

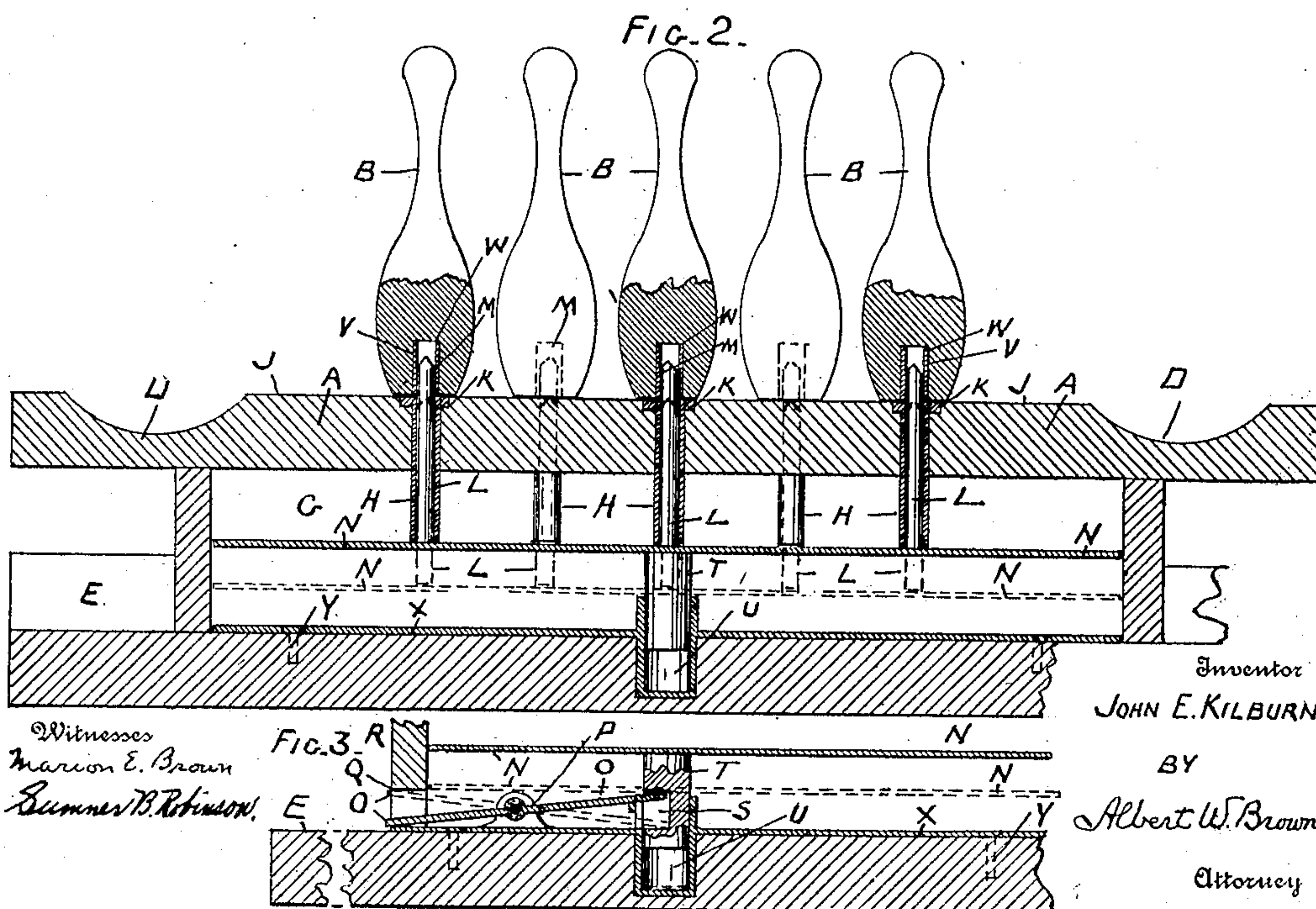
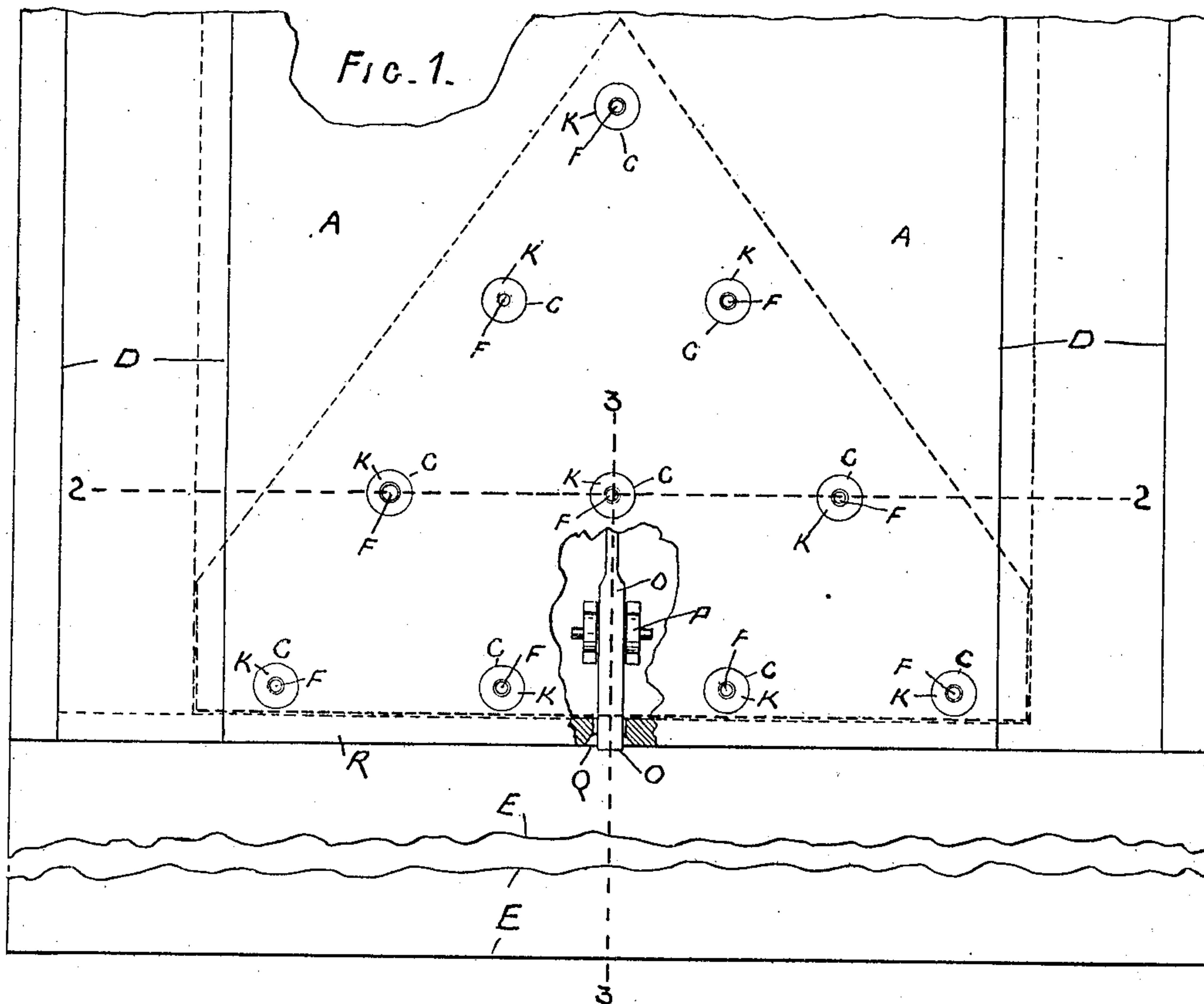
No. 882,008.

