

June 13, 1939.

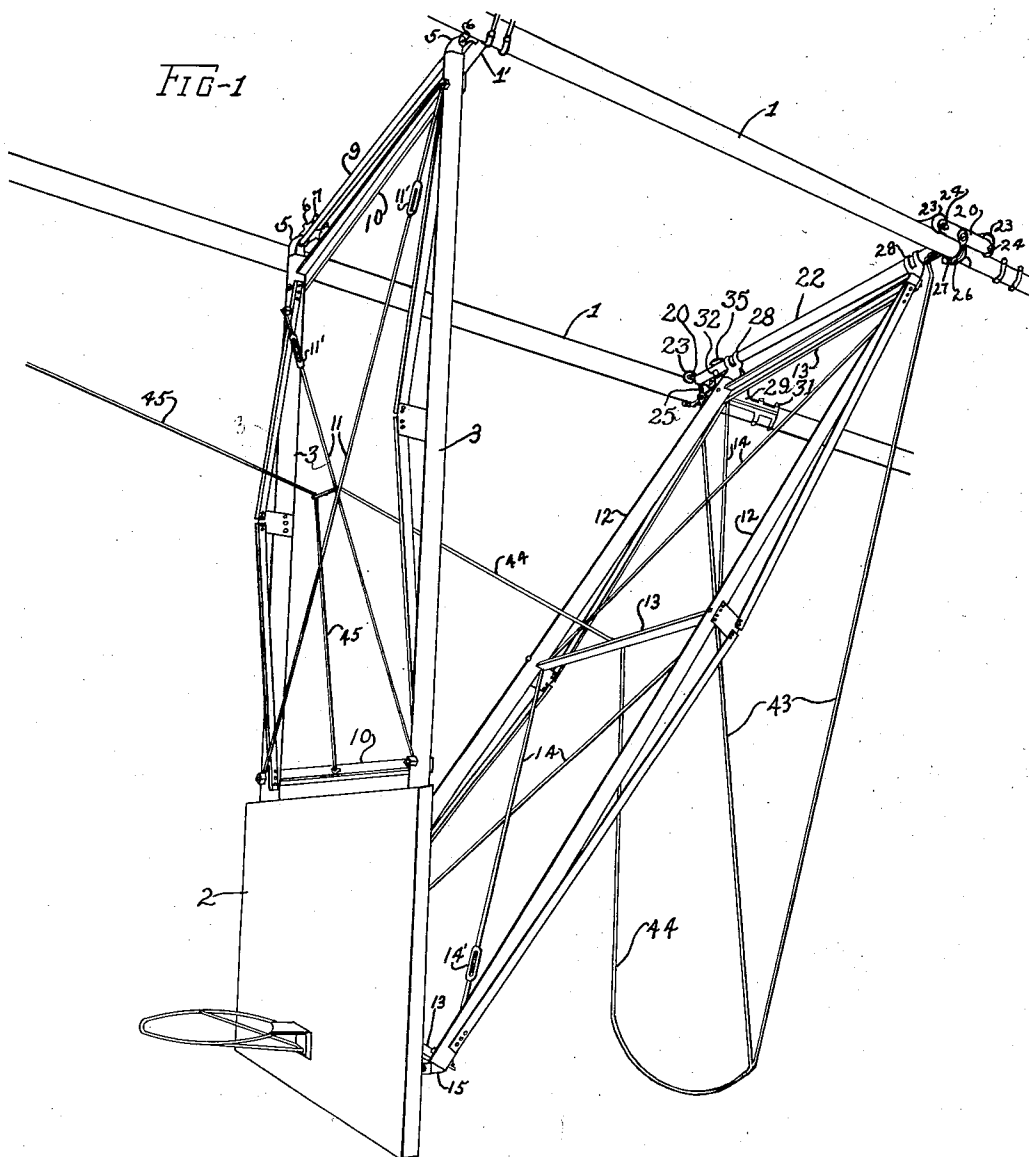
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2,162,085

