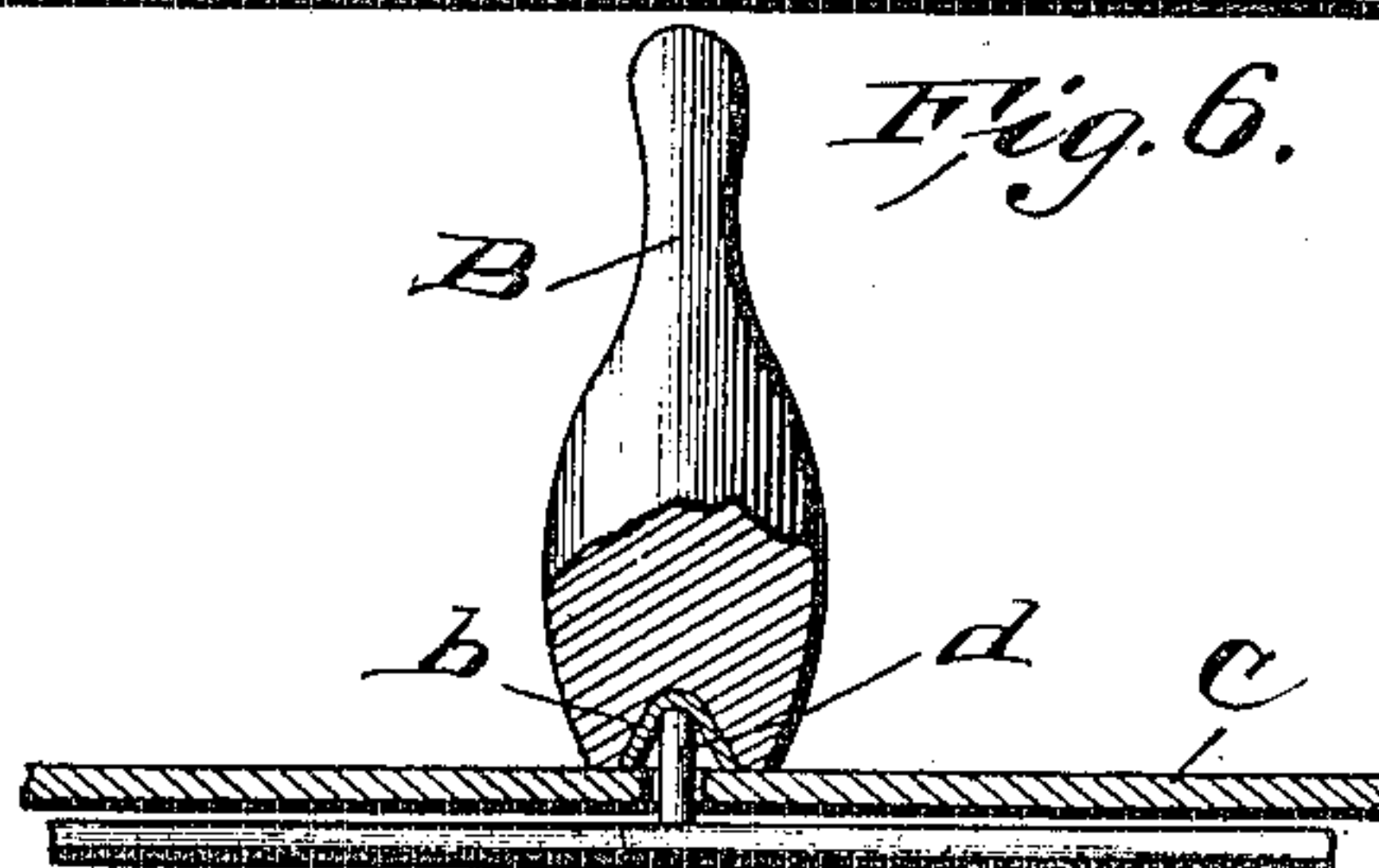