PATENTED MAR. 17, 1908.

J. E. KILBURN.

PIN SETTING APPARATUS FOR BOWLING ALLEYS.

APPLICATION FILED MAR. 1, 1907.



UNITED STATES PATENT OFFICE.

JOHN E. KILBURN, OF NEW BEDFORD, MASSACHUSETTS.

PIN-SETTING APPARATUS FOR BOWLING-ALLEYS.

No. 882,008.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed March 1, 1907. Serial No. 360,290.

To all whom it may concern:

Be it known that I, JOHN E. KILBURN, a citizen of the United States, residing at the city of New Bedford, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Pin-Setting Apparatus for Bowling-Alleys, of which the following is a specification.

The object of this invention is to provide the bed of a bowling-alley with means and to adapt the bowling-pins for a quick and accurate spotting of the bowling-pins, and for this object, under this invention, the alley-bed, at its several pin-spots, has axial vertical holes, preferably round, which severally extend through its thickness, and said holes severally have similarly fixed axial and downward tubular extensions severally opening, at their lower ends, to a chamber below the bed, and also severally having vertically moving guide-pins for setting the bowling-pins thereupon, in combination with a horizontal platform in said chamber which is arranged for a direct up and down movement, and with means adapted to positively raise said platform and on being released to leave it free to lower or drop, and bowling-pins, which severally have a vertical axial socket in their bases suitable to receive the upper end-portions of said guide-pins, all substantially as hereinafter described, and pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view, on a reduced scale, of the end-portion of a bowling-bed at which the bowling-pins are spotted. Fig. 2 is a transverse vertical section on dotted line 2—2, Fig. 1. Fig. 3 is a central longitudinal vertical section on dotted line 3—3, Fig. 1, but for a part only of the alley-bed as shown in Fig. 1.

In the drawings, A is a bowling-alley bed, at its end-portion where the bowling-pins B are spotted; C, C are the several spots on which to set or spot the pins B; D, D are the gutters at each side of the bed A, and E is the pit to receive the bowling-balls and pins, all, except as hereinafter appears, constructed as ordinary and well known, or otherwise suitably.

Each spot C of the alley-bed A, for the spotting of a bowling-pin, has an axial vertical hole F, preferably round, and these several holes extend through the thickness of the bed to a chamber G below the same and therein each hole is provided with a similar fixed and axially and downwardly extending

tube H, severally, at their lower ends, open to said chamber G. These tubes H are secured in the position described to the alley-bed in any suitable manner, but preferably in a manner to line the vertical holes F, as shown in Fig. 2.

