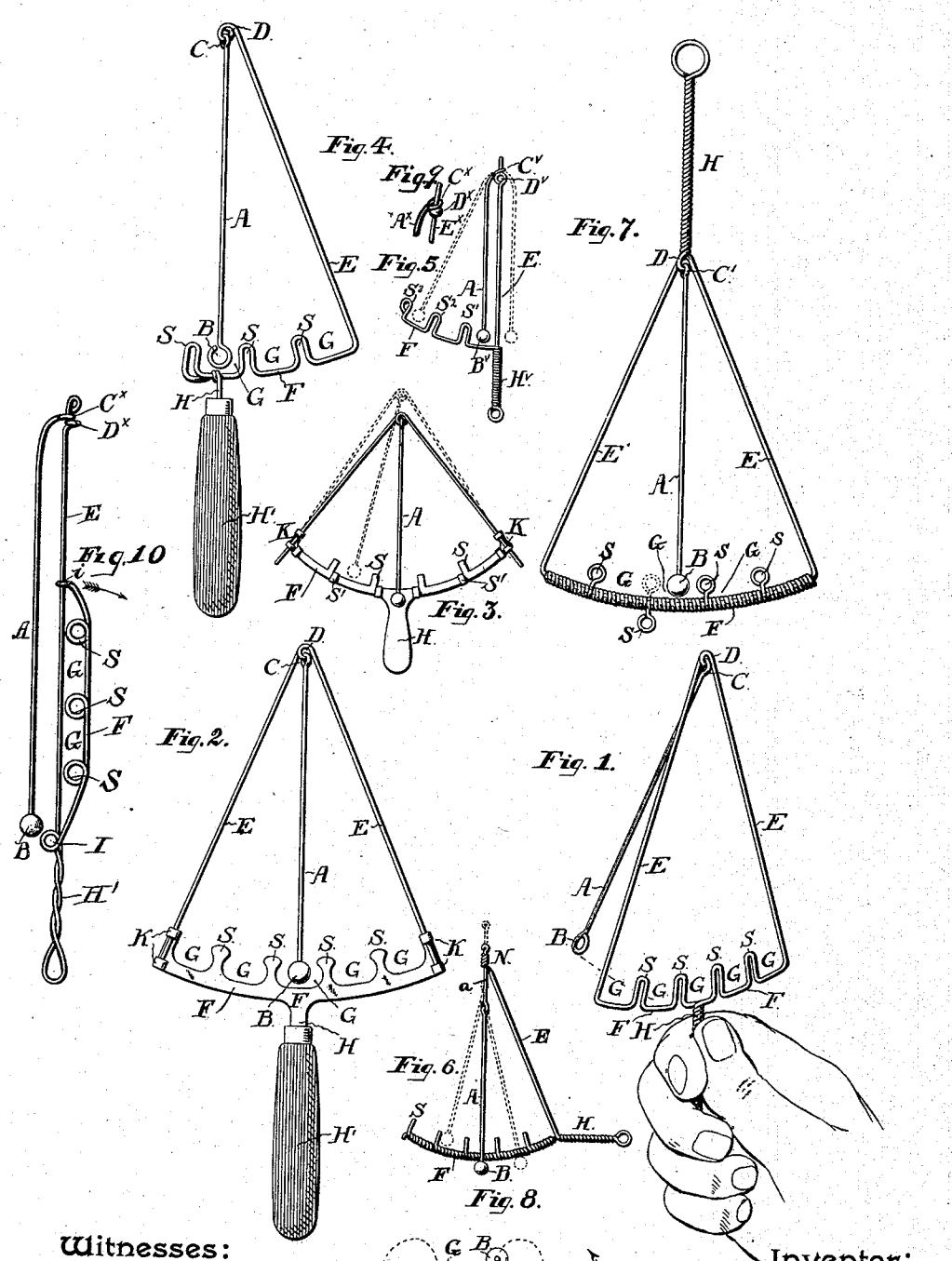
(No Model.)

W. S. HOW.

TOY.

No. 410,101. Patented Aug. 27 1889.



Witnesses:

Severance.

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UNITED STATES PATENT OFFICE.

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TOY.

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To all whom it may concern:

Be it known that I, WOODBURY S. HOW, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the accompanying drawings, Figure 1 is a perspective view of this device. Fig. 2 is a front elevation, showing some differences in detail of structure. Figs. 3, 4, 5, 6, and 7 are also front elevations, each slightly differing in structure from Figs. 1 and 2 and from each other. Fig. 8 is a detail in plan to illustrate the course of the pendulum about the stops. Fig. 9 is a detail view. Fig. 10 is a side elevation, showing the basal arc hinged or spring-pivoted to the support or handle.

The object of this invention in toys is to provide a simple, cheap, and attractive source of amusement; and the invention consists in the structure of the device and the combination of its parts in manner and form, as will be hereinafter more fully described, as well as pointed out in the claims.

The body E of the device is preferably made of a single piece of wire and in shape of a segment of a circle—that is, of a generally triangular form—and has a handle H, formed of the twisted ends of the wire or integral with the base F, as in Figs. 2 and 3, and this handle may have a sheath, or cover, or case, as shown at H′ in Figs. 2 and 4. This handle is usually more or less nearly in line with the apex of the part E, and projects downwardly; but it may project to one side, as in Fig. 6, or upward, as in Fig. 7. The lower or basal part F has any desired number of stops or loops S, which are formed by bending the wire upward, or in any other convenient way, of which I have illustrated several in the drawings. Preferably there should be an even number of these stops on each side of the handle—that is, the center of the lower line—thus forming the gaps or spaces G; but these stops may be placed at the right of the handle, as in Fig. 4, or at its left, as in Figs. 5 and 6.

