Sept. 11, 1951 M. E. ASHWORTH ET AL 2,567,462

WHEELED TOY

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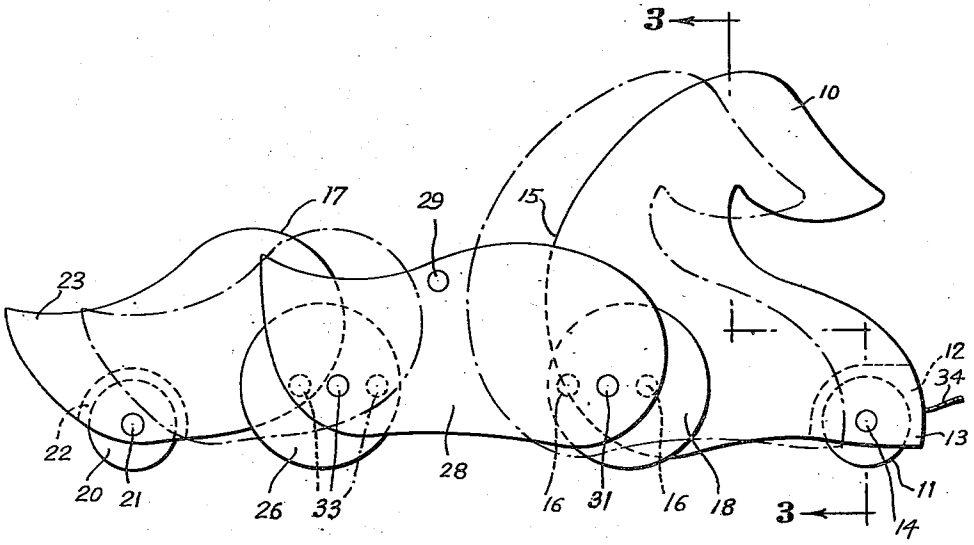


FIG. 1

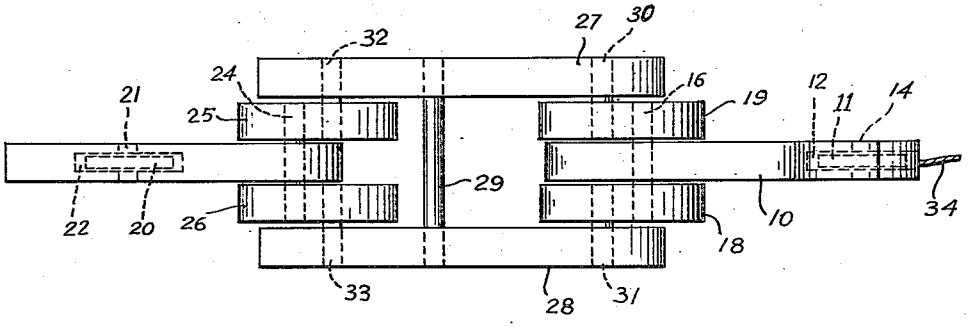


FIG. 2

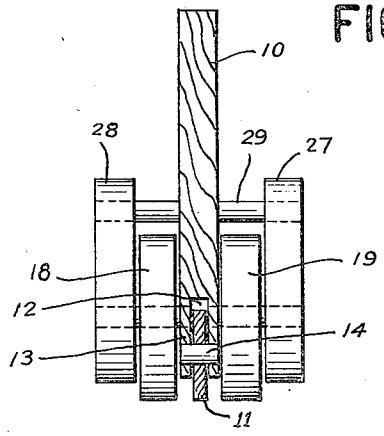


FIG. 3

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WHEELED TOY

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2 Claims. (Cl. 46—103)

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This invention relates to toys and is disclosed in some detail as embodied in a wheeled toy adapted to be pulled along, as on a floor, and to waddle to some extent like a duck, or exhibit similar motions which are produced by an animal walking.

Toys to be pulled along the floor interest children, and toys which also include independent movement of various parts exercise more than a mere interest and often completely fascinate the child, but such toys are often fragile or include complicated driving parts, so that they are easily damaged and expensive to produce.

According to the present invention a toy is provided which effects many varieties of movement for winning and holding the interest of the child, which may be made of wood, metal or plastic, and of as rugged construction as desired. It is capable of withstanding abuse, is composed mainly of flat surfaces, so that it is economical to decorate in bright colors and in patterns which will emphasize the appearance of movement of parts, is easily pulled, and is economical to manufacture either of wood or metal or plastic. The toy further embodies a complex motion which is produced through simple means and which is instituted when the toy is pulled.

In the form shown, the front of the toy carries the form of a duck's neck and head or the like, and the rear end simulates the tail of the duck. The head and tail are constructed so as to be independently movable to nod or bow at intervals, thus amusing the child. In the form shown, this end is attained by eccentrically mounting the head piece and tail piece on separate wheels, and the wheels are shown as journalled in a common linking member.

