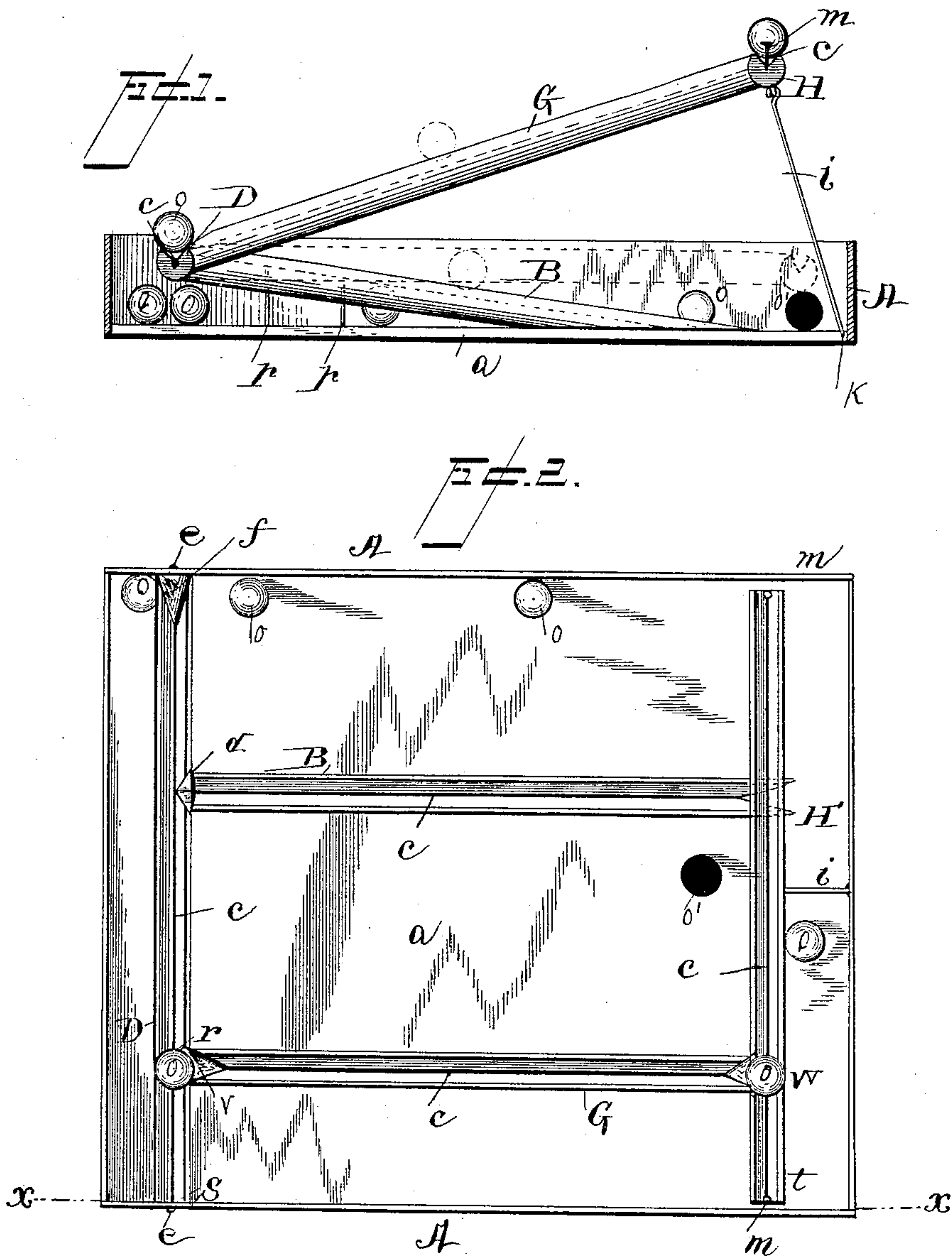


(No Model.)

A. A. ROBINSON.
TOY.

No. 480,279.

Patented Aug. 9, 1892.



Witnesses:
O. W. Johnson.
E. C. Phelps.

Inventor:
A. A. Robinson
By W. A. Bartlett
att'y.

UNITED STATES PATENT OFFICE.

ALFRED A. ROBINSON, OF LOWELL, MASSACHUSETTS.

TOY.

SPECIFICATION forming part of Letters Patent No. 480,279, dated August 9, 1892.

Application filed February 11, 1892. Serial No. 421,104. (No model.)

To all whom it may concern:

Be it known that I, ALFRED A. ROBINSON, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Toys, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to toys.

10 The object of the invention is to produce a toy or puzzle which may be held in the hands of the user and which has a series of troughs and inclines along which a number of balls may be caused to roll and arranged in series 15 on the proper trough. The game has been called a "puzzle," the balls being supposed to represent hens and a rooster, and the troughs and inclines represent roosts.

