

No. 714,970.

Patented Dec. 2, 1902.

D. H. TALBERT.

BACK STOP FOR BOWLING ALLEYS.

(Application filed July 26, 1902.)

(No Model.)

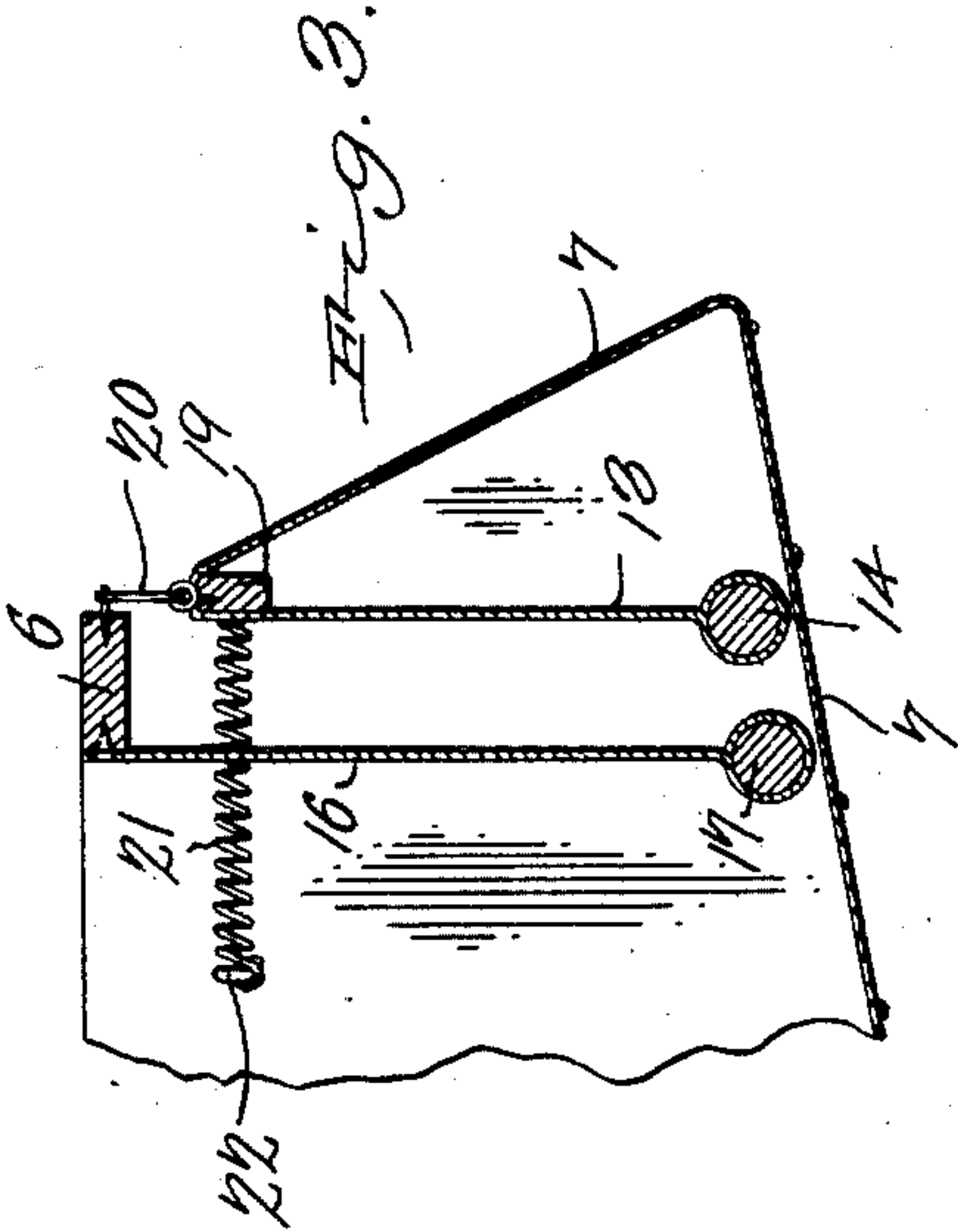


Fig. 4.