BASKETBALL BACKSTOP APPARATUS

Filed Dec. 28, 1937

5 Sheets-Sheet 1



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FIG-2

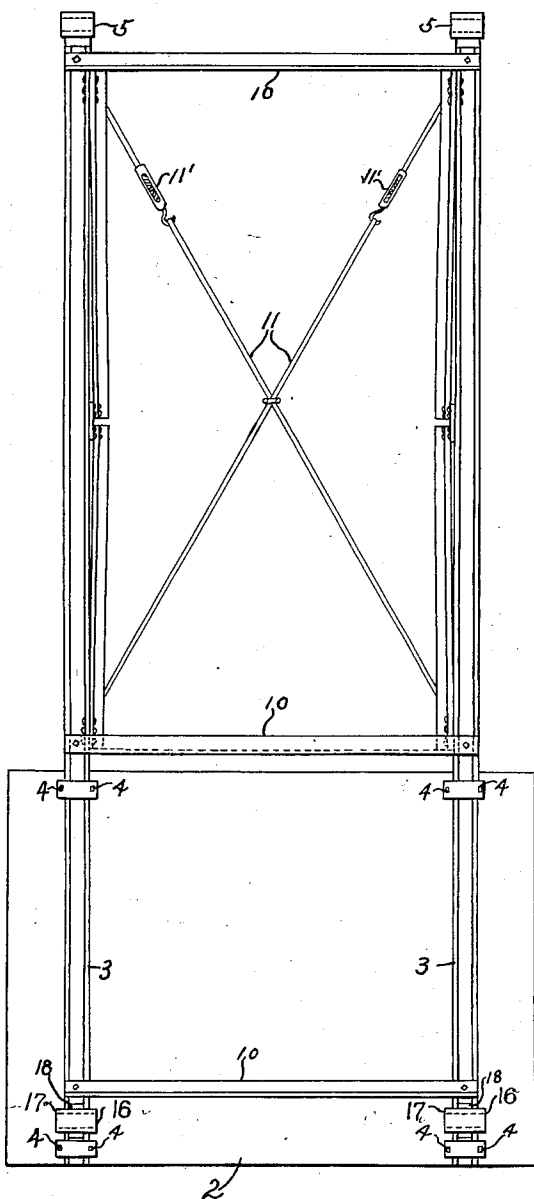


FIG-3

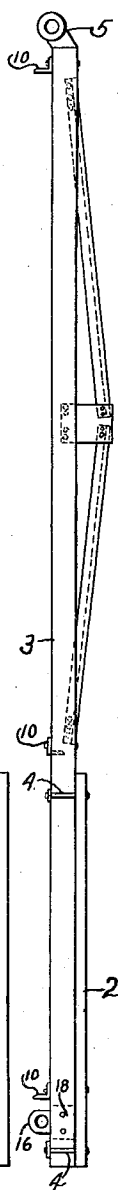
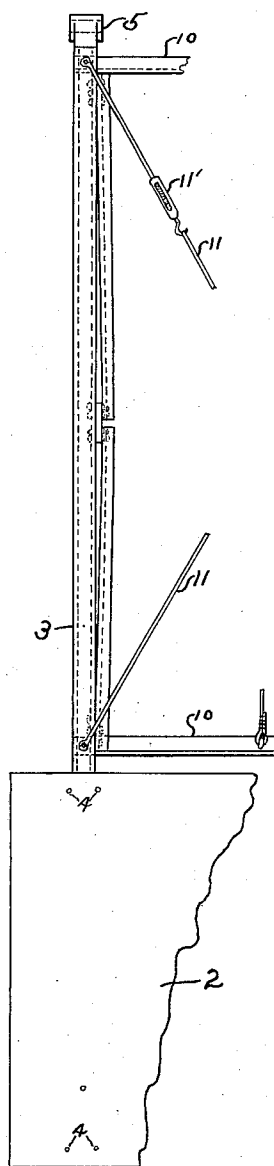


