of this range, is inclined to the direction of rotation by movement of the switch lever 21, as can be seen in particular in Figs. 2 and 4, so that it moves aside the guide surface 26 connected with the trigger 11 of the lighter when the lid of the case is closed, but after the guide surface 26 has been passed over by the cam 25 releases it again, so that the trigger 11 returns to its initial position so that it is possible to repeat the operation, as will be explained in more detail. The switch lever 21 is constructed to move transversely to its direction of rotation, so that after the guide surface 26 has been passed over and been pushed aside, it can pass over to rear side 27 of the latter. For the purpose of returning the switch lever 21 from its position when swung outwardly or transversely to the direction of rotation spring 28 is provided.

The switch lever 21 is, as already explained, mounted on the ignition device, which latter is slidably mounted on the tank casing 5 of the lighter 2 by means of the walls 3. For the purpose of a safe connection of the ignition device 1 with the petrol tank 5, a locking device 29, 30

is provided, in order in particular to avoid an undesirable relative movement between the ignition device 1 carrying the wick cap 6 and the tank casing carrying the burning end of the wick to be sealed by the cap and which movement would prejudice the sealing of the burning end of the wick. The locking device shown is formed by a leaf spring 29 secured to the tank and having an extremity which is insertable in a depression 30 formed in the wall of the ignition device 1. When the lighter 2 is pushed into the cigarette case (see Fig. 6), the leaf spring 29 is pressed into the depression 30, so that a secure connection between the lighter tank and the ignition device is obtained. A reliable connection between these parts is necessary, because the action of the lid 22 on the switching member 21 which takes place every time the device is used, may easily loosen or move the ignition device relatively to the fuel container.

The method of working the device is the following:

When the opened case is closed, that is, when the lid 22 of the case is pressed against the body of the case, the wall of the lid presses upon the switch lever 21, which projects into the rotation range of movement of the lid 22, and displaces the lever, overcoming the force of the spring 23, so that cam surface 25 slides on the inside face of the guide member 26 connected with the trigger 11 and pushes it outwards, so that the trigger reaches the position seen in Fig. 3, and in which it has effected the ignition of the wick in known manner. When the closing of the lid 22 of the case is completed the cam face 25 slides completely over the guide member 26, so that the latter is released and the trigger 11 snaps back into its starting position (Fig. 1) under the action of the spring 10, with the wick cap open (semi-automatic lighter). The case is now completely closed, the wick of the lighter is, however, burning and the cigarette previously removed can be lighted. When the case is completely closed by the lid 22 the switch lever is held housed within the ignition device. After the cigarette has been lighted the wick cap 6 is closed in the manner known. When lid 22 is again opened, the cam face 25 slides outwards along the outer side 27 of the guide 26, under the influence of the force of the spring 23 and the switch lever 21 again takes up the position which can be seen from Figs. 1, 2, 5 and 6. During the opening of the lid 22 the cam face 25 does not slide back over that side of the guide 26 on which it acted during the displacement of the trigger 11, but passes round the guide 26, and completes a closed linear track during the actuation of the case. The sliding back of the cam face 25 along the outer

side of the guide 26 is possible by mounting the switch lever 21 displaceable transversely to the direction of rotation of the lid, and actuation of the spring 28. The switch lever 21 is, however, returned by the spring 28 after its backward movement around the guide 26, into its starting position, from which it can again act on the inner side of the guide 26 and thereby on the trigger 11 when the closing of the case takes place again.

The invention provides a cigarette case having a built-in or removable pyrophoric lighter which ignites automatically on the closing of the lid of the case and provides an arrangement of the simplest construction and accordingly a cigarette case which is particularly reliable in working, the invention is not limited by any particular construction of the ignition device, so that it can be used without considerable alteration with ignition devices of the most varied construction.

What I claim and desire to secure by Letters Patent is:

1. A cigarette case having a built-in pyrophoric lighter, a lid pivotally mounted on said case for movement into and out of closing position, trigger mechanism for actuating said lighter, a displaceable lever having a portion disposed in the path of movement of the lid, said lever and trigger having cooperating cam surfaces whereby the trigger is actuated by the displacement of the lever, the cam surface of the lever being inclined to the direction of movement of said lever whereby it forces away the cooperating surface of the trigger and passes thereover to release the latter, tension means for returning the trigger to its initial position, and manually operable means independent of said lid for operating said trigger mechanism without regard to the position of the lid.

2. A cigarette case having a built-in pyrophoric lighter, a lid pivotally mounted on said case for movement into and out of closing position, trigger mechanism for actuating said lighter, a displaceable lever having a portion disposed in the path of movement of the lid, said lever and trigger having cooperating cam surfaces whereby the trigger is actuated by the displacement of the lever, the cam surface of the lever being inclined to the direction of movement of said lever whereby it forces away the cooperating surface of the trigger and passes thereover to release the latter, tension means for returning the trigger to its initial position, a spring for returning the lever from its displaced position, and manually operable means independent of said lid for operating said trigger mechanism without regard to the position of the lid.

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