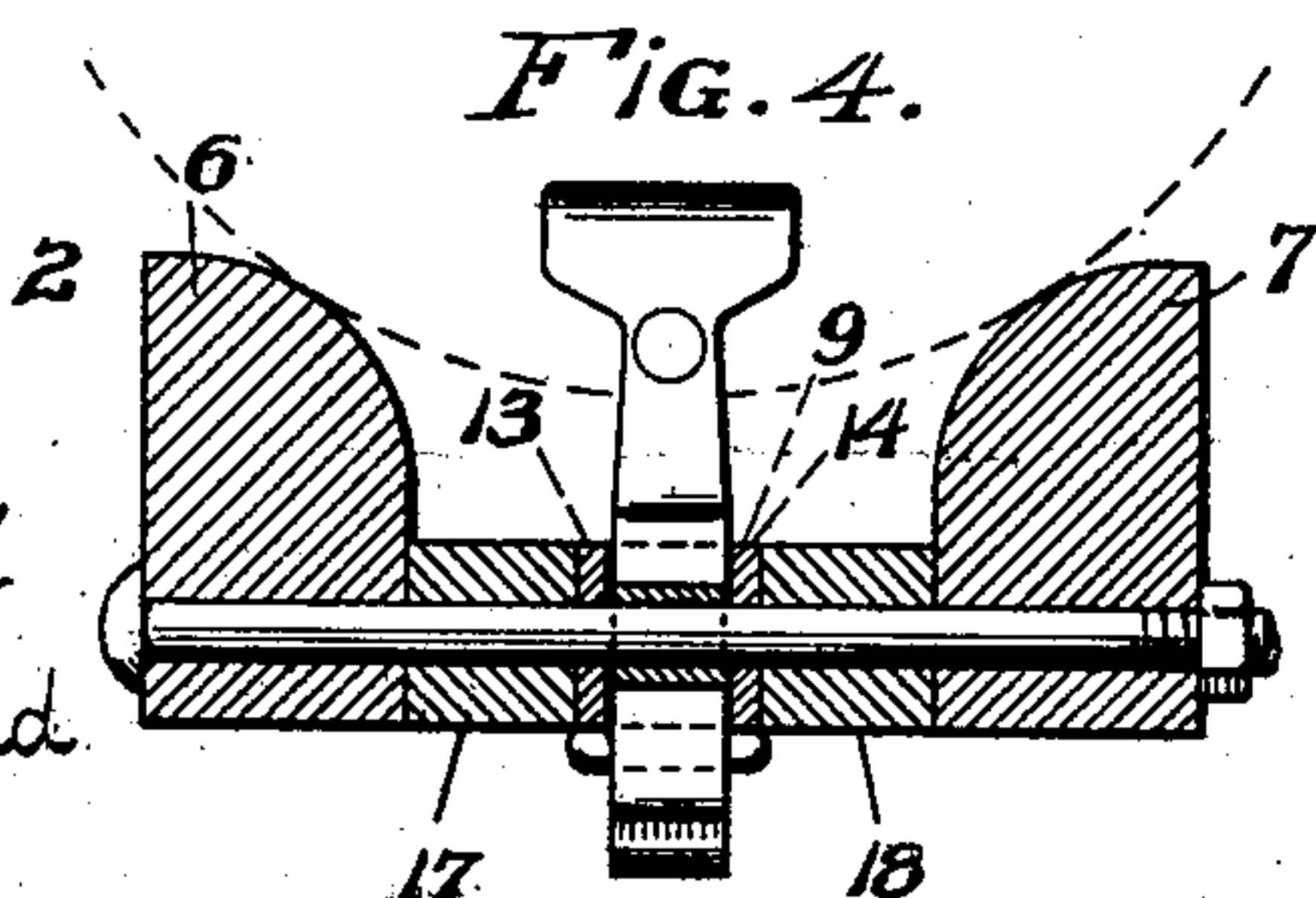