FIG-4



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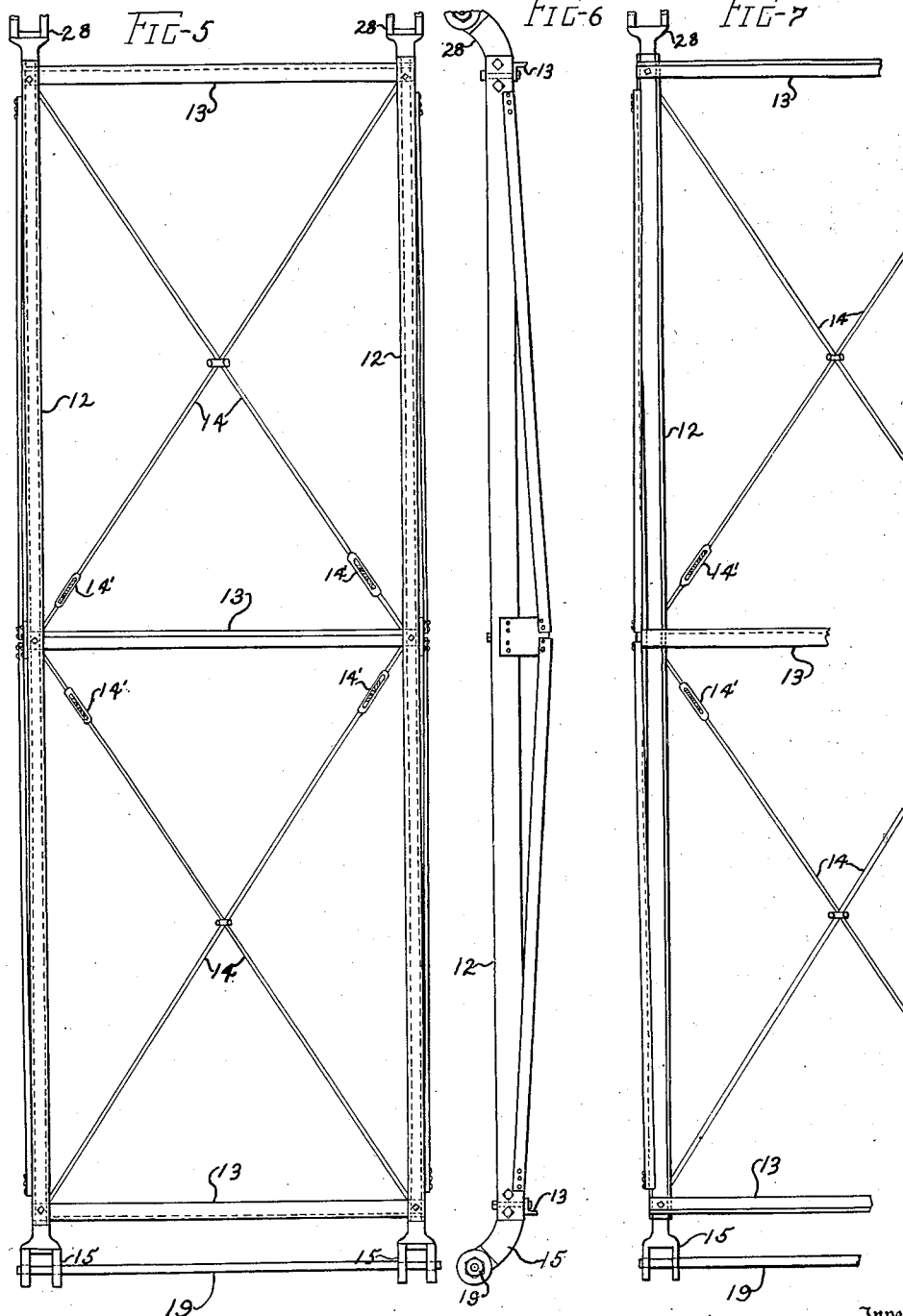
