March 17, 1959 C. FISCHER 2,878,018

HURDLE

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Fig. 1.

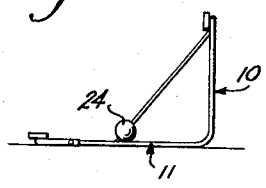
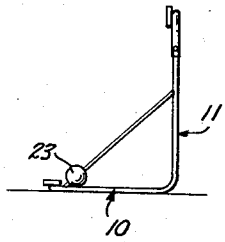


Fig. 2.



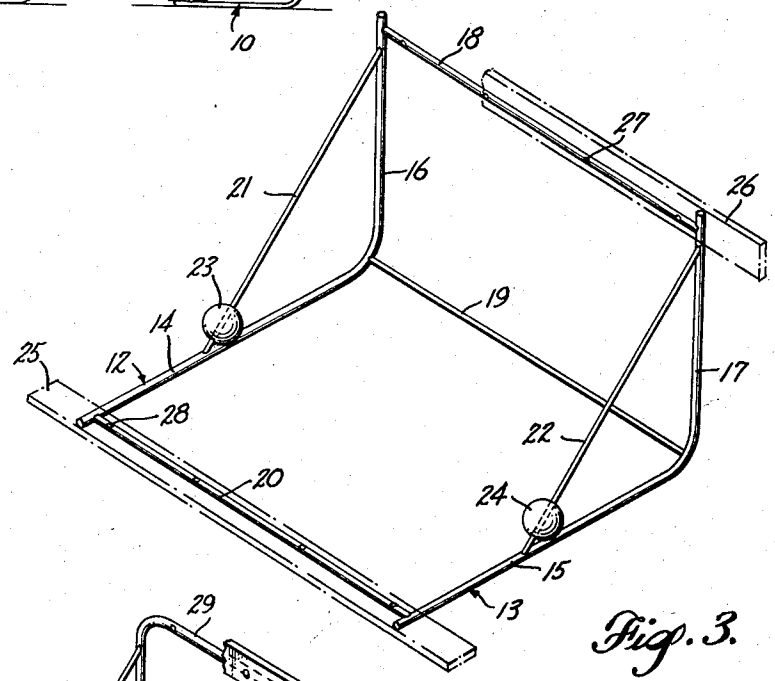


Fig. 3.

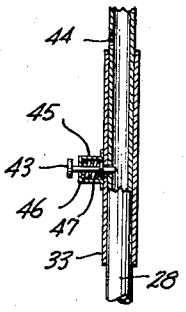


Fig. 5.

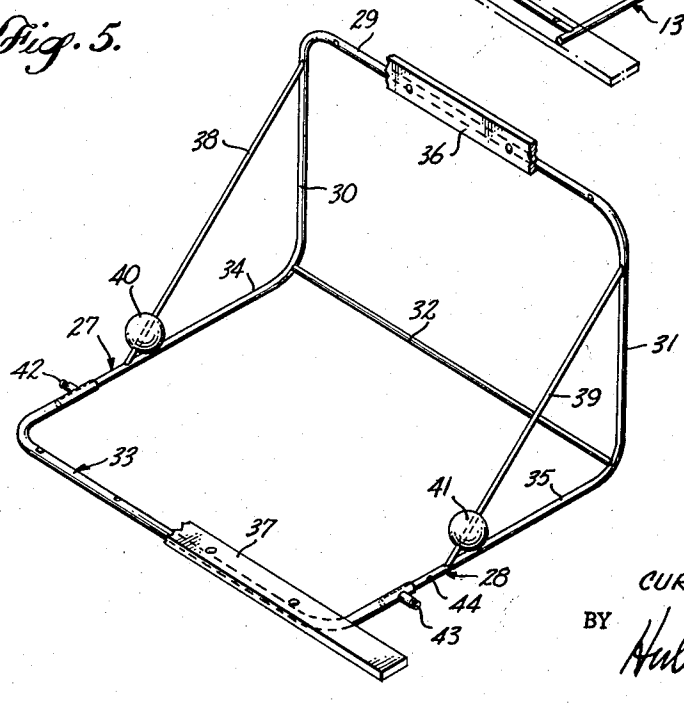


Fig. 4.

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HURDLE

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3 Claims. (Cl. 272—59)

This invention relates generally to athletic equipment and more particularly to a hurdle which can be used for running off hurdling events requiring different height hurdles during a track meet.

As is well known, hurdle heights of thirty inches, thirty-six inches, thirty-nine inches and forty-two inches are normally required to accommodate both high school and college students. One of the major problems in running off various hurdling events is the changing of hurdle heights. Another problem is the proper weighting of the hurdles to compensate for changes in height in order to obtain the required tip-over resistance for each height.

A primary object of the invention is to provide a single hurdle which has two different fixed heights, and which can be placed in one position for low hurdle events and in another position for high hurdle events, and which is so constructed that it automatically provides different and proper tip-over resistances in each position, without any manual adjustment or positioning of counterbalance weights.