K, K are metal washers severally surrounding the holes F at and set into and so as to be flush with the running surface of the alley-bed.

L, L are vertical guide-pins for spotting the bowling-pins, as will hereinafter appear. There is a guide-pin L for and in each hole F, and they are, preferably, severally conically shaped at their upper ends. These guide-pins L, in their normal position, have their pointed upper ends within, and preferably slightly below the running-surface of the alley-bed, as at M, Fig. 2, and their lower ends then project beyond the lower open ends of the tubular extension H, and at all times they stand or rest on a common horizontal platform N, which is located in the chamber G, and is therein arranged for a direct up and down movement, or in other words, for a movement upward to project the guide-pins L above the alley-bed, and for a movement downward to place the guide-pins within and, as above stated, slightly below the running surface of the alley-bed. These two positions of the guide-pins L are shown in full and dotted lines, Fig. 2.

O is a horizontal treadle-lever. This treadle, intermediate of its length, is fulcrumed on a forked-standard P fixed to the floor of the chamber G, and its operating end enters into a vertical opening Q of the front wall R of the alley-pit E, and is in a position to be pressed downward by the foot, and thus to raise its opposite end-portion, and through it, as it is engaged with a vertical recess or notch S of a plunger T, arranged for an up and down movement in a vertical sleeve or tube U, fixed, at its upper end, in any suitable manner to the platform N, to correspondingly raise said platform and the guide-pins L standing thereon.

Each bowling-pin, in its base, has an axial socket V, preferably lined with a tube of metal, or other suitable material, and these several lined sockets V are of a depth and diameter for the bowling-pins, to be set by them over the upper end-portions of the guide-pins L when such end-portions are projected above the alley-bed as hereinbefore stated, and to permit such guide-pins to

freely pass out therefrom as the platform N falls or drops, on the release of the operating-lever, or treadle O.

Preparatory to spotting the bowling-pins, project the guide-pins L above the alley-bed, which is accomplished through the platform N and mechanism connected therewith as described, by pressing down with the foot, the end-portion of the treadle O at the front wall R of the alley-pit E, and hold the pins so projected by continuing such pressure on the treadle, until the several bowling-pins have been placed upon said guide-pins, when removing the foot from the treadle, the platform, guide-pins and said operating means return of themselves to their said normal positions, leaving the bowling-pins standing on the alley-bed as they were set or spotted on the guide-pins, when such pins were projected as explained.

From the above description, it is plainly apparent that the spotting of the bowling-pins must of necessity be accurate and that when spotted and the guide-pins therefor withdrawn the alley-bed is free and clear, the many advantages of which are obvious and do not require to be particularly mentioned.

As shown the platform N is combined with a plate X of metal, or other suitable material, see Figs. 1 and 2, which is fixed by screws Y, or otherwise suitably, to the floor of the chamber G. This combination affords a most convenient and ready means for locating the platform N relative to the alley-bed. The tubular-extensions H of the openings F in the alley-bed insure a perfect alinement of and steadiness to the guide-pins as they rise and fall as also when projected above the alley-bed.

Having thus described my invention, what I claim and desire to secure by Letters Patent is,

1. A bowling-alley bed having, at its several bowling-pin spots, axial vertical openings extending downward through its thickness, fixed axial downward tubular extensions of said bed-openings, guide-pins for the setting of the bowling-pins thereon, severally located in said bed-openings and their said tubular extensions and normally at their lower ends projecting below the lower open ends of said extensions and at their upper

ends within the thickness of the alley-bed, a horizontal platform which is located below the alley-bed and supports said guide-pins and is arranged for a direct up and down movement relative to the alley-bed, and means consisting of an operating-lever and of a connection thereof with said platform, which are constructed and arranged relative to said lever, said platform and said alley-bed, to raise said platform and said guide-pins standing thereon, on a forced movement of said lever in one direction, and for said operating-lever, said platform and said guide-pins to return of themselves to their respective normal positions on the releasing of said operating-lever, substantially as described, for the purposes specified.

2. A bowling-alley bed having, at its several bowling-pin spots, axial vertical openings extending downward through its thickness, fixed axial downward tubular extensions of said bed-openings, guide-pins for the setting of the bowling-pins thereon, severally located in said bed-openings and their said tubular extensions and normally at their lower ends projecting below the lower open ends of said extensions and at their upper ends within the thickness of the alley-bed, a horizontal platform which is located below the alley-bed and supports said guide-pins and is arranged for a direct up and down movement relative to the alley-bed, and means consisting of an operating-lever and of a plunger and a sleeve in which said plunger moves which are relatively constructed and arranged as to each other and connected to said platform and said alley-bed to raise said platform and said guide-pins standing thereon, on a forced movement of said lever in one direction, and for said operating lever, said platform and said guide-pins to return of themselves to their respective normal positions on the releasing of said operating-lever, substantially as described, for the purposes specified.

In witness whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN E. KILBURN.

Witnesses:

HENRY B. WORTH,
HARRY R. KIRBY.