20 Figure 1 is a longitudinal section of a toy or puzzle on line *x x*, Fig. 2. Fig. 2 is a plan of the toy.

25 A designates a box, which is preferably rectangular and may be composed of pasteboard, wood, or other light material. The box has a flat floor *a* and is preferably provided with a cover for convenience in shipment; but the cover is not essential and is entirely removed in using the toy.

30 B designates an inclined grooved bar or trough permanently secured to the bottom of the box and extending from near one side in an upwardly-inclined direction to the height of an inch or so, where it terminates. The bar has a groove *c* in its upper face deep 35 enough to guide a marble if carefully handled, but shallow enough to permit the marble to roll off the side if the box is inclined sidewise. The groove in all the bars or roosts is of this character.

40 The bar or inclined roost B is supported near its upper end by pins or posts *p p* at a height sufficient to allow a marble to pass under it.

45 A bar or roost D extends transversely across the box near one side high enough for marbles to pass under it. The bar is grooved lengthwise and has a notch *d* in its side in close proximity to the groove in the upper end of bar B. The bar D is supported by pins *e*, 50 passing through the sides of the box and form-

ing pintles, which permit the bar D to rock slightly, these pins forming an axial support.

The groove *c* is preferably enlarged or formed into a pocket *f* near one side of the box, for a purpose to be explained. 55

A grooved bar or incline G is firmly attached to the pivoted bar D and extends at about a right angle therefrom, the grooves in said bars D and G being connected so that a marble can roll from the groove in one bar or 60 roost into the other. A grooved bar or roost H is firmly attached to the end of bar G and preferably about at a right angle thereto, the grooves *c* in all the bars being thus connected. The bar H at the end of bar G can be lifted 65 above the level of the top of the box, as shown in full lines, Fig. 1, and when so lifted may be held up by a leg *i*, which leg is pivoted to bar H and may be swung out of the way, so that the bars G and H will fold down into the 70 box for storage or shipment, as indicated in dotted lines, Fig. 1. The lower end of the leg *i* may enter a small notch or depression K in the box-bottom when the upper roost H is raised, as it is when the toy or puzzle is to be 75 used.

The ends of the trough or groove *c* in the upper roost H are provided with stops or pins 80 *m* to prevent the marbles rolling out of the ends of said groove.

A number of marbles *o o'*, &c., by preference seven, are placed in the box. One of these marbles *o'* may be of a different color to represent the rooster in a flock of hens.

85 The puzzle is worked by holding the box in one or both hands and inclining the box, and, if necessary, shaking or tapping it in such manner that the marbles are caused to roll from the floor of the box along the groove in the bar B, thence along roost D and bar G to 90 the final or upper roost H.

The puzzle can be made more difficult by requiring that the hens and rooster be put upon the upper roost in a definite order—as, for instance, the colored marble or rooster in 95 the middle with three hens on each side. The puzzle can in like manner be made difficult by using marbles of different sizes and so proportioned that a marble may pass the turn *v* when the roost D from *s* to *r* is occupied by 100

a definite number—say three—of the smaller marbles, but cannot turn the corner when the roost is occupied by the same number of the larger marbles. A similar difficulty may be
5 encountered at the part *t w* of the upper roost.

The pocket *f* enables the user to pen one of the marbles at that place. When it is desirable, another should pass it in going along the roosts B and D toward the upper or final
10 roost.

What I claim is—

1. The toy or puzzle consisting of a box with a flat floor, a grooved inclined bar rising from said floor, a grooved bar extending
15 across the box in close proximity to the upper end of said inclined bar and further grooved bars connected to the latter, and a number of balls for use in said box, substantially as described.

20 2. The toy puzzle consisting, essentially, of a rectangular box with a flat floor, an inclined grooved bar rising from said floor, a grooved transverse bar at the upper end of said inclined bar, and a second grooved inclined bar
25 projecting from said transverse bar and connected to a second grooved transverse bar at

a different elevation, constituting a box to be used as a toy puzzle, with balls to move along the grooves, substantially as described.

3. The toy puzzle consisting, essentially, of 30 a box with a grooved bar pivotally supported therein, a second bar connected to the pivoted bar and having a supporting bar or roost connected thereto, and means for supporting the latter in a plane above the pivoted bar, 35 substantially as described.

4. The box A, having the inclined bar B secured to its floor, the transverse bar D, pivoted to the box in proximity to the upper end of bar B, the bar or trough G, connected 40 at a right angle to bar D and connected to bar H, which is parallel to bar D, all of said bars being grooved, as described, and the leg *i* for supporting said bar H at an elevation, all substantially as described. 45

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

ALFRED A. ROBINSON.

Witnesses.

SAMUEL B. WYMAN,
FRANCIS W. QUA.