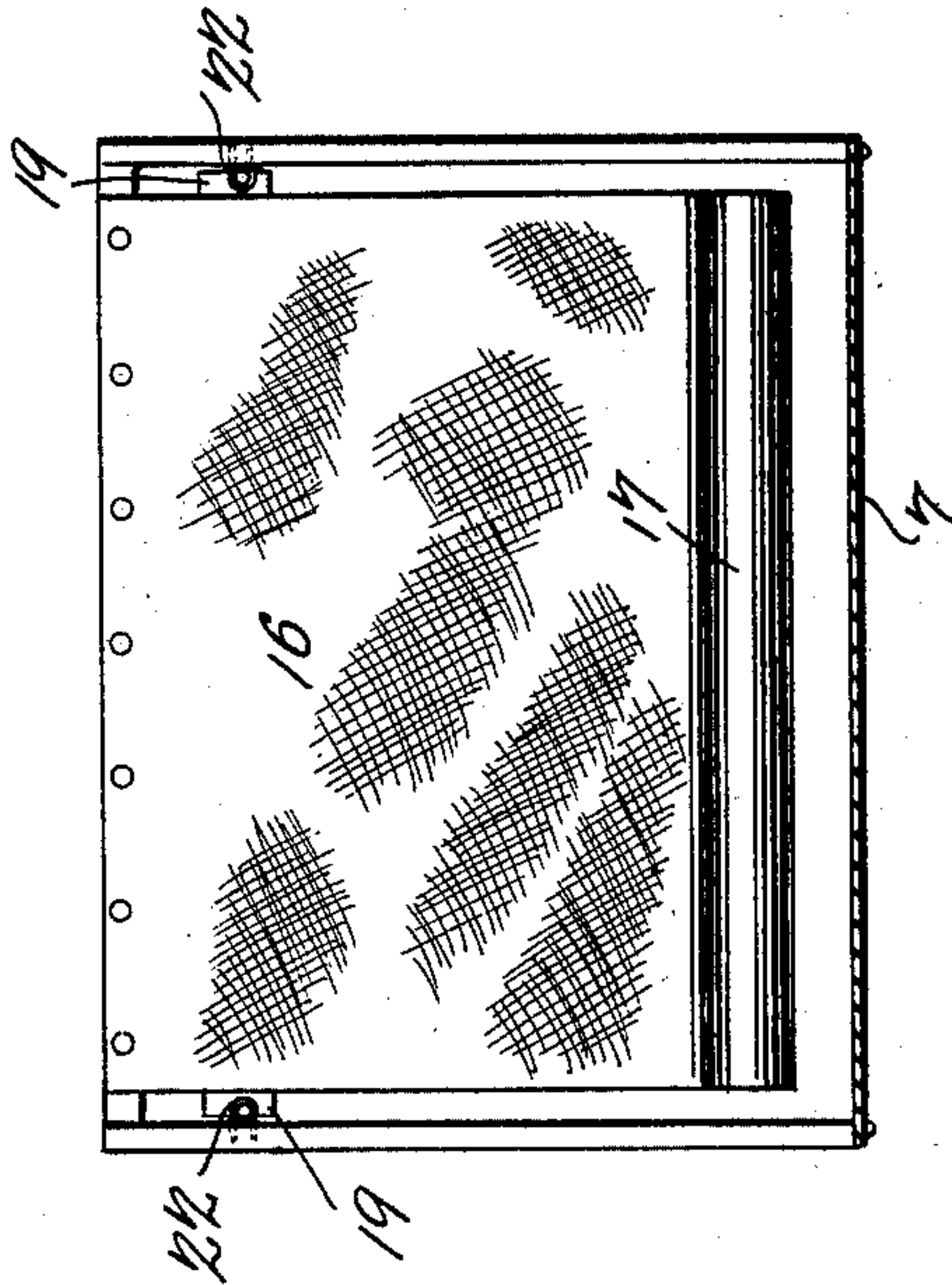


Fig. 1.