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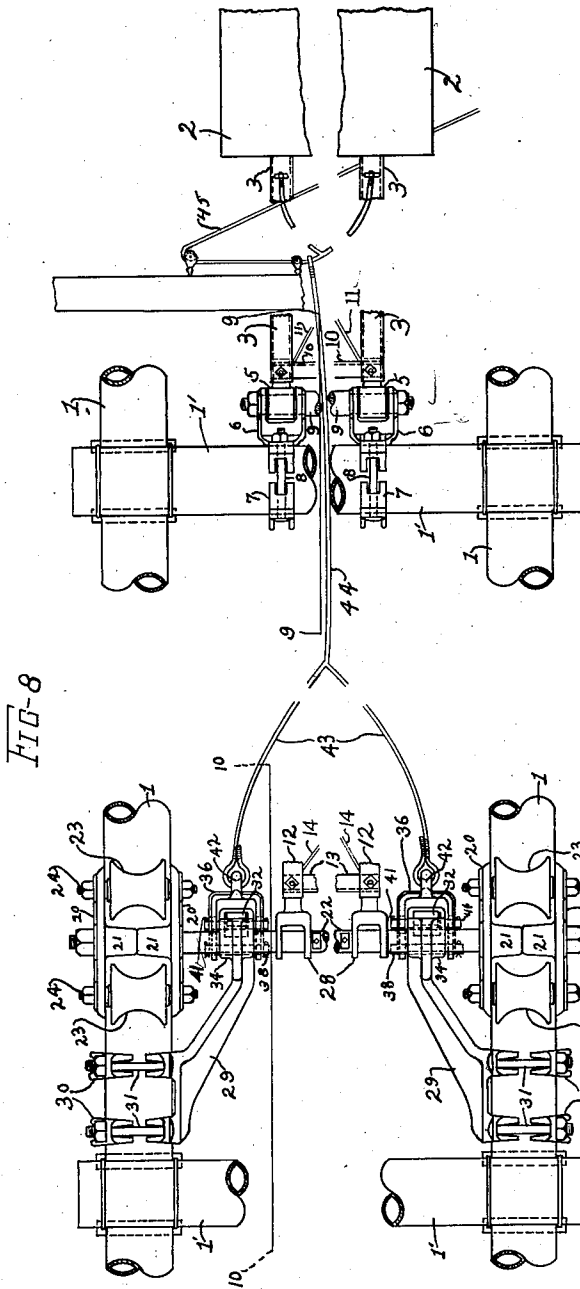


