PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improved Construction of Toy.

I, LYNWOOD FERDINAND GARDNER, of 173, 174 and 175, Fleet Street, London, E.C. 4, British Subject, do hereby declare the nature of this invention (as communicated to me from abroad by Bing Werke vorm Gebruder Bing Aktiengesellschaft of 215, Regensburgerstrasse, Nuremberg, Germany, a Joint Stock Company registered under the Laws of Germany) and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

Aircraft and similar toys are known in which a mast or tower carries a spring-operated revolving beam on the ends of which are suspended flying machines or airships. The present invention differs from these known toys in that the airship is moved to and fro, by means of automatically reversing gear, actuated by the tower shaft which rotates the beam. The repeated changing of the radial movement is effected, for example, by means of a screw spindle and travelling nut, and with the aid of a sliding shaft which is provided with two stops and receives its alternating rotational movement through a reversing gear. The bringing of the airship up to the tower enables the child using the toy to introduce the passengers into the airship from a platform on the tower, to which they are raised by a lift, an arrangement which renders the toy more attractive.

The invention will be clearly understood from the following description aided by the annexed drawings in which a typical embodiment of the invention is illustrated, and in which Figure 1 represents a side elevation of the airship toy, and Figures 2 and 3 details of same.

The airship toy consists of a tower 2 which is mounted on a base 1 and carries on its upper end a detachable revolving beam 3. The base 1 houses clockwork mechanism 4 driving the tower shaft 5 which passes through the lattice tower and is provided at the top with a slotted coupling sleeve 6 (Fig. 2) into which can be inserted a short shaft 7 attached to the beam 3. A cross pin 8*a* provided on the shaft 7 engages in a slot 8*b* of the coupling sleeve 6, so that when the shaft 5 is rotated, the shaft 7 is also carried round. At the upper end of the shaft 7 is a crown wheel 8, which is integrally connected to the tower 2. A screw spindle, composed of a tube 11 and a wire 12 spirally wound thereon, is mounted lengthwise of the beam 3 in bearings 9 and 10. The spindle tube 11 is slipped over a shaft 13 which is provided with two pinions 14 and 15 and is mounted in bearings 16 and 17. The spiral wire 12 is slidably mounted on the spindle tube 11, and its ends 18 and 19 engage through slots 20 and 21 in the tube 11 and corresponding bores in the shaft 13, so as to secure the spiral wire 12 to the shaft 13. The airship 22 is suspended on the hook 23 of a travelling nut 24 which is driven to and fro, in the longitudinal direction of the beam, by the rotation of the screw spindle 11, 12. The screw spindle may be replaced by an endless rope, the drum of which is controlled from the tower shaft. A counterweight 25 serves to balance the weight of the beam 3 and the loading effect of the airship 22. The beam might, however, be extended on that side and carry an airship or a flying machine.

On a level with the airship, the tower 2 is provided with a platform 26, to which the passengers (small tin figures) are raised by means of a lift. This lift consists of two small cages 27 and 28, interconnected at their upper ends by a cord 29, which passes over two pulleys 30 and 31. The lower ends of each of the cages are connected to the ends of a cord 32, passing through eyelets 33 on the base 1, two drums 34 and 35 being interposed. The drums are mounted on a common shaft 36, bent round at the end to form a small handlecrank 37. On the crank being turned, one of the cages ascends and the other descends, the cord passing through the eyelets 33, reversing the turning movement reverses the travel of the cages.

When the clockwork mechanism 4 is wound up, the tower shaft 5 and beam 3 rotate. If the pinion 14 is in gear with the wheel 8, the shaft 13 turns, for example in such a direction that the screw

[*Price* 1/-]

spindle 12, 11, which it actuates, causes the nut 24, and with it the airship 22, to travel outwards, during its circulatory movement, in the direction of the arrow A, Figure 3. When the nut 24 reaches the outer end of its course, it strikes against the stop formed by the end 18 of the wire, and displaces the same, together with the shaft 13, in the slot 20 in the non-displaceable tube 11. The displacement of the shaft 13 in the direction of the arrow A moves the pinion 14 out of gear with the wheel 8, and brings the pinion 15 into engagement with the latter. In this way the direction of rotation of the shaft 13 is reversed, since the direction of rotation of the pinion 15 is opposed to that of the pinion 14. The screw spindle is also rotated in the reverse direction, and the travelling nut now moves in the inward direction until it strikes against the stop 19, whereupon a fresh reversal occurs.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. Airship toy with beam revolving on a tower, characterised in that the airship is caused to travel to and fro along the beam by the tower shaft which revolves the beam, acting through automatically reversing gear.

2. Airship toy according to Claim 1, characterised in that the revolving beam driven by the tower shaft carries a screw spindle, the rotational movement of which causes an airship suspended from a travelling nut to move to and fro along the screw spindle while describing its circulatory movement round the tower.

