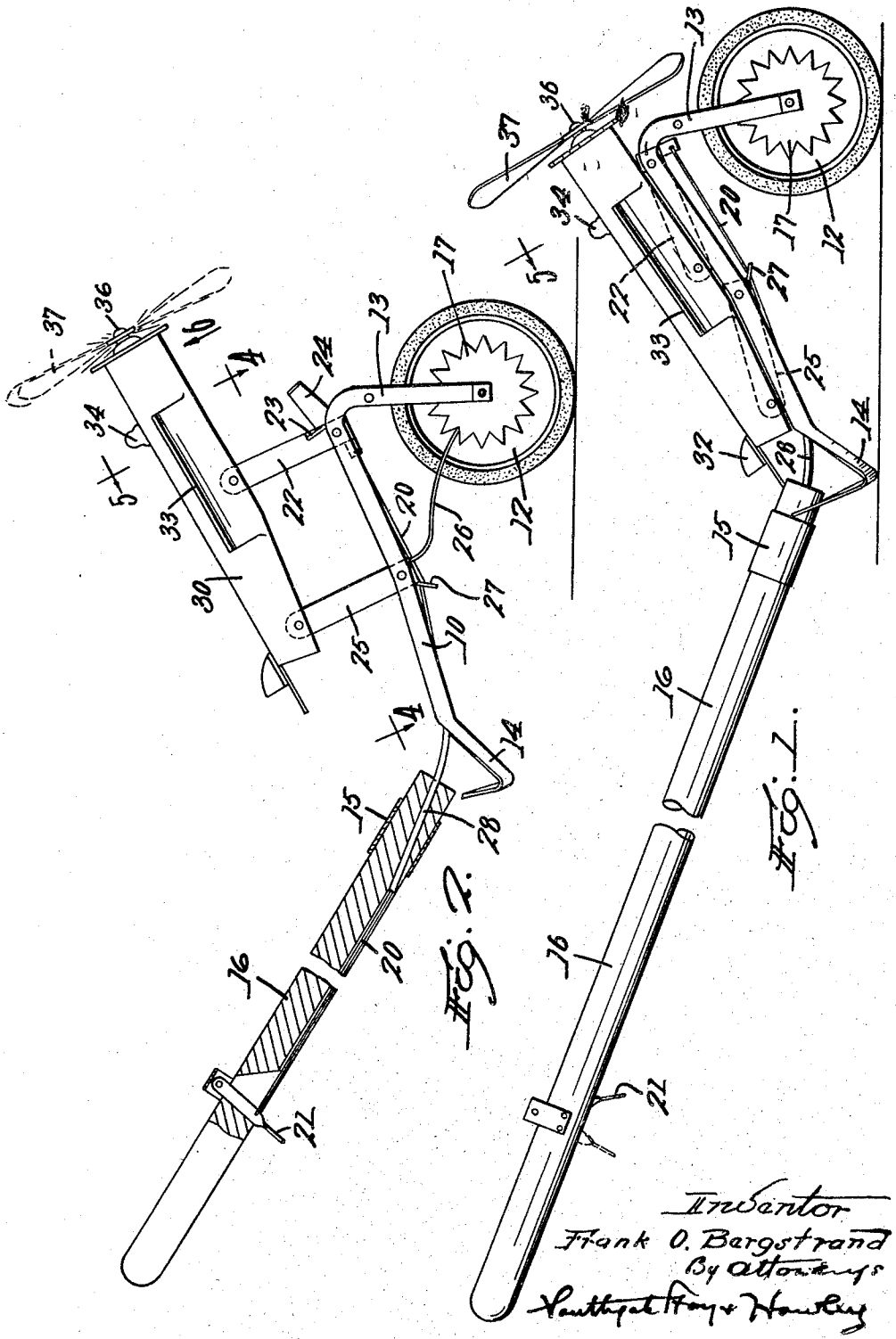
July 12, 1932. F. O. BERGSTRAND 1,867,052

