

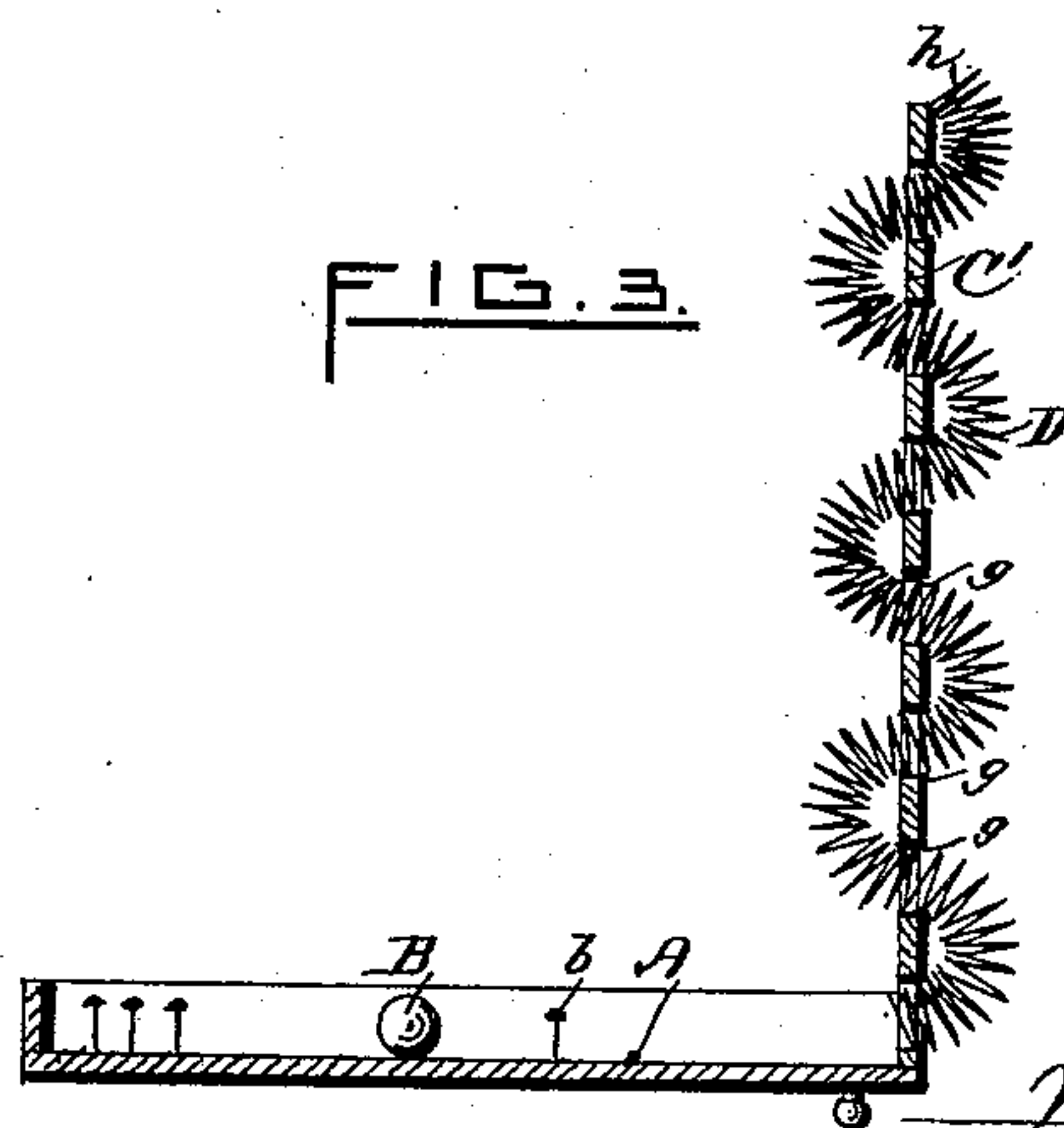