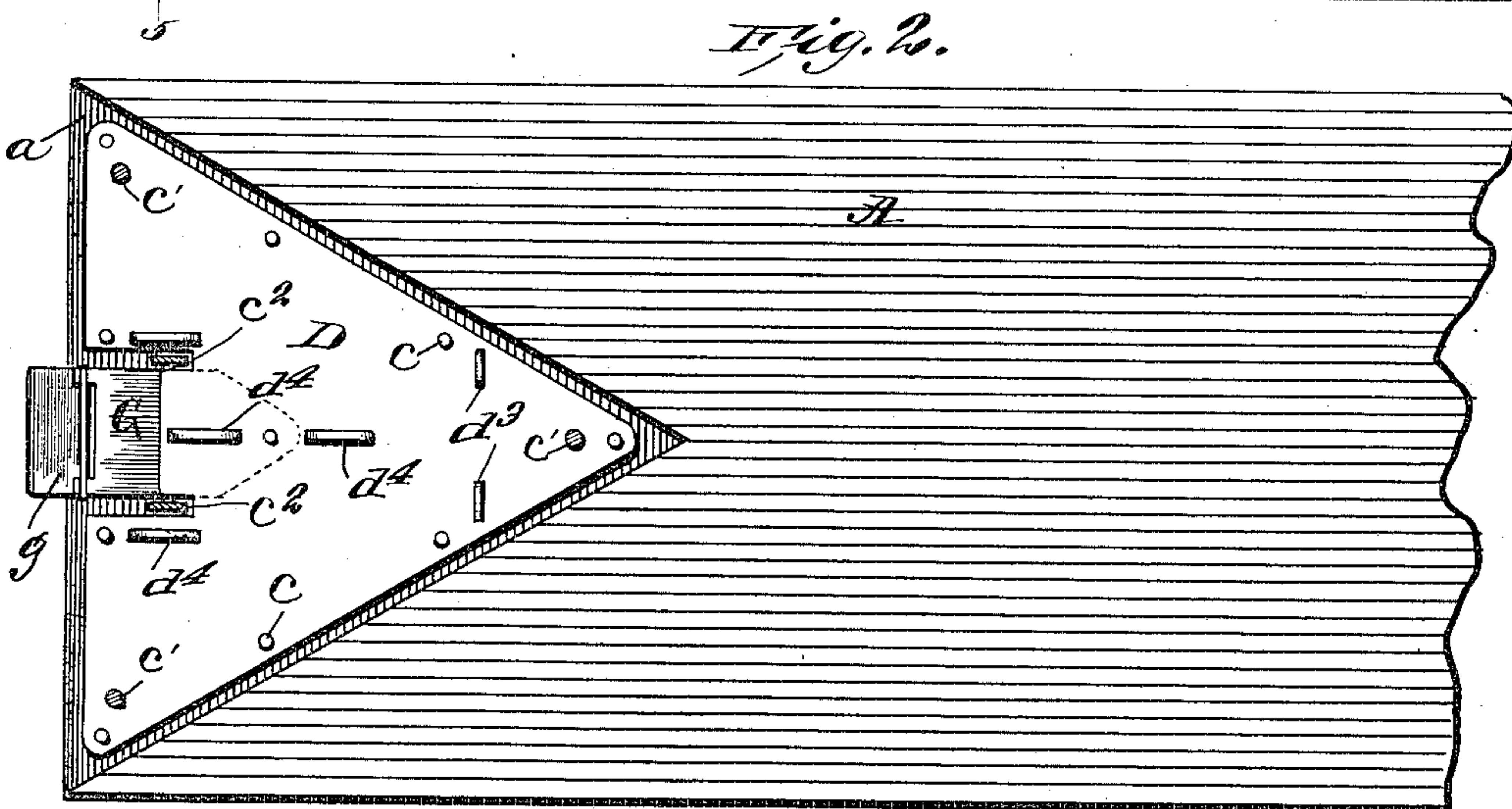
