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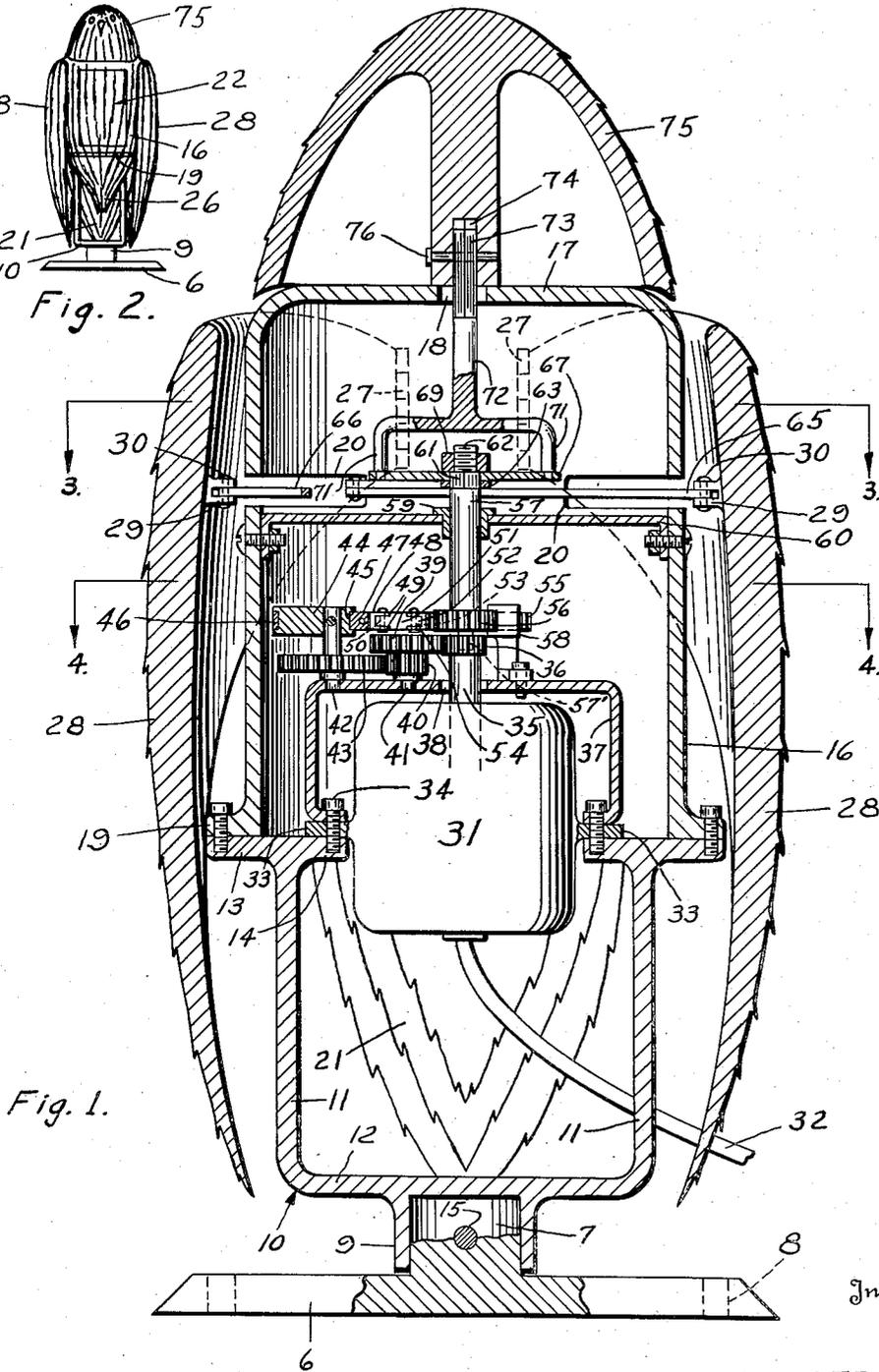
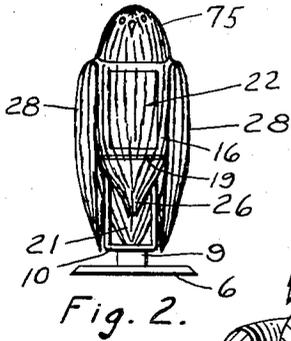
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2,575,252