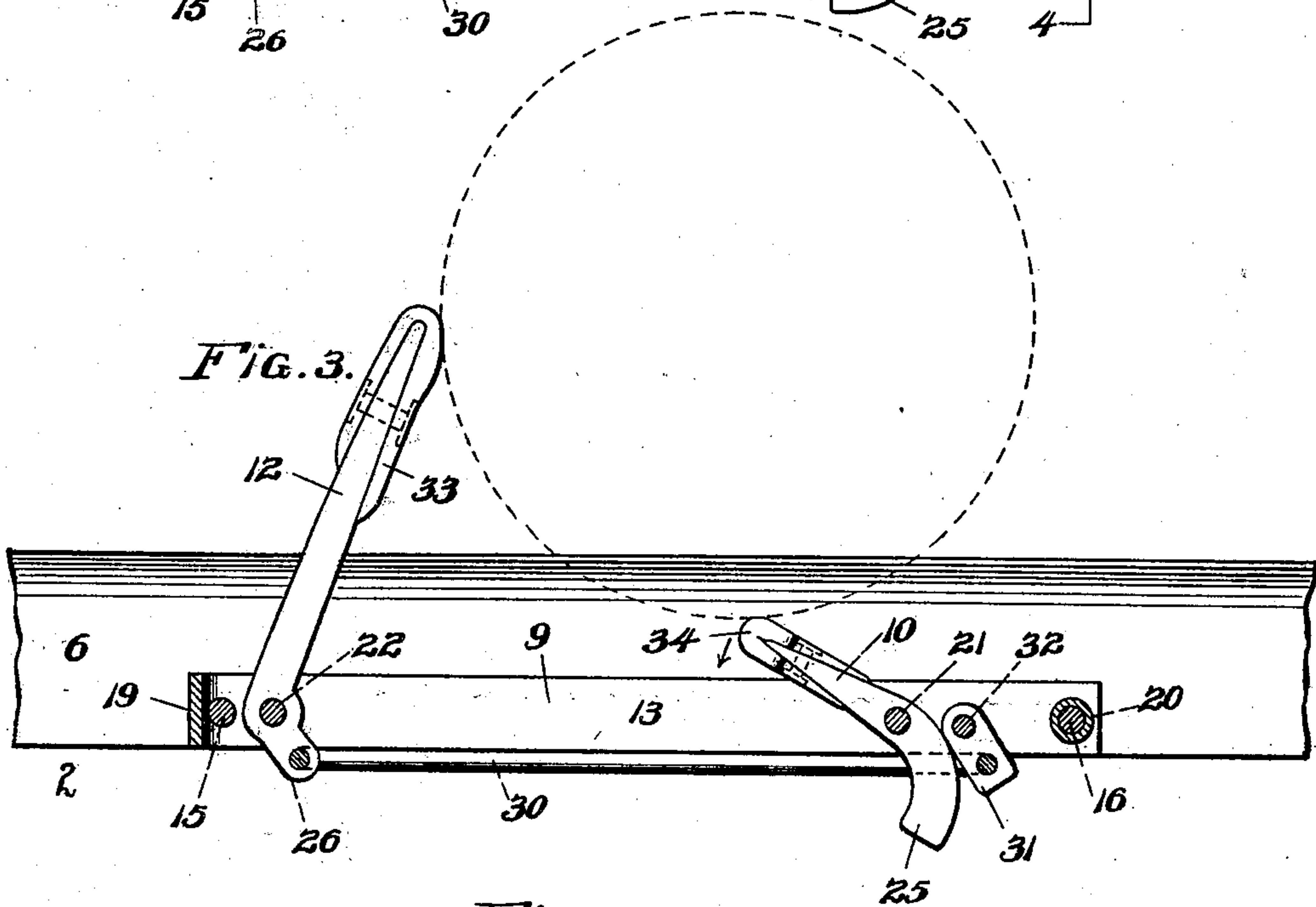
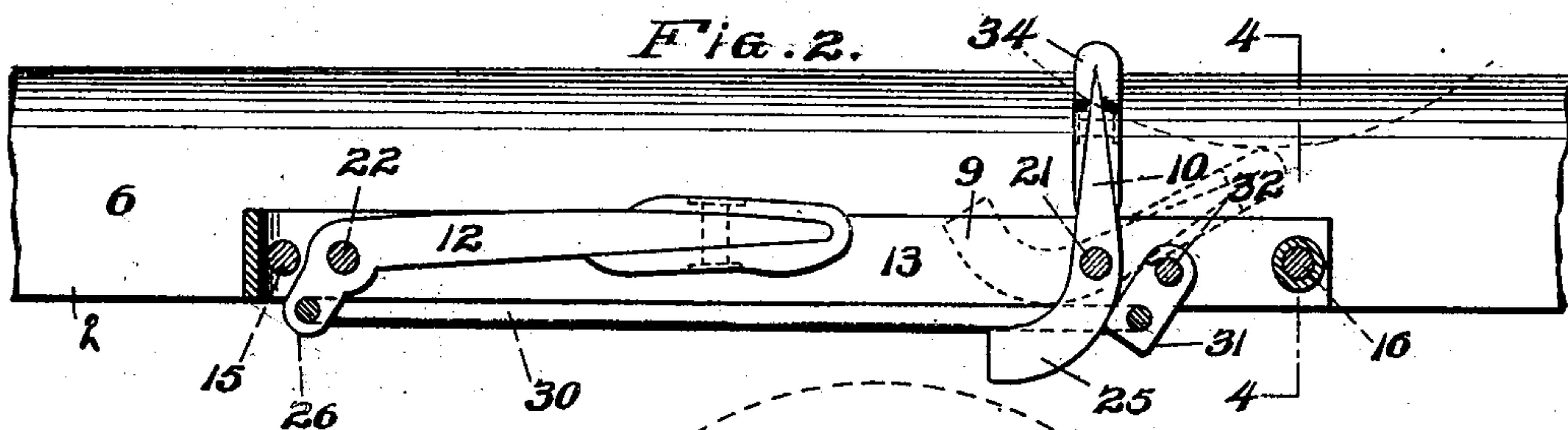
