(Model.)

H. O. LUND.

MECHANICAL TOY.

No. 261,244. Patented July 18, 1882.

Fig. 1.

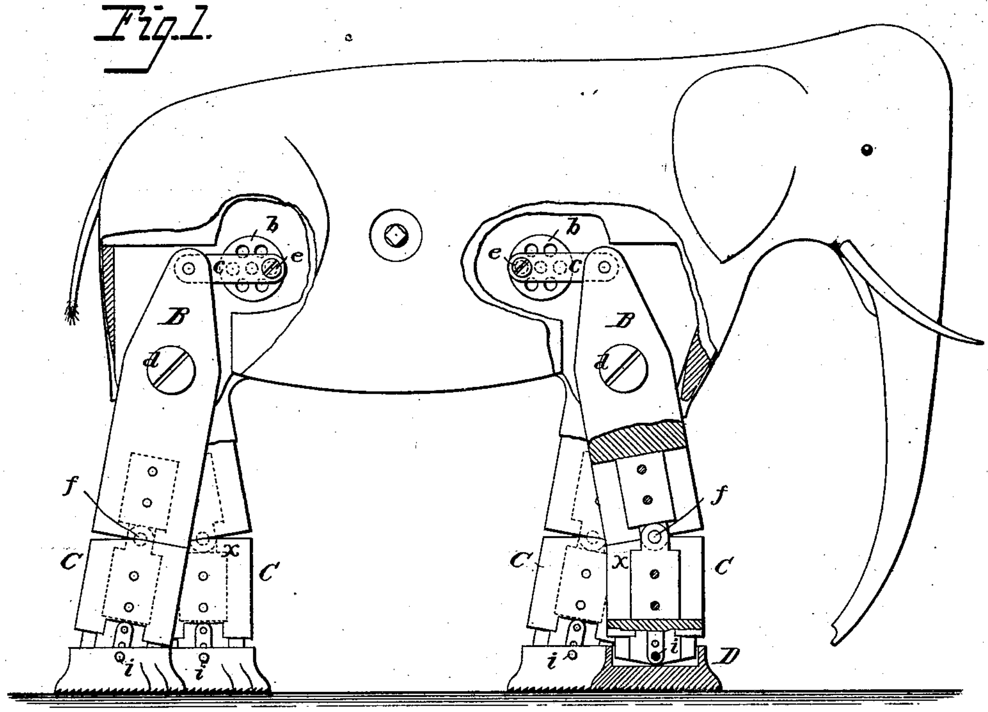
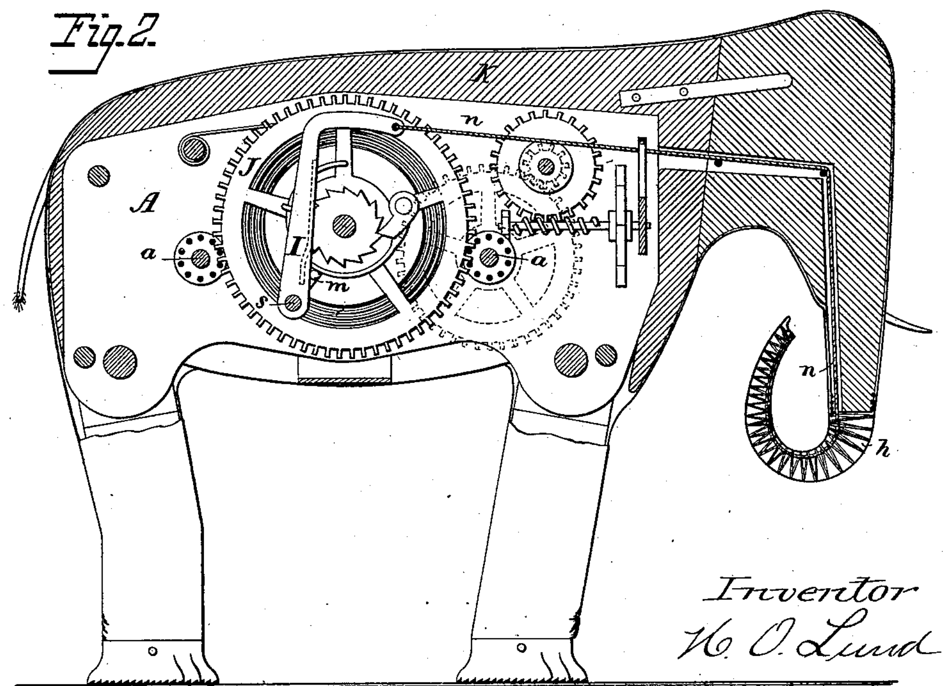


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY O. LUND, OF BRIDGEPORT, CONNECTICUT.