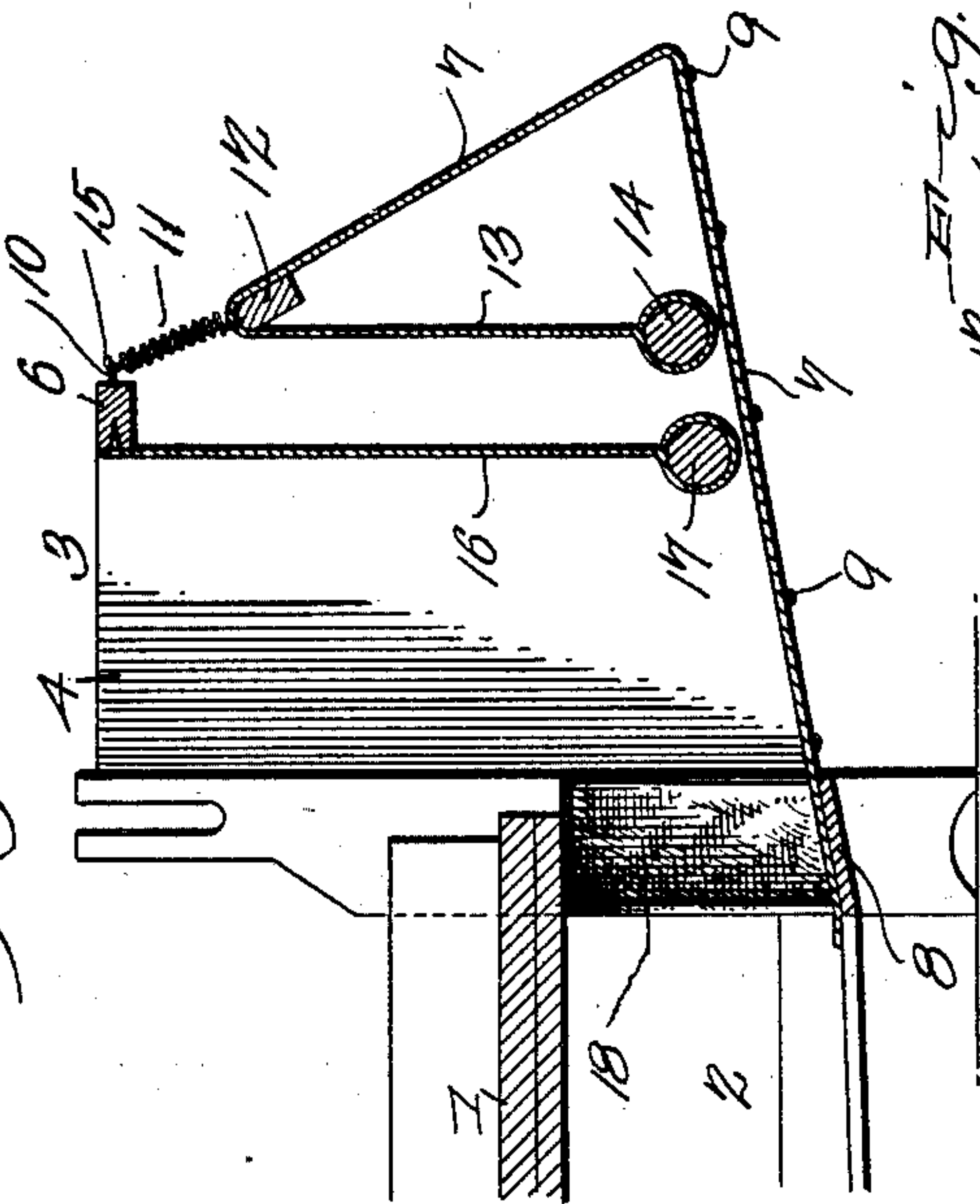
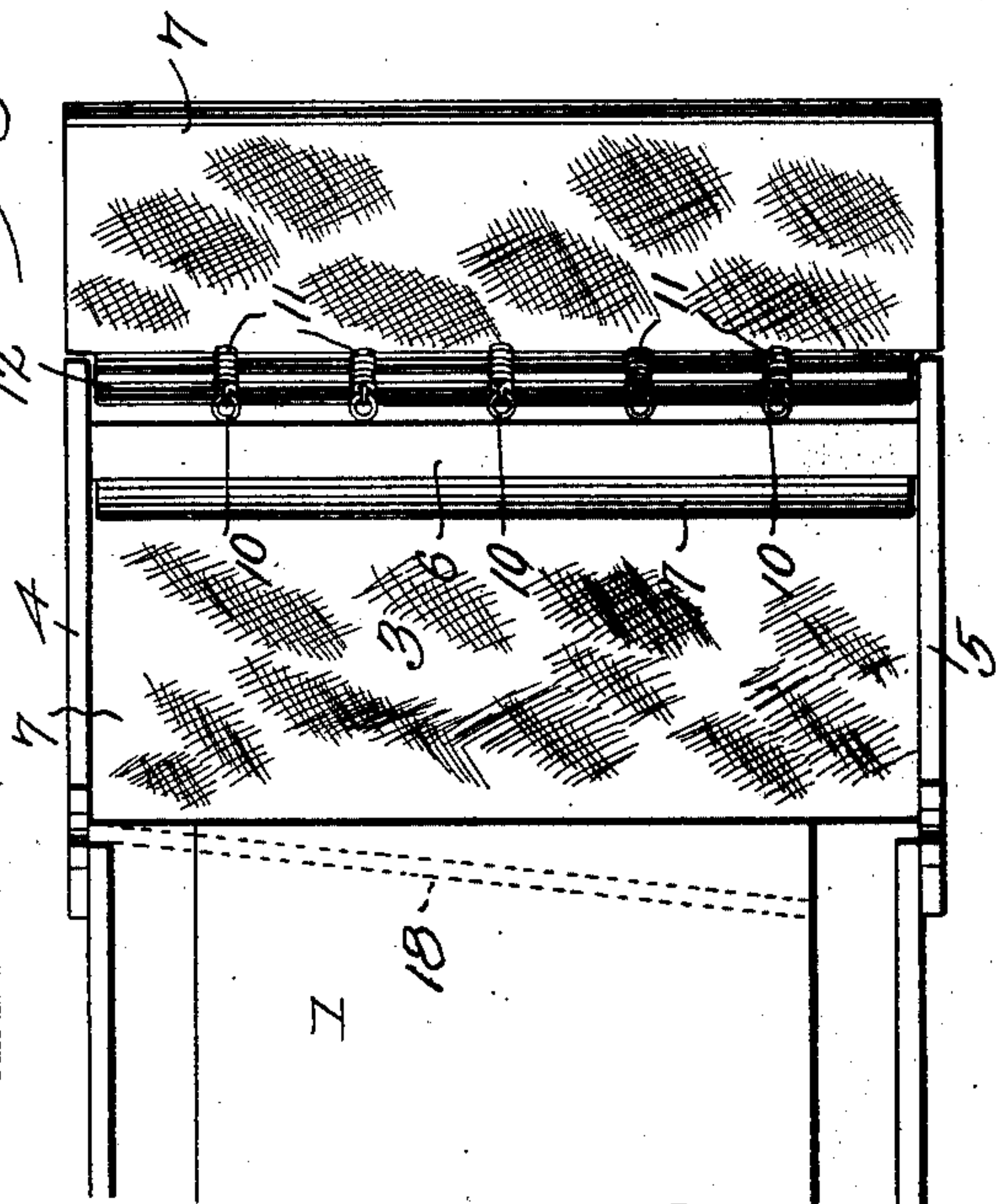