It is an additional object of the invention to provide a modified embodiment of the above type hurdle which is also adjustable in height when placed in its high hurdle position, and can therefore serve as a thirty-six inch or forty-two inch or thirty-nine inch high hurdle, yet still provide a tip-over resistance which meets rule requirements for all three heights.

Another important object of the invention is to provide a hurdle which embodies gravity shifted weights which provide regulation tip-over resistance automatically when the hurdle is moved either into its high or its low hurdle positions. This makes for rapidity in setting up the hurdle for various hurdling events with a minimum of man power.

My invention will be more clearly understood when the following description is read in connection with the accompanying drawings, in which:

Figs. 1 and 2 are miniature side views illustrating a hurdle embodying my invention in its low and high hurdle positions respectively, with the weights shifted to different relative positions in each view;

Fig. 3 is a perspective view of a hurdle construction embodying this invention, the hurdle having two fixed heights and being shown in its low hurdle position;

Fig. 4 is a modified construction embodying the invention, this embodiment being capable of being varied in height when in its high hurdle position, the hurdle being shown in low hurdle position; and

Fig. 5 is a detailed sectional view illustrating one form of lock for locking the hurdle in a fixed height adjustment.

As will be seen from Figs. 1 to 3, my hurdle is generally L-shaped in side elevation or cross-section, having a short leg portion designated as a whole by the numeral **10**, and a long leg portion designated as a whole by the numeral **11**. It may be positioned on its long leg portion as a base supporting the short leg portion in upright position, as shown in Fig. 1, or it may be positioned on its short

leg portion as a base holding the long leg portion in upright position, as shown in Fig. 2.

As shown, the Fig. 3 embodiment comprises an open framework structure, which includes a pair of laterally spaced juxtaposed L-shaped side members **12** and **13**, which respectively include long legs **14** and **15** and short legs **16** and **17**. These side members are similarly positioned in spaced parallel planes, and are held rigidly in such positions by rigid transverse cross brace members **18**, **19** and **20**. Such cross bracing may take any desired form, such as X bracing. As shown, the cross brace members are parallel to each other. Member **18** has its opposite ends rigidly connected to the respective outer ends of the short legs **16** and **17**. Cross member **19** has its opposite ends rigidly secured, as by bracing or welding to the respective side members near the points of juncture of the respective long and short legs. Cross brace member **20** has its opposite ends rigidly secured as by braising or welding to the respective outer ends of the long legs **14** and **15**.

To provide proper tip-over resistance, whether its long legs are used as a base, a pair of weight supporting rods **21** and **22** are angularly disposed across the juncture points of the long and short legs. One end of each rod is rigidly secured as by welding to a respective one of the short legs, near the outer ends thereof. The opposite end of each rod is secured to one of the long legs intermediate its ends.

Ball-type weights **23** and **24** are slidably mounted one on each rod.

Wooden cross bars **25** and **26** are secured transversely across the respective outer ends of the long leg and short leg portions of the hurdle. Rivets or bolts **27** and **28** are used to secure the cross bars to the cross brace members **18** and **20**, respectively.

From the above description, and from an examination of Figs. 1 and 2 it will be seen that when the hurdle is positioned with its long leg portion **11** as a base, the short leg portion thereof (**10**) is held in an upright position. It will also be seen that both the weights **23** and **24** automatically gravitate downward on their respective rods to the positions shown in Figs. 1 and 3. By using weights of proper size and by attaching the ends of the rods **21** and **22** at a proper distance from the point of juncture of the short and long legs, the weights will thus automatically provide the desired resistance to tilting or tip-over of the short leg portion of the hurdle.

When the hurdle is changed to its Fig. 2 position the weights **23** and **24** gravitate in an opposite direction on the rods **21** and **22**. By locating the ends of the rods **22** a proper distance outward from the point of juncture of the short and long legs the weights will provide a different but desired resistance to tip-over of the hurdle in its high hurdle position.

Referring now to that embodiment of the invention illustrated in Fig. 4 it will be seen that the L-shaped side members **27** and **28** are made integral with the cross brace member **29** which connects the outer ends of the two short legs **30** and **31** of the side members. Cross brace member **32** is secured in the same relative position and in the same manner, as by welding or braising as cross brace member **19** in the Fig. 3 embodiment.

In this latter embodiment the cross brace member of the Fig. 3 embodiment (**20**) is eliminated. As a substitute a generally U-shaped cross brace member **33** is provided. The free ends of U-shaped brace member **33** are hollow or tubular and they telescopically receive the respective outer ends of the respective long legs **34** and **35** of the side members **27** and **28**.

The cross bars **36** and **37** are mounted on the cross brace members **29** and **33**, respectively, in the same manner as in the Fig. 3 embodiment. The rods **38** and **39**

and the rod supporting weights are mounted in the same manner as described in connection with the Fig. 3 embodiment. It will be noted that the free tubular ends of the U-shaped cross brace member **33** are fitted with