June 7, 1949. A. B. HACKERT 2,472,208

BACKSTOP FOR BOWLING ALLEYS

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Fig. 1.

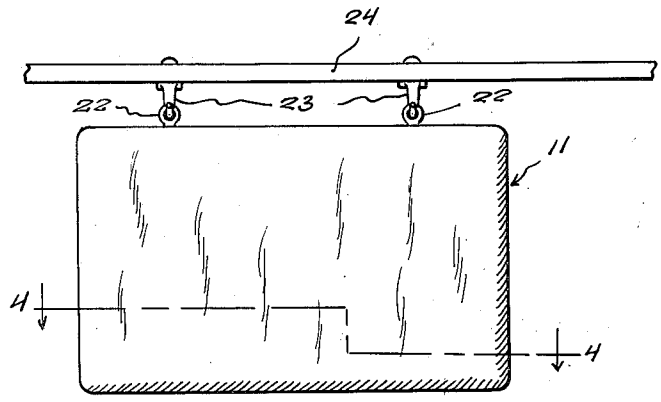


Fig. 2.

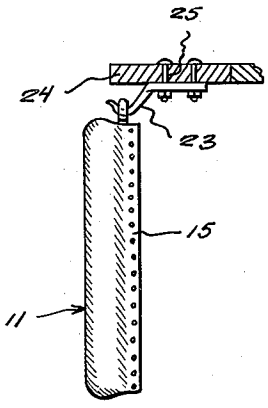
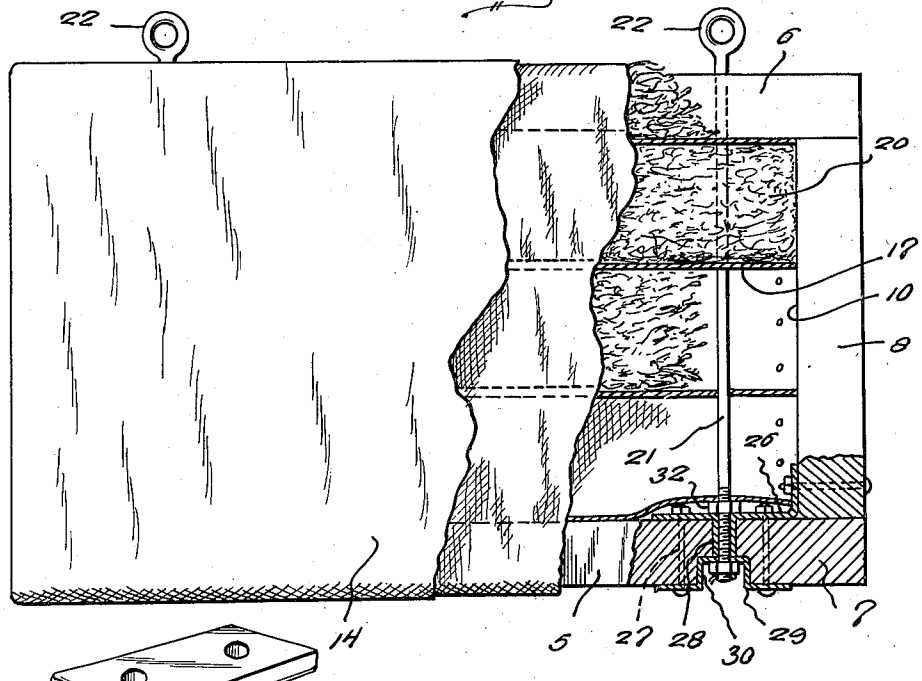


Fig. 3.



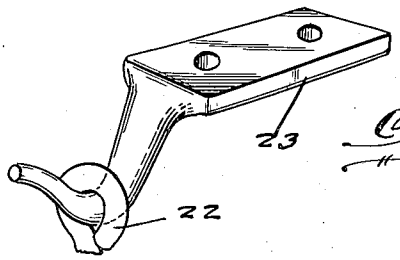


Fig. 9.

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Fig. 4.

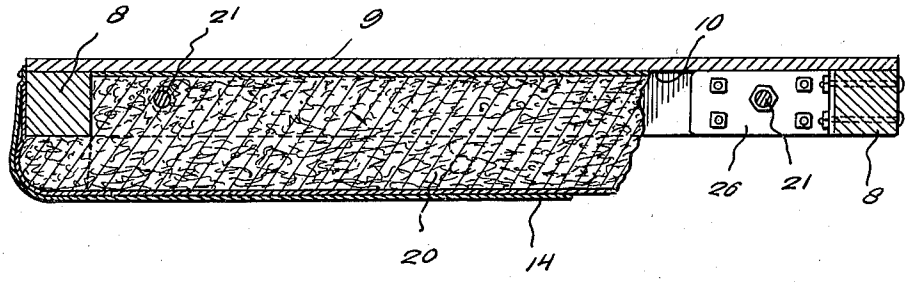


Fig. 5.

