

Feb. 6, 1973

M. ERNST

3,714,919

OUTBOARD DRIVING DEVICE FOR TOY AND MODEL SHIPS

Filed Oct. 20, 1970

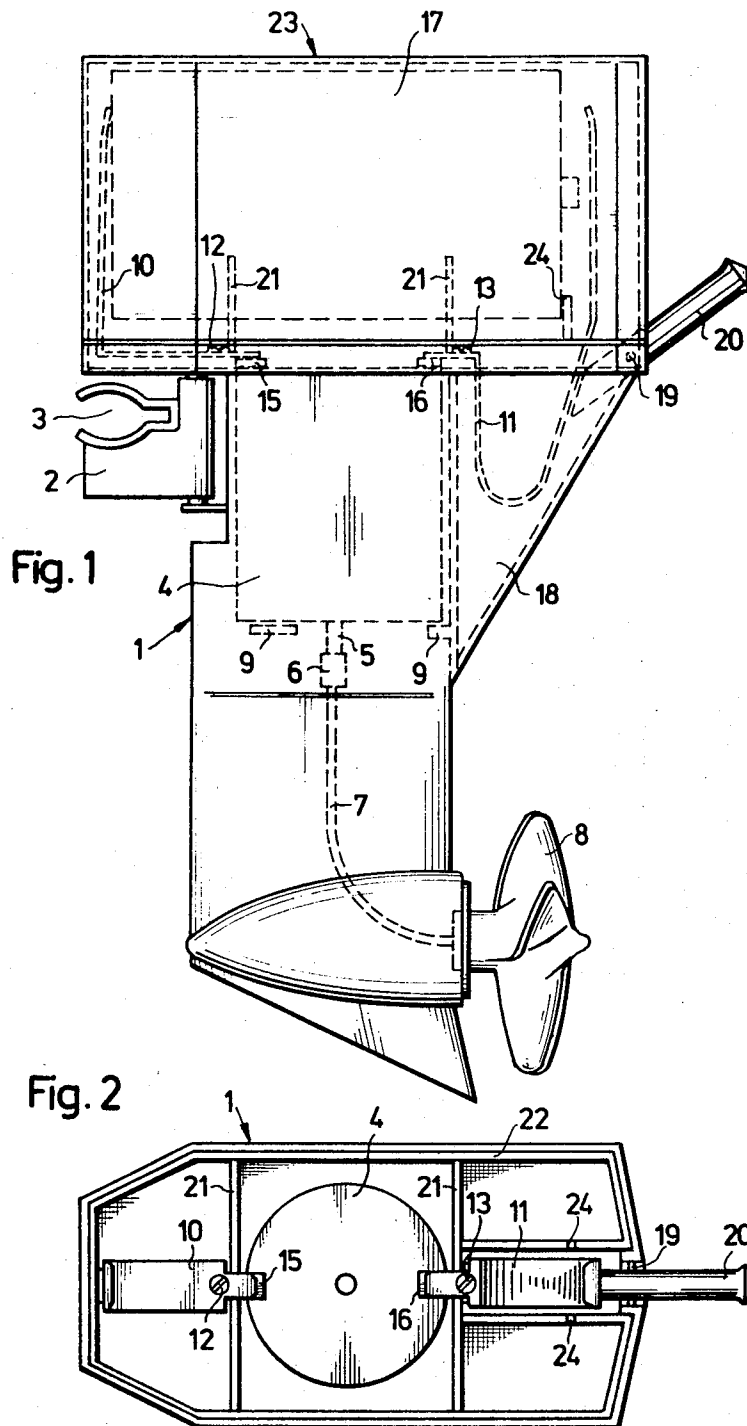


Fig. 1

Fig. 2

INVENTOR.
Max Ernst
BY
Walter Duhay

1

2

3,714,919

OUTBOARD DRIVING DEVICE FOR TOY AND MODEL SHIPS

Max Ernst, Lohengrinstrasse 14, Nuremberg, Germany
Filed Oct. 20, 1970, Ser. No. 82,273

Claims priority, application Germany, Oct. 24, 1969,
P 19 53 573.0

Int. Cl. B63h 21/26

U.S. Cl. 115—17

2 Claims

ABSTRACT OF THE DISCLOSURE

An outboard driving device for toy and model ships, in which an exchangeable dry battery together with an electric motor electrically connectable thereto is located in a housing which is selectively and disengageably connectable to a ship so as to be pivotable about a substantial-ly vertical axis.