MECHANICAL TOY.

SPECIFICATION forming part of Letters Patent No. 261,244, dated July 18, 1882.

Application filed May 5, 1882. (Model.)

To all whom it may concern:

Be it known that I, HENRY O. LUND, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Mechanical Toys, of which the following is a specification.

My invention is an automatic toy constructed, as fully described hereinafter, to be wholly supported upon four legs and operated by internal mechanism, which imparts life-like movements to the legs, and thereby propels the animal.

The invention further consists in means whereby the part representing the trunk or proboscis of the animal may be contracted and extended.

In the drawings, Figure 1 is a side elevation without the external covering, showing a toy elephant constructed in accordance with my invention. Fig. 2 is a part-sectional elevation.

A frame, A, carries any suitable clock-work mechanism, of which two shafts, *a a*, are parts, each shaft extending beyond the sides of the frame, and carrying at the end a crank-wheel, *b*, the wrist-pin *e* of which is connected by a pitman, *c*, to the upper end of a lever, B, pivoted by a pin, *d*, to the side of the frame, and constituting the upper end of one of the legs.

The lower end of each leg is a block, C, so pivoted by a pin, *f*, to the upper portion, B, that it may be swung or tilted to either of the positions shown in the drawings.

The foot D consists of a cup-like or flanged plate, pivoted by cross-pins *i* to the lower reduced end of the block C.

The rotation of the shafts *a* imparts a swinging motion to the levers B, the wrist-pins being so arranged that the upper ends of the two levers on one side will approach each other at the same moment that the upper ends of the levers on the opposite side move from each other.

As the lower end of any lever B moves forward, the block C below it will be tilted or swung back at an angle to the lever B, as shown at *x*, Fig. 1, thereby slightly reducing the length of the leg, so that there is but little pressure upon the same, the foot portion D swinging freely on the pin *i*, and sliding over the surface upon which the toy rests. While the lower portion of one lever B is thus moving forward the lower end of the lever upon the opposite side is being carried backward, bringing the block C into line with the lever, straightening and slightly lengthening the leg, and throwing the weight of the body of the toy upon this leg and upon that which is diagonally opposite, and which moves backward at the same time.

I have found that the construction thus described not only insures a life-like movement of the legs, but that the jointing of the same, as set forth, causes an adhesion of the backward-moving legs to the surface, while the forward-moving legs are relieved of pressure, so as to propel the animal forward by the action of the legs alone.

By jointing the feet to the legs by cross-pins *i*, I secure a steady support without interfering with the freedom of the leg movements.

By jointing the blocks and feet to the levers, as set forth, and permitting a limited but free movement of the blocks, I secure a natural movement of the legs without the use of appliances for positively moving the different lower members, heretofore considered essential.

The snout or proboscis is made in whole or in part of coiled wire *h*, and a cord, *n*, is run through this coil or spring and connected thereto at the lower end and at one side, the result being that upon pulling upon the cord the end of the spring will be curled, as in Fig. 2. This pulling movement may be effected by any suitable means. An effective plan is shown in the drawings, and consists of a lever, I, pivoted to the frame A at *s*, to one end of which the cord *n* is connected. The lever is thrown back by contact with pins *m* on a wheel, J, which on striking the lever throw it back, drawing the cord upward, curling the spring *h*. The uncoiling of the spring *h* throws the lever forward.

In some instances two or more cords, *n*, connected to levers, separately operated, may be used, and by being connected to different sides of the end of the spring *h* may impart different movements to the trunk.

The frame A is inclosed within a hollow block or casing, K, of any form, according to the character of the animal being imitated,

and made of wood, papier-maché, or any other suitable material, and suitably inclosed in an external covering; and it will be apparent that some of the details of mechanism above described will be varied in representing different animals, and that, in some instances, additional devices may be employed for imparting other movements to different parts—as, for instance, to the head and tail. The latter may be made of coiled wire, and curled in the same manner as the trunk.

I claim—

1. The combination, in an automatic toy, of levers B, pivoted to opposite sides, mechanism whereby the said levers are vibrated, as set forth, and blocks C, provided with feet and pivoted to the levers, so as to assume an angle thereto when carried forward, and swing automatically in line therewith when the lower ends of the levers move backward, substantially as set forth.

2. The combination, with the levers B and loosely-jointed blocks C, of flat feet D, loosely pivoted to the blocks, as set forth.

3. The combination, with the body of an automatic toy animal, of a coiled spring, *h*, one or more cords, *n*, extending through and attached to the outer end of said spring, and appliances for periodically drawing upon said cord or cords, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY O. LUND.

Witnesses:
SAMUEL TAYLOR,
HOOKER ELLIS.