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ELECTRIC CIGARETTE LIGHTER

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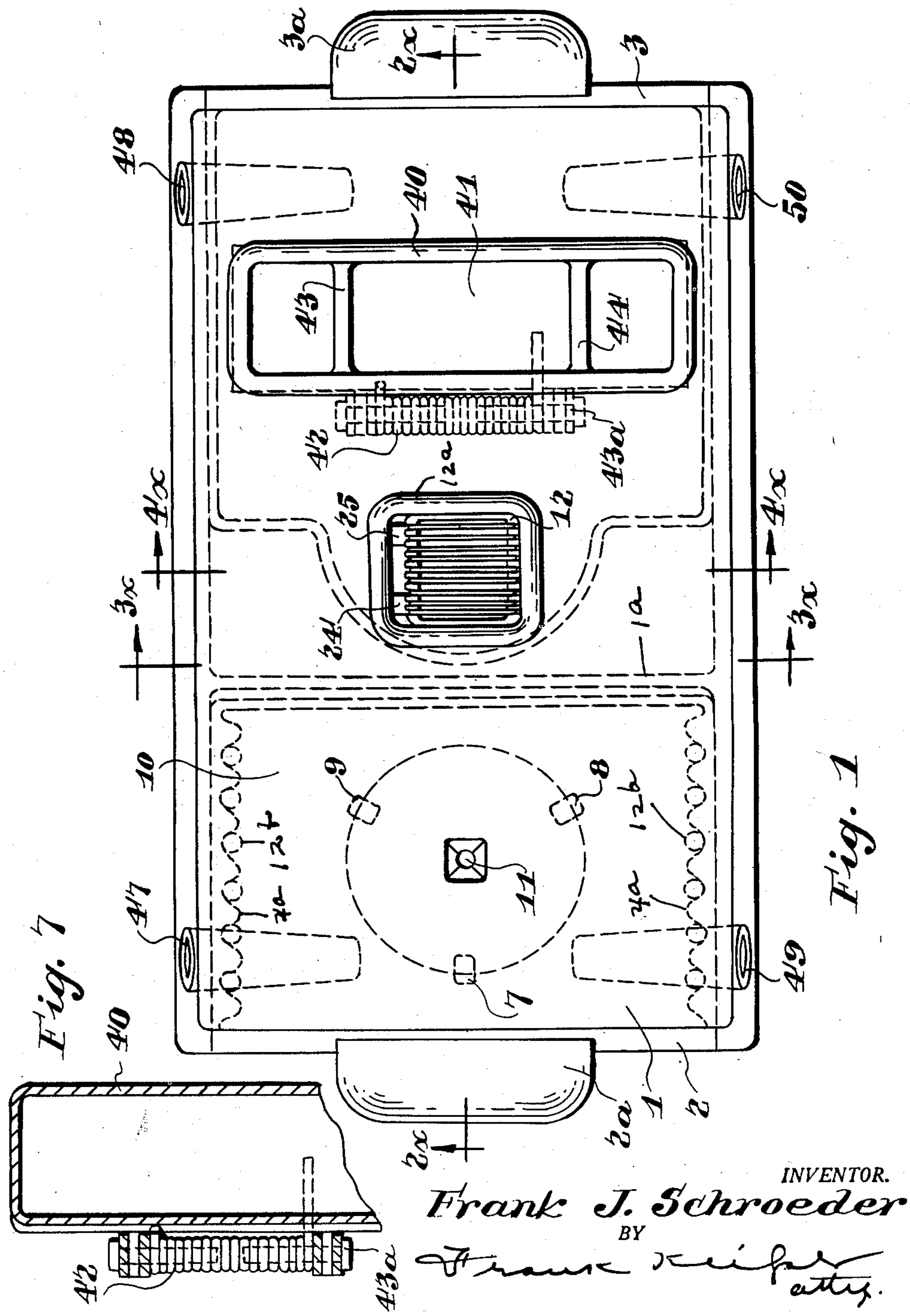