Fig. 2.



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DANIEL H. TALBERT, OF GREENWOOD, INDIANA.

BACK-STOP FOR BOWLING-ALLEYS.

SPECIFICATION forming part of Letters Patent No. 714,970, dated December 2, 1902.

Application filed July 26, 1902. Serial No. 117,167. (No model.)

To all whom it may concern:

Be it known that I, DANIEL H. TALBERT, a citizen of the United States, residing at Greenwood, in the county of Johnson and State of Indiana, have invented a new and useful Back-Stop for Bowling-Alleys, of which the following is a specification.

This invention relates generally to bowling-alleys, and particularly to a novel form of back-stop therefor.

The object of the invention is in a ready, thoroughly feasible, and practical manner to stop a ball, no matter how swiftly it may be thrown, without rebound and in such manner as positively to muffle or deaden all sound.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a back-stop for bowling-alleys, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there are illustrated two forms of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in the drawings—

Figure 1 is a view in sectional elevation of one form of back-stop constructed in accordance with the present invention. Fig. 2 is a view in plan thereof. Fig. 3 is a view in sectional elevation of another form of back-stop. Fig. 4 is a front view of Fig. 3.

The back-stop of this invention is adapted for use in connection with bowling-alleys of any style or make, and in this instance is shown as associated with a portable bowling-alley, in which 1 designates the floor of the alley, and 2 the return-trough, and as these parts may be of the usual or any preferred construction further description is deemed unnecessary.

Disposed at the rear of the alley is the back-stop 3, comprising two side wings 4 and 5, rigidly secured in any preferred manner to the rear portion of the alley. These wings

may be of the shape shown or otherwise and are connected at their rear, near their upper ends, by a cross-bar 6.

The bottom and back of the back-stop are constructed from a continuous sheet of some flexible material, such as leather or canvas, preferably the latter on account of its cheapness, the said material being secured at its forward end to the base of the alley at 8, thence to the under edges of the wings and to the back portion thereof approximately about one-half of their height, the fastening means employed in this instance being nails or screws 9.

As will be seen by reference to Figs. 1 and 3, the bottom of the back-stop is inclined downwardly toward the return-trough, thus to cause the balls automatically to be returned to the front of the alley.