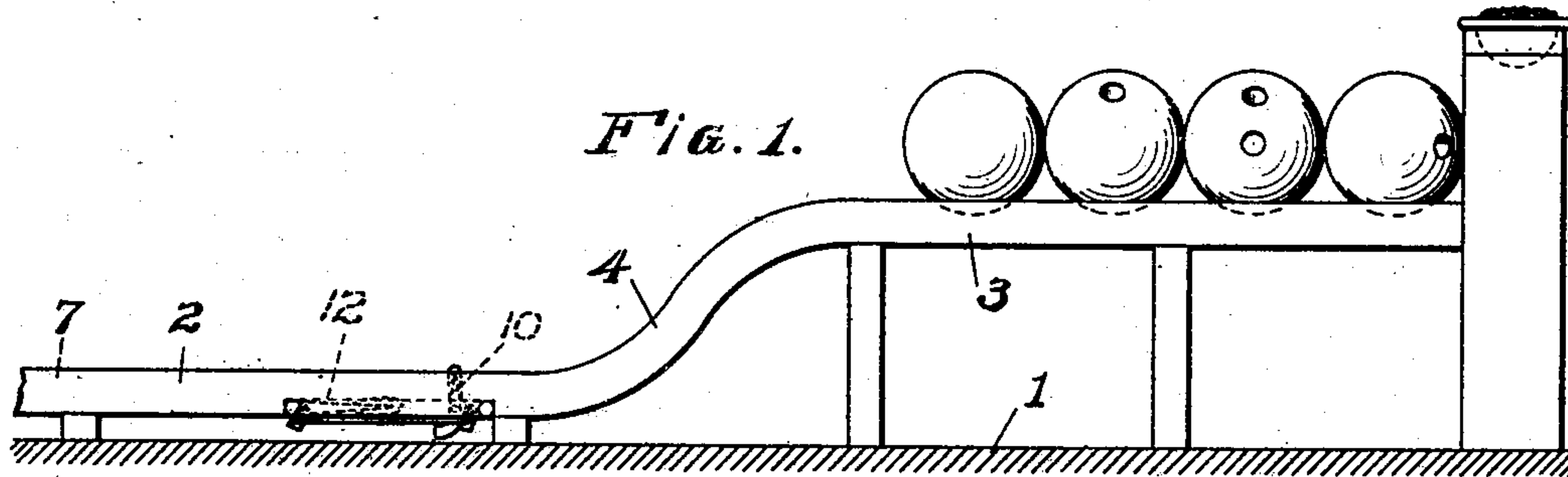