DEVICE FOR SCARING BIRDS

Filed July 7, 1947

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

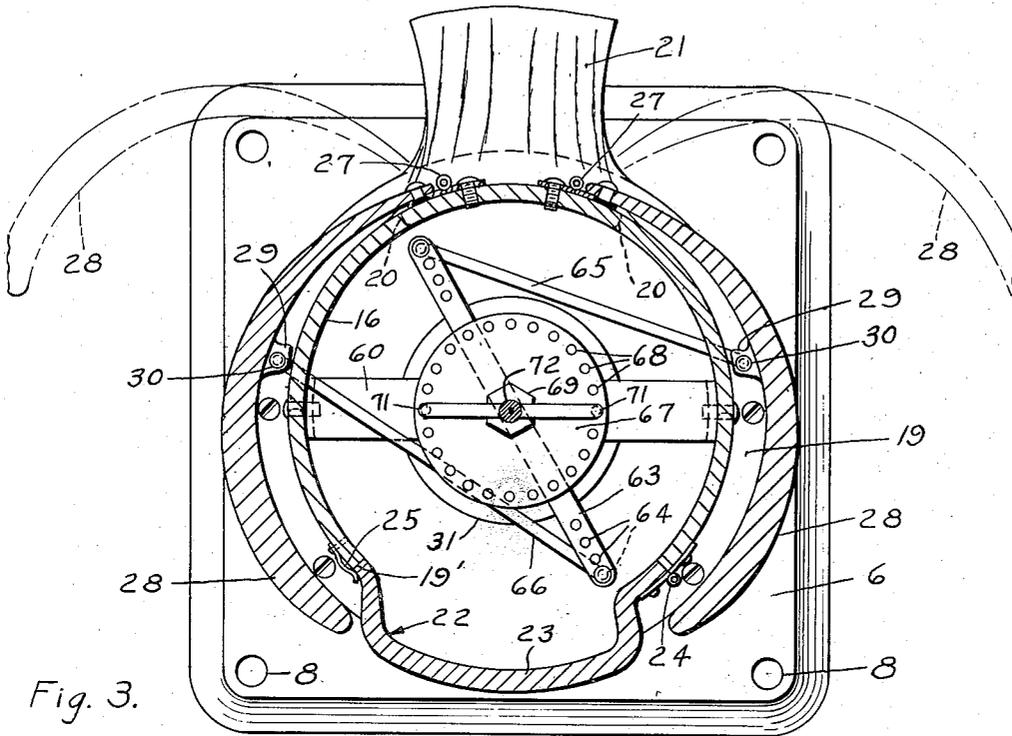


Fig. 3.