FIG-8

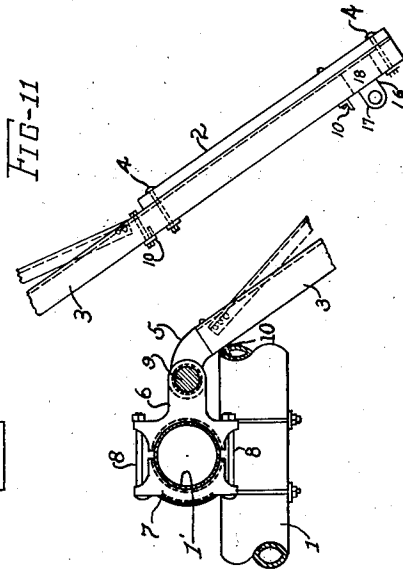
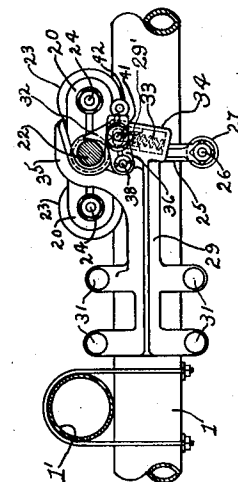


FIG-11

FIG-9

FIG-10



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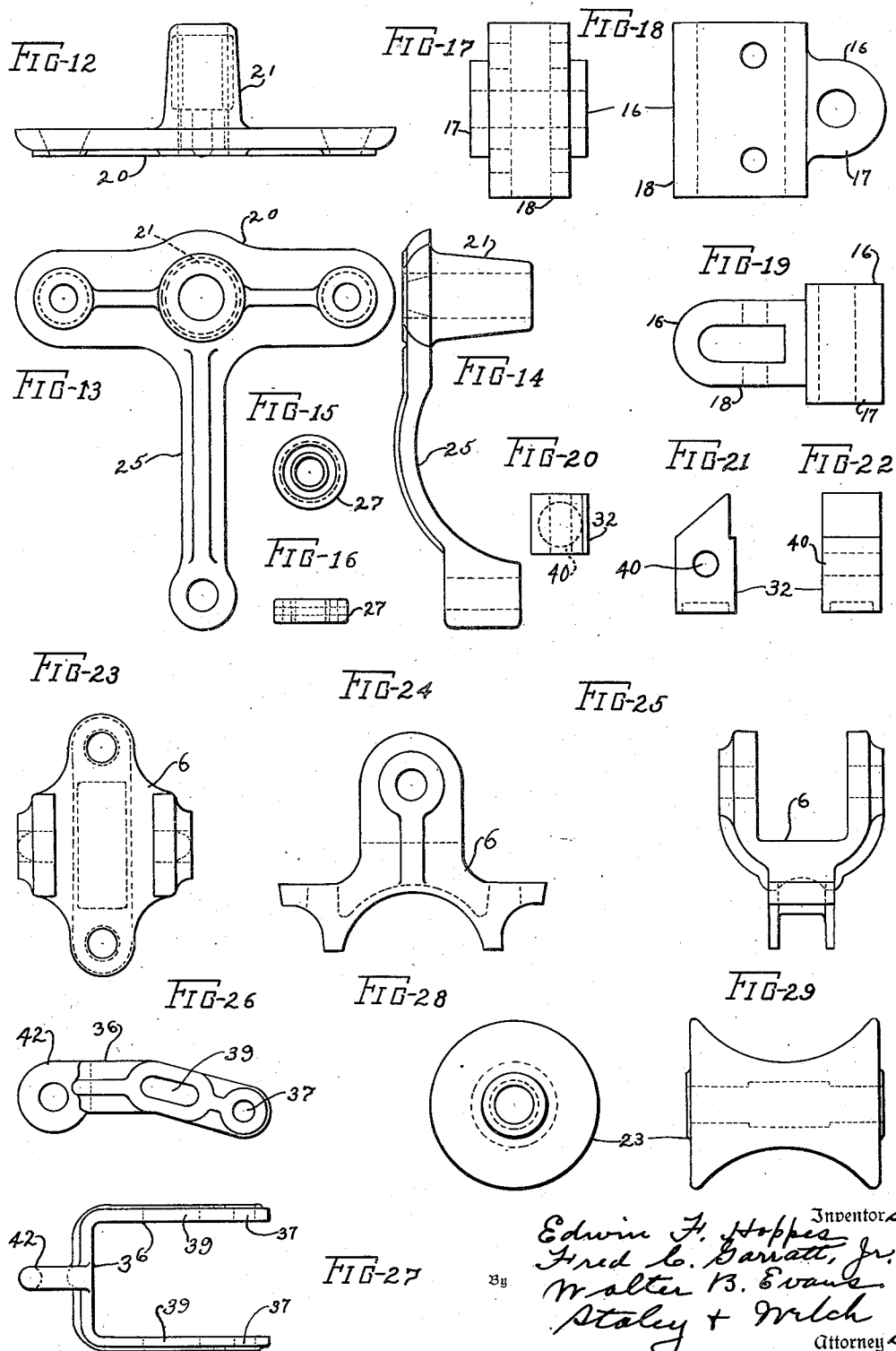
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5 Sheets-Sheet 5



UNITED STATES PATENT OFFICE

2,162,085

BASKETBALL BACKSTOP APPARATUS

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Application December 28, 1937, Serial No. 182,070

14 Claims. (Cl. 273-1.5)

This invention relates to basketball backstops, it particularly relating to the foldable type of backstop apparatus.

The object of the invention is to provide a backstop apparatus of the character referred to which can be readily raised and lowered.