No. 886,556.

PATENTED MAY 5, 1908.

W. W. VEARING.
BALL STOP FOR BOWLING ALLEYS.
APPLICATION FILED MAY 31, 1907.



Witnesses
Danl. Webster, Jr.
M. R. Leeland.

Inventor
William W. Vearing
By
H. M. Witt Goodwin
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM W. VEARING, OF PHILADELPHIA, PENNSYLVANIA.

BALL-STOP FOR BOWLING-ALLEYS.

No. 886,556.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed May 31, 1907. Serial No. 376,472.

To all whom it may concern:

Be it known that I, WILLIAM W. VEARING, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Ball-Stops for Bowling-Alleys, of which the following is a specification.

My invention relates to a ball stop for a bowling-alley, and the object of the invention is to provide a device which is placed upon the return-way for the balls, and which will engage the balls and prevent them from again rolling over the return-way.

My invention generally described consists of two levers pivoted in the return-way, one of which is freely depressed by the ball when the ball is traveling in the proper direction, and when the ball is traveling in the wrong direction the said lever will be acted upon by the ball and raise the second lever which is heavier and adapted to stop the progress of the ball.

Referring to the drawings: Figure 1 is a longitudinal section through a bowling-alley, showing the return-way and the ball-rack at the side of the alley, with my improved ball stop embodied therein. Fig. 2 is a longitudinal section through the return-way, showing the ball stop in section, and drawn on a larger scale. Fig. 3 is a view similar to Fig. 2 showing the levers in a different position, and Fig. 4 is a transverse section on line 4-4 Fig. 2.

In the drawing 1 represents the surface of the alley, and 2 the return-way having the ball-rack 3, to which the balls are returned from the lower end of the alley. The balls receive their momentum by being rolled down an incline formed in the return-way 2. The balls frequently fail to travel with sufficient force to cause them to ascend the other incline 4 at the end of the return-way where the ball-rack 3 is located. The balls will then roll back and remain on the horizontal portion of the return-way; to avoid this my improved stop is provided. The return-way 2 consists of two parallel tracks 6 and 7 upon which the balls rest. Between the said tracks 6 and 7 is secured a bearing 9 in which is pivoted the levers 10 and 12. The said bearing 9 consists of two plates 13 and 14 having apertures, through which pass the bolts 15 and 16, which suspend the said bearing between the tracks 6 and 7, through which the bolts pass. Filling pieces 17 and

18 are placed at either side of the bearing 9 to hold the same midway between the tracks. The two side plates 13 and 14 forming the bearing 9 are held apart by the cross piece 19 and the sleeve 20 encircling the bolt 16. The levers 10 and 12 are pivotally mounted on shafts 21 and 22 secured in the side plates of the bearing 9.

The operating lever 10 is loosely mounted on the said shaft 21 and is held in a vertical position by its lower end 25 being made heavy, to act as a counter-balance. The said lever 10 stands in the path of the ball as it travels over the return-way and when the ball, traveling towards the rack, strikes the lever, the lever will swing freely without retarding the ball.

The stop-lever 12 is loosely pivoted on the shaft 22 and normally lies in a horizontal position between the side plates of the bearing 9, as shown in Fig. 2.

The lower arm 26 of the stop-lever has pivoted therein one end of a rod 30. Said arm is of the proper radius to bring the rod 30 against the under side of the plates 13 and 14 of the bearing 9, which will act as a check to the movement of the stop-lever 12, so that it cannot fall beyond the position shown in Fig. 2 or rise above the position shown in Fig. 3.