At the apex of the device is an eye D, or any other convenient means to hold the bent end of C, the wire or rod A. This wire or rod has at its lower end a ball or enlargement B, and thus makes a pendulum. The pendulum is of such length that its ball or enlargement is free to swing or be swung into any of the gaps or spaces G between the loops or stops S. The pendulum may be a wire, cord, or like means and a ball at its lower end, or merely a wire or rod having an enlargement of any kind at the end. It may be adjustable or extensible by itself or by any means of the frame, all as illustrated in Figs. 2, 3, and 6. In this latter instance the device is held vertically and the pendulum swung to the left and made to fall back against the base between the stops which have been turned on the base to right angles with the support. The device may then be held horizontally and the pendulum be made to jump over the stops either severally or in groups, at the will of the player. The pivot of the pendulum may be raised and frictionally held at a point on the support to admit of the pendulums being swung clear of the base and between the stops, which have also been adjusted into line with the support.

The modifications shown in Figs. 2 and 3 have the arched base and handle, also made of sheet metal, from which project integral stops. In Fig. 3 there are two series of these stops, one series in the plane of the base and the other series S′ at right angles to the base. The lower ends of part E in Figs. 2 and 3 are frictionally gripped by the overfolded ends K of the base, so that by raising the part E a little way, as indicated by the dotted lines, the paths of the pendulum will not intersect the base, but may be directed past the stops, as in the other instances.

In Fig. 5 is shown a modification of Fig. 4, the pendulum-pivot being so organized that the pendulum may be swung in conical paths between the stops and completely around the support, yet may also be swung in paths, as described for Fig. 4. An equivalent pivoted organization is likewise seen in Fig. 5 at A*, C*, D*, and E*, where a boss D* on the support E* takes the place of the loop D^v on the support E^v, and, with the pendulum A* C*, constitutes a like pivotal organization for the same purposes.

In the modification, Fig. 6, the support at its twisted upper end N forms a gripping-hold on the endwise-adjustable shank of the pivotal piece *a*, on which is hung or pivoted the pendulum.

This invention embraces all the principal features of the antecedent modifications, and by simply changing the positions of the pivotal point of the pendulum may be employed for the performance of a great variety of interesting and diverting evolutions of the pendulum, as aforesaid.

In Fig. 7 the stops S may be pivotally attached to the base F and so adapted to act as targets to be hit and overturned in the play.

The pendulum may be attached to its movable support by any means and in any way or shape that will allow of the free swinging or revolution of the pendulum by so holding or acting upon the movable support as to cause the pendulum to optionally pass or collide with a stop or holder extending from said support across the path of the pendulum aforesaid.

It may sometimes be convenient that the basal arc F, having the stops and made in form shown in Figs. 4 and 5, should be spring-pivoted or hinged to the support or handle, so as to be folded for shipment or packing. A form of doing this is shown in Fig. 9, where the part E is hinged or spring-pivoted to the handle or other part at I, its upper end in this position being hooked at *i* to the body or support E.

In general, the mode of operation is as follows: A slight backward inclination of the support will cause the pendulum to swing backward, and a slight forward recovery of the support, if this be suitably held, will occasion the return-swing of the pendulum through the gap between the stops, and the operation may be several times skillfully repeated; but if not the pendulum will strike a stop and spoil the play. By a combined lateral and forward and backward inclination of the support the pendulum may be given a conical swing, so as to pass around one or other or all of the stops repeatedly or in succession, and the difficulties attending such operations require considerable amount of practice before sufficient skill can be acquired. Grasping the handle with one hand and holding the toy nearly vertical, (see Fig. 1,) the pendulum end is caused to swing back and forth over the basal arc F, through the gaps in turn between the stops on one side—say three times—and then this operation is repeated between the stops on the other side and then again between the other numbered stops so long as these may be passed without hitting them.

Another mode of play consists in swinging the lower end of the pendulum through the series of gaps successively, as indicated by the curved arrow-dotted line in Fig. 8. The pendulum end B, which may be straight-curved, balled, hooked, or given any desired form, may also be swung through the gaps in circular or cycloidal curves at will. The numbered stops may likewise be intentionally hit repeatedly or in succession.

In Fig. 7 the stops are frictionally held on the basal arc, so that a stop when hit will act as a sort of target and may be overturned as thus recording the fact of the hit, whether intentional or otherwise. The end B in this figure may furthermore be lightly swung into the loop of the stops, and so successively into each of the loops.

All the modifications shown in the various figures are capable of varying and systematic methods of divertive operation, according to the skill and ingenuity of the player.

Having now described my invention, I claim—

1. In a toy, the combination of the following elements, viz: a controllably-movable support, a pendulum suspended therefrom and vibratile by means of said support, together with one or more stops or obstacles attached to said support to be optionally struck or passed by said pendulum, at the will of the operator, substantially as set forth.

2. In combination, a pendulum and its controllably-movable support, with a bar extending from said support across one or other of the paths of said pendulum, provided along its length with suitable stops or loops S, substantially as hereinbefore described and shown.

3. In combination, a pendulum and its movable support, with a pivoted stop on the support in a path of the pendulum, substantially as described and shown.

4. A pendulous body freely pendent from a support which may be optionally rocked, oscillated, or gyrated to impart a swinging or gyrated motion to said pendulous body, and so cause it either to pass or to hit, or to come to a rest in or upon or to gyrate around an obstacle attached to said support and intersecting a path of said pendulous body, substantially as hereinbefore described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

WOODBURY S. HOW.

Witnesses:
GEORGE W. CLEMENT,
THOMAS H. PATTERSON.