Another and more specific object of the invention is to provide a backstop apparatus which includes a brace together with improved means for movably and hingeably supporting the brace from overhead supporting devices and for latching the same in operative position.

In the accompanying drawings:

Fig. 1 is a perspective view of an apparatus embodying the improvements.

Fig. 2 is a rear elevation of the backstop and its supporting hangers.

Fig. 3 is a side elevation of the backstop and its supporting hangers.

Fig. 4 is a front elevation of a portion of the backstop and one of the supporting hangers.

Fig. 5 is an elevation of the upper side of the brace member for the backstop.

Fig. 6 is a side elevation of the brace.

Fig. 7 is an elevation of the under side of a portion of the brace.

Fig. 8 is a top plan view of the apparatus in partly raised position.

Fig. 9 is a section on the line 9-9 of Fig. 8.

Fig. 10 is a section on the line 10-10 of Fig. 8.

Fig. 11 is a side elevation of a portion of the backstop in the position it occupies in Fig. 8.

Fig. 12 is a top plan view of one of the supports for the brace supporting rollers.

Fig. 13 is a side elevation of the same.

Fig. 14 is an end elevation of the same.

Figs. 15 and 16 are details of the supports for the brace supporting rollers.

Fig. 17 is a top plan view of one of the hinged members which connects the brace and backstop.

Fig. 18 is a side elevation of the same.

Fig. 19 is an end view of the same.

Fig. 20 is a top plan view of a detail of one of the latches for the upper end of the brace.

Fig. 21 is a side view of the same.

Fig. 22 is a front view of the same.

Fig. 23 is a top plan view of one of the hinged members for the upper end of one of the backstop hangers.

Fig. 24 is a side elevation of the same.

Fig. 25 is a side view of the same.

Fig. 26 is a side view of one of the latch operating members.

Fig. 27 is a plan view of the same.

Fig. 28 is an end view of one of the brace supporting rails.

Fig. 29 is a plan view of the rail.

The apparatus is supported from two tubular overhead rails 1 which are connected together 5 by a pair of cross members 1'. The backstop is indicated at 2 and is secured to a pair of truss hangers 3 by bolts 4 (Fig. 11).

These hangers are hingeably supported from one of the cross members 1', and to that end the upper end of each of the hangers is provided with an apertured hinge member 5 which is received in the forked portion of a hinge member 6 (Figs. 23, 24 and 25). This hinge member 6 is clamped to the cross member 1' by a cap 7 and bolts 8 (Fig. 9). A rod 9 extends through the apertures of both sets of hinge members so as to hingedly connect the hinge members together.

The two hangers 3 are connected together by cross members 10 and flexible diagonal tension cables 11 are provided each having a turn buckle 11' for the purpose of truing up the hanger frame.

The hanger and backstop are braced by a pair of truss brace members 12 connected by cross members 13. This brace structure is also provided with flexible diagonal tension members 14 whereby it may be trued up. The brace structure is hingedly connected to the backstop and to that end each of the members 12 is provided with a forked apertured hinge member 15 and each of the hangers is provided with a hinge member 16 as shown in detail in Figs. 17, 18 and 19. Each of the hinge members 16 is provided with a perforated ear 17. The portion 18 of this hinge member fits into the hanger which is of U-formation and is permanently secured thereto by riveting or otherwise. A rod 19 (Figs. 5 and 7) extends through the aperture by the hinge members to hingedly connect them together.

The upper end of the brace structure is hingedly and movably supported from the rails 1. To that end there is mounted on each of the rails 1 a carriage consisting of side members 20 each having a spacing boss 21 and being connected by a rod 22 which extends through apertures in the bosses 21. These side members carry rolls 23 mounted on axle studs 24 secured to the side members. In order to keep the carriage from becoming dislodged from the rail 1, each side member of the carriage is provided with a curved arm 25, the ends of these arms being apertured and connected together by a bolt 26 and on this bolt between the arms is a ball bearing 27 to reduce friction or binding (shown in detail in

Figs. 15 and 16). The members 12 of the brace structure are hingedly connected to the rod 22 and to that end each member is provided with a forked apertured hinged member 28 hingedly mounted on the rod.