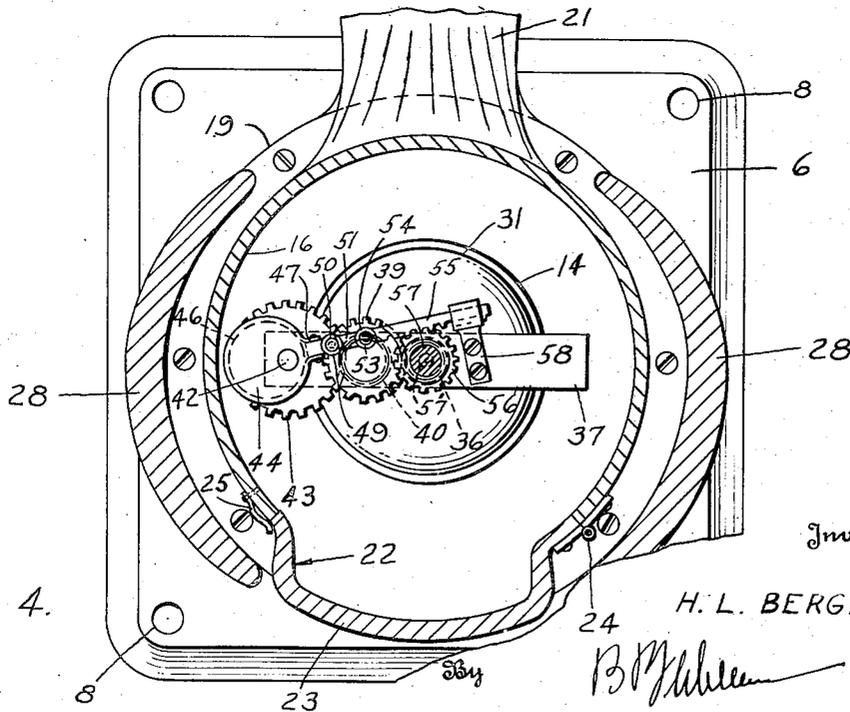


Fig. 4.

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# UNITED STATES PATENT OFFICE

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## DEVICE FOR SCARING BIRDS

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2 Claims. (Cl. 46—124)

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This invention relates to a device for scaring birds, and more particularly to a device for scaring starlings.

A primary object of the invention is to provide a bird scaring device to be mounted at a suitable location upon a building, and having the configuration of a bird of prey, preferably an owl.

A further important object of the invention is to provide a device of the character mentioned which is electrically operated from a power source upon the building, and which simulates the lifelike movements of an owl.

A further object is to provide a bird scaring device designed to operate while exposed to the elements, and including a simplified operating mechanism.

A still further object is to provide a device of the above mentioned character which is simple, extremely durable, and well adapted to modern economical manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a central vertical longitudinal section through the device, and looking toward the rear of the same,

Figure 2 is a front elevation of the device drawn on a reduced scale, and illustrative of its general appearance,

Figure 3 is a horizontal section taken on line 3—3 of Figure 1, and

Figure 4 is a horizontal section taken on line 4—4 of Figure 1.

In the drawings, where for the purpose of illustration is shown a preferred embodiment of our invention, the numeral 6 designates a horizontal rectangular base, provided with a central upstanding projection or plug 7 integral therewith, and having corner openings 8 to receive mounting bolts, or the like. The plug 7 is received by a depending tubular socket 9 formed integral with a generally vertical bracket or stand 10. This stand 10 comprises opposed upstanding arms 11, joined at their lower ends by a horizontal web 12, and an upper horizontal annular flange 13 including an inner annular portion 14. The stand 10 and base 6 are detachably connected by means of a pin 15, or the like.

Rigidly detachably mounted upon the stand 10 is a vertical cylindrical tubular housing 16, having a horizontal top 17 provided with a central

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opening 18. The housing 16 is open at its bottom, and has an external horizontal annular flange 19 integral therewith, which registers with the flange 13. The housing 16 has a large forward vertical opening 19', giving ready access to the interior of the housing, and the opening 19' extends from near the top 17 to near the flange 19. The housing 16 is further provided with a pair of oppositely arranged horizontal arcuate slots 20 in the side wall of the housing, and these slots extend from the transverse center of the housing to points near the rear of the same, see Figures 1 and 3. The slots 20 are spaced downwardly from the top 17. The housing 16 serves as the body portion of the owl. A depending tail portion 21 is provided, and this tail portion is integral with the housing and joined to the same at the rear side of the flange 13, Figures 1 and 3. The tail 21 may incline rearwardly toward its lower end. An inspection door 22 is provided to cover the forward opening 19', and this door is offset forwardly and curved providing a forward portion 23 to simulate the breast portion of an owl. The door 22 is attached to the housing 16 by one or more hinges 24, and the door swings horizontally. A pivoted latch 25 is provided and mounted upon the housing 16 adjacent to the edge of the door, and serves as a closure member for the door. A depending downwardly tapered extremity 26 is formed integral with the forward side of the flange 19. This extremity 26 is adjacent to the lower edge of the door 22, and with the forward portion 23 thereof simulates the front or breast portion of an owl.