The rod 30 extends beyond the operating lever 10 and is pivoted, at its other end in the free end of the link 31 which is loosely mounted on the shaft 32 secured in the bearing 9.

The operating lever 10 is provided upon its lower end with a curved portion which acts as a cam and bears against the link 31, when a ball traveling in the wrong direction strikes the operating lever 10 and moves it in the direction of the arrow, Fig. 3. When the link 31 is so moved, the rod 30 will act upon the stop-lever 12 and raise it to the position shown in Fig. 3 which will stop the progress of the ball.

The operating lever and the stop-lever are provided with leather pads 34 and 33 to prevent them from injuring the balls.

When the ball is traveling in the right direction it will clear the stop-lever and contact with the operating lever which will freely swing and allow the ball to pass without retarding its momentum. When the ball is traveling in the wrong direction it will contact with the operating lever and cause the lower end of the same to act on the link,

which, through the medium of the rod, will raise the stop-lever in the path of the ball so that the ball cannot pass the said stop-lever.

Having thus described my invention I claim and desire to secure by Letters Patent.

1. In a device of the character described, the combination of a track over which balls travel, a lever pivotally mounted in the path of said balls, said lever adapted to freely swing to allow said balls to travel in one direction and means controlled by said lever to check said balls when they travel in the opposite direction.

2. In a device of the character described, the combination of a track over which balls travel, a lever pivotally mounted in the path of said balls, and a stop-lever pivotally mounted and adapted to be brought into the path of said balls by the action of said first mentioned lever.

3. In a device of the character described, the combination of a track over which balls travel, a lever pivotally mounted in the path of said balls, a stop-lever, a rod connected with said stop-lever, and means for engaging said rod to lift said stop-lever into the path of said balls by the action of said first mentioned lever.

4. In a device of the character described, the combination of a track over which balls travel, a lever pivotally mounted in the path of said balls, said lever adapted to swing free in one direction, a pivoted link adapted to be engaged by said lever when moved in the opposite direction, a stop-lever, and a rod connecting said link with said stop-lever to raise said stop-lever into the path of the balls.

5. In a device of the character described, the combination of a track over which balls travel, a lever pivotally mounted in the path of said balls, said lever adapted to swing free in one direction, a cam formed on the lower end of said lever, a link engaged by said cam, a stop-lever, and a rod connecting said link with said stop-lever.

6. In a device of the character described, the combination of a track over which balls

travel, a lever pivotally mounted in the path of said balls, said lever having a weighted counter-balance, a stop-lever, a rod connected with and adapted to raise said stop-lever when acted upon by said first mentioned lever.

7. In a device of the character described, the combination of a bearing, a lever mounted in said bearing, a stop-lever mounted in said bearing, an arm depending from said stop-lever, a rod pivoted in said arm, said rod adapted to strike the said bearing and limit the movement of said stop-lever, and means for connecting said rod with said first mentioned lever so that said lever when moved in one direction will raise said stop-lever.

8. In a device of the character described, the combination of a return-way over which balls travel, a bearing mounted in said return-way, a lever pivotally mounted in said bearing, a stop-lever mounted in said bearing, a link pivoted in said bearing adapted to be acted upon by said first mentioned lever, a rod connecting said link with said stop-lever adapted to raise the latter into the path of the balls, and pads secured on said levers to protect said balls.

9. In a device of the character described, the combination of a return-way over which balls travel, a bearing consisting of two side plates, a lever pivoted between said side plates, a cam formed on said lever, a link pivoted in said side plates adapted to be acted upon by said cam, a stop-lever pivoted between said plates, a depending arm on said stop-lever and a rod connecting said link with said depending arm on said stop-lever adapted to bear against said side plates of said bearing to limit the movement of said stop-lever.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM W. VEARING.

Witnesses:

M. R. CLEELAND,
JAMES F. BOYLAN.