The present invention relates to an outboard driving device for toy and model ships, which comprises an electric motor supplied by current from a dry battery and serving as driving unit for the ship propeller.

With driving devices of this type, the battery is arranged in the ship and is connected to the electric motor by current conductors, said motor being located in the housing of the outboard driving device. Aside from the fact that these current conductors interfere with the playing with the toy, they also may cause disorders. Moreover, the driving device is limited to a certain ship which means that it cannot selectively be used for other ships. There has become known a ship driving device which comprises an electric motor and battery in a housing common thereto and therefore can be employed with any desired toy ship. This ship driving device is, however, not designed in the manner of an outboard motor, which means that it is not pivotally connected with the ship, but instead has to be fixedly connected to the ship, for instance, by means of a suction cup. For purposes of steering the ship, this ship driving device has pivotally jour-nalled thereon a rubber blade so that it is not possible by means of this known ship driving device to drive through curves with a radius as it is possible with an outboard motor. Moreover, this known ship driving device is rather awkward looking and is not an image of an actual ship driving device as it is used with normal size ships.

It is, therefore, an object of the present invention to provide an outboard driving device for toy ships and model ships which will permit a driving through narrow curves and will be similar in appearance to a driving device that is actually used with normal size ships while no current conductors have to be connected thereto from the outside.

These and other objects and advantages of the invention will appear more clearly from the following specification, in connection with the accompanying drawing, in which:

FIG. 1 is a side view of an outboard driving device according to the invention.

FIG. 2 is a top view of that portion of the driving device of FIG. 1 which received the battery, the view of FIG. 2 having the cover cap and battery removed.

The driving device according to the present invention is characterized primarily in that the battery is exchange-ably mounted together with an electric motor for the driv-ing device in a housing while the driving device is pro-vided with means for operatively but detachably con-necting the driving device to the ship.

An expedient design of the driving device according to the present invention is characterized in that the battery is located in the upper part which with the lifesize model

receives the motor, whereas the electric motor is located in that portion of the housing which is arranged below said upper part. A particularly simple design without requiring wiring is obtained by providing the electric motor with contact plates forming current connections, against which one end of the contact springs is pressed which have their other end resiliently pressed against the poles of the battery. For turning the electric motor on and off, it is expedient to provide one of the contact springs with a handle which is adjustably mounted on the housing of the driving device and so to design said one contact spring that by means of said handle it may selec-tively be pressed against a pole of the battery. The electric motor may, by means of said contact springs which are detachably connected to the housing of the driving device, be mounted in its housing part so that no additional holding means are required.

The outboard driving device shown in the drawing has a housing 1 which preferably forms one piece and is in-jection molded while a holder 2 is pivotally connected to said housing for pivoting about a vertical axis. The holder 2 is in a manner known per se, provided with a receiving member 3 for a connecting means, by means of which, the outboard driving device is operatively con-nected to the ship. This connecting means may, for in-stance, be a suction cup. During the operation, the out-board driving device may, for setting the driving direction of the ship, be pivoted about the axis of the holding means 2.

In the interior of the housing 1 there is mounted a small electric motor 4, the vertical shaft 5 of which is adapted by means of a coupling member 6 to be con-nected to a flexible shaft 7 which drives the propeller screw 8. The electric motor 4 has its lower edge in en-gagement with extensions 9 of the housing 1 and is arrested in its position by contact springs 10 and 11 which, by means of screws 12 and 13, are connected to the housing 1 and have their ends pressed against contact plates 15, 16, respectively. The contact plates 15 and 16 form the current connections for the electric motor 4. The contact springs 10 and 11 thus have a dual purpose, namely, to supply current to the electric motor 4 and to arrest the same.

