

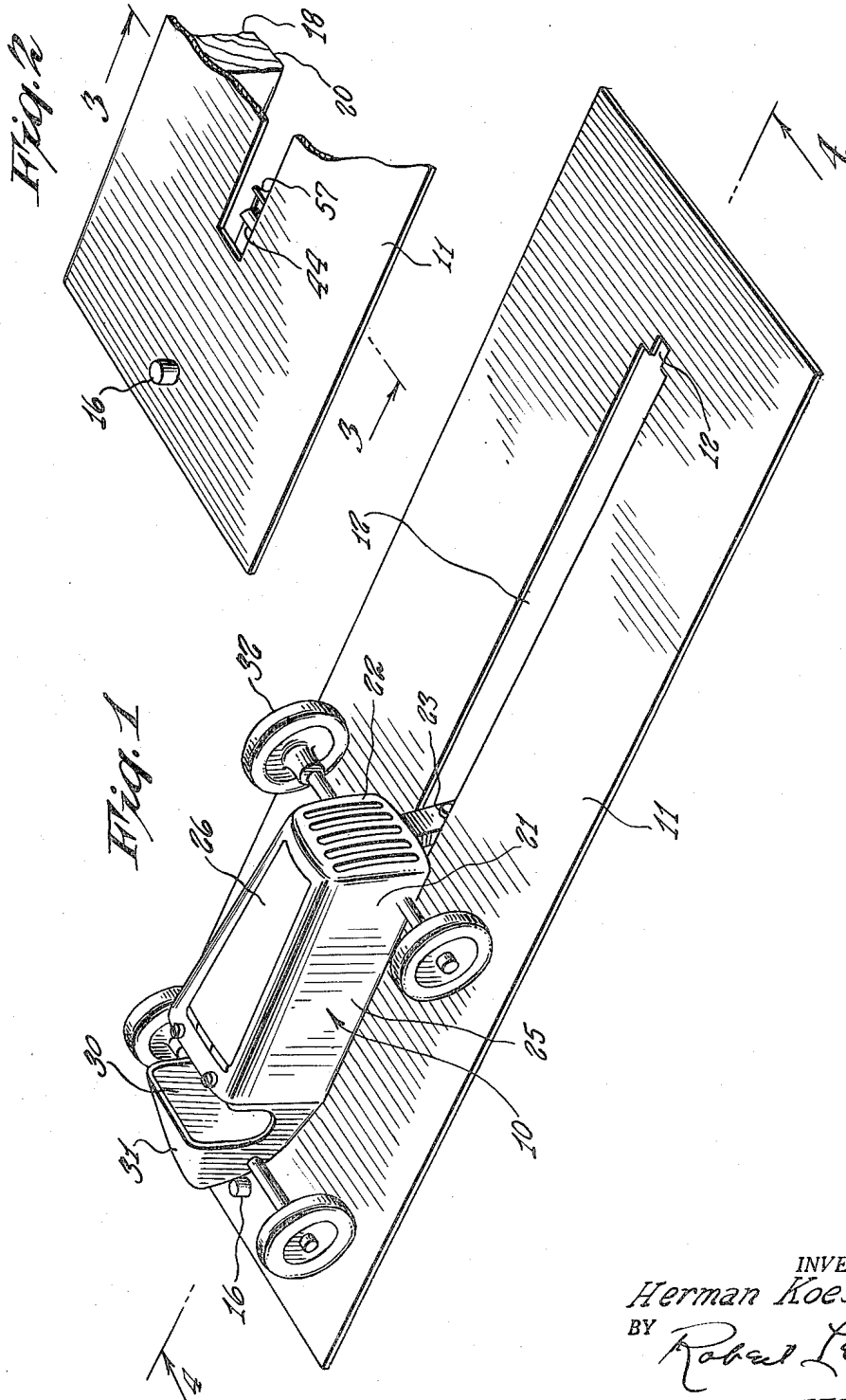
Nov. 21, 1950

H. KOESTEN
MECHANICAL IGNITER

2,531,056

Filed March 1, 1949

2 Sheets-Sheet 1



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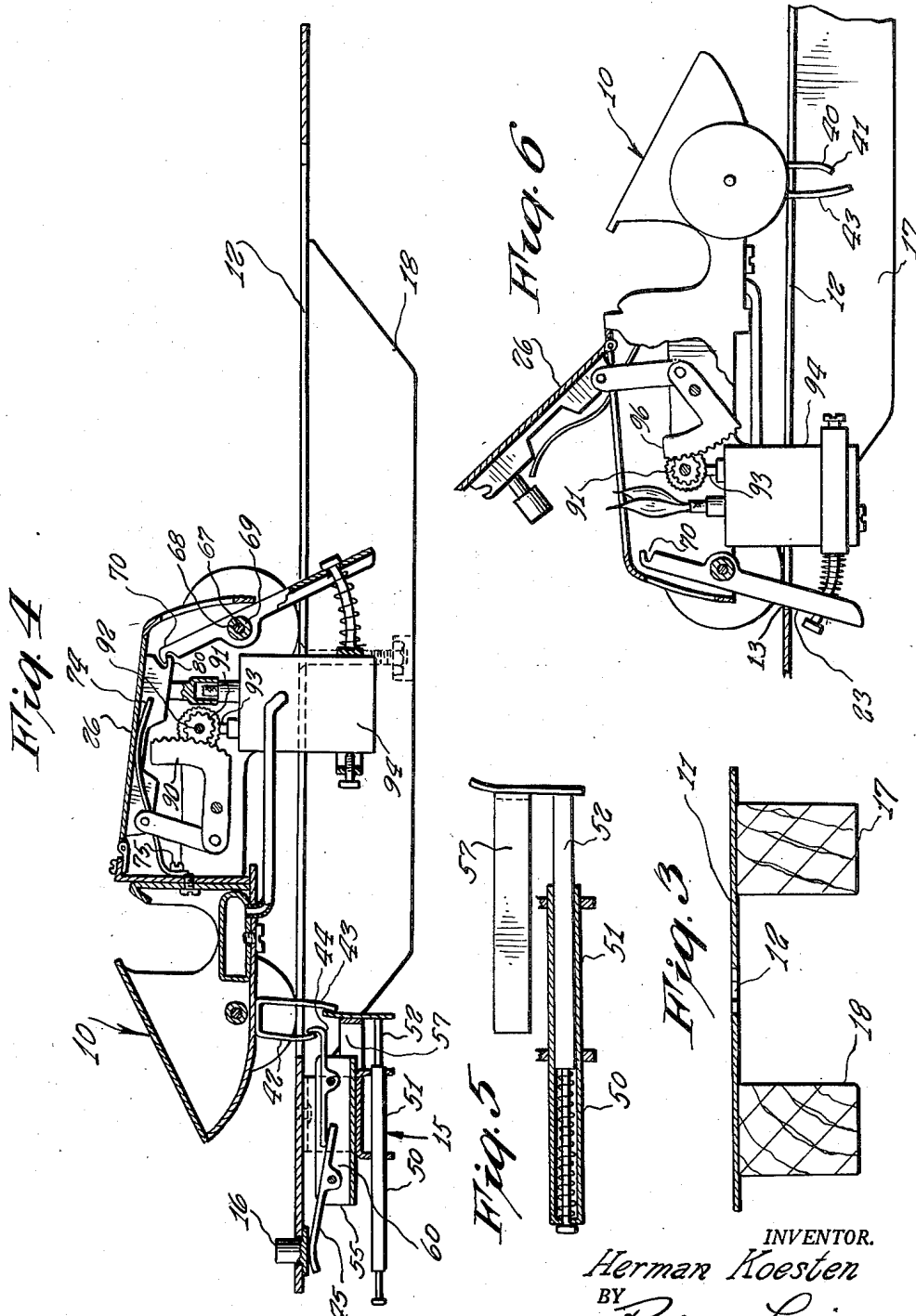
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MECHANICAL IGNITER

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5 Claims. (Cl. 67-4.1)

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This invention relates generally to those articles classified as novelties and incorporates the features of an ornamental toy and a practical implement and has specific applications to such apparatus including means and methods for obtaining a flame for use as a mechanical lighter while having equal utility as a novel toy.

Heretofore, there have been mechanical lighters which have been utilized as a pure ornament and have been relegated to the simple use as a "cute" device which gathers dust when not in use. In many instances such lighters have had little appeal other than for their purely mechanical function.

The present invention of a novel and new mechanical lighter encompassing the both features of a novel type of mechanical igniter as well as possessing the features which satisfy the aesthetic and mechanical urges of all ages provides at the same time a novel and useful mechanical apparatus which has use as a model for auto-enthusiasts and further typifies and satisfies the auxiliary need for a mechanical toy having a unique practicality.

Thus, the present invention provides a new and useful tool while it has the mechanical features of a practical implement adapted to be used as a mechanical lighter also provides, in itself, the added features which satisfy the craving of all persons and has a typical justification as an embodiment of the mechanical age in which we live.