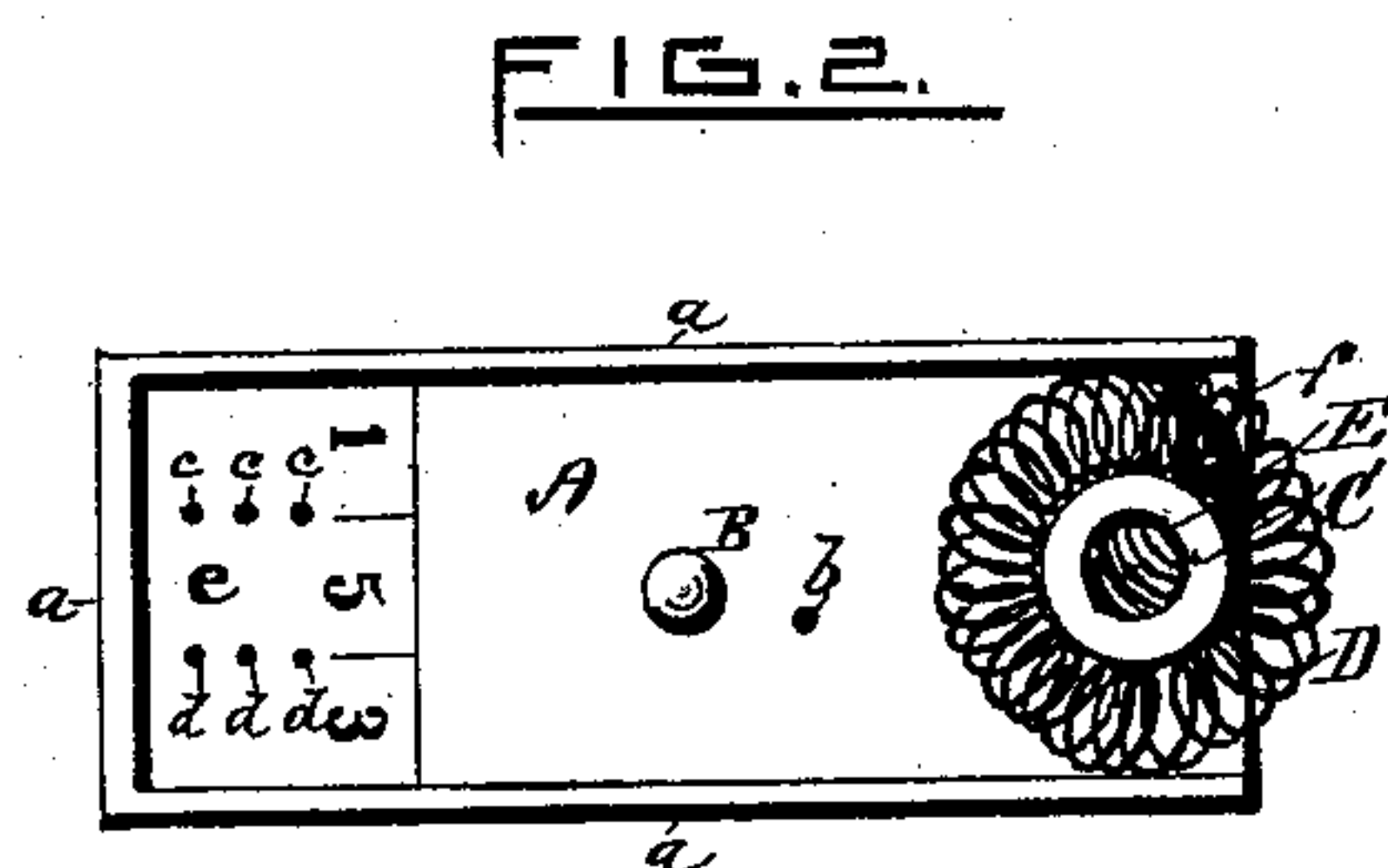
