

J. S. CONLIN.

Pin-Setting Apparatus for Bowling-Alleys.

No. 156,334.

Patented Oct. 27, 1874.

Fig. 1.

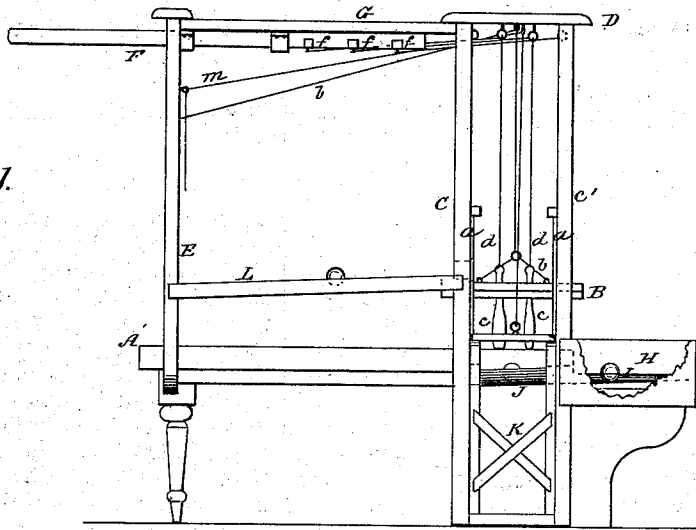


Fig. 2.

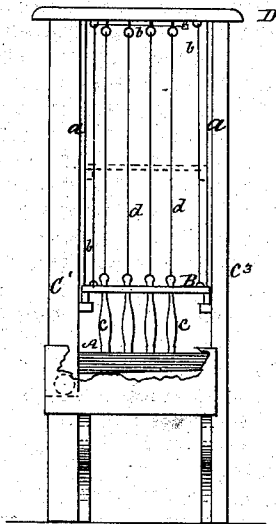
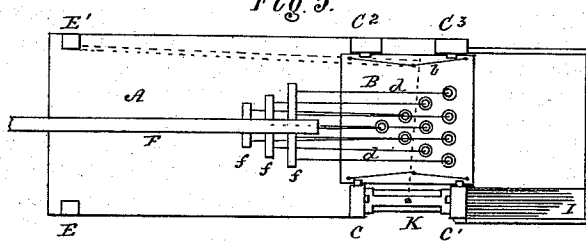


Fig. 3.



Witnesses.

Wm. S. Thornton
A. P. Smith

Inventor:

James S. Conlin.

UNITED STATES PATENT OFFICE.

JAMES S. CONLIN, OF NEW YORK, N. Y.

IMPROVEMENT IN PIN-SETTING APPARATUS FOR BOWLING-ALLEYS.

Specification forming part of Letters Patent No. **156,334**, dated October 27, 1874; application filed July 27, 1874.

To all whom it may concern:

Be it known that I, JAMES S. CONLIN, of the city of New York, in the county and State of New York, have invented an Improved Apparatus for Setting Up the Pins in Bowling-Alleys; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

The object of this invention is to provide an apparatus by which the pins may be reset and the balls returned to the player, so that the services of an attendant to return the balls and replace the pins may be dispensed with. It consists of certain improved appliances or combinations of devices for setting up the pins and for returning the balls, as hereinafter particularly described, the whole being arranged in such a manner that the pins can be reset and the balls returned to the player without the services of an attendant, as the apparatus can be operated by a person at that end of the alley from which the balls are thrown.

In order that my said invention may be fully understood, I will proceed particularly to describe the same, referring for that purpose to the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved apparatus; Fig. 2, an end elevation of the same; and Fig. 3, a plan view of a portion thereof.

Similar letters of reference indicate like parts in all the several figures.

