J. B. SAFFORD:

Toy.

No. 163,696. Patented May 25, 1875.

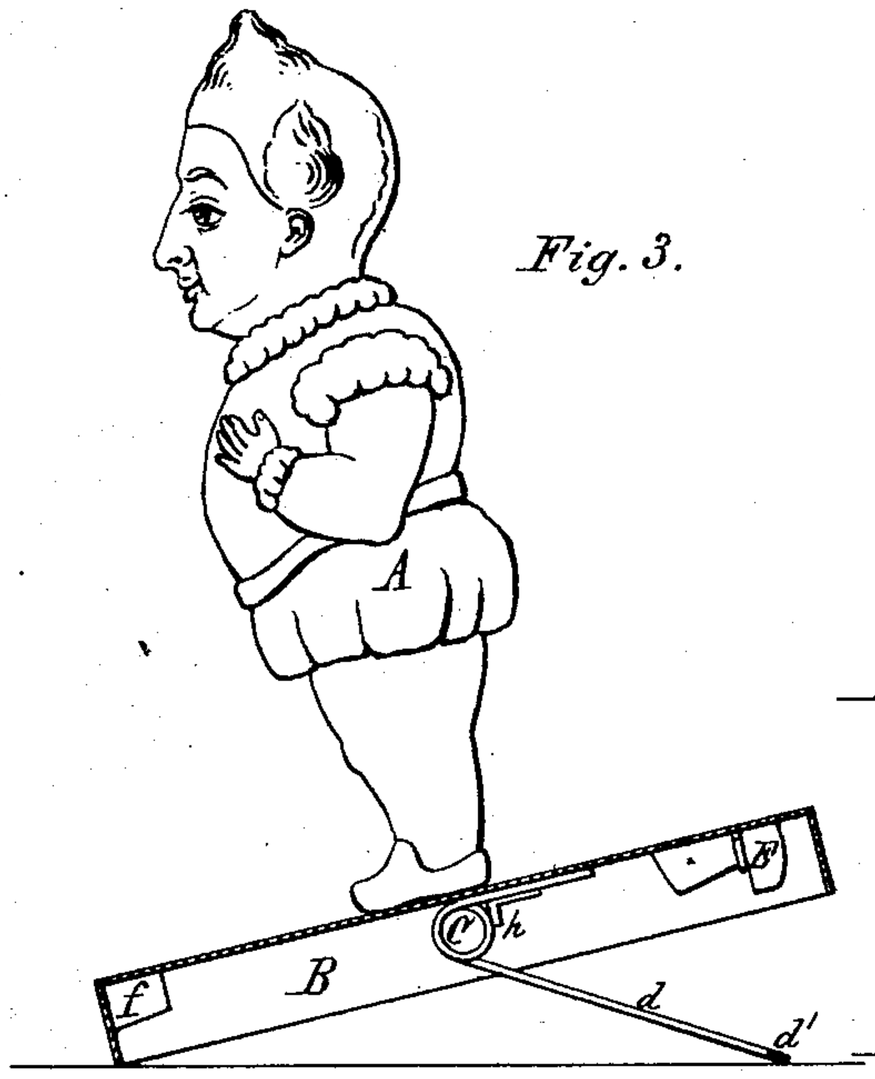


Fig. 3.

Fig. 1.

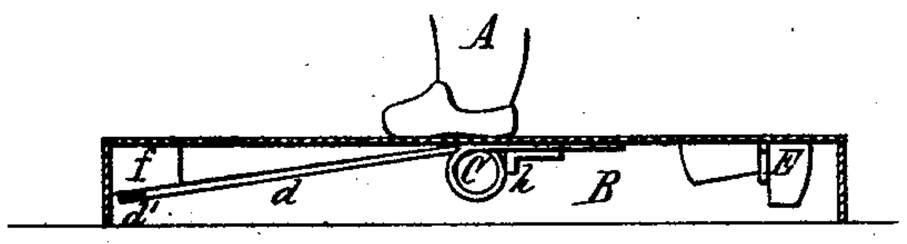


Fig. 2.

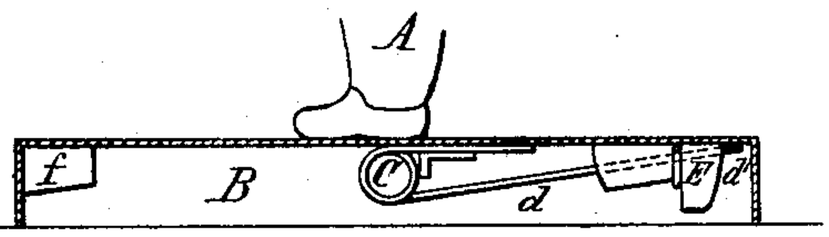


Fig. 4.