The contact spring 10 has an upwardly angled-off end which engages one pole of a horizontal dry battery 17. Battery 17 is supported by two supports 21 which are cir-cularly recessed in conformity with the contour of the battery 17. The battery 17 is, in its position, held on one hand by the contact spring 10, and on the other hand by a housing protrusion 24.

The contact spring 11 has one downwardly bent portion located in a recess 18 of housing 1 and has its free end extending upwardly to such an extent that the spring, for purposes of turning on the electric motor 4 by means of a manually operable lever 20 pivotable about a pivot 19, may be pressed against the other pole of battery 17.

Housing 1 has at its upper end a protruding rim 22 (FIG. 2) which is engaged by a cover cap 23 (FIG. 1) when the latter is placed on the housing. The cover cap 23 thus seals the battery chamber which corresponds to the motor chamber of the large scale model. For purposes of exchanging the battery 17, cap 23 can easily be re-moved.

With the described outboard driving device, it is not necessary to effect any wiring because the electric motor will, when being fixedly mounted, simultaneously be con-nected with the battery supply lines. The driving device has, as far as its outer appearance is concerned, the ap-pearance of its large scale commercial model and may, for instance, by means of a suction cup as connecting means, be selectively connected to various toy and model

3

ships, which means that it is not limited to a single ship. In view of this simple design, it is rugged and not liable to disturbance.

It is, of course, to be understood that the present invention is, by no means, limited to the particular structure shown in the drawing, but also comprises any modifications within the scope of the appended claims.

What I claim is:

1. An outboard driving device simulated for toy and model ships of a type powered by an internal combustion engine and embodied to be releasably fastened at a stern location, thereof, which includes: housing means having a lower section and a removable upper covering section, said housing means serving as a container representing in toy model from a motor chamber, electric motor means located in the lower section of said housing means with its shaft vertical, propeller means mounted on said lower section and connected to the lower end of said motor shaft, battery supporting means mounted in said covering section above said motor and adapted to receive and support dry battery means in a horizontal position with electrical contact means at opposite, longitudinally spaced ends, said motor means having contact means on its upper end and spaced longitudinally of the ship, a pair of spring contact members fastened to said lower section having horizontal ends overlying and engaging said contact means to retain said motor in position and make electrical connection with said contact means of said motor, the opposite ends of said contact members extending vertically to engage the contact means on the opposite ends of said battery means, said upwardly extending ends being spaced a greater distance than the distance between the opposite ends of said battery means, and a movable member movable into engagement with

4

one of said contact members to press its upwardly extending end against the contact means on one end of the battery means so that both said upwardly extending ends are in electrical contact with said battery contact means.

2. A device as claimed in claim 1, in which said lower section carries extensions to support said motor means, and said contact members engage the contact means on the motor means to maintain the motor means on said extensions, and said lower section carries a vertical abutment engageable by one end of said dry battery means to hold the contact means on its opposite end in engagement with an upwardly extending end of one of said contact members, the other contact member having a U-shaped portion connecting its horizontal end with its upwardly extending end, and said movable member comprising a pivoted lever engaging said U-shape portion to press said upwardly extending end into contact with the contact means on said battery means.

References Cited

UNITED STATES PATENTS

3,315,631	4/1967	Bass	115-18	A
2,919,392	12/1959	Smith	115-18	E
2,829,285	4/1958	Steiner	46-39	X
2,814,906	12/1957	Orris	115-18	E
3,043,052	7/1962	Stanzel	46-93	X

TRYGVE M. BLIX, Primary Examiner

E. R. KAZENSKE, Assistant Examiner

U.S. Cl. X.R.

46-93