It is, therefore, the prime object of the present invention to provide a new type mechanical lighter having both the novel features of a new toy as well as being adapted for use as a mechanical igniter.

Yet another object of the present invention is to provide a new type mechanical lighter operating under new principles and functions.

Still another object of the present invention is to provide in combination a new type of mechanical lighter adapted for use as a cigarette lighter and which, at the same time, has utility as a novel automobile toy.

Still another object of the present invention is to provide a unique apparatus having the features of a mechanical igniter yet embodying in itself the mechanical features of an automobile toy.

Still another object of the present invention is to provide a new type of mechanical cigarette lighter.

Still another object of the present invention is to provide a new type of novelty which has

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both the features of a mechanical lighter adapted to be used as such, and at the same time may have the function and utility of a new novel automobile toy.

5 Still another object of the present invention is to provide means and apparatus for mechanically igniting a cigarette and which may, at the same time when in use, be adapted for use of a new type of automobile model.

10 Still another object of the present invention is to provide a new type of automobile model which has the features of an automobile racing model, yet which, by means of a unique type of internal mechanism, may be adapted for use as a mechanical lighter or igniter.

15 Another object of the present invention is to provide a combination toy and practical mechanical igniter for use either as a toy or as a cigarette lighter.

20 Still another object of the present invention is to provide a new type of novelty having the features of a mechanical cigarette lighter and an automobile.

25 The invention, in another of its aspects, relates to novel features of the instrumentalities described herein for keeping the principal objects of the invention and to the novel principles employed in those instrumentalities whether or not these features and principles may be used as the said object or in the said field.

30 Other objects of the invention and the nature thereof will become apparent from the following description considered in connection with the accompanying drawings and wherein like reference characters describe elements of similar function wherein the scope of the invention is determined from the dependent claims.

Referring to the drawings:

40 Fig. 1 is a pictorial illustration of a preferred embodiment adapted to show the utility of the present invention as a novel automobile model and as residing on a raceway from which it is catapulted down to a stop which will release the mechanism internally included by said automobile so as to function as a mechanical lighter.

45 Fig. 2 is a sectionalized view of the raceway adapted to illustrate the base upon which the trolley or raceway rests.

50 Fig. 3 is a cross-sectional view of the base and raceway as taken along line 3-3 of Fig. 2.

55 Fig. 4 is a sectionalized view taken along line 4-4 of Fig. 1 and adapted to show the internal structure of both the catapult and the internal lighting mechanism for the mechanical lighter en-

compassed by the automobile racing model when said automobile is not being used as a lighter.

Fig. 5 is a sectional view of the catapult structure used to initiate the lighter mechanism of the automobile;

Fig. 6 is a cross-sectional view of the internal structure of the mechanical lighter contained by the lighter when said lighter is operative.

The present invention encompasses a new type of mechanical lighter and/or igniter adapted to be used as an ordinary cigarette lighter and which, amongst other features, is adapted to serve as a novel toy when not in use as a mechanical lighter. Thus when the mechanical lighter is inoperative, it becomes a permanent model of an automobile racing machine which has unique properties of a catapult racing machine. By a novel catapult mechanism, the automobile racing machine is fed along a trolley or raceway and at a predetermined point therealong a stop or release mechanism is activated so that the lighter is fired by means of the internal construction of the automobile racer.

In Figs. 1 and 4, there is shown the racing automobile and mechanical lighter as being positioned and held at one end of a catapult at one end of a base by means of a catapult arrangement. The automobile racing machine 10 is held on a base 11 upon which there is constructed a raceway 12 or trolley which is adapted to guide the racing automobile along the base 11 to a predetermined releasing stop 13. Machine 10 is fed along base 11 via raceway 12 by means of an initiating catapult arrangement 15 shown in Fig. 4. A button 16 activates the catapult mechanism so as to drive machine 10 down the raceway.

As shown in Fig. 2, the entire base, including the raceway, is brought above surface level by means of stilts 17 and 18, better illustrated in Fig. 3. Each of the stilts 18, in order to overcome any frictional aspects of the surface, may be lined at its underside by means of felt 20.

