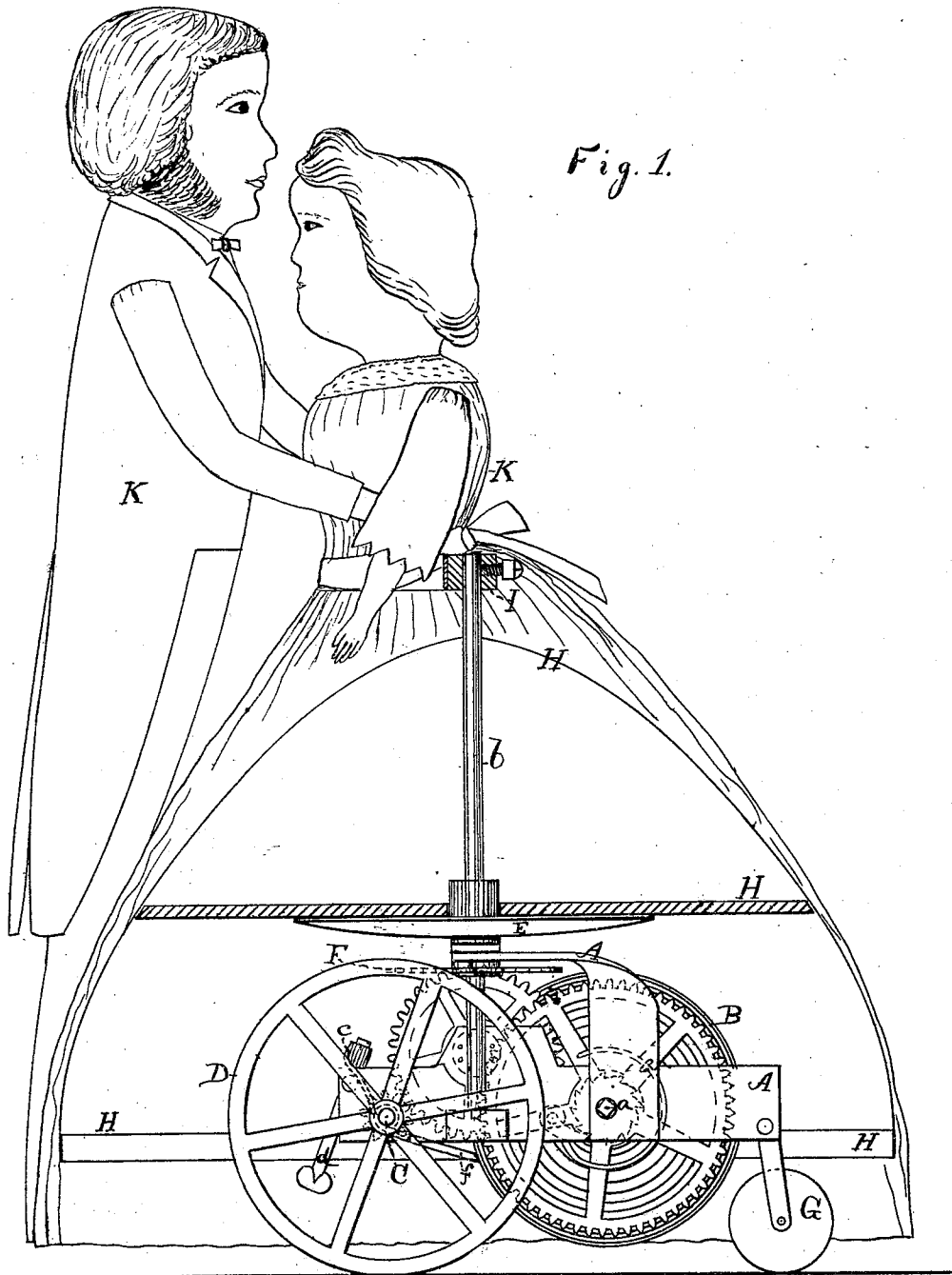


EDWARD E. NEWELL.

Improvement in Mechanical-Toys.

No. 128,164.

Patented June 18, 1872.



Witnesses

Henry B. Cook
Miles S. Beck

Inventor

Edward E. Newell
By James Shepard Atty.

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Fig. 2.

