

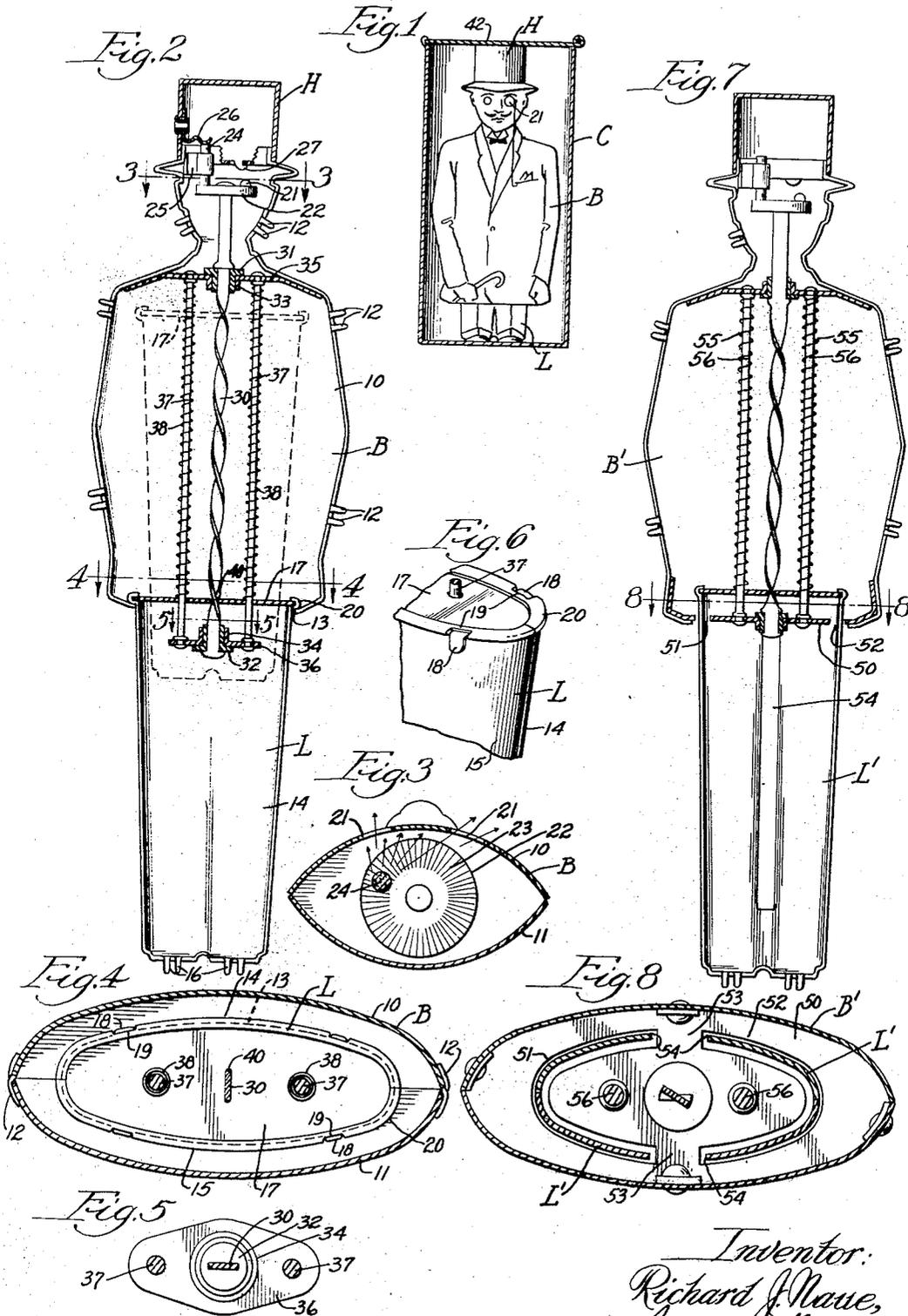
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MECHANICAL TOY

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UNITED STATES PATENT OFFICE

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MECHANICAL TOY

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This invention which relates to a mechanical toy is concerned with a figure which may be collapsed by compressing the parts against spring tension, the figure so collapsed being confinable within a container having a releasable cover in a manner whereby the figure, when the cover is released, will jump from the container under the force of the springs under compression.

It is a particular object to provide means for emitting sparks from openings in the eyes of the figure. Another object is to provide a small spring motor adapted to force the figure from the container, and at the same time cause sparks to emit from the eyes of the figure.

Further objects and details of the invention will appear from the description taken in conjunction with the accompanying drawing, wherein—

Figure 1 is a view of the figure in elevation and fitted within a container which is shown in section;

Fig. 2 is a view in sectional elevation showing the parts in normally extended position;

Fig. 3 is an enlarged sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is an enlarged sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is an enlarged detail sectional view taken on line 5—5 of Fig. 2;

Fig. 6 is a fragmentary perspective view of the upper edge of the legs;

Fig. 7 which is a view similar to Fig. 2 shows a modified construction; and

Fig. 8 is an enlarged sectional view taken on line 8—8 of Fig. 7.