Mounted upon the tubular housing 16, by means of vertical hinges 27 and adapted to swing horizontally are wings 28. These wings are curved as shown in Figures 3 and 4 and surround the sides of the housing 16 when in the closed position. The wings are adapted to swing open to positions at or near those shown by broken lines in Figure 3. The lower tips of the wings preferably terminate near the web 12, and the tops of the wings are adjacent to the top 17. The wings 28 together with the housing 16 and door 22 form the likeness of an owl's body. Formed upon the inner curved surfaces of the wings 28, adjacent to the slots 20, are split knuckles 29 carrying vertical hinge pins 30.

Disposed vertically within the lower part of the housing 16, and projecting downwardly between the arms 11 for a short distance is an electric motor 31, having a wire 32 which leads to a source of electric current. The motor casing is provided with mounting flanges 33 which engage upon the

inner annular flange 14. The motor is rigidly mounted upon the flange 14 by means of screws 34. The annular clearance between the motor and the inner flange 14 is small, and the motor substantially closes the opening at the bottom of the housing 16 and aids in keeping foreign matter from the interior of the housing. The armature shaft 35 of the motor projects upwardly for a short distance and is provided at its end with a small drive gear 36 rigidly mounted thereon. Rigidly mounted upon the flanges 33, and secured in place by the screws 34 is an inverted U-shaped bracket 37, having a horizontal top provided with a central clearance opening 38 for the armature shaft 35. Rotatably mounted upon the top of the bracket 37 is an idler gear 39, which meshes with the drive gear 36. This idler gear 39 carries a small gear 40, disposed beneath it and preferably formed integral therewith. Both of the gears 39 and 40 are rigidly mounted upon a vertical shaft 41, rotatable upon the bracket 37. Also rotatably mounted upon the bracket 37 is a vertical shaft 42 upon which is rigidly mounted a large gear 43 meshing with the gear 40. The shaft 42 projects above the gear 43 and has rigidly mounted upon it an eccentric cam 44, having an annular horizontal groove 45. Slidably mounted upon the cam 44 and within the annular groove 45 is a split eccentric strap 46 having ends 47. The cam 44 rotates with the shaft 42 and slides within the strap 46, imparting movement to the same. Rigidly secured between the ends 47 of the eccentric strap is a bar 48 having knuckles 49, carrying a pivot pin 50. Pivotaly connected to the bar 48 is a link 51 having end lugs 52, one of which receives the pin 50 and the other of which receives a pin 53 carried by knuckles 54 of a rack gear 55. The rack gear is disposed adjacent to a gear 56, rigidly mounted upon a vertical rock shaft 57 and meshes with the same. The free end of the rack 55 is slidably received in a rack guide 58, rigidly mounted upon the bracket 37. The rock shaft 57 is journaled near its upper end in a bearing 59, carried by a horizontal bracket 60, rigidly mounted within the housing 16. At its lower end, the rock shaft has a reduced extension 57' journaled in a recess in the upper end of the armature shaft 35 and forming a thrust bearing. The rock shaft 57 is provided with a squared portion 61 near its upper end, and this squared portion carries a screw threaded extension 62.

