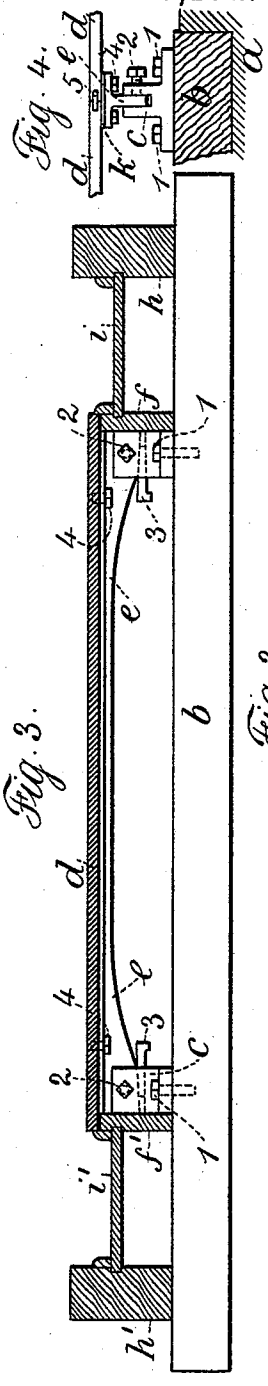
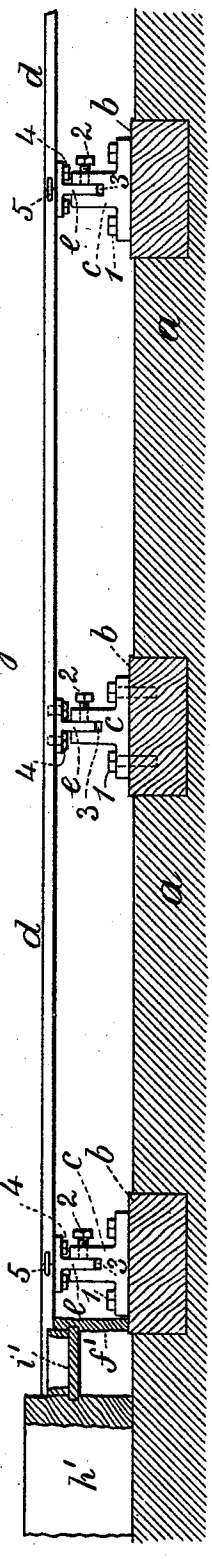
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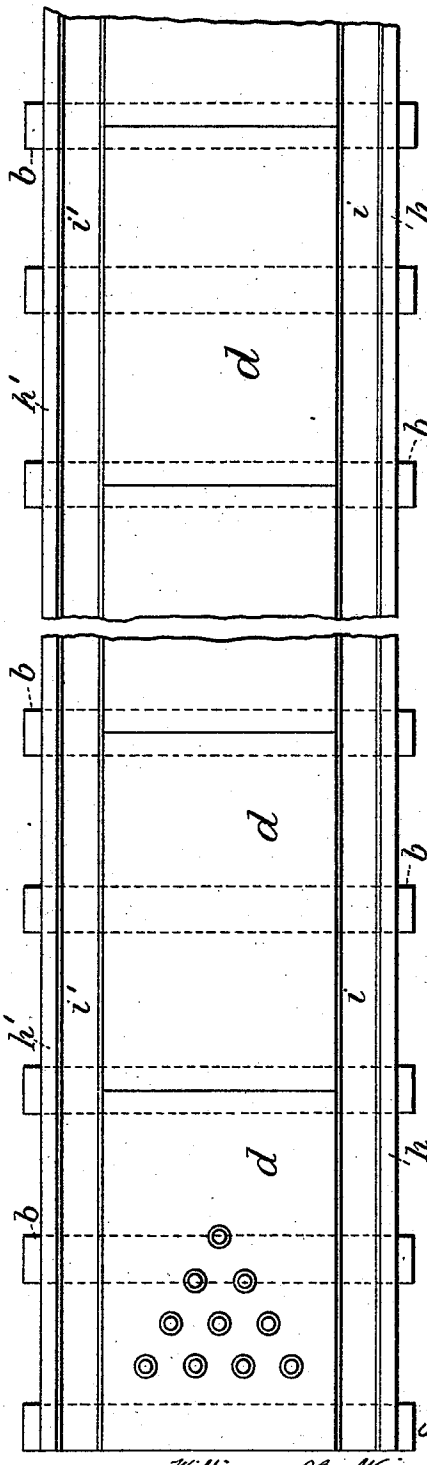
W. H. WIGGINS & T. H. VANDERHOEF.