MECHANICAL TOY

Filed March 14, 1932 2 Sheets-Sheet 1



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MECHANICAL TOY

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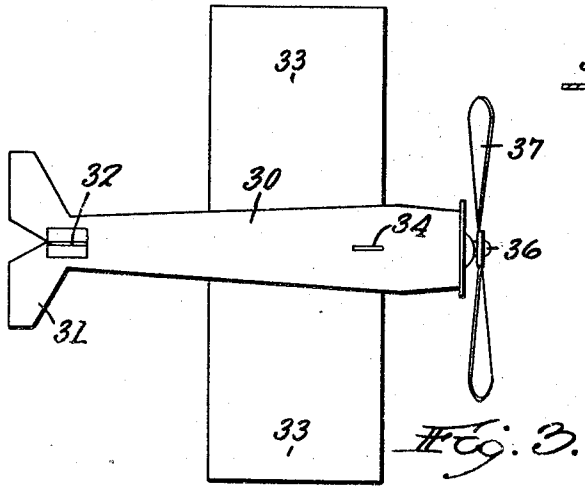


Fig. 3.

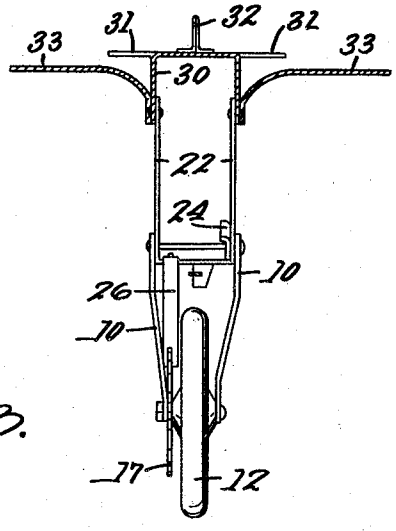


Fig. 5.

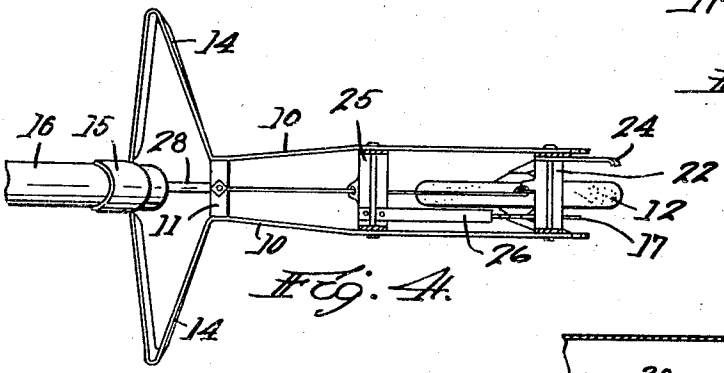


Fig. 4.

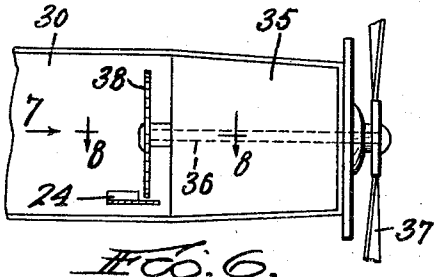


Fig. 6.

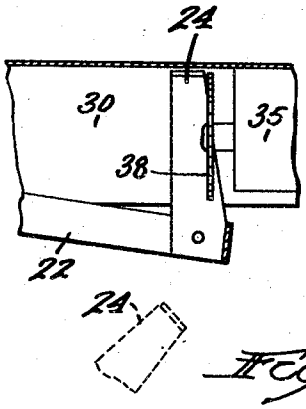


Fig. 8.

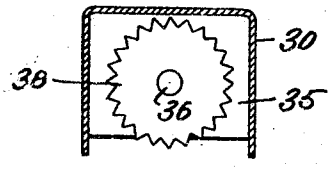


Fig. 7.

