

May 4, 1926.

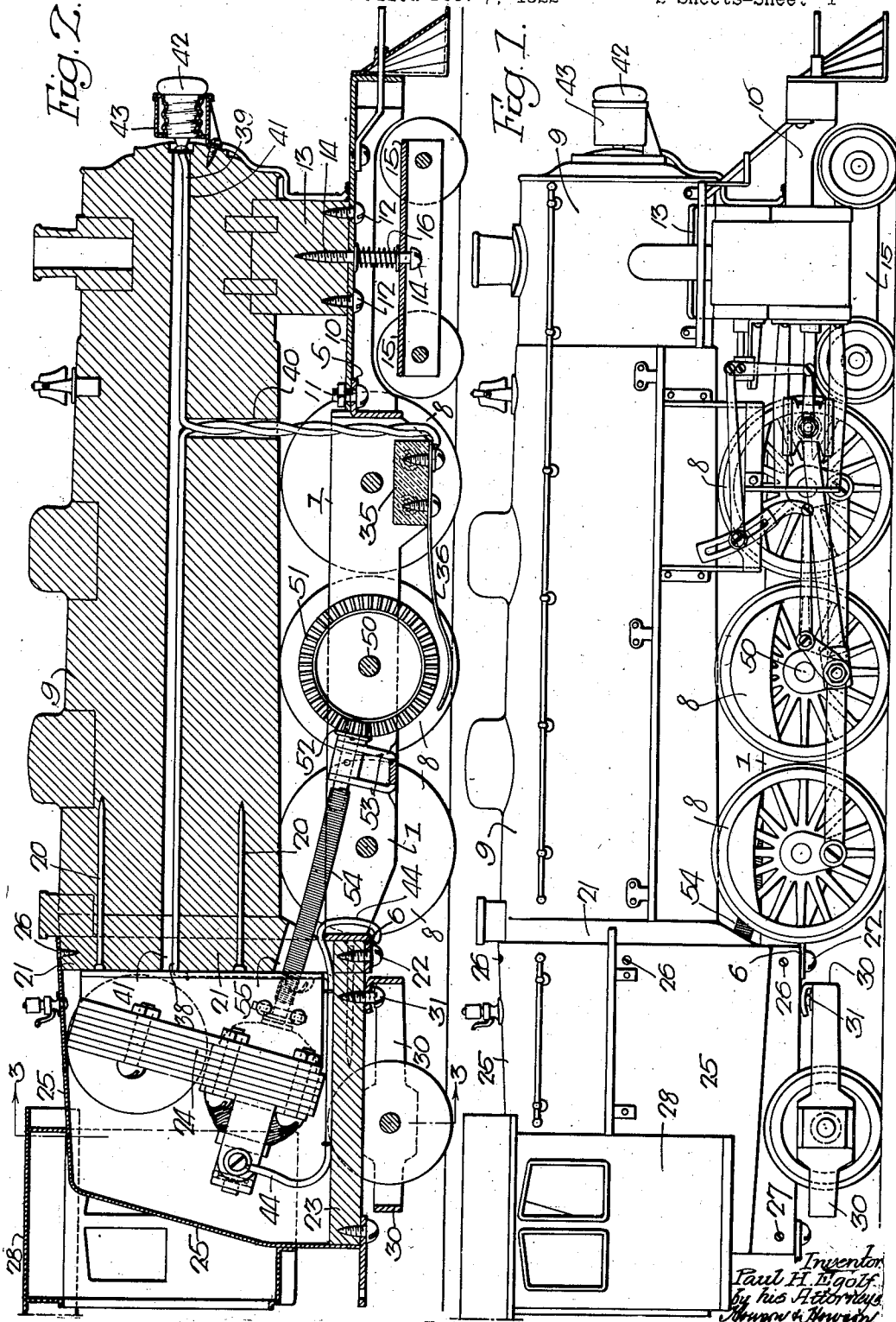
1,583,345

P. H. EGOLF

TOY OR MODEL LOCOMOTIVE

Filed Dec. 7, 1922

2 Sheets-Sheet 1



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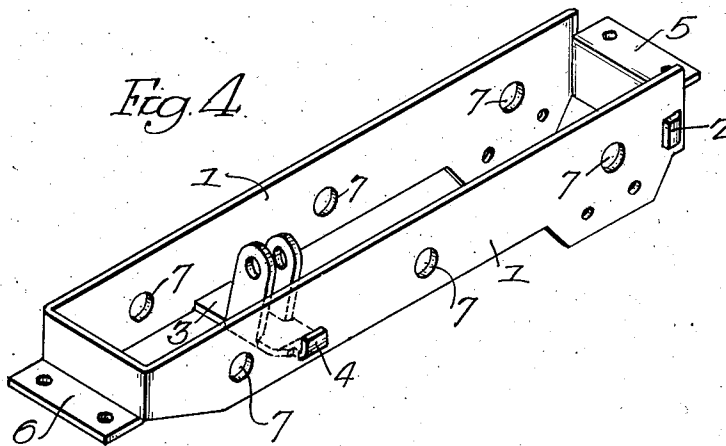
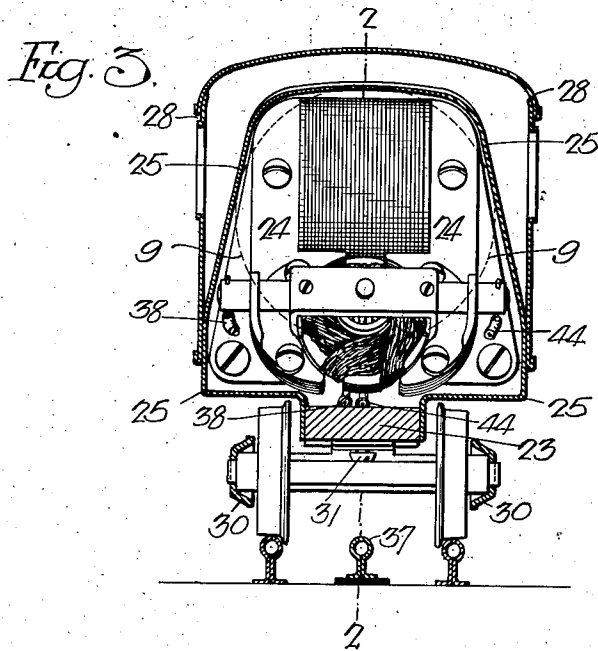
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

PAUL H. EGOLF, OF NARBERTH, PENNSYLVANIA.

TOY OR MODEL LOCOMOTIVE.

Application filed December 7, 1922. Serial No. 605,449.

To all whom it may concern:

Be it known that I, PAUL H. EGOLF, a citizen of the United States, residing in Narberth, Montgomery County, Pennsylvania, have invented a Toy or Model Locomotive, of which the following is a specification.

One object of the invention is to provide a toy or model locomotive of such construction and assembly of parts as to permit considerable variation in design, with no alteration in the basic frame elements.

Another object of the invention is to provide a toy or model locomotive so constructed as to render the motor entirely accessible and to facilitate the removal of the motor for repair or for replacement without disturbing the driven parts, thereby permitting replacement of the motor with greater simplicity and less expense than by other systems in use.

The invention further contemplates a driving connection between the motor and the driven elements which not only materially simplifies the construction and lessens the cost of manufacture, but also facilitates detachment of the motor from the driven parts, and the driven parts from the body of the engine.

Still further objects are the provision of a locomotive in which the operating parts may be detached with facility for repairs or replacement without disturbing the associated working parts of the locomotive or the motor.

A locomotive made in accordance with my invention is illustrated in the attached drawings, in which:

Figure 1 is a side elevation of the locomotive;

Fig. 2 is a longitudinal section on the line 2—2, Fig. 3;

Fig. 3 is a section on the line 3—3, Fig. 2, and

Fig. 4 is a view in perspective of the main frame.

With reference to the drawings, the engine in its present form comprises a main frame 1, preferably of sheet metal, as shown in Fig. 4. As will be readily understood, this frame is such as to permit its being stamped out of a flat piece of sheet metal, to be thereafter bent to the form illustrated.