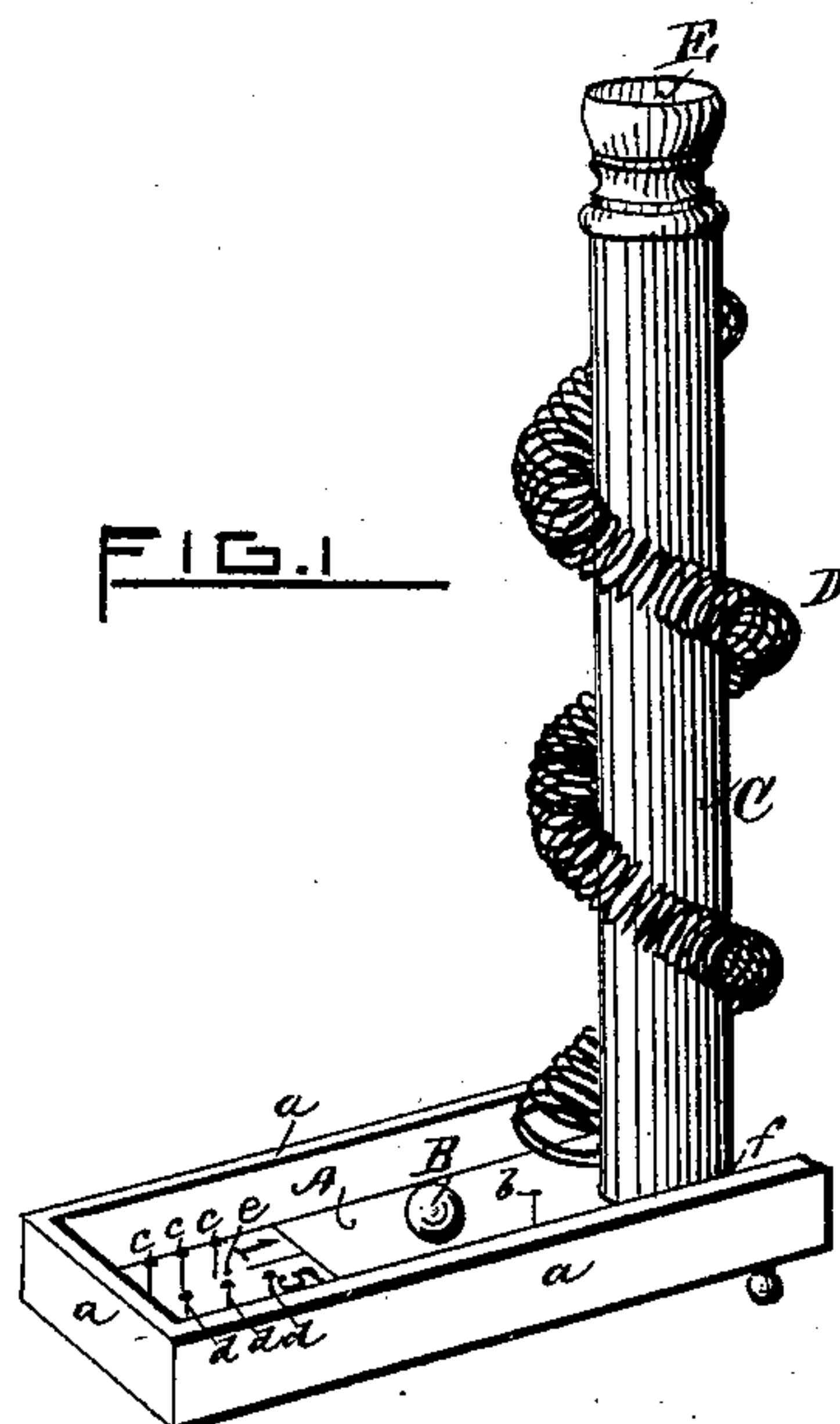
(No Model.)