Associated with the cross-bar 6 are a plurality of eyes 10, to which are secured for ready disconnection when desired one terminal of each of a series of springs 11, the other terminals of which are secured in a cross-bar 12. By this arrangement the cross-bar 12 will be adapted for swinging and vertical yielding movement, thus to permit requisite yield to the stop 13 when the latter is resisting the ball. The stop 13 constitutes a continuation of the bottom and back and is passed over the cross-bar 12 and has its lower depending end formed into a pocket for housing a weight 14, such as a heavy piece of rope or the like. As above stated, the stop 13 constitutes a continuation of the back; but it is to be understood that in practice it may be a separate element secured to the cross-bar 12, to which the upper end of the back would then also be secured. By the provision of the eyes 10 and hooks 15 on the springs 11 disconnection of these parts may be effected when it is desired to clean the box.

Secured to the front edge of the cross-bar 6 is a curtain 16, which may also be of leather or of canvas and which constitutes a muffler, the lower edge of which is also provided with a pocket to receive a weight 17, such as a length of rope or the like.

In order to guide the balls, when released by the muffler, to the return-trough 2, a canvas fly 18 may be employed, which extends

diagonally across the back-stop and terminates with the said trough, as clearly shown by dotted lines in Fig. 2.

The operation of this form of device is as follows: When the ball leaves the floor of the alley, it first strikes the muffler 16, which will be thrown up, and thus partly envelop the ball, and in swinging backward the muffler will contact with the stop 13, which will yield downwardly, owing to the springs 11, and thus positively by the progressive resistance to flexure presented by the springs stop the ball. When the springs retract, the stop and muffler will resume their normal positions and in so doing will throw the ball toward the front of the box, where it will contact with the fly 18, and thus be directed to the return-trough 2, down which it will pass to the front of the alley. The operation of the apparatus is positive for stopping a ball and also for absorbing noises. Should the ball be so gently thrown as not to have sufficient momentum to cause the muffler to double around it, as described, it will, however, be returned toward the trough 2, by reason of the inclined bottom of the back-stop.

In the form of embodiment of the invention shown in Figs. 3 and 4 the cross-bar 6 has associated with it the muffler 16, which operates in the manner just described. The cross-bar 19, however, which corresponds with the cross-bar 12 in Fig. 1, is suspended from the cross-bar 6 by a plurality of cords or straps 20, and to each end of the cross-bar 19 is secured one end of a coiled spring 21, the other ends of which are associated with eyes or keepers 22, secured to the side wings of the box. In this latter form of embodiment of the invention the stop-curtain 13 yields rearwardly and in approximately a horizontal plane instead of downwardly, as shown in Fig. 1; but the results are the same, as in each instance the stop is spring-retracted.

The back-stop of this invention can be readily applied to a bowling-alley equipped with the usual back-stop at a slight expense, and owing to the cheapness of the materials of which the parts are constructed will recommend itself to owners of such apparatus.

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

1. A back-stop for bowling-alleys, comprising a dependent weighted flexible curtain. 55

2. A back-stop for bowling-alleys, comprising a dependent flexible curtain having its lower end weighted.

3. A back-stop for bowling-alleys, comprising a dependent spring-retracted curtain. 60

4. A back-stop for bowling-alleys, comprising a dependent spring-retracted curtain having its lower end weighted.

5. A back-stop for bowling-alleys, comprising a dependent flexible curtain, and a similar curtain disposed in rear thereof and having retracting means associated therewith. 65

6. A back-stop for bowling-alleys, comprising a forward dependent flexible curtain having its lower end weighted, and a similar curtain disposed in rear of the first-named curtain and having retracting means associated therewith. 70

7. A back-stop for bowling-alleys, comprising a dependent muffler having its lower end weighted and a similarly-constructed stop disposed back of the muffler and having resilient retracting means associated therewith. 75

8. In a bowling-alley, the combination therewith of wings secured at the rear end thereof, a cross-bar connected to the upper portions of the wings, a curtain secured to the cross-bar, a second cross-bar yieldingly supported from the first cross-bar, and a sheet of yielding material secured to the lower edges and back of the wings and passed over the second cross-bar to constitute a stop. 85

9. In a bowling-alley, the combination with a back-stop having a forwardly-inclined bottom and a return-trough, of a fly disposed diagonally of the back-stop and operating to direct a ball to the trough. 90

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL H. TALBERT.

Witnesses:

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