To insure retention of the frame in its substantially rectangular form and to strengthen the construction, one end of the

stamped-out frame is provided with a lug or ear 2, which in the finished frame extends through a suitable aperture in the other end of the blank and is bent over to retain these loose ends together. A cross bar 3 also is provided with an ear or lug 4 which passes through a suitable aperture in the side of the frame and is bent over to retain it in place, this cross piece not only constituting bearings for one of the operating elements, as will be hereinafter described, but also constituting a cross brace for the frame. The frame further comprises at each end a horizontal flange, 5 and 6 respectively, by means of which are secured thereto the superstructure and the remaining portions of the locomotive. As clearly illustrated, the frame 1 comprises a plurality of sets of opposite disposed openings 7, 7, which constitute bearings for the axles of the main wheels 8, the engine frame 1 accordingly constituting the main truck of the engine.

As will be seen in Figs. 1 and 2, the boiler of the locomotive consists in the present instance of a wooden cylinder 9 which is supported at the front by a sub-frame 10 secured by bolts 11 to the flange 5 and constituting an extension of the frame 1. As shown in Fig. 2, the sub-frame 10 has attached thereto by means of screws 12 a block 13 pinned or otherwise secured to the under side of the forward end of the boiler 9, and a screw 14 extending into the block secures at the under side of the sub-frame 10 a wheel-truck 15. The joint is a flexible one to permit free movement of the truck, while a spring 16 confined upon the screw 14 between the frame 10 and the truck tends to hold the wheels of the latter to the track.

As stated, the frame 10 is secured at its rear to the flange 5 of the main frame 1 by means of bolts 11, the flange 5 underlying the frame 10 for a purpose to be described hereinafter. The sub-frame 10 accordingly constitutes the forward portion of a rigid supporting frame, of which the frame 1 is the main section.