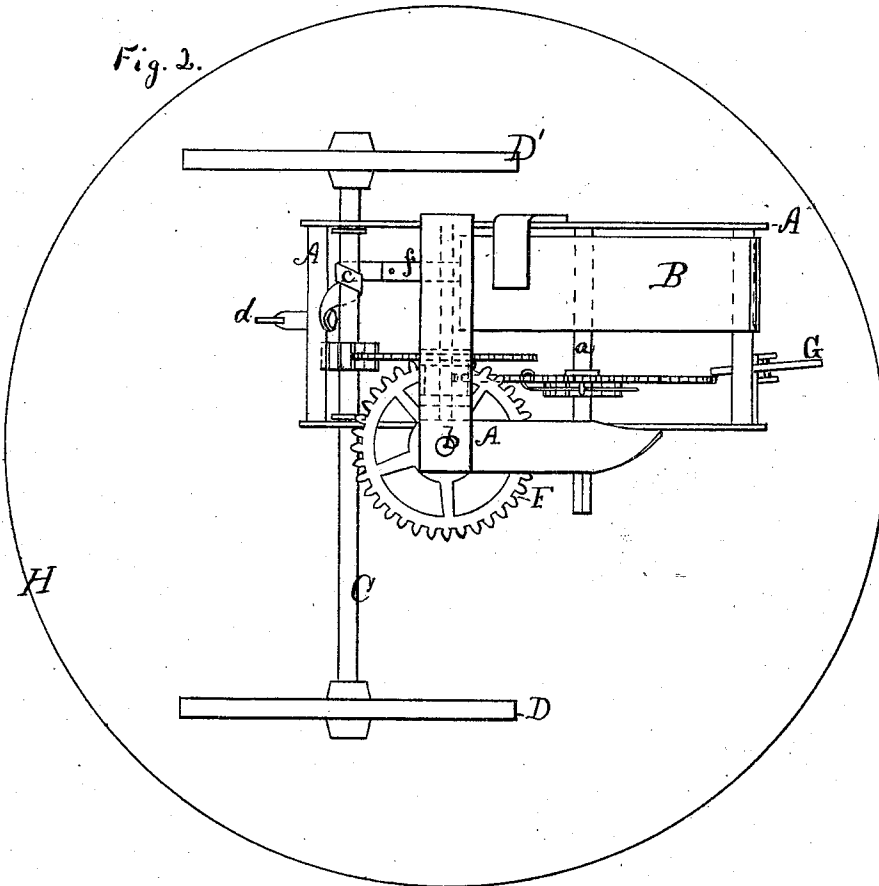
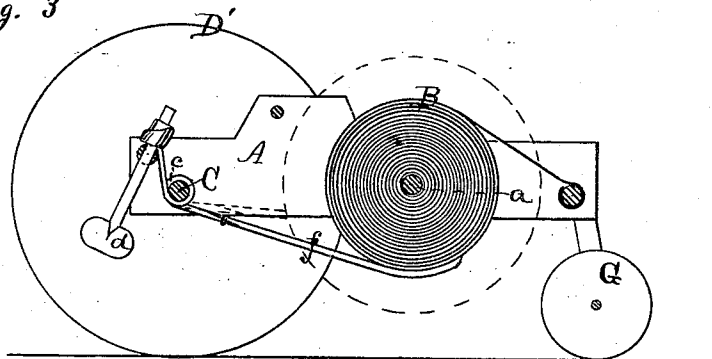


Fig. 3



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UNITED STATES PATENT OFFICE.

EDWARD E. NEWELL, OF BRISTOL, CONNECTICUT.

IMPROVEMENT IN MECHANICAL TOYS.

Specification forming part of Letters Patent No. 128,164, dated June 18, 1872.

Specification describing certain Improvements in Mechanical Toys, (Waltzing Figures,) invented by EDWARD E. NEWELL, of Bristol, in the county of Hartford and State of Connecticut.

The first part of my invention consists of the employment of a vertical and revolving shaft, in combination with a mechanical movement and its carriage, as hereinafter described; and, second, of the peculiar combination of a brake and the propelling spring of said carriage, as hereafter described.