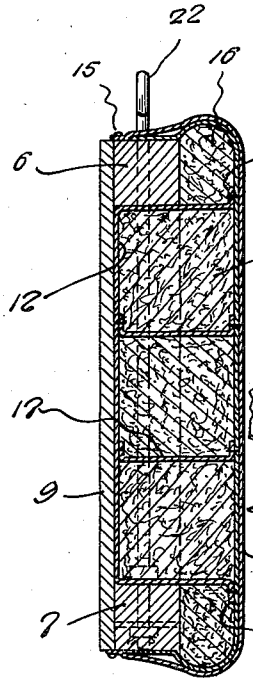


Fig. 6.

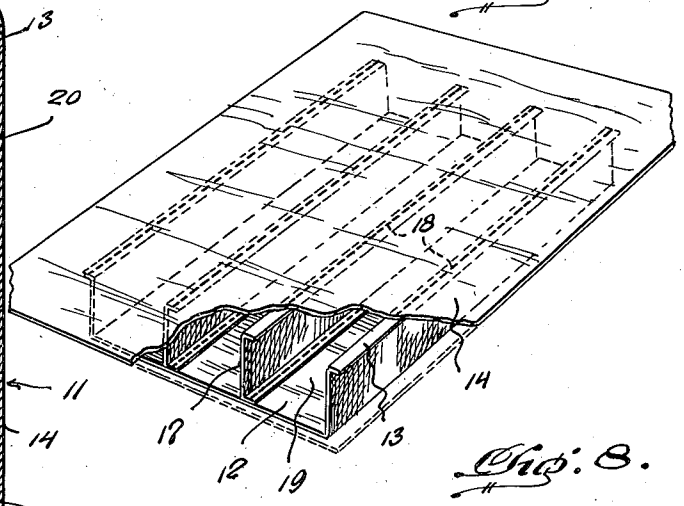


Fig. 7.

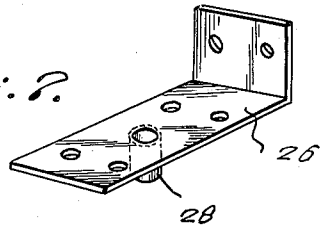
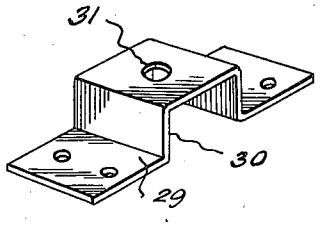


Fig. 8.



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UNITED STATES PATENT OFFICE

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BACKSTOP FOR BOWLING ALLEYS

Albert B. Hackert, St. Paul, Minn.

Application March 13, 1945, Serial No. 582,536

2 Claims. (Cl. 273—53)

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The present invention relates to new and useful improvements in bumpers or back-stops for use in bowling and designed to stop the balls propelled toward the pins sought to be knocked down.

An important object of the present invention is to provide a bumper or back-stop of strong and durable construction so as to resist the impact of the balls when striking the same so that the bumper will not be distorted through constant use.

More specifically the invention comprises a rigid frame and rigid back together with means for swingably supporting the frame in the pit of a bowling alley and providing padding in front of the frame and covering the entire front surface thereof, and secured in position thereto by means of a front cover of flexible material attached to the top, bottom and side edges of the frame.

In order to avoid sagging of the filler toward the bottom of the frame by constant pounding of a bowling ball against the bumper, I provide a plurality of horizontally extending separators for the filler to form a plurality of horizontally extending chambers or pockets in which the filler is placed to thus overcome the tendency of the filler to sag toward the bottom of the frame.

A further object is to provide a device of this character of simple and practical construction, which is strong and durable, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which

Figure 1 is a front elevational view,

Figure 2 is a side elevational view,

Figure 3 is a front elevational view with parts broken away and shown in section,

Figure 4 is a horizontal sectional view taken substantially on a line 4—4 of Figure 1,

Figure 5 is a vertical sectional view,

Figure 6 is a perspective view of the separators forming the filler compartments in the bumper and the cover material attached thereto,

Figure 7 is a perspective view of the inner wear-plate for the frame, and

Figure 8 is a similar view of the outer wear-plate therefor.

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Figure 9 is a perspective view showing a supporting hook.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates the frame of the bumper or back-stop preferably constructed of wood and including horizontal frame members 6 and 7 connected at their ends by vertical frame members 8. A back 9 also preferably constructed of wood is attached to the rear edges of the frame, the frame thus forming a recess 10 forwardly of the back member 9.