At the rear of the cylinder 9 representing the boiler of the locomotive, and in the present instance secured thereto by nails 20, is a piece 21 which extends downwardly below the bottom of the cylinder 9 and rests upon and is secured by means of screws 22 to the rear flange 6 of the main frame. Se-

cured at the bottom of this piece 21 and extending rearwardly in a horizontal position is a member 23 which in effect is a continuation of the frame 1 and constitutes the floor of that portion of the locomotive corresponding to the fire-box, in which in the present instance is mounted an electric motor 24. The piece 21 is shaped to conform to the outline of the fire-box, and a hood-like element 25, preferably formed of sheet metal, is secured at its edges to the sides and top of the piece 21 by means of screws 26, the lower and rear edges of the hood 25 being similarly secured by screws 27 to the sides and rear edge of the floor member 23. The hood 25 is shaped to conform substantially with that portion of a locomotive which contains the fire-box, and completely houses the motor 24, the cab 28 of the locomotive being suitably secured to the hood 25, as clearly illustrated in the drawings. It will be apparent that although the hood 25 completely encloses the motor 24 under normal conditions, it may be removed with facility from the cylinder 9 and the member 23 by merely removing the screws 26 and 27, easy access being thus provided to the motor for lubrication or repairs.

As best shown in Figs. 1 and 2, there is secured to the under side of the member 23 a rear wheel-truck 30, said truck being in the present instance loosely secured in a pivotal manner at its forward end to the under side of the member 23 by a screw 31.

Suitably secured to the frame 1 is a block 35 of insulating material which carries a spring arm or shoe 36 adapted to bear down upon an electrified third rail 37 shown in Fig. 3. From the shoe 36 wires 38 and 39 extend, in the present instance through suitable passages 40 and 41 in the cylinder 9, to the motor 24 and to an incandescent bulb 42 carried in a socket 43 at the front of the cylinder. The motor circuit is grounded through a wire 44 connected to the frame 1, while a ground wire extends from the light socket 43 to the frame 10.

Mounted on the axle 50 of the central pair of wheels 8 is a bevel gear 51 which meshes with a bevel pinion 52 journaled in the uprights 53, 53, on the cross piece 3 of the main frame 1, the bevel pinion 52 being connected by a flexible connector 54 with the motor 24. An aperture 55 is provided in the piece 21 for the passage of this flexible connector to the interior of the hood 25. It will be noted that in the present instance the motor 24 is mounted at a slight inclination, the journal in the uprights 53, 53, also being slightly inclined whereby a practically straight connection is made by the flexible connector 54 between the pinion 52 and the motor. Any suitable type of gearing may be employed to trans-

mit power from the flexible shaft to the driving axle. The couplings between the connector 54 and the motor at one end and the shaft of the pinion 52 at the other are preferably such as to permit quick disconnection of the connector.

It will be understood that the aforedescribed construction may be subject to considerable modification with no departure from the essential features of the invention, it being possible by slight changes in the form of the various parts of the elements to form toy model locomotives which are replicas of actual locomotives. The present design also affords numerous advantages over the toy locomotives now in general use in the simplicity and accessibility of all the working parts of the device. It is possible for example by releasing the screws 22 and the bolts 11 to remove in toto the main frame 1 and the elements mounted therein, and as previously described by removal of the hood 25, to which in the present instance is secured the cab 28, to obtain free access to the motor, which may be removed for repairs and replaced without trouble. It will also be noted that the locomotive is not limited to any particular sized motor, as by simply enlarging the hood 25, it is possible to increase the size of the motor to any extent desired.

It will be understood that the invention is not limited to any particular materials from which the various parts of the locomotive are made, since it is obvious that instead of the wooden cylinder 9, a hollow cylinder of sheet metal or other material may be employed. Further, the invention is not limited to a third rail system of electrification, since obviously the engine may be adapted to the use of others of the well known systems.

I claim:

1. A toy locomotive comprising a superstructure representing cab, fire-box, and boiler, the fire-box being hollow, a motor mounted in the fire-box, a main truck comprising a driving wheel and detachably secured to the superstructure, and a flexible connector between the motor and the drive wheel.

2. A toy locomotive comprising portions representing a cab, fire-box, and boiler, said fire-box portion comprising a shell detachably secured to the boiler and forming a housing for a motor, drive wheels operatively connected with the superstructure, and mechanism connecting the motor and the drive wheels.

3. A toy locomotive comprising a main frame consisting of an integral piece of sheet metal bent to the desired form, wheels journaled in said frame, a driving element journaled in the frame and having operative connection with one of said wheels, a

superstructure representing the upper portion of the locomotive carried by the frame, and a motor mounted in the superstructure and operatively connected with said driving
5 element. wheels journaled in said frame, a sub-frame detachably secured to each of said flanges, wheeled trucks connected with said sub-frames, and a superstructure representing the upper part of the locomotive mounted
10 on said frames.

4. A toy locomotive comprising a main frame having a flange at the front and rear,

PAUL H. EGOLF.