In the accompanying drawing, Figure 1 is a side elevation of a toy which embodies my invention, a portion of the dress being removed in order to better show the mechanism. Fig. 2 is a plan view of the movement part of the said toy; and Fig. 3 is a detached view thereof, showing the brake.

A designates the frame of the movement; B, the propelling spring attached to the main shaft *a*, and prevented from unwinding by means of a ratchet and click, in the usual manner of securing such springs. C designates a shaft, to which a driving-wheel, D, is firmly secured to one end, and a similar wheel, D', loosely secured to the opposite end of said shaft. The shafts *a* and C are connected by a train of wheels and pinions, for the purpose of communicating the power of the spring B to the wheel D. At one side of the frame A is a vertical shaft, *b*, upon which is a supporting-disk, E, Fig. 1, and a gear-wheel, F, which stands at right angles to and meshes into one of the wheels in the movement train, so that a revolving motion is imparted to the vertical shaft *b* whenever the carriage travels. G designates a third wheel or roller for supporting the frame A and its mechanism upon the floor or other plane. I also provide a circular skeleton frame, H, made of wire-cloth or light material, and large enough to allow the movement to revolve around the shaft *b* without striking the frame H. This frame I place upon the vertical shaft *b*, where it is supported by the supporting-disk E, as shown in Fig. 1. I then take one or more toy figures or images, preferably that of a lady and gentleman, neatly fastened together, and secure the back of the lady to a sleeve, I, Fig. 1, by which sleeve I the figures are firmly secured to the shaft *b*. It is designed to dress the figures so that

the dress shall conceal the fastening-sleeve I and skeleton-frame H, as indicated in Fig. 1. One or more holes are made in the side of the frame H, through which to insert the key for winding the spring. By winding the propelling-spring B, and placing the toy upon the floor or other plane, the driving-wheel D causes the carriage to traverse the plane, and, by setting the wheel G obliquely to the frame A, will travel in a circle, when the vertical revolving shaft *b* causes the figures to swing around each other as they move from point to point, something after the manner of waltzing. In order to make the movement run a long time, and with more uniformity, without increasing the number of wheels in a train, I attach the brake *c*, which consists of a strip of leather wound around the driving-wheel shaft C, with one end attached to the shaft *d* connected to the frame A. To the opposite end of the leather brake *c* I secure a strip of rubber, *f*, or other light spring, and secure the rubber to the mainspring B, as shown. When the spring B is "run down," as shown in Figs. 1 and 2, and indicated by the broken circle in Fig. 3, the point at which the rubber-brake spring *f* joins the mainspring B is near the shaft C; but when the spring is wound up, as indicated in Fig. 3, the said connecting-point travels with the spring B to a distance more remote from the shaft C, and consequently the brake is applied to the shaft C with the greatest amount of friction when the movement is most inclined to run at the greatest speed, and as the mainspring gradually unwinds the brake *c* is also gradually slackened, removing its friction from the shaft C, whereby the carriage moves with greater uniformity of speed than is possible for a movement to do without this device or a much longer train. The shaft *d* stands at right angles to the shaft C, and turns in the frame A. One end is provided with a thumb-handle, and one end of the brake *c* is attached to its other end, as shown. When it is desired to vary the power or friction of the brake *c*, it can be done by turning the shaft *d* and winding more or less of the brake around it. It is desirable to adjust the brake when the toy is run in different places, as without such adjustment the toy will travel faster upon bare floor than it will upon a carpeted one. If desired, a lever and shoe-brake might

be applied to the shaft C and operated by the mainspring, as described; also, many little mechanical details may be varied without departing from the main features of my invention.

It is, of course, obvious that the second part of my invention may be adapted to any mechanical toy-carriage with equally good results.

I claim as my invention—

1. The vertical revolving shaft *b*, in combination with a mechanical movement and rollers or wheels D D' and G, upon which wheels the device is mounted, the whole oper-

ating together to move a figure or figures around the axis of the shaft *b*, and at the same time carry the whole device over a floor or similar plane, substantially as herein shown and described.

2. The combination of the driving-wheel shaft C, friction-brake *c*, and mainspring B, operating together substantially as and for the purpose herein described.

EDWARD E. NEWELL.

Witnesses:

MILES L. PECK,
JAMES SHEPARD.