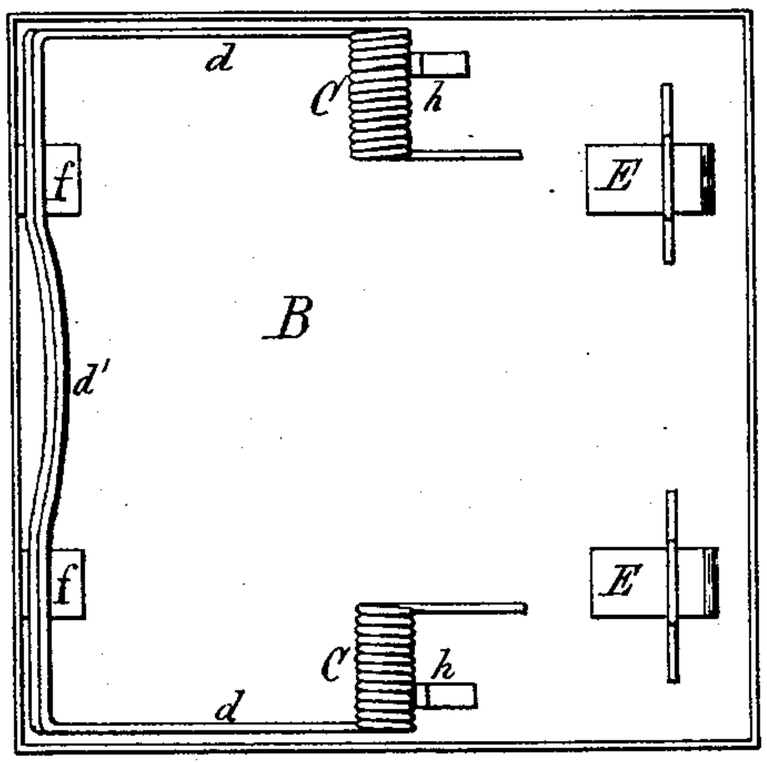


Fig. 5.

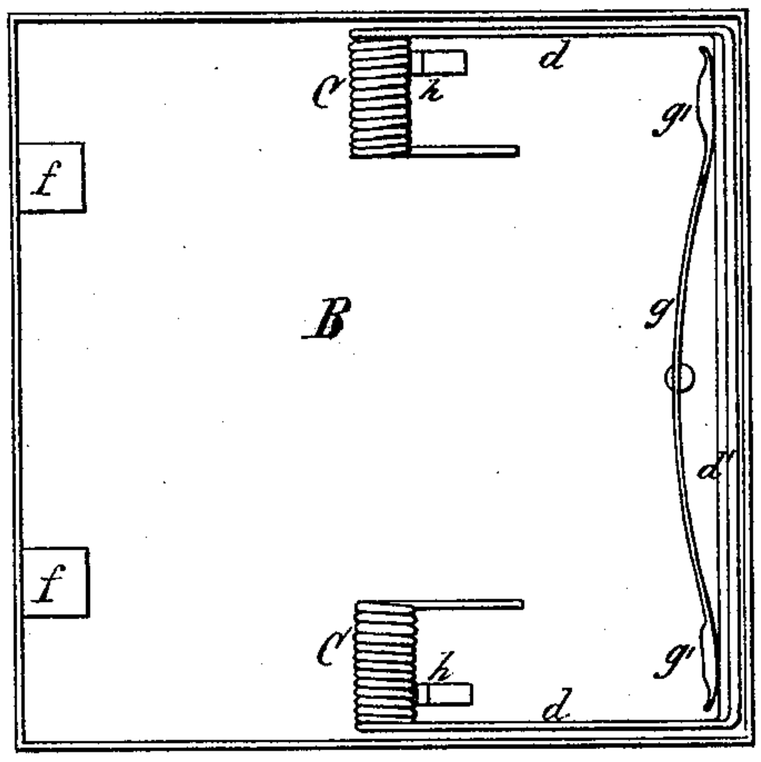
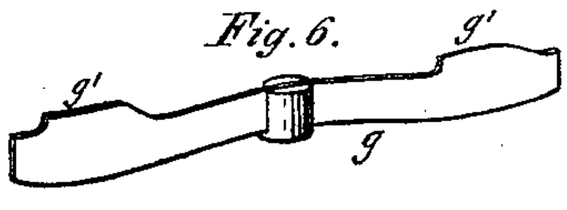


Fig. 6.