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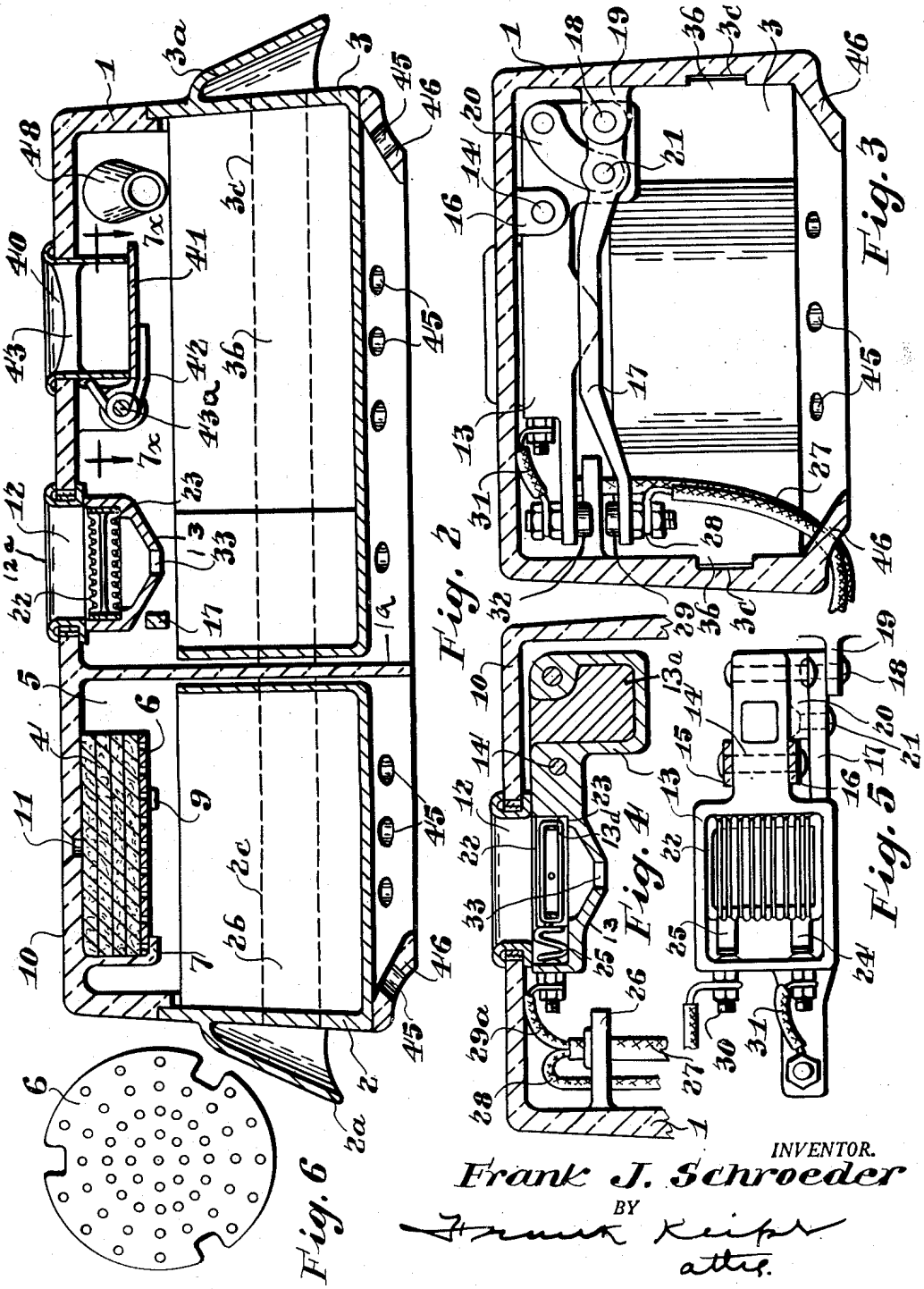

Fig. 6

Fig. 2

Fig. 3

Fig. 4

Fig. 5

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ELECTRIC CIGARETTE LIGHTER

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2 Claims. (Cl. 219—32)

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Cigars and cigarettes are extensively used by smokers. The object of this invention is to provide a receptacle in which cigars and cigarettes may be efficiently kept, which receptacle is in the form of a humidor—that is, it holds the moisture in the cigars and cigarettes placed therein and prevents them from drying out.

Another object of this invention is to provide a hot spot for the purpose of lighting a cigar or cigarette, which hot spot is ordinarily cold but which hot spot is part of an electric circuit, the hot spot being heated by closing the circuit with a very light pressure and a very small movement.

Another object of the invention is to provide a draft of air through the hot spot that will help to light the tobacco of the cigar or cigarette.

Another object of the invention is to provide an ash tray in which the ashes and butts that are produced by the smoking of the cigar or cigarette may be collected and from which they can be easily removed.