3. Airship toy according to Claims 1 and 2, characterised in that the screw spindle is mounted on a displaceable shaft which is driven in one or the other direction by means of two pinions alternately coming into engagement with a fixed wheel on the tower, said shaft carrying two stops which are displaced by the travelling nut of the airship at the ends of its radial movements, thereby reversing the direction of rotation of the spindle.

4. Airship toy according to Claims 1—3, characterised in that the screw spindle is composed, in known manner, of a tube with a spirally wound wire, the ends of which are passed through the displaceable shaft so as to form stops, and are guided in slots of said spindle tube.

5. Airship toy according to Claim 1, characterised in that the tower is provided with a lift and with a platform for the passengers who are intended to reach the airship from the platform when the airship is in the inner position on the beam.

6. A toy constructed substantially as described with reference to the annexed drawings.

Dated this 16th day of November, 1928.

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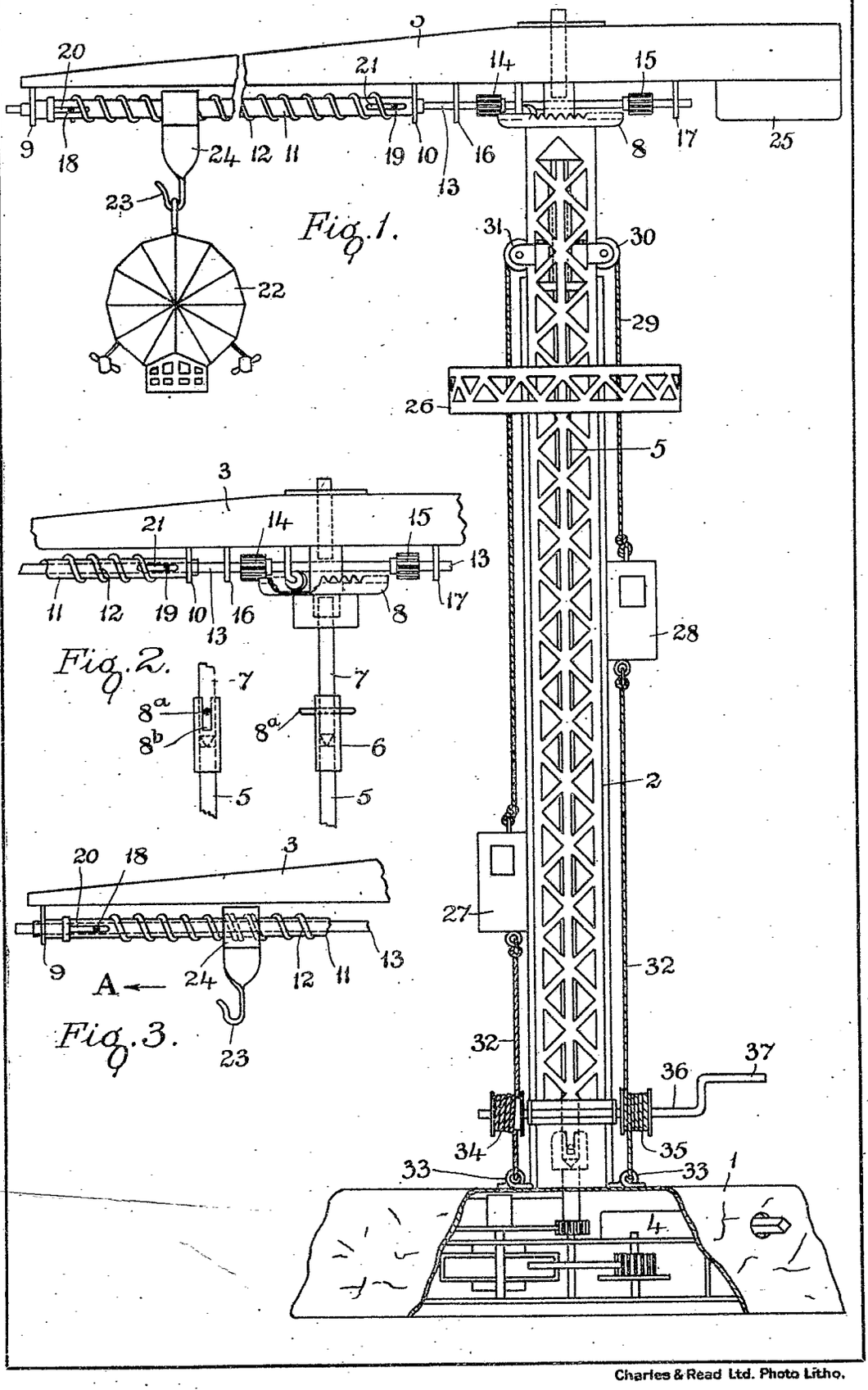

Fig. 1.

Fig. 2.

Fig. 3.

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