

E. M. SECOR.
MECHANICAL TOY.
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1,033,479.

Patented July 23, 1912.

Fig. 1.

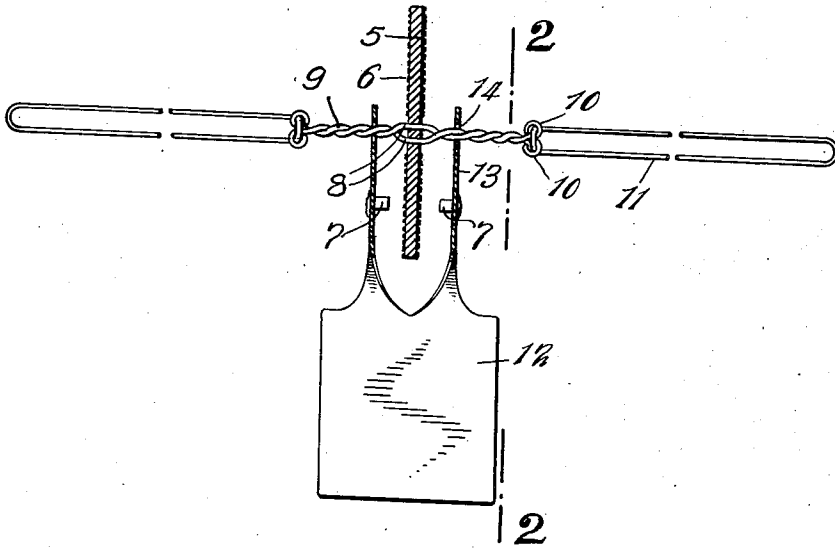
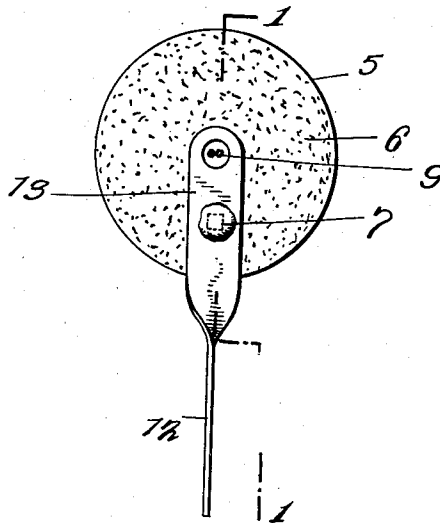


Fig. 2.



WITNESSES
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MECHANICAL TOY.

1,033,479.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD M. SECOR, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Mechanical Toys, of which the following is a full, clear, and exact specification.

This invention relates to mechanical toys and has for an object to provide a toy which while producing rhythmic sounds will also throw off intermittently and alternately oppositely directed showers of sparks.

In the drawings accompanying and forming a part of this specification one practicable embodiment of the invention is illustrated wherein:

Figure 1 is a front elevation, partly in section, the section being taken on a plane indicated by the line 1—1 of Fig. 2; and Fig. 2 is a side elevation, partly in section, the section being taken on a plane indicated by the line 2—2 of Fig. 1.

The illustrative example comprises a rotary body abrasively engaging coöperative spark producing bodies. In the illustration the rotary body is shown as a disk 5, having abrasive surfaces on its sides. These abrasive surfaces may be formed of carborundum. I have found in practice that a surface coated with carborundum, such as is used in the coarse carborundum paper, has given satisfactory results.

The coöperative spark producing bodies are shown as metallic contacting members 7. These contacts 7 are held stationary relative to the abrasive surfaces. That is, the rotation is relative. The disk 5 is shown provided centrally with a pair of small holes. In each of these holes is located a wire 8. These wires are twisted on each side of the disk, forming an axle 9 in the nature of a worm. The wires forming both sides of this worm axle are twisted in the same direction. The wires end in eyes 10. The eyes at the respective axle ends are shown spaced apart. A string 11 is fastened in the eyes at each end. The strings are shown in the form of loops, the spaced apart eyes holding the sides of each loop separated.

The contacts 7 are shown pendant from the axle. A sheet metal pendant is illustrated comprising a body portion 12 in the form of a sail, or weight of extended area disposed transversely to the plane of disk

rotation. A pair of arms 13 are shown integral with the body. The arms are bent to lie in planes disposed transversely of the plane of the body, and substantially parallel with the plane of disk rotation. The contacts 7 are shown carried by the arms. In the illustration they are square in cross section, and are seated in similarly formed sockets in the arms and are secured in position by solder. The arms 13 have holes 14 freely fitting on the axle. The bearing portion of the sheet metal of the arms will readily mesh with the worms of the axle, so that as the disk is rotated in one direction and then in the other the pendant will be moved from side to side.

The disk will be reversely rotated by the reverse winding and unwinding of the strings in a well known manner. Which ever of the contacts 7 engages the disk will emit a shower of sparks. In the illustrated form a shower of sparks will be thrown from one side in one direction upon forward rotation of the disk, and upon reverse rotation a shower will be thrown in the opposite direction from the other side. The spark showers will be accompanied by rhythmic sounds. The contacts 7 are placed in such position that they are elastically held against the disk; this assists in producing a continuous shower during contact.

Changes may be made in construction within the scope of the claims without departing from the spirit of the invention.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. The combination with a rotary body, of a stationary body, and coöperative abrasive spark producing materials carried by the bodies respectively.

2. In a mechanical toy the combination with an abrasive disk, of means for rotating the disk, a metallic contacting device, and means for stationarily supporting the latter.

3. The combination with a disk having on its sides abrasive material, said disk being provided centrally with a pair of holes, of a pair of wires respectively disposed in the holes, said wires on the respective sides being twisted together and the ends provided with spaced-apart eyes, cords fastened to the eyes, of a sheet metal pendant comprising a body portion and a pair of arms disposed transversely to the body portion,

and provided with openings mounted on the twisted wires, and contacts carried by the arms for engaging the abrasive material.

4. The combination with a disk having
5 abrasive side surfaces, of a worm axle fast with the disk, spaced apart cord connections at each axle end, a weighted fan, arms rigid with the fan and having bearings engaging the worm axle, and metallic contacts carried
10 by the arms for engaging the abrasive side surfaces of the disk.

5. In a mechanical toy, the combination with a disk having abrasive surfaces, of an axle fast with the disk, means for re-
15 versely rotating the disk, a pair of arms pendant from the axle, a metallic contact carried by each arm for engaging the abrasive surfaces of the disk, the said axle being in the form of a worm and the arms
20 having bearings meshing therewith for alternately moving the respective contacts into engagement with the disk upon its reversals of movement.

6. In a mechanical toy, the combination
25 with a disk having abrasive surfaces, of an axle fast with the disk, means for re-

versely rotating the disk, a pair of connected arms pendant from the axle, a weight carried by the lower ends of the arms, said weight having an extended area disposed 30 in a plane transverse to the plane of disk rotation, a metallic contact carried by each arm for engaging the abrasive surfaces of the disk, the said axle being in the form of a worm and the arms having bearings mesh- 35 ing therewith for alternately moving the respective contacts into engagement with the disk upon its reversals of movement.

7. In a mechanical toy, the combination with an abrasive disk, of a sparking con- 40 tact for the disk, a resilient support for the contact, means for rotating the disk, and means for urging the support toward the disk.

In witness whereof I have hereunto set 45 my hand in the presence of two subscribing witnesses.

EDWARD M. SECOR.

Witnesses:

C. M. PEREZ,
W. C. DUNN.