Another object of the invention is to provide in the assembly holders for pens and pencils.

These, and other objects of the invention, will be illustrated in the drawings, described in the specification, and pointed out in the claims at the end thereof.

In the drawings Fig. 1 is a top plan view of the assembly of the container for the cigars and cigarettes and the humidor, the lighter, the ash tray, and the pen and pencil holder.

Fig. 2 represents a section on the line 2*x*2*x* of Fig. 1.

Fig. 3 represents a section on the line 3*x*3*x* of Fig. 1.

Fig. 4 represents a section on the line 4*x*4*x* of Fig. 1.

Fig. 5 is a top plan view of the lighting mechanism.

Fig. 6 is a top plan view of the perforated plate which supports the absorbent material in the humidor.

Fig. 7 is a section on the line 7*x*7*x* of Fig. 1 showing the spring supported trap door that is placed above the ash receptacle.

In the drawings reference numeral 1 indicates the box or housing in which the various elements of the combination are assembled. This housing is divided into 2 compartments by the partition 1*a*. In the one compartment is a sliding drawer, 2, adapted to hold the cigars or cigarettes and in the other compartment is a sliding drawer, 3, adapted to hold ashes. On these drawers are placed the handles 2*a* and 3*a* respectively. The ends of the drawers are corrugated on the inside as shown in Fig. 1 at 4*a* and at the bottom of the drawer in each recess in the corrugations is provided a hole 12*b* for ventilation. The drawer is that wide on the inside so that the ends of a cigarette can cover one hole but can not close the corresponding hole on the opposite side

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of the drawer. On the drawers are tongues or slides 2*b* and 3*b* that engage in and slide in the grooves 2*c* and 3*c* formed in the housing. As shown at the left in Fig. 2 a humidor, 4, is provided in which several layers of material is provided that will absorb water, which material is kept sufficiently moist so that a damp atmosphere will be maintained in the compartment 5, in which cigars and cigarettes will be kept. Under the layers of the absorbent material is provided a perforated plate, 6, shown in Fig. 6. For the purpose of supporting this plate 6, I provide hook-shaped hangers, 7, 8 and 9, depending from the underside of the cover. Plate 6 is provided with three notches, 120 degrees apart, through which the inturned ends of the hooks 7, 8 and 9 can pass. By elevating the plate 6 and then giving this plate a slight angular turn after it is in the position shown in Figs. 1 and 2, the hooks securely engage the underside of the plate and support the plate 6 together with the absorbent layers thereon.

The cover 10 is provided with an opening 11 through which water may be placed on the layers of absorbent material for the purpose of keeping them moist.

In the central part of the assembly is provided an opening 12, protected by a square ring 12*a*, under which is placed a lever 13 of the first class which lever 13 is pivotally mounted on an arbor or bearing 14 which arbor is supported from two lugs 15 and 16 depending from the cover.

Below the lever 13 is placed an arm 17 which is pivotally mounted at 18 on a lug 19 supported from the housing. Connecting the arm 17 and the lever 13 a link 20 is provided so that when the right hand end of lever 13 moves up the arm 17 moves up with it and when the right hand end of the lever 13 moves down the left hand end of the arm 17 moves down with it. The arm 17 is a lever of the second class. The link 20 is pivotally connected to the arm 17 near the pivot 18 on which the arm 17 swings, therefore the left hand end of the arm 17 will move seven or eight times as far as does the pivot 21 to which the link 20 is connected. The parts are so proportioned that the left-hand end of the arm 17 as shown in Figure 3 will move about $\frac{3}{32}$ of an inch more or less.

In the lever 13 is formed a downwardly extending casing 13*d* in which is formed a seat 23 on which rests a rectangular frame 22. On this frame 22 a resistance wire is wound that is heated for the purpose of lighting cigars or cigarettes. At the left hand of this seat as shown in Figure 5 is provided two spring contacts 24 and 25. These spring contacts snugly bear against the two ends of the resistance wire wound around the frame 22 so that under proper conditions current will flow through the wire on the frame 22 and heat the wire. The opposite edges of the

frame 22 are cut away to form teeth and grooves like the teeth on a rack with spaces between them in which spaces or grooves the resistance wire is wound.

When the left-hand end of the lever 13 goes down the left-hand end of the lever 17 goes up and this movement of the two elements 13 and 17 closes the circuit that heats the resistance wire on plate 22 in a manner that will now be described.

