



W. D. GRIMSHAW.

Improvement in Mechanical Movements for Toys.

No. 130,987.

Patented Sep. 3, 1872.

Fig. 3.

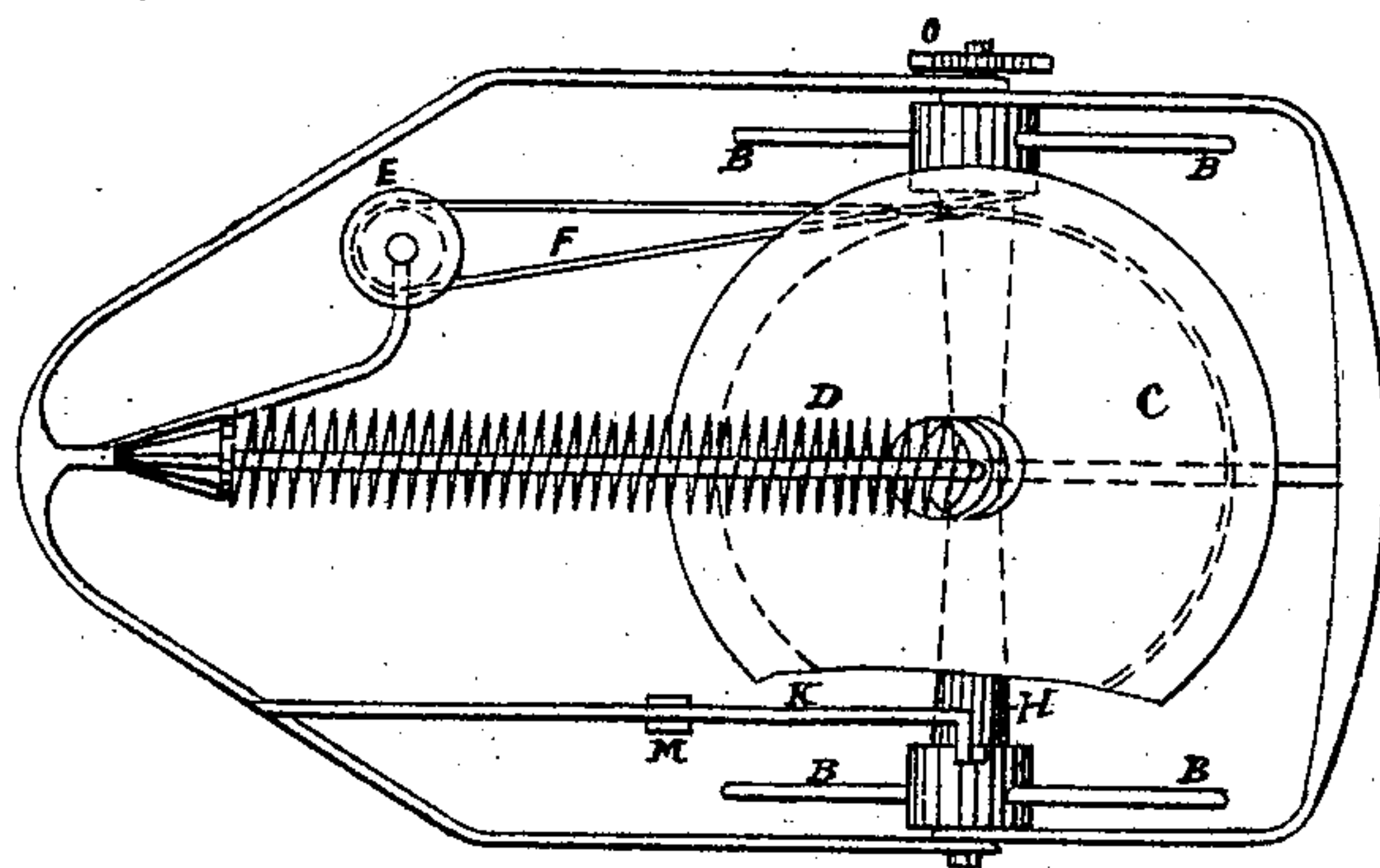
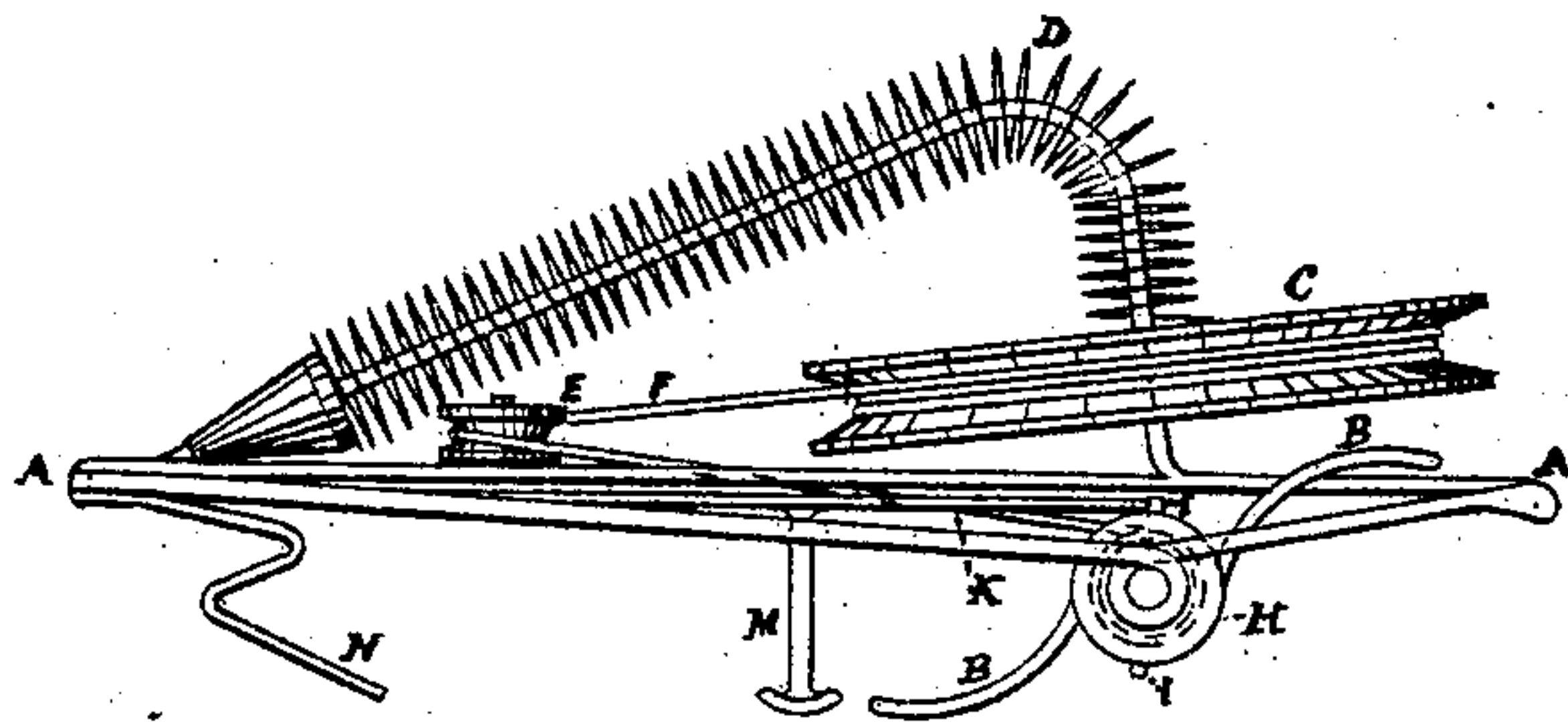