2 Sheets—Sheet 1.

V. W. WILSON.
GAME APPARATUS.

No. 407,713.

Patented July 23, 1889.



WITNESSES.

Fred R. Abbott.

Edwin Reynolds

INVENTOR.

Vincent W. Wilson

per S. Scholfield
Attorney

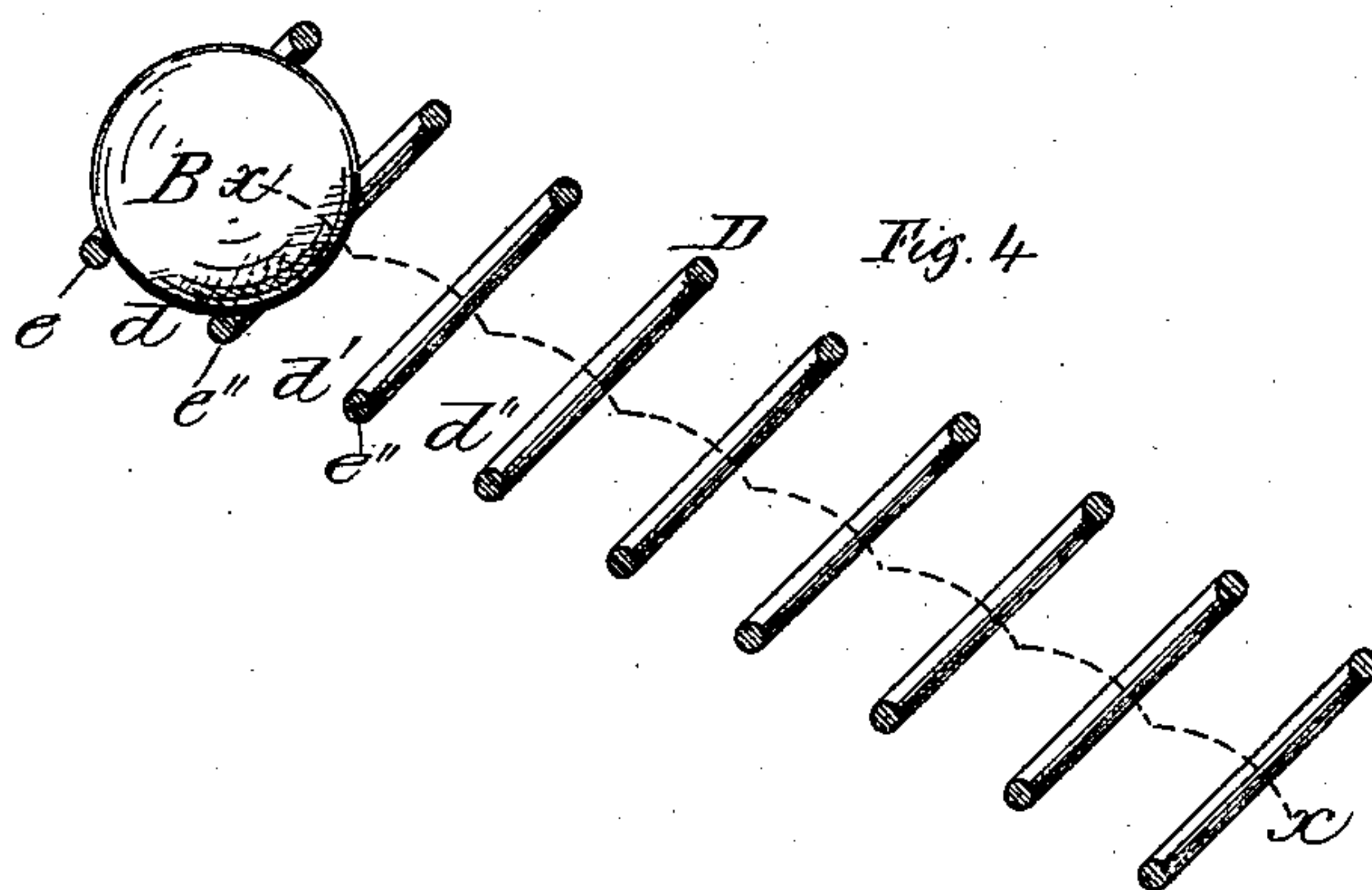
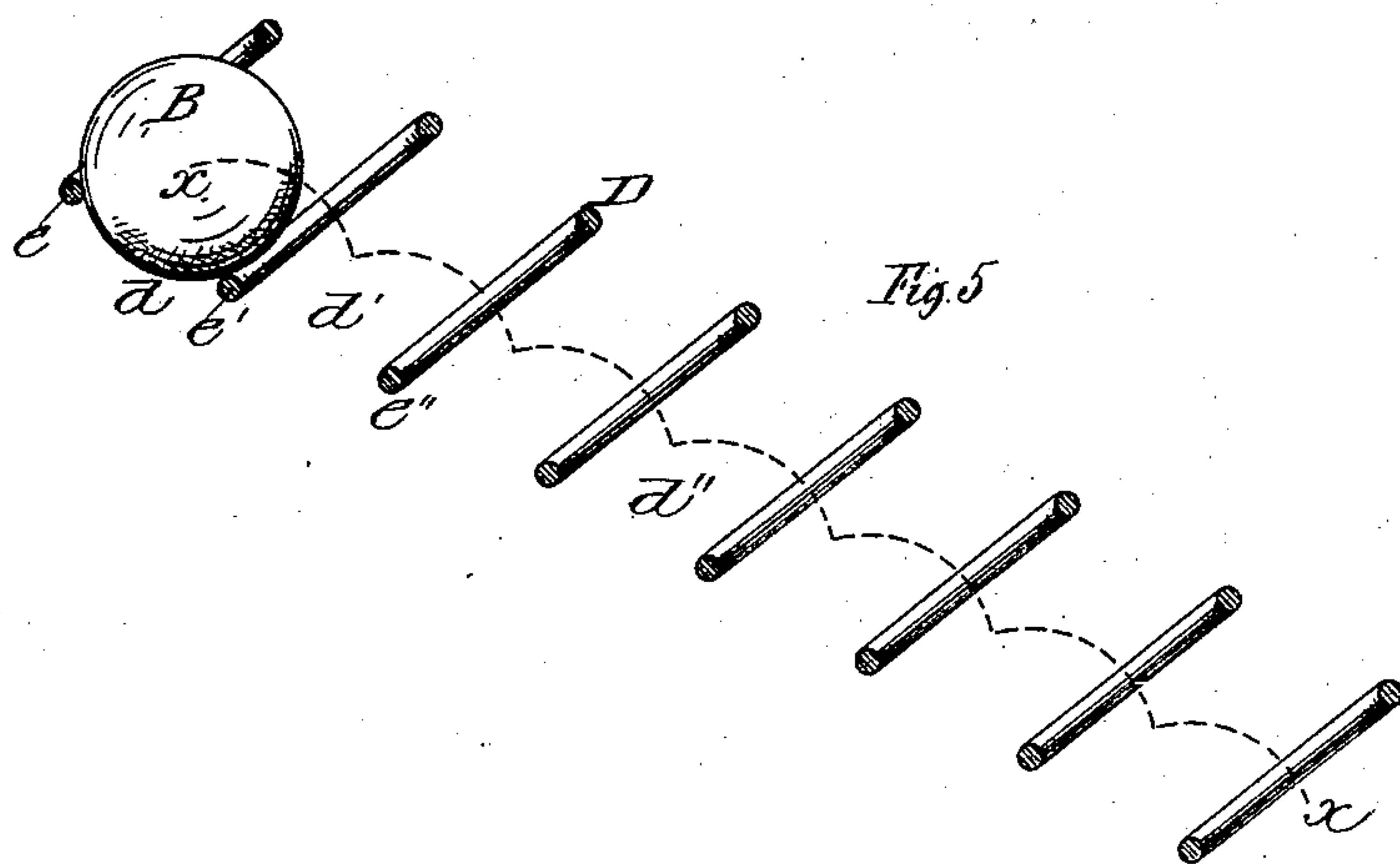
(No Model.)