Racing machine 10 constructed internally to have a front motor portion 21 having a grill 22 and a ram 23, which, as later described, will operate in cooperation with end stops 13 of the raceway 12 to activate the mechanical lighter encompassed within motor hood 25. Hood 25 outwardly includes a lid or hinged cover 26 which upon the operation of ram 23 will operate as shown in Fig. 4 to swing open so that the lighter may ignite and the flame come through the hood portion of the motor. Further, the configuration of the racing machine is entirely true in that it takes on the aspect of the streamlined racing machines used in automobile racing tournaments. The automobile has a seating arrangement for a typical racing machine 30 and also includes a tapered end portion 31 typical of such machines. When auto 10 is catapulted by pressing button 16, wheels 31 and 32 etc. turn and speed along base 11 down the raceway and the car is stopped by release mechanism 13 which in turn activates the internal mechanism through the use of the ram 23 so as to ignite the lighter.

As shown in Fig. 4, and Figure 6, auto 10 is maintained in catapult 15 by means of a locking U-shaped section 40 having turn portion 41, portions 42 and 43. In the locked arrangement of the catapult 15, portion 41 of the catapult is contained by means of a hook 44 which hook may be released by a lever 45 activated by pressure on button 16. In the locked arrangement

a trigger 50 comprising an auto portion 51 sheathing an inner rod under tension 52 is maintained. When button 16 is pressurized or pushed, hook 44 no longer retains curved portion 41 and stop portion 43. Connected to rod 52 are parallel sliders 57 which are slidingly supported by a base 60. Because of the compression of rod 52 under restraint, as soon as the machine is released, the machine 10 is catapulted along the base 11 and guided by means of raceway 12 to stop 13. Upon the arrival at the stop 13, ram 23 is pivoted at point 67 about structure 68 by means of a concentric tube 69. A hook portion 70 is constructed at the end of ram 23. As shown, lid 26 of hood 21 presses a spring 74 connected at 75 by means of a nut or bolt. When catch portion 80 is released by hook 70, lid 26 is flung open by means of compression spring 74 and by means of a pivoting arrangement, arm 90 is swung downwardly to rotate wheel 91, as by gears 92, so as to strike the flint portion 93 of the lighter and so to ignite the fuel contained in the barrel or magazine 94.

In Fig. 6, the operation of the lighter as shown in a lighted condition is illustrated. It shows how the downward pivotal activation of wheel 91 encompasses the firing of the lighter.

The novel combination of an automatic lighter and automobile racing model, as described above, is merely illustrative and not exhaustive and since many changes could be made in the above construction, and since many widely different embodiments of the invention may be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing, shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A mechanical cigarette lighter having a configuration of a movable automobile toy comprising, lighter means and cooperating activating means; said lighter means being included within said toy automobile and comprising a flint, a flint wheel, a fuel source adapted to be ignited upon the rotation of said flint wheel, means for rotating said wheel, and a ram connected to said wheel rotating means; said activating means for initiating the rotation of said flint wheel comprising a platform, a stop placed at the end thereof, which stop is adapted to be struck by said ram of said toy automobile so as to activate said flint wheel so to ignite the fuel contained within said toy automobile.

2. A mechanical lighter adapted to be used as an automobile racing toy comprising, igniter means and cooperating igniter activating means; said igniter means being included within said automobile racing toy; said cooperating activating means for activating said igniter comprising a platform for supporting said automobile racing toy, a plurality of stilts connected to said platform so as to raise the latter to a level above the surface upon which the lighter is supported, catapult means adapted to lockably retain said toy automobile at an end of said platform, said catapult means including means for propelling said automobile racing toy along said platform, and means for stopping said automobile racing toy placed at the opposite end of said platform; said stop means engaging said igniter activating means of said toy auto upon contact therewith so as to activate said igniter means in said toy automobile.

3. A mechanical lighter adapted to be used as an

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automobile racing toy comprising, igniter means and cooperating igniter activating means, said igniter means being included within said automobile racing toy; said activating means for activating said igniter comprising a platform for supporting said automobile racing toy, a plurality of stilts for supporting said platform so as to raise the latter to a level above the surface upon which the lighter is supported, catapult means including a trigger adapted to releasably hold said toy automobile at one end of said platform, means for releasing said trigger to propel said automobile toy along said platform to the opposite end thereof, stop means placed at said latter end for engaging said igniter activating means of said toy auto upon contact therewith so as to activate the same.

4. A mechanical lighter as in claim 2 wherein said racing toy automobile includes a hood and a lid at the top thereof, and hinge means connect-

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ing said lid to said hood whereby said lid is opened when said igniter means is activated.

5. A mechanical lighter as in claim 2 wherein said toy automobile includes a hood and a lid therefor, hinge means connecting said lid to said hood and a lever mechanism activated by contact of said stop means on said platform with said igniter activating means so as to raise said lid upon the igniting of said lighter.

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REFERENCES CITED

The following references are of record in the file of this patent:

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