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UNITED STATES PATENT OFFICE

FRANK O. BERGSTRAND, OF WORCESTER, MASSACHUSETTS

MECHANICAL TOY

Application filed March 14, 1932. Serial No. 598,782.

This invention relates to a device which a child can draw or push around.

The principal objects of the invention are to provide a simulation of an interesting object, as an aeroplane, which can be lifted or moved from one position to another on the device itself; to provide means whereby upon moving it into a more noticeable position a propeller or the like will be set into motion; to provide means whereby when it is being operated a sound will be produced to imitate the hum of a motor; to provide means operable from the handle for moving the body of the imitation aeroplane or the like back into lowered position which also will rotate the propeller automatically; to provide means whereby it can be made to rest on the floor right side up and in position for immediate operation, and to provide a simple and convenient construction of the various parts which involves very little mechanism not easily injured in operation.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a side view of a preferred embodiment of this invention shown at rest;

Fig. 2 is a similar view showing it in use;

Fig. 3 is a plan of the aeroplane part of the device;

Fig. 4 is a sectional view on the line 4—4 of Fig. 2, showing the lower part of the device practically in plan but on an inclined plane;

Fig. 5 is a sectional view on the line 5—5 of Fig. 2, practically showing an end view of the lower part of the device;

Fig. 6 is a bottom plan view of the aeroplane feature as indicated by the arrow 6 in Fig. 2;

Fig. 7 is an end view of the propeller operating device as indicated by the arrow 7 in Fig. 6, and

Fig. 8 is a sectional view on the line 8—8 of Fig. 6.

This invention relates to that class of children's toys which can be drawn around the floor or sidewalk and can be operated to produce effects, while in motion, pleasing to children.

The device comprises a main frame 10 preferably made of two pieces of strip metal spaced apart and secured together by a cross-piece 11 to constitute a frame of skeleton form. At one end the strips of metal are bent downwardly and brought somewhat close together to furnish arms 13 having bearings for the shaft of a wheel 12 on which the device can be wheeled around or if wheels are not used, the same device is supported by these arms 13 which will support runners.

At the other end of the frame are two opposite projections 14 extending downwardly at an angle to constitute rests for supporting it right side up on the floor when not in use. The extreme ends of these projections are brought up under a collar 15, which is fixed to the bottom of the handle 16 which may be a wooden rod. On the shaft of the wheel 12 is mounted a toothed wheel 17.

The handle is provided with an operating rod or flexible wire 20 adapted to be manipulated by a trigger 21 pivoted on the handle, shown as pivoted on the top of it and passing through a slot extending through the handle. This rod extends through the handle or outside it to the extreme end of the frame 10 where it is largely concealed by this frame. This rod is pivotally connected with a pivot frame 22 of U-shaped construction. This pivot frame is pivotally mounted on the frame 10 and is provided with a stop 23 for engaging this frame and preventing the swinging of the frame 22 beyond a certain limit. It is also provided with a fixed operating bar 24 having a transverse end, the purpose of which will be described.

The pivot frame 22 is duplicated by a frame

25 also pivoted to the frame 10 and a parallel motion is provided as will appear. This pivot frame 25 is provided with a steel spring 26 which, under certain circumstances, comes down into contact with the wheel 17 but in the position shown in Fig. 1, it is drawn up into the body of the article between the two strips constituting the frame 10. The frame also has a projection 27 with a hole through it through which the wire 20 passes so as to keep this wire from swinging around. There is also another guide 28 for this wire 20. This guide 28 is fixed on the cross bar 11 which is used to make the frame 10 rigid. The frames 22 and 25 constitute means for holding the strips 10 in place.