A pad designated generally at 11 is placed in the recess 10 and is formed of an inner sheet 12 of relatively heavy flexible material, such as leather, canvas or the like, with the upper and lower edges of the sheet extending forwardly beyond the frame 5 as shown to advantage in Figure 5 of the drawings and having their outer edges bent angularly to form flanges 13 secured to a cover sheet 14 which may be of a double thickness of material.

The flanges 13 are preferably stitched only to the inner layer of the cover material so that the outer layer of the cover will extend over the stitching to protect the same and the edges of the cover 14 extend over the edges of the frame 5 and are secured thereto by means of tacks, nails or other suitable fasteners 15.

A filler or padding 16 is placed between the cover 14 and the outer surfaces of the frame 5 to protect the front edges of the frame and to serve as a bumper to prevent the bowling balls from striking the frame.

A plurality of separators 17 likewise of heavy flexible material and of U-shaped construction in cross section extend horizontally in spaced apart relation between the upper and lower edges of the inner sheet of material 12 and are secured thereto as well as to the cover 14 by means of the stitching 18. The separators 17 form a plurality of horizontally extending compartments 19 between the sheets of material 12 and 14 and within which loose filler or padding material 20, such as scraps of leather or the like, may be placed, the compartments 19 with their fillers 20 therein thus filling the recess 10 of the frame and projecting forwardly thereof to form a bumper for the balls.

A pair of rods 21 extend vertically through the frame 5, the upper ends of the rods being formed with eyes 22 adapted for suspension from hooks 23 attached to the underside of the planks 24 usually provided above the pit of a

bowling alley, the hooks being attached to the planks by means of bolts or the like 25.

An inner wear plate 26 of angular construction is secured at each of the lower inner reinforcing corners of the frame 5 by means of bolts 27, the plate having a sleeve 28 welded or otherwise suitably attached thereto, or integrally formed therewith, and inserted in a vertical opening formed in the lower frame member 7.

To the bottom of the lower frame member 7 is attached an outer reinforcing wear-plate 29 by means of bolts 27, the outer wear-plate having an upwardly extending off-set 30 therein having an opening 31 for receiving the lower threaded end of the rod 21 which extends downwardly through the sleeve 28. The lower end of the rod 21 is secured in a fixed position in the wear-plates by means of jamb nuts 32 and the off-set 30 in the outer wear-plate 29 serves as a recess to accommodate the lower end of the rod as well as the lowermost nut so that the same will not project outwardly of the frame to cause injury to the bowling ball by striking the same.

The sleeve 28 and wear-plates 26 and 29 prevent wear of the openings in the lower frame member 7 by the rod 21 during the constant swinging movement of the bumper on the hooks 23 which is caused by the impact of the bowling balls.

From the foregoing it will be apparent that the separators 17 forming the chambers for the filler 20 of the pad will maintain the filler evenly distributed throughout the entire area of the bumper and thus prevent sagging of the filler toward the lower edge thereof during constant pounding of the front surface of the bumper by the bowling balls.

The construction above described further provides a more durable and efficient bumper capable of withstanding the severe pounding to which bumpers of this character are subjected.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in the art. A more detailed description thereof is accordingly deemed unnecessary.

It is to be understood however, that even though I have herein shown and described the preferred embodiment of my invention that the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described, and the scope of the appended claims.

Having thus described the invention, what I claim is:

1. A backstop for a bowling alley comprising a unit adapted to be vertically arranged with relation to an alley and including a frame having an open center and a rigid backing therefor, said frame forming a recess forwardly of said backing, an inner sheet of flexible material completely fitting the recess and having its opposite side edges extending forwardly of said recess, each of said side edges being bent marginally so as to form a flange, a plurality of flexible separators positioned within said recess and extending forwardly of the latter, said separators being arranged in parallel spaced relation with respect to each other and to the forwardly-extending side edges of said sheet and joined to the sheet to form with said side edges a plurality of independent channel-like compartments within and without said recess, filler material in each of said compartments and completely filling the latter, and a flexible cover extending over the front of said compartments and having its edges secured to said frame, the flanges on the forwardly-extending side edges of said sheet being attached to said cover.

2. A backstop for a bowling alley comprising a unit adapted to be vertically arranged with relation to an alley and including a frame having an open center and a rigid backing therefor, said frame forming a recess forwardly of said backing, an inner sheet of flexible material completely fitting the recess and having its opposite side edges extending forwardly of said recess, a plurality of flexible separators positioned within said recess and extending forwardly of the latter, said separators being arranged in parallel spaced relation with respect to each other and to the forwardly-extending side edges of said sheet and joined to the sheet to form with said side edges a plurality of independent channel-like compartments within and without said recess, filler material in each of said compartments and completely filling the latter, and a flexible cover extending over the front of said compartments and secured to the extending edges of said sheet and said frame.

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