In the drawing, the animated figure is shown as a man having a body portion B, a removable hat H at one end thereof, and legs L at the other end which are mounted to telescope within the body portion. The body and head of the figure may each be made of two metal shells 10 and 11 which are formed concave to provide a hollow interior when the shells are assembled together. Suitable lugs 12 may extend from the edges of the two shells which are foldable over the adjacent shell edge to hold the two together, as shown in Fig. 4. The shells are cut away at the bot-

tom to provide an opening 13 in the bottom of the body through which the legs extend.

The legs L may similarly be formed of two shells 14 and 15 which are held together at their lower edge by lugs 16. The upper edges of the shells forming the legs are held together by a plate 17 having lugs 18 extending through openings 19 in an annular flange or bead 20 formed in the two shells. The bead serves as a means for supporting the plate 17, and also as an abutment to stop the legs in the downward movement, as will later be explained.

The shell 10 is provided in the head portion with two openings 21 in the position of the eyes as seen in Figs. 1 and 3. Within the head and in alignment with the openings is mounted a rotatable friction wheel 22 having a roughened surface against which bears a pyrophoric stick 24 mounted in a bracket 25 which is secured to the shell 10. A spring 26 secured to the removable hat H bears against the end of the pyrophoric stick to hold it firmly against the friction wheel. The hat may be provided with suitable lugs 27 by which it is secured to the head of the figure, and is readily removable for replacing worn pyrophoric sticks.

The friction wheel is rotated by suitable means which may comprise a threaded shaft 30 to which the friction wheel is secured, the shaft being provided with shouldered bushings 31 and 32 which are freely rotatable in bearings 33 and 34, the bearing 33 being formed in a supporting bracket 35 which is secured to the shell 10 near the shoulders. The lower bearing 34 is formed in a bearing bracket 36 which is supported by guide rods 37. Surrounding the guide rods are coiled springs 38 having their ends abutting the supporting bracket 35 and the plate 17 tending to hold the legs downwardly, as shown in Fig. 2.

The plate 17 is provided with a slot 40 through which extends the threaded shaft 30. As the legs are moved in telescopic relation to the body, the threaded shaft is rotated by contact with the sides of the slot 40, causing the friction wheel to throw sparks from the

pyrophoric stick, some of which are visible through the openings 21.

The figure is adapted to be placed in a container C (Fig. 1). When so placed, the body is pressed downward to compress the springs 38 until the plate 17 is substantially in the position shown in dotted lines in Fig. 2, whereupon the cover 42 of the container is snapped shut. Upon releasing the cover the springs 38 expand, forcing the body B rapidly upward and at the same time the friction wheel is rotated causing sparks to emit from the eyes of the figure. When the body is raised to a point where the edge adjacent the opening 13 abuts the bead 20 on the legs, the momentum of the body is sufficient to cause the entire figure to eject itself from within the container.

In Figures 7 and 8 is shown a modified construction having a body B' provided with a lower bearing plate 50 secured thereto in any suitable manner, there being circular slots 51 and 52 through which the legs extend. The ends of the circular slots are spaced apart sufficiently to leave a bridge 53 which supports the interior of the plate. The legs L' are provided with slots 54 in which the bridge 53 moves as the legs are telescoped within the body B'. The mechanism is otherwise the same as described with reference to Fig. 2, and the springs 55 surrounding the guide rods 56 operate in the same manner as previously described in connection with the springs 38.

I claim:

1. In a mechanical toy having an irregularly shaped body with openings therein, a pyrophoric member mounted within the body adjacent the openings, a friction wheel contacting the pyrophoric member, means normally extended exteriorly of the body and in telescopic relation therewith, and a threaded shaft providing a driving connection be-

tween the friction wheel and the first mentioned means.

2. In a mechanical toy having a body with openings therein, a pyrophoric member mounted within the body adjacent the openings, a friction wheel contacting the pyrophoric member, legs telescopically associated with the body, a threaded shaft secured to the friction wheel and in driving connection with the legs, and springs for normally extending the legs exteriorly of the body.

3. In a toy of the class described comprising a body having openings therein, a member in telescopic relation therewith, means encased within the body for producing sparks adjacent the body openings, and threaded means providing a driving connection between the spark producing means and the telescopic member whereby sparks are produced by relative movement between the member and the body.

4. In a mechanical toy having a body with openings therein, a pyrophoric member encased within the body adjacent the openings, a friction wheel contacting the pyrophoric member, guides secured within the body, means slidable on the guides, and a threaded shaft secured to the friction wheel and in driving connection with the sliding means whereby the friction wheel is rotated as the sliding means is moved relative to the body.

5. In a mechanical toy, a body having an irregular contour, a guide rod secured within the body parallel with the center line thereof, legs having an irregular contour telescopically associated with the body and slidable on the guide rod in a path parallel with the center line of the body, and a spring surrounding the guide rod and abutting the legs for normally holding the legs exteriorly of the body.

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