Witnesses
Jno. J. Bonner
Edward Wilhelm

J. B. Safford Inventor
by Jay Hyatt
Atty.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES B. SAFFORD, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO THOMAS A. JEBB, OF SAME PLACE.

IMPROVEMENT IN TOYS.

Specification forming part of Letters Patent No. **163,696**, dated May 25, 1875; application filed February 26, 1875.

To all whom it may concern:

Be it known that I, JAMES B. SAFFORD, of the city of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Toys, of which the following is a specification:

My invention relates to a toy figure, the base of which is provided on its under side with a spring, which, when released, will cause the toy to jump or turn a somersault.

In the accompanying drawing, Figure 1 is a longitudinal section of the base of the toy, showing the spring at rest. Fig. 2 is a similar view with the spring compressed or twisted previous to causing the toy to jump. Fig. 3 is a partly sectional side elevation, illustrating the action of the spring in causing the toy to jump. Fig. 4 is a bottom plan view of the base with the spring at rest. Fig. 5 is a similar view with the spring twisted, and showing a modified form of automatic releasing-stop for the spring. Fig. 6 is a detached view of said stop.

Like letters of reference designate like parts in each of the figures.

A represents a toy figure secured to a base, B, of rectangular, circular, or other suitable shape. C C are two spiral springs arranged on the under side of the base B, one end of each spring being fastened to the base, while the opposite end connects with or is formed into an arm, *d*, the outer ends of which are connected by a cross-bar, *d'*. The two springs C C, arms *d d*, and cross-bar *d'* may, however, be constructed of one continuous wire, when the bar *d'* and arms *d* are preferably strengthened by soldering thereto another thickness of wire. The coils of the springs C are so arranged that the same are at rest when in the position shown in Figs. 1 and 4, and that both springs will be equally strained by taking hold of the bar *d'*, and turning it and the arms *d* over to the position shown in Figs. 2 and 5. E E are two stop-blocks of rubber or other suitable material, arranged on the under side of the base B, and provided with slightly-curved faces, in such manner that the cross-bar *d'* will engage over said blocks and rub closely in contact with the faces thereof. The blocks E oppose to the movement of the bar *d'* a frictional resistance sufficient to nearly but not quite overcome the strength of the spring on letting go of the bar *d'*. When in the latter position the tension of the springs C C causes the bar to gradually overcome the friction of the stop E, and begins to slowly disengage itself until it is entirely released therefrom, when, the bar *d'* coming in contact with the table or other support on which the toy rests, the reaction and recoil of the springs throw upward the toy from the table or other support on which it is placed, in the manner shown in Fig. 3.

By the arrangement of the springs as shown, the toy, at the same time it is thrown upward, has imparted to it a turning movement, which causes the base to be thrown over the head in the manner of a somersault, when the toy will alight again on its base.

By properly arranging the springs on the under side of the base the toy may be caused to jump forward, backward, or sidewise.

The height to which the toy will jump and the rapidity of its movements can be varied by employing a stronger or lighter spring. According to the power of the spring employed the toy may be caused to turn one or more complete somersaults, or only part of one, before alighting, as may be desired.

f represents one or more elastic cushions secured to the under side of the base B, for receiving the impact of the bar *d'* when returning to its normal position. *g*, in Figs. 5 and 6, represents a flat spring, which may be used instead of the stop-blocks E. It is firmly secured at the middle to the under side of the base B, and curved, so as to bear with its ends against the bar *d'* when the latter is set so as to strain the springs. The ends of the spring *g* are preferably provided on the upper side with lips *g'*, curved backwardly, so as to facilitate the engagement of the bar *d'* over the spring. *h* is a stop arranged on the under side of the base B, so as to bear against the spring C near its free end, on the side on which the blocks E are located, so that the spring, in placing the bar *d'* over said blocks, is prevented from yielding or bending, whereby a uniform operation of the spring is insured.

What I claim as my invention is—

1. The combination, with the actuating-spring placed on the under side of the toy, of a frictional stop, arranged substantially as described, to permit the spring to release itself, as set forth.

2. The combination, with the base of a toy, of the springs C C, arms *d d*, bar *d'*, and a suitable stop, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the springs C C, arms *d d*, and bar *d'*, of one or more frictional stop-blocks, E, substantially as and for the pnrpose hereinbefore set forth.

J. B. SAFFORD.

Witnesses:
JNO. J. BONNER,
EDWARD WILHELM.