A represents the floor of the bowling-alley. B is a movable platform or gage, having an upward and downward movement, and placed between the upright posts C C¹ C² C³, which are surmounted by a ceiling or cover, D, which said cover D may also be bolted or otherwise secured to the joists or ceiling of the room in which the apparatus is placed. These posts are each provided with a guide-rod or guide-strip, *a*, to keep the platform B in proper position, and guide it in its upward and downward motions, the said platform being raised and lowered by means of cords *b b b*, which, after passing through rings or pulleys secured to the under side of the roof or cover D, extend to one of the posts E E', placed at that end of the floor from which the balls are thrown or bowled. The platform B is provided with a

series of perforations, arranged in such order and at such a distance apart as the pins *c* occupy when properly set, which said perforations are for the purpose of receiving the tops or heads of the pins, which pass through the same when the said platform is lowered. To the upper end of each of the pins *c* is secured a cord, *d*, which passes through one of the perforations in the platform B, and through a ring or pulley secured to the under side of the cover D, vertically over such perforation, and from thence to one of the cross-bars *f f f* upon the sliding rod F, to which said cross-bars the ends of the said cords *d* are secured in the same relative position and distance from each other as the perforations in the platform B, so that all the said cords *d* are of equal length, or as nearly so as is practicable. The sliding rod F is supported in any suitable manner by the beam or bar G, and has a free horizontal backward and forward motion along the same.

The operation of the parts already mentioned is as follows: When the pins are to be set up the rod F is pulled forward toward the posts E E', by which means the pins are raised into a perpendicular position. The platform or gage is then lowered, and, the heads of the pins passing through the perforations in the same, the said pins are thereby adjusted to the exact position which they should occupy when set. The platform B is then raised, by means of the cords *b*, out of the way, and so as to leave the pins exposed, and the rod F is pushed back toward the posts C C¹ C² C³, by which means a quantity of slack is left depending between the cross-bars *f* and the rings or pulleys before mentioned, such slack being of sufficient length to allow the pins to be thrown clear of the floor and into the pit or box H (hereinafter described) when struck by the balls. These operations are repeated when the pins are again to be set up.

H is an inclosed pit or box at the farther end of the floor, and adjoining the same, which receives the balls after they have passed the pins, and into which the pins are thrown when hit by the balls. The sides of this pit or box may be padded in the ordinary manner to prevent the rebound of the balls, and its floor is slightly below the level of the floor A, and slopes toward the trough I, into which the

spent balls roll, and from which they pass into the troughs J secured within the elevator K, which said elevator is placed between the posts C and C', and is raised and lowered by means of a cord, *m*, which passes over a ring or pulley secured to the under side of the cover D, and from thence to one of the front posts E E', by means of which said cord the said elevator is raised until the trough J comes opposite to the end of the inclined trough L, into which the balls pass and along which they roll back to the end from which they were bowled. Openings are formed in the posts C and C' to allow the balls to pass from the trough I to the trough J, and from thence to the trough L.

It will readily be seen that by means of this arrangement of devices, as hereinbefore described, it is rendered unnecessary to have an attendant at the farther end of the floor to set up the pins and return the balls, as these operations can thereby be performed by a person at the end from which the balls are bowled by means of the rod F and cords *b* and *m*.

Having thus described my improved apparatus, I do not claim, broadly, an apparatus for setting up the pins and returning the balls,

to be operated at the end of the alley from which the balls are bowled, as such apparatus have been used, although of different construction from my invention, as hereinbefore described; but

What I claim as my invention is—

1. The sliding rod F, having cross-bars *ff*, the platform B, and cords *b* and *d*, constructed and arranged to operate as and for the purpose set forth.

2. The elevator K, carrying the trough J, and operated by a cord, *m*, in combination with the pit or box H and inclined trough L, all arranged as shown and described, for the purpose set forth.

3. An apparatus for bowling-alleys, composed of the sliding rod F with cross-bars *ff*, platform B, cords *b* and *d*, elevator K, troughs J and L, and pit or box H, all constructed and arranged substantially as herein shown and described, for the purposes specified.

JAMES S. CONLIN.

Witnesses:

JOHN S. THORNTON,
A. P. SMITH.