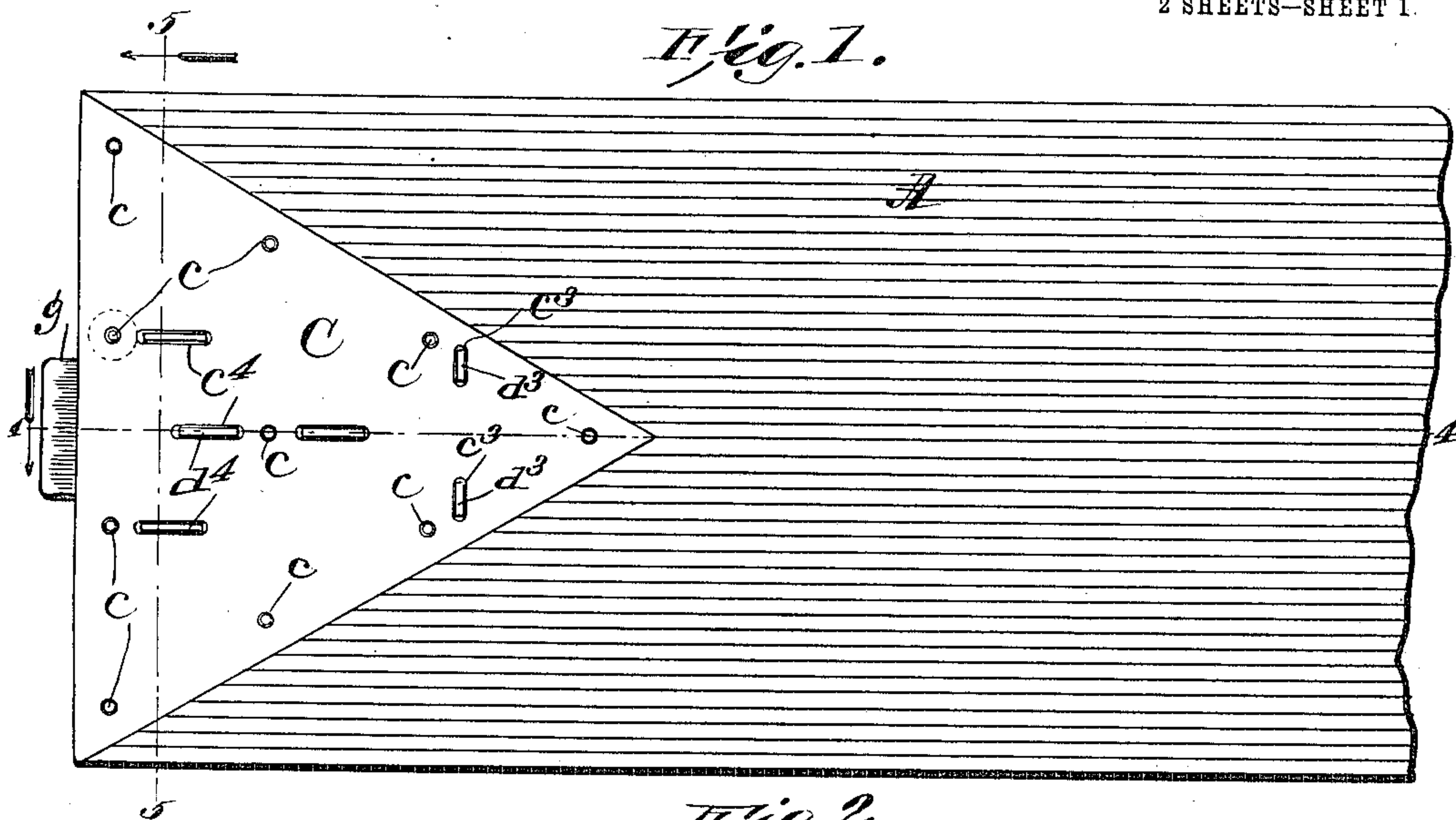