To effect the best illusion, the front piece runs on eccentrically journalled wheels so that the eccentric journals can give it an effect of nodding around in respect to a front wheel. The rear or tail piece also runs on eccentrically journalled wheels so that the eccentric journals bow the tail up and down around in respect to a rear wheel. A center piece runs on further eccentric journals which are angularly off-set from the above mentioned journals.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Fig. 1 is a side view of the device in one position.

Fig. 2 is a top view, and

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Fig. 3 is a section on the broken line 3—3 of Fig. 1.

In the form shown, a head or front piece 10 runs on a front wheel 11 disposed in an opening 12 in the front 13 of the piece 10, turning on a journal 14 which may be central of the wheel 11.

The rear end 15 of the front piece 10 is shown as carried by a transverse shaft 16, eccentrically fast to a pair of larger wheels 18, 19, so that as the device moves along, the rolling wheels raise and lower the shaft 16 and so cause the front piece 10 to nod around in respect to the journal or shaft 14.

The tail piece 17 is also shown as running on a central small wheel 20 journalled on a transverse shaft 21 in a central opening 22 at its rear end 23, so that the tail piece 17 moves along easily.

The front end of the tail piece 17 is shown as carried on a transverse shaft 24 eccentrically fast to two larger wheels 25, 26, so that as that tail piece moves along, the shaft 24 causes it to rock or nod around in respect to the shaft 21. The broken line circles designated 16 and 24 in Fig. 1 indicate the extreme positions of the respective shafts as the body moves along.

In the form shown, the front piece 10 is connected to the tail piece 17 by a pair of outside link pieces 27, 28, held together by a cross-bar 29 which bridges the space between them.

The link pieces 27, 28, are connected to the front piece 10 through the wheels 18, 19, by stub shafts 30, 31, which are carried in their respective link pieces and serve as eccentric journals on which the wheels 18 and 19 turn, relatively to the link pieces 27, 28, thus causing the front of the link pieces to move up and down as they are drawn along.

Similarly, the link pieces 27 and 28 are connected to the tail piece 17 by stub shafts 32, 33, on which the wheels 25, 26 eccentrically turn relative to the link pieces 27, 28, thus causing the rear ends of the link pieces to move up and down as they ride along. The two eccentric journals on each wheel are angularly off-set from each other to achieve the effect hereinafter described.

In the form shown, the shaft 16 turns on the opposite side of the actual centers of the wheels 18 and 19 in respect to the shafts 30, 31, and the shafts 32 and 33 turn on the sides of the actual centers of their wheels 25 and 26 opposite the shaft 24. Thus, the actual centers of the wheels

are not used at all while the connected members are oppositely directed during movement of the toy. Accordingly, all up and down motions seem exaggerated. Furthermore, the shafts **16** and **24** are respectively on opposite sides of shafts **30, 31** and **32, 33**. This results in a cyclical series of approaches and withdrawals of the front member **10** and rear member **17** simultaneously with the rising and falling thereof. The complexity and symmetry of such motion is considered highly desirable in attracting interest and the same is achieved by relatively simple means.

The front of the front piece **10** may roughly resemble the beak of a duck and the link pieces may roughly resemble the folded wings of a duck. Thus a highly realistic effect is obtained when the device is drawn along by its string **34** to roll on the floor.

The particular action or motion may be described as a continuous series of contractions and extensions accompanied by up and down movements. The full lines of Fig. 1 illustrate the extended position, while the broken lines illustrate the contracted position. The contracted position results from the movement of shafts **16** and **24** towards each other as the toy is pulled, such movement bringing the head **10** and tail **19** together while at the next cycle in the series they are brought apart.

Having thus described one form of the invention in some detail, what is claimed is:

1. In a toy, a front body member, a rear body member, side members linking the front and rear members, wheels concealed behind the side members, and eccentric journals by which each wheel carries a body member and a link member eccentrically.

2. A toy having body members, front and rear pairs of wheels upon which the body members are carried, each pair of said wheels being eccentrically journalled to the body members so that rotation of the wheels causes the body members to rise and fall, a front member eccentrically journalled to the front pair of said wheels and oppositely to the eccentric journal of said body members whereby the front member rises and falls in opposite sequence to said body members as the wheels rotate, a rear member eccentrically journalled to the rear pair of wheels and likewise opposite to the eccentric journal of said body members whereby the rear member rises and falls in opposite sequence to said body members as the wheels rotate, the respective journals of the front and rear members to the pair of wheels being on opposite sides of their centers when the device rests on a flat surface so that the front and rear members cyclically approach and withdraw from each other as they rise and fall.

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PATSY S. CICCONE.

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