Fig 4

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# UNITED STATES PATENT OFFICE.

WILLIAM D. GRIMSHAW, OF ANSONIA, CONNECTICUT, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO ISAAC F. PUTNAM AND THOMAS FITZSIMONS, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN MECHANICAL MOVEMENTS FOR TOYS.

Specification forming part of Letters Patent No. **130,987**, dated September 3, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM D. GRIMSHAW, of Ansonia, county of New Haven in the State of Connecticut, have invented new and useful Improvements in Mechanical Movements for Toys, Birds, Animals, &c.; and I do hereby declare that the following specification, taken in connection with the drawing furnished, is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

The nature of my invention, which is fully illustrated, consists in certain combinations of springs, escapement-wheels, cord, feet, and trundle-wheel, so arranged and attached to a frame that the same may be secured inside the forms of various kinds of animals, birds, &c., and that when wound up and started in motion the hopping, leaping, or running of the same is fully produced and represented.

Referring to the drawing, Figure 1 exhibits a side view of my mechanical movement. Fig. 2 exhibits a top view.

A is the frame; B, feet; C, cord-wheel; D, spring; F, cord; H, drum or shaft, supporting the feet and serving as an escapement-wheel; I, escapement-catches; K, escapement-spring; M, staff, attached to the escapement-spring; W, trundle-wheel; O, thumb-wheel, for winding. On Sheet No. 2, Fig. 3 is a side view of my improvement similar to that exhibited in Fig. 1, with the exception of a different arrangement of the feet and addition of small wheel E, spring N, &c. Fig. 4 represents a top view of the same.

To enable others skilled in the art to make and use my invention I will describe it.

The frame A is made of any suitable materials, preferring, however, the use of wire for small, light bodies, the formation of which is fully exhibited in the drawing, showing the loops formed for the journals of the escapement shaft and axle. A suitable stiffening brace of wire or other material is secured at the front and back part of the frame, so formed as to pass through and support the spring D and cord-wheel C, which are connected firmly together. The escapement-shaft H is provided with stops, (represented at I,) and the ro-

tating feet B B. This shaft, with the feet, may be placed in different locations, according to the nature of the form to be represented. The arrangement of the feet forward of the center, as in Figs. 1 and 2, when in motion, produces the movement of rats, mice, bugs, &c. In Figs. 3 and 4 they are arranged back from the center, when, with the action of the spring N, a leaping motion is produced similar to a toad or robin. In the latter arrangement a small wheel is placed near the fore part of the frame, (represented at E,) being a support for the cord which is carried around the same, and from thence to the escapement-shaft underneath the large wheel. The spring D, which moves the wheel C, is made of the usual material and firmly secured to the fore part of the frame. The spring K is attached to the frame, as shown in the drawing, with its loose end acting as a pawl on the stops I of the escapement-shaft. The trundle-wheel W, in Figs. 1 and 2, and the foot or post M, in Figs. 3 and 4, is attached to the spring K to lift the same from the stops of the escapement when wound up and ready for movement.

Motion is produced by first winding up the device by the thumb-wheel O, and placing the same upon the floor; then, with a gentle pressure upon the fore part of the form, the spring or pawl is caused to rise, disengaging the catch I and allowing the escapement-shaft, with feet B B attached, to revolve. The feet are roughened or corrugated sufficiently to adhere to the floor to draw or cause a forward movement of the form in their revolutions. Thus the motion is produced and the movements made automatically. Suitable truck-wheels are represented at R R, as in Figs. 1 and 2. They are used when a running motion is desired, and dispensed with when a leaping motion is required. In the latter case the feet are placed under the rear of the form, as in Figs. 3 and 4.

Having thus described my invention, what I claim as new, and desire to secure Letters Patent of the United States for, is—

1. The combination of the spring D, wheel C to transmit power through cord F to the

shaft H, the latter being provided with feet B B and stops I I, said stops being operated upon by spring K acting as a pawl, and being lifted automatically by post M or wheel W striking the floor while in motion, substantially as herein described.

2. The arrangement of the feet B B in combination with the shaft H, placed either at

the fore or after part of the frame, to produce a running or leaping motion, as herein described and shown, and for the purposes set forth.

W. D. GRIMSHAW.

Witnesses:

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