No. 837,177.

PATENTED NOV. 27, 1906.

F. H. BEDELL.
BOWLING ALLEY.
APPLICATION FILED APR. 10, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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2 SHEETS—SHEET 2.

Fig. 3.

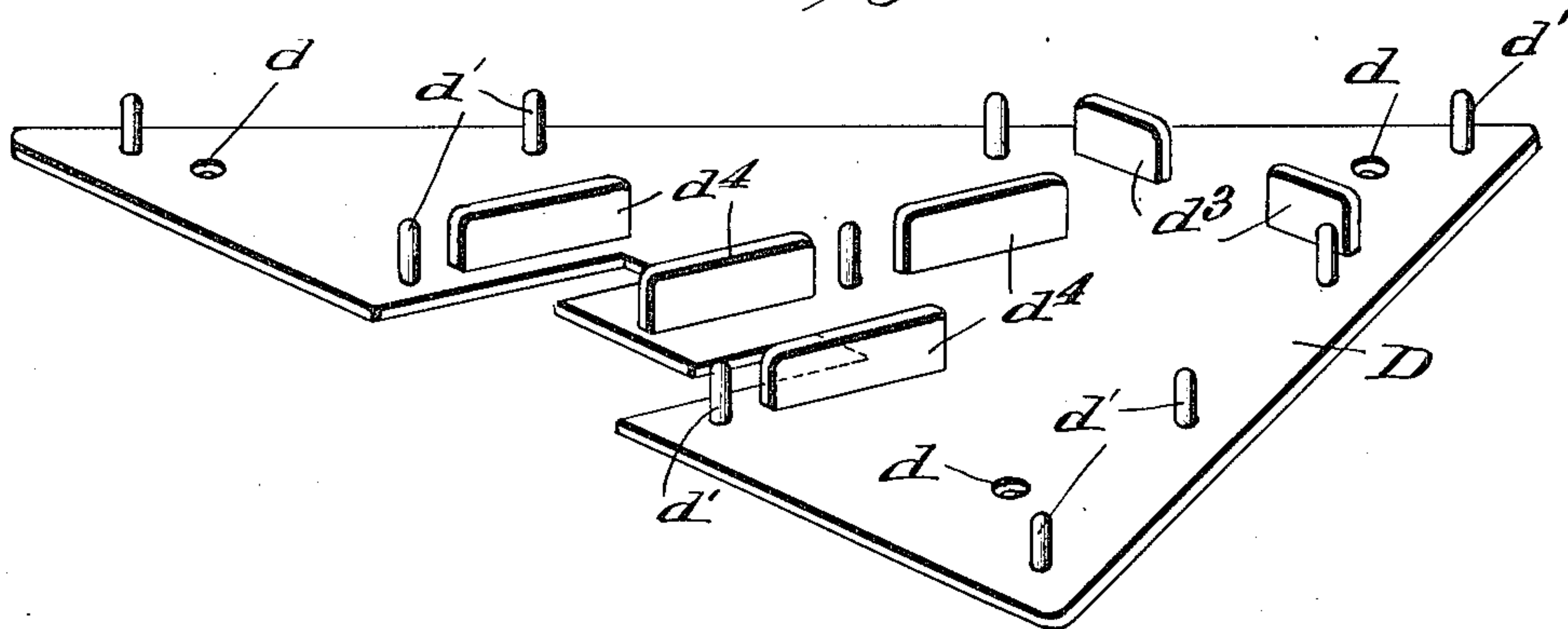


Fig. 4.