On the left-hand side of Figures 3 and 4 is shown a lug 26 which supports the cable 27 that carries the two wires 28 and 29*a*. One of these wires, 28, is connected to the contact 29 on the arm 17 and the other wire, 29*a*, is connected to the contact 30 on the lever 13 which in turn is connected to spring 25. The spring 24 is connected by the wire 31 to the contact 32. When a cigarette is pushed down on the grid or wire or on the rectangular frame 22 it moves it about 1/100 of an inch more or less and pushes the contact 32 down and through the movement of the lever 13 and the lever 17 is raised at the left hand end, bringing the contact 29 up at the same time and the two contacts 32 and 29 come together and close the circuit that causes the wire on the rectangular frame to heat up. A very light touch of the cigarette or cigar on the grid is sufficient to close the circuit. As soon as the wire heats it starts a draft or current of air up through the small opening 33 which helps to burn the tobacco and causes the cigarette or cigar to light that much more easily. If a cigarette is lit a second time the ashes from it will pass down through the opening 33 into the drawer 3.

It will be understood that the frame 13 is evenly balanced on the bearing 14 and the right-hand end of it as shown in Figure 4 is made narrow and heavy so as to counterbalance the left-hand end as shown in Figure 5. Both the lever 13 and the lever 17 are preferably made of a light material such as bakelite and the right-hand end of the lever 13 as shown in Figure 4 is made hollow, or with a pocket therein, in which a piece of lead 13*a* can be placed to counterbalance the left-hand end of lever 13 as shown in Figure 3.

When the wire on the frame 22 burns out the frame 22 can be removed and a new frame substituted for it. It will also be understood that when the parts are once properly connected no adjustments need be made.

At the right-hand end of Figs. 1 and 2 is shown an elongated receptacle 40 into which the ashes of the cigar or cigarette may be dropped. The bottom of this receptacle is closed by a trap door 41 which is normally held in place by the torsion spring 42. Any considerable weight on the door 41 cause it to swing down and drop the contents of the receptacle 40 into the drawer 3. Any moderate weight or pressure is sufficient to cause the door 41 to drop. Across the top of the receptacle 40 are two bars 43 and 44 on which a cigarette of some length can be laid. No springs other than the torsion spring 42 and the contacts 24 and 25 are used.

It will also be understood that the receptacle 40 is formed in one piece with an open bottom and can be removed bodily, independent of the door 41 which is supported from the arbor 43.

In the bottom of the housing is placed the ventilating holes 45 through which air circulates through the chambers of the housing.

On the bottom of the housing is formed a base or foot, 46, which extends all around the bottom of the housing.

Near the ends of the long sides of the housing are placed sockets, four in number, 47, 48, 49 and 50, in which can be placed pencils or penholders.

The drawings show the assembly preferable on an enlarged scale for the sake of clearness. For cigarettes the assembly will be made smaller. For cigars as assembly will be made larger.

I claim:

1. In a cigarette lighter, the combination of a housing, an opening in said housing through which the end of a cigarette can be manually inserted, a frame yieldingly mounted under said opening so that it can be pushed down by a cigarette inserted through said opening, resistance wire wound on said frame, a lever of the first class pivotally mounted under said opening and under said frame by which said frame is supported, a lever of the second class pivotally mounted under the first named lever, a link connecting the short end of the first named lever to the second named lever so that on the downward movement of the free end of the first named lever the free end of the lever of the second class moves up into contact therewith, electrical contacts carried on the free ends of said levers, said contacts being brought together on the movement of either lever toward the other, one end of the resistance wire of the frame being connected in series with the two contacts on said levers, the resistance wire being heated on the movement of the levers and the closing of the contacts by the manual insertion of the cigarette.

2. In a cigarette lighter, the combination of housing, an opening in said housing through which the end of a cigarette can be manually inserted, an electric heating element, a lever of the first class pivotally mounted under said opening and under said element and by which said element is supported, a lever of the second class pivotally mounted under the first named lever, a link connecting the short end of the first named lever to the second named lever so that on the downward movement of the free end of the first named lever the free end of the lever of the second class moves up into contact therewith, electrical contacts carried on the free ends of said levers, said contacts being brought together on the movement of either lever toward the other, said heating element being connected in series with the two contacts on said levers, the heating element being heated on the movement of the levers and the closing of the contacts by the manual insertion of the cigarette.

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