The two pivoted frames 22 and 25 are pivotally connected with the body 30 of the toy aeroplane. The pivots at both ends of the frames 22 and 25 are arranged in a parallelogram so that the motion secured is a parallel motion. The body 30, preferably of sheet metal, is of a general U-shaped construction having a continuous flat top and two sides extending down from it. At one end is a fixed elevator 31 and a rudder 32. At opposite sides are secured to the sides of this body a pair of wings 33 extending in opposite directions substantially horizontally. Preferably an image 34 representing an aviator extends from the body 30 near the end.

At the end of the aeroplane inside the body thereof is a block 35 of wood, metal or the like, constituting a bearing for a shaft 36 on which is fixed a propeller 37 at one end and a toothed wheel 38 at the other end.

In the operation of the device the child wheels or draws the device around the floor or sidewalk by the use of the handle, of course. As it moves along he can operate the trigger 21 to pull the wire 20 and elevate the body of the aeroplane by the parallel motion described. In the process of elevating it, the projection 24 engages the toothed wheel 38 during the first part of the ascent of the aeroplane body and gives it a turn which will spin the propeller. The same action occurs when the body is moved back. The body is heavy enough so that it does not remain elevated except as the trigger 21 is held. When this is released the body will move back to the position shown in Fig. 1 spinning the propeller. Of course, during the motion of the device along the floor the spring 26 will engage the wheel 17 if the aeroplane body is elevated and make a noise imitative of the noise of an engine but when the body is in its retracted position, as shown in Fig. 1, this spring 26 is elevated and although the toy can be wheeled around the floor, the noise will not then be present and the propeller will not spin.

This toy is very attractive to children, particularly boys and introduces several features imitating the action of an aeroplane. It is constructed simply of ordinary materials and is comparatively rigid and durable.

Although I have illustrated and described only one form of the invention, I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited in this respect but what I do claim is:—

1. As an article of manufacture, a toy comprising a wheel supporting it at one end, a frame carried by the wheel, a handle at the other end of the frame for use in manipulating the toy, a body representing an aeroplane, two parallel pivoted levers between the frame and aeroplane, and hand-operated means carried by the handle for raising said aeroplane.

2. In a mechanical toy, the combination of a frame adapted to be moved from place to place, a wheel for supporting it, a pair of pivots on the frame, a pair of links mounted on said pivots, a body above the frame, means for pivoting the two links to said body at points just as far apart as said pivots to constitute a parallel motion, means on the handle for manually swinging one of said links about its pivot whereby said body can be elevated, a freely rotatable member on said body above the wheel, and means carried by one of said links for turning said freely rotatable member as the body is raised.

3. In a mechanical toy, the combination of a frame adapted to be moved from place to place, a pair of pivot studs on the frame, a pair of links pivoted to said studs, a body above the frame, means for pivoting the two links to said body at points just as far apart as said studs to constitute a parallel motion, means for swinging one of said links about its pivot, whereby said body can be elevated, one link having a spring thereon, a wheel for supporting one end of the frame, and a toothed wheel connected with the first wheel to rotate therewith, said spring being so located as to engage the toothed wheel when the link on which it is mounted is turned to a position to raise the body.

4. In a mechanical toy, the combination of a frame, a pair of pivot studs on the frame, a pair of links pivoted to said studs, a body above the frame, means for pivoting the two links to said body to constitute a parallel motion, means for swinging one of said links about its pivot, whereby said body can be elevated, one link having a spring thereon, a wheel for supporting one end of the frame, and a toothed wheel connected with the first wheel to rotate therewith, said spring being so located as to engage the toothed wheel when the link on which it is mounted is turned to a position to raise the body.

5. In a mechanical toy, the combination of a frame, a pivot stud on the frame, a link

pivoted to said stud, a body above the frame, means for pivoting the link to said body, means for swinging said link about its pivot, whereby said body can be elevated, the link having a spring thereon, and a toothed wheel, said spring being so located as to engage the toothed wheel when the link on which it is mounted is turned to a position to raise the body.

In testimony whereof I have hereunto affixed my signature.

FRANK O. BERGSTRAND.