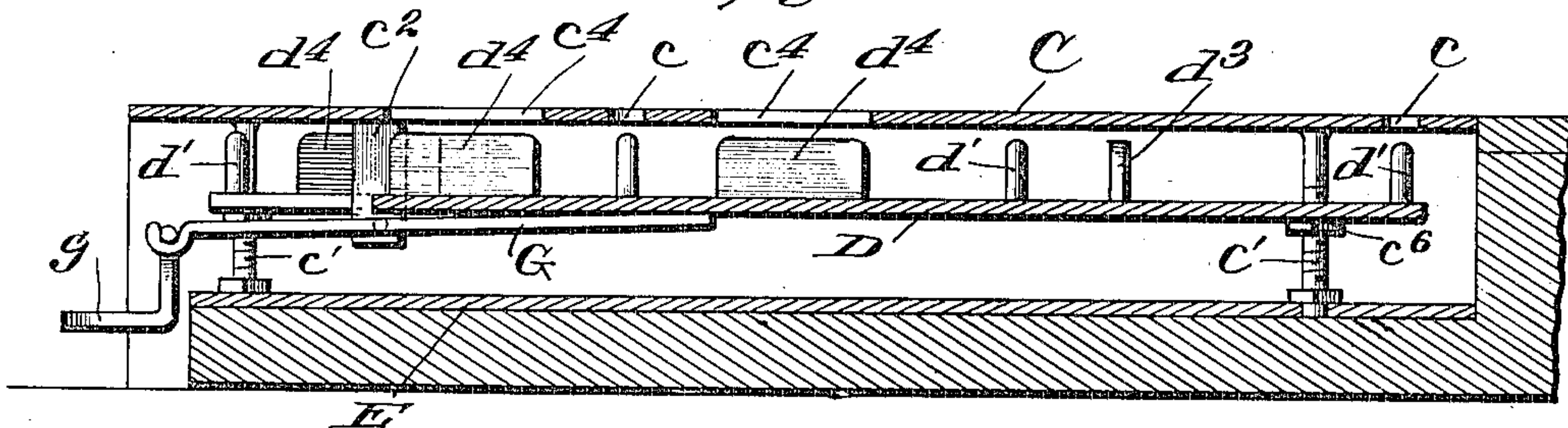
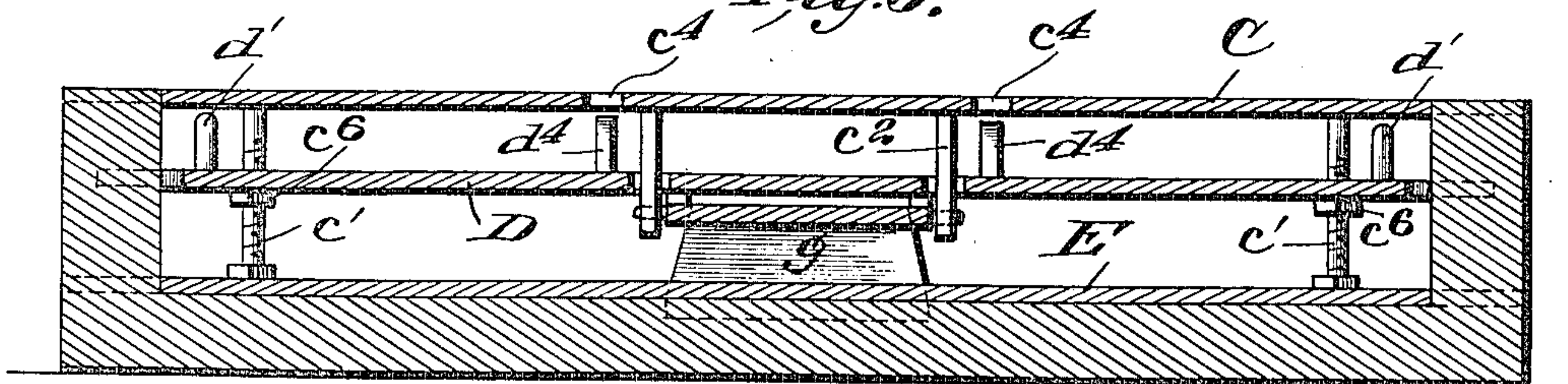


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCIS HENRY BEDELL, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO ARCHIBALD McLEAN, OF BROOKLYN, NEW YORK.

BOWLING-ALLEY.

No. 837,177.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed April 10, 1906. Serial No. 310,953.

To all whom it may concern:

Be it known that I, FRANCIS HENRY BEDELL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have made certain new and useful Improvements in Bowling-Alleys, of which the following is a specification.

My invention is an improvement in bowling-alleys; and it consists in certain novel constructions and combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a part of a bowling-alley provided with my improvement. Fig. 2 is a similar view with the top plate removed. Fig. 3 is a perspective view of the movable plate. Fig. 4 is a section on the line 4 4 of Fig. 1 looking in the direction of the arrow. Fig. 5 is a section on the line 5 5 of Fig. 1 looking in the direction of the arrow; and Fig. 6 is a detail view, partly in section, of a portion of the alley-floor with a pin in position.

In the practical application of my invention the floor A of the bowling-alley has a triangular portion *a* thereof removed and replaced by a triangular metallic plate C. The plate C is of sufficient extent to contain all the bowling-pins B when they are set up in their proper position thereon and is provided with a plurality of circular openings *c*, corresponding in number and position to the number and position of the bowling-pins.

Below the plate C is arranged a second triangular plate D, having at the corners thereof openings *d*, traversed by rods *c'*, projecting from the corners of the plate C and connected at their lower ends with a third plate E, arranged upon the bottom of the triangular opening *a*.

Centering-pins *d'* are arranged upon the upper face of the movable plate D, the said centering-pins corresponding in number and position to the openings *c'* in the plate C and adapted to be projected therethrough when the plate D is moved upwardly into contact with the plate C.