BOWLING ALLEY.

No. 525,172. Patented Aug. 28, 1894.







Witnesses:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. WIGGINS AND THOMAS H. VANDERHOEF, OF BROOKLYN, NEW YORK.

BOWLING-ALLEY.

SPECIFICATION forming part of Letters Patent No. 525,172, dated August 28, 1894.

Application filed May 10, 1894. Serial No. 510,684. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. WIGGINS and THOMAS H. VANDERHOEF, citizens of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Bowling-Alleys, of which the following is a specification.

Before our invention bowling alleys have usually been constructed of strips of wood set edgewise and securely connected together and supported upon cross beams and afterward planed true and level. These are liable to change shape and get out of level under changes of temperature and atmospheric influences and these bowling alleys are permanent fixtures, and cannot be readily moved, or leveled or rendered true and uniform. Bowling alleys have also been made up of removable sections of stone laid upon sleepers and covered with canvas, the whole being provided with devices for adjusting them to a common level. But these devices were not simple and the stones are liable to crack and chip and the cloth covering to readily tear and form in ridges and the object of our invention is to overcome these difficulties.

In carrying out our invention we employ plates of steel or other suitable metal and connected to the under side thereof are transverse T beams. Sleepers are laid in a concrete foundation and upon said sleepers are standards with slotted upper ends, set bolts and wedges; and the webs of the T beams are received in the slots of the standards and after adjustment and leveling by the wedges, are secured by the set screws or bolts. The plates of steel are made true and of uniform thickness and they may be provided with connecting keys along the whole or part of their abutting edges. These steel plates form the ball ways of the alleys, they can be readily maintained level and they cannot be injured in use and are readily removed if desired.

In the drawings Figure 1 is a plan view of portions of a bowling alley. Fig. 2 is an edge view, and Fig. 3 is a cross section and Fig. 4 is a partial end view of a modification. Figs. 2, 3 and 4 are shown of increased size.

The foundation *a* is of carefully laid concrete and the sleepers *b* are bedded in the concrete foundation to any desired extent and are held thereby securely in place.

The standards *c* have foot pieces through which pass the tap bolts *l l* which secure the standards to the sleepers. The upper ends of the standards are slotted transversely and set bolts 2 and wedges 3 are employed in connection with said standards.

The plates *d* of steel or other suitable metal form the floor of the ball ways of the bowling alley. These plates are of even thickness throughout with accurately planed surfaces and edges, and when brought together there is no unevenness at the lines of union. T beams or angle irons *e* are employed and placed transversely of the plates *d*, and tap bolts 4 connect the T beams *e* upon the under surface of the said plates. We prefer to connect the meeting edges of each pair of plates *d* with a T beam *e* and to place another T beam at the center of each plate; thus the plates are amply supported. We may employ keys 5 in the meeting edges of the pairs of plates *d* to insure the most perfect alignment and we prefer to employ between the under surfaces of the plates *d* and the upper surfaces of the beams *e* a layer or pad K of rubber, felt or similar material to deaden the sound caused by the balls, passing over the plates *d*. The respective ends of the T beams *e* are received in the slotted upper ends of the standards and the plates *d* are to be leveled accurately by means of the wedges 3 and are held in place by the tap bolts 2 being set up tightly against the beams *e*.

Vertical wooden strips *f*, *f'* next the standards *c* together with string pieces *h*, *h'* and horizontal molded bases *i*, *i'* form gutters for the balls that roll off the plates *d*. This feature is common and forms no part of our invention.

We claim as our invention—

1. In a bowling alley the combination with a foundation, sleepers laid therein and standards secured thereto, of plates of steel or other suitable metal, transverse beams secured to the under sides of the plates and received in said standards and keys for adjusting and screws for securing said beams, substantially as set forth.

2. In a bowling alley, the combination with

a foundation and sleepers laid thereon, of standards slotted transversely at their upper ends and bolted to said sleepers and having wedges and set bolts, the plates of steel or other suitable metal with true faces, the T beams connected to the under sides of said plates at their meeting edges, and received in the slotted standards and adjustably secured thereto, substantially as set forth.

3. In a bowling alley the combination with a foundation, sleepers laid therein and standards secured thereto, of plates of steel or other suitable metal, transverse T beams secured thereto upon the under sides and received in and adjustably secured to said standards, and a layer or pad K of sound deadening material between the T beams and plates, substantially as set forth.

Signed by us this 4th day of May, A. D. 1894.

WM. H. WIGGINS.
T. H. VANDERHOEF.

Witnesses:
GEO. T. PINCKNEY,
HAROLD SERRELL.