V. W. WILSON.
GAME APPARATUS.

2 Sheets—Sheet 2.

No. 407,713.

Patented July 23, 1889.



Witnesses,
Herbert Milford
James McKeown

Inventor,
Vincent W. Wilson
per S. Scholfield
attorney

UNITED STATES PATENT OFFICE.

VINCENT W. WILSON, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO THE
R. BLISS MANUFACTURING COMPANY, OF SAME PLACE.

GAME APPARATUS.

SPECIFICATION forming part of Letters Patent No. 407,713, dated July 23, 1889.

Application filed May 28, 1888. Serial No. 275,389. (No model.)

To all whom it may concern:

Be it known that I, VINCENT W. WILSON, a citizen of the United States, and a resident of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Game Apparatus, of which the following is a specification.

My invention relates to that class of toy games in which a ball is caused to run down an inclined guide or track and impinge against numbered pins or enter numbered pockets; and my invention consists in the employment of a downwardly-inclined ball-guiding conduit formed by an open spiral-wire coil for the passage of the ball to the game board or table, whereby, by the constantly-recurring rise and fall of the ball as it rolls from coil to coil of the wire conduit, the downward motion of the ball can be retarded as desired, so that a comparatively short length of the spiral-wire coil will suffice to retain the ball in view of the players for a long time, thus greatly enhancing the pleasure of the game; and when the conduit is made of spring-wire the resonance of the coils, as the ball drops from one coil to the other, produces a ringing sound, which constitutes a desirable improvement in such game apparatus for amusing children.

Figure 1 represents a perspective view of a game apparatus provided with my improved ball-guiding conduit formed by an opened spiral-wire coil. Fig. 2 represents a plan view of the same. Fig. 3 represents a vertical section showing a modification in the manner of supporting the ball-guiding conduit. Figs. 4 and 5 represent enlarged detail sections of the wire coil which forms the ball-guiding conduit.

In the accompanying drawings, A represents a game board or table provided with the upright sides *a a a* to retain the playing-ball B. The board A is provided with the fixed upright pin *b*, and also with the fixed upright pins *c c c* and *d d d*, which serve to divide the end portion *e* of the board A into pockets, which are numbered on the board as 1 3 5, thus indicating the number to be scored by the player upon the entrance of the ball B into either of the said pockets.

At the end *f* of the board A is placed the upright cylindrical standard C, around the

periphery of which is coiled the open spiral-wire coil D, which serves to form a guiding-conduit for the ball B, the lower end of the wire coil D being arranged to cause the ball B to impinge against the pin *b*, so as to be deflected therefrom into either of the pockets 1, 3, or 5, as the case may be.

The upper end of the wire coil D is turned inward, so as to communicate with the entering recess E at the top of the standard C, so that when the ball B is placed in the said recess it will travel thence downward through the guiding-conduit to its discharging-point at the lower end of the coil.

A modification of my invention is shown in Fig. 3, in which the guiding-conduit is held by its support C in zigzag instead of spiral form, as shown in Fig. 1, and in this case the wire coil may be made to pass through suitable perforations *g*, made in a board which forms the said support, and the ball B, when placed within the upper end *h* of the conduit, will roll slowly down through the same and be discharged at its lower end against the pin *b*, as before. The spiral-wire coil which forms the conduit for the ball B can be turned in any desired direction and can be supported in any suitable manner, so as to provide a proper incline for the downward passage of the said ball, and on account of the open winding of the wire coil, which forms the guiding-conduit, the ball can be readily seen and watched by the players during its whole downward passage to the pin *b* and the receiving-pockets.

The rising and falling movement of the ball in the descent through the guiding-conduit formed of the open spiral-wire coil is shown in Fig. 4, in which it will be seen that the moving ball B at the space *d* will drop slightly between the adjoining coils *e e'*, and then its forward momentum will cause it to rise over the wire of the coil *e'*, when it will drop into the space *d'*, to contact with the coil *e''*, and then the momentum of the ball will carry it over the obstructing-coil *e''*, to drop into the space *d''*, to contact with the succeeding coil, so that the center of the ball will move downward in the dotted line *x x*, and any desired amount of retardation can be secured by properly opening the coils of the guiding-conduit. Thus the ball B, when rolling down through the more open coils of the guiding-conduit

shown in Fig. 5 will be longer in its passage than when rolling downward through the comparatively-contracted coils of the conduit shown in Fig. 4.

5 When the spiral-wire coil is made of spring-wire, the ball as it rises over one of the coils and strikes against the other causes the coil to give a resonant ringing sound, which tends to enhance the pleasure of the game while the
10 children are watching the ball in its downward passage through the conduit.

I claim as my invention —

In a game apparatus, the combination, with the game board or table, of a ball and a downwardly-inclined conduit formed of a spiral- 15 wire coil having its convolutions so separated from each other as to operate to retard the motion of the ball, substantially as and for the purpose specified.

VINCENT W. WILSON.

Witnesses:

SOCRATES SCHOLFIELD,
CHRIS. E. CLARK.