When the apparatus is being raised or lowered the carriages run upon the rails 1 but when the backstop and its hangers are in fully lowered playing position means are provided for latching the brace to the rails 1. To that end there is clamped to each of the rails 1 a latch carrying member 29, each of the members 29 being clamped to the rail by caps 30 and bolts 31. Each of the members 29 carries a latch 32 which is normally urged to latching position by a coil spring 23, the member 29 being formed with a small housing 34 to receive the latch and spring. When the apparatus is being lowered and the carriages move along the rails 1, the rod 22 to which the brace is hinged will strike the beveled noses of the latches 32 so as to be automatically locked by the latches; the member 29 preferably having an angularly-projecting nose 35 to receive and guide the rod and hold it in position.

For the purpose of unlatching the brace when it is desired to raise the structure there is hinged to the member 29 a pair of yoke-shaped members 36, one of which is shown in detail in Figs. 26 and 27. Each of these members is provided with apertures 37 which receive a pin 38 which is carried by the supporting member 29. Each of these members is also provided with an elongated aperture 39 and the latch, as shown in Figs. 21 and 22, is provided with an opening 40. Passing through the elongated openings 39 and the opening 40 is a pin 41 whereby the member 36 and the latch are hingedly and movably connected together. The pin 41 also passes through an elongated opening 29' in the wall of the housing. The member 36 also has a perforated ear 42 to which a rope 43 is connected. By pulling down on the rope the latch is temporarily withdrawn from the rod 22. The ropes 43 have their lower ends connected to a rope or cable 44 which is connected to the cable 45 by which the apparatus is raised, the rope being connected to the raising and lowering cable so that when the apparatus is raised the ropes 43 will be raised out of the way.

Having thus described our invention, we claim:

1. In a basketball backstop apparatus, overhead supports, a rigid backstop supporting frame hingedly carried at its upper end by said supports, a rigid bracing frame having its lower end hingedly connected to a lower portion of said backstop supporting frame, means for movably supporting the upper end of said bracing frame on said supports, and means for releasably latching the upper end of said bracing frame to said supports.

2. In a basketball backstop apparatus, overhead supports, a rigid backstop supporting frame hingedly carried at its upper end by said supports, a rigid bracing frame having its lower end hingedly connected to a lower portion of said backstop supporting frame, means for movably supporting the upper end of said bracing frame on said supports, automatic latches for latching the upper end of said bracing frame to said supports, and manually operated means operable from the floor line for releasing said latches.

3. In a basketball backstop apparatus, overhead supports, backstop supporting hangers hingedly carried at their upper ends by said supports, rigid braces hingedly connected to said

hangers, carriages movably mounted on said supports, means to hingedly connect said braces to said carriages, and means to releasably latch said carriages to said supports.

4. In a basketball backstop apparatus, overhead supports, backstop supporting hangers hingedly carried at their upper ends of said supports, rigid braces hingedly connected to said hangers, carriages movably mounted on said supports, means to hingedly connect said braces to said carriages, an automatic latch for each carriage to latch the carriage to its support, and manually operated means to release said latches.

5. In a basketball backstop apparatus, overhead supports, backstop supporting hangers hingedly carried at their upper ends by said supports, rigid braces hingedly connected to said hangers, carriages movably mounted on said supports, means to hingedly connect said braces to said carriages, an automatic latch for each carriage to latch the carriage to its support, and manually operated means to release said latch, said means comprising a pivoted operating member pivotally connected with each latch.

6. In a basketball backstop, overhead supports, backstop supporting hangers hingedly carried at their upper ends by said supports, rigid braces hingedly connected to said hangers, a pair of carriages movably mounted on said supports, a rod connecting said carriages, means to hingedly connect said braces to said rod, and means to releasably latch said carriages to said supports.