Mounted upon the squared portion 62 of the rock shaft, for oscillation therewith, and having a square opening to engage over the squared portion, is a horizontal cross member or arm 63. The arm 63 has opposite portions extending radially from the rock shaft for equal distances, and is provided with a plurality of longitudinally spaced openings 64. Pivotaly connected with the opposite ends of the cross arm 63 are horizontal rods or links 65 and 66, the outer ends of which are pivotaly connected with the pins 30 of the wings 28. Also mounted upon the squared portion 61 of the rock shaft for oscillation therewith, is a horizontal disc or cross member 67, which is preferably circular, and provided with a plurality of circumferentially spaced adjustment openings 68. A nut 69 is mounted upon the screw threaded extension 62, to rigidly secure the disc 67 and arm 63 in place upon the rock shaft. Mounted upon the disc 67 is a vertical yoke including side legs 71 and a central vertical shaft 72, the side legs having reduced end extensions to enter a pair of diametrically opposite openings 68. The

shaft 72 extends through the opening 18 and has an upper squared end 73 to engage in a square opening 74 in a head 75, which has the appearance of the head of an owl. A pin 76, or the like, may be employed to prevent the separation of the head 75 from the shaft 72.

The base 6, stand 10, housing 16, wings 28, and head 75 are preferably made as castings of aluminum or like material. Suitable external ornamentation may be provided on these parts to simulate feathers, as shown.

In operation the device is mounted upon a building at a suitable location, and may be bolted in place. The wire 32 is connected with a source of current. A timing switch, not shown may be connected in the wire 32, if desired, to provide intermittent operation of the device.

The armature shaft 35 will rotate, as will the drive gear 36, which drives the gears 39 and 40, providing a speed reduction. The gear 40 in turn drives the gear 43, effecting a further speed reduction. The shaft 42 driven by the gear 43 causes rotation of the eccentric cam 44 which in turn acting through the pivoted link 51 imparts linear motion of reciprocation of the rack gear 55. The rack gear causes the gear 56 and rock shaft 57 to oscillate through an included angle of approximately 75° clockwise from the position shown in Figure 3. As the rock shaft 57 oscillates, the cross arm 63 swings back and forth, and the pivoted rods 65 and 66 cause the wings 28 to swing horizontally upon the hinges 27 repeatedly from the closed to the open position, Figure 3. Simultaneously, the disc 67 oscillates causing the yoke shaft 72 to oscillate, in turn causing the head 75 to turn back and forth simulating the movement of the head of a living owl. The position of the head 75 may be varied by engaging the yoke in different sets of the openings 68 in the disc 67. The wings may be adjusted by the use of different pairs of openings 64 in the arm 63. Ready access to the interior of the device may be had without disassembling the same through the hinged door 22 when the wings are in the open position.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, what I claim is:

1. A device simulating a bird of prey for scaring birds, comprising a housing, wings pivotaly connected with the housing and adapted to swing horizontally from closed to open positions, an oscillating shaft mounted within the housing, a cross member mounted upon the oscillating shaft, rigid links pivotaly connecting the cross member with the wings, a second cross member disposed above the first named cross member and mounted upon the oscillating shaft, a yoke connected with the second named cross member for oscillation therewith and projecting above the housing, a head disposed above the housing and connected with the yoke, said cross members being provided with adjustment openings whereby the links and yoke may be adjusted on said cross members to vary the degree of motion of said wings and said head, and means including an electric motor disposed within the housing for driving the oscillating shaft.

2. A device simulating a bird of prey for

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scaring birds, comprising a base, a housing mounted upon the base and having side openings, wings pivotally mounted upon the exterior of the housing and adapted to swing horizontally, an oscillating vertical shaft mounted within the housing, a gear mounted upon the oscillating shaft, a cross member mounted upon the oscillating shaft, rigid links each pivotally connected at one end with the cross member and at the other end with a wing and extending through the side openings and adapted to move horizontally therein, a second cross member disposed above the first named cross member and mounted upon the oscillating shaft, a yoke connected with the second named cross member and projecting above the same, a head disposed above the housing and connected with the yoke, a motor mounted within the housing and including an armature shaft, a gear mounted upon the armature shaft, speed reduction gears rotatably mounted within the housing and driven by the armature shaft gear, an eccentric cam driven by the speed reduction gears, and a rack connected with the eccentric

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cam and reciprocated thereby and meshed with the gear on the oscillating shaft to drive the same for causing the wings to swing horizontally and the head to turn.

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