The bowling-pins B are provided in their bottoms with conical depressions *b* for the purpose of receiving the centering-pins *d'*, and the plate D is moved upwardly by a lever G, pivoted in bearings *c''*, projecting from the lower face of the plate C, one end of the lever G engaging the plate D and the other end be-

ing provided with a treadle *g* for convenience in manipulating the said lever.

It will be understood that when pressure is made upon the treadle *g* the plate D will be moved upwardly into contact with the plate C and the centering-pins will be projected through the openings *c* in the said plate C.

In the operation of placing the pins the plate D may be elevated to project the centering-pins through the openings in the plate C and the bowling-pins may be placed upon the said centering-pins, or the bowling-pins may be first placed approximately in position and the centering-pins afterward projected through the openings, thereby engaging the conical depressions in the bottoms of the bowling-pins and moving the pins into their proper position.

In order that the bowlers may know that the centering-pins are elevated during or after the placing of the pins, indicators comprising transverse lugs *d''* are arranged upon the upper face of the plate D in front of and between the second row of pins, the said lugs being adapted to be projected upwardly through transverse slots *c''* in the plate C. The above-described indicators may be painted white upon their front face, if desired.

In the placing of the bowling-pins in position a deviation of the outer rows is easily detected; but the inner pins may be placed to the front or to the rear of their proper position without detection by the bowlers at the opposite end of the alley. In order to insure the proper placing of the inner pins, longitudinal lugs *d'''* are arranged to the front and to the rear of the position of the central bowling-pin and at the front of the position of the inner pins in the rear row, the said lugs traversing longitudinal slots *c'''* in the plate C. It will be understood that when the plate D is elevated the lugs *d'''* are projected through the slots *c'''*, thus preventing the placing of the inner pins in any but their correct position.

By providing a metallic plate for receiving the bowling-pins the life of the floor is prolonged, since the greater part of the wear thereon is at the point where the balls strike the pins.

The rods *c'* are screw-threaded, as will be evident from Figs. 4 and 5, and upon the said pins are threaded nuts *c''*, forming stops for

limiting the downward movement of the plate D.

I claim—

- 5 1. In a bowling-alley, the combination with the bowling-pins having conical depressions in their bottoms, and the floor having openings corresponding in position and number to the position and number of the bowling-pins, and with longitudinal slots before
10 and behind the position of the central pin, and before the positions of the inner pins of the last row, of a plate beneath the floor and provided with centering-pins engaging the openings and with lugs engaging the slots,
15 and means for moving the plate to project the centering-pins and the lugs through the floor whereby to center the pins.
2. In a bowling-alley the combination
20 with the bowling-pins provided with conical depressions in their bottoms, and the floor provided with openings corresponding in number and position to the number and position of the bowling-pins and with transverse slots, of a plate having centering-pins
25 corresponding in number and position to the openings, and having indicators corresponding in number and position to the slots and means for moving said plate to project the centering-pins and the indicators through
30 the openings whereby to center the bowling-pins, and to indicate the proper centering thereof.
3. In a bowling-alley, the combination
35 with the bowling-pins having conical depressions in the bottoms thereof, and the floor

provided with openings corresponding in number and position to the number and position of the pins, of a plate having centering-pins corresponding in number and position to the number and position of the bowling-pins and arranged beneath the floor, means for moving the plate to project the centering-pins through the openings and a lug on the said plate and movable through the floor for indicating that the pins are centered. 40

4. In a bowling-alley, the combination
45 with the bowling-pins having depressions in the bottoms thereof, and the floor having openings corresponding in number and position to the number and position of the pins, of a plate having centering-pins engaging the openings, means for moving the plate to project the centering-pins whereby to center the bowling-pins, and lugs on the plate in front and behind the positions of certain pins
50 whereby to insure the proper placing of said pins.

5. In a bowling-alley, the combination
55 with the bowling-pins and the floor having longitudinal slots in front and behind the central pin and in front of the inner pins of the last row, lugs movable through said slots, and means for moving said lugs in unison, whereby to insure the proper emplacement of said pins. 60

FRANCIS HENRY BEDELL.

Witnesses:

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