7. In a basketball backstop, overhead supports, backstop supporting hangers hingedly carried at their upper ends by said supports, rigid braces hingedly connected to said hangers, a pair of carriages movably mounted on said supports, a rod connecting said carriages, means to hingedly connect said braces to said rod, and means to releasably latch said carriages to said supports, said means comprising a pivoted operating member pivotally connected with each latch.

8. In a basketball backstop, parallel overhead supporting rails, a backstop supporting frame hingedly carried at its upper end by said rails, a rigid bracing frame hingedly connected to the lower portion of said hanger frame, a pair of carriages movably mounted on said supports, a connection between said carriages, means to hingedly connect the upper end of said bracing frame to said connection, automatic latches for latching said carriages to said supports, and manually-operated means operable from the floor line for releasing said latches.

9. In a basketball backstop, parallel overhead supporting rails, a backstop supporting hanger together with means for hingedly supporting the same at its upper end by said supports, a rigid brace frame hingedly connected to the lower portion of said hanger frame, a pair of carriages movably mounted on said supporting rails, means to hingedly connect the upper portion of said bracing frame to said carriages, a latch supporting member connected with each of said rails, a spring-pressed latch carried by each of said latch supporting members, a latch releasing member carried by each of said latch supporting members, and means for operating said latch releasing members from the floor line.

10. In a basketball backstop, parallel overhead supporting rails, a backstop hanger member together with means for hingedly supporting the same at its upper end by said support, a brace member for said hanger member hingedly connected to the lower portion of said hanger mem-

ber, a pair of carriages movably mounted on said supporting rails, means to hingedly connect the upper portion of said bracing member to said carriages, a latch supporting member connected with each of said rails, an automatic latch carried by each of said latch supporting members, a latch releasing member pivoted to each of said latch supporting members, each of said latch releasing members having an elongated slot and each of said automatic latches a perforation, a pin extending through the elongated slot of each latch releasing member and through the perforation of the corresponding automatic latch, and means for operating said latch releasing members from the floor line.

11. In a basketball backstop apparatus, overhead supports, a backstop supporting hanger member hingedly carried by said supports, a rigid brace member hingedly connected with said hanger member, carriages movably mounted on said supports, means to hingedly connect said brace member to said carriages, and means to releasably latch said carriages to said support, a rigid member extending from each of said carriages to a point beneath and closely adjacent said supports, and a rotating bearing carried by said rigid member to engage the lower side of the corresponding support to prevent dislodgment of the carriages therefrom.

12. In a basketball backstop apparatus, a pair of overhead rails, a backstop, means for hingedly supporting said backstop from said rails, means for swinging said backstop up and down, a rigid brace member hingedly connected with said backstop, a carriage movably mounted on each rail, each carriage comprising rolls adapted to run on the rails when the backstop is raised or lowered, means for hingedly connecting said brace member with said carriages, and means for latching

said carriages against movement in the operative bracing position of said brace member.

13. In a basketball backstop apparatus, a pair of overhead rails, a backstop, means for hingedly supporting said backstop from said rails, means for swinging said backstop up and down, a rigid brace member hingedly connected with said backstop, a carriage movably mounted on each rail, each carriage comprising side frame members, centrally positioned spacing bosses, and rolls carried by said side members adapted to roll on the rails when the backstop is raised or lowered, means for hingedly connecting said brace to said carriages, and means for latching said carriages against movement when said brace member is in operative bracing position.

14. In a basketball backstop apparatus, a pair of overhead rails, a backstop, means for hingedly supporting said backstop from said rails, means for swinging said backstop up and down, a rigid brace member hingedly connected with said backstop, a carriage movably mounted on each rail, each carriage consisting of side frame members, side spaced-apart frame members, rolls carried by said frame members adapted to roll upon the corresponding rail when the backstop is raised or lowered, an arm connected with each frame member, extending beneath the rails, anti-friction devices carried by the lower ends of the arms adapted to engage the under side of the rail to hold the carriage from displacement, means for hingedly connecting the brace to said carriages, and means to lock the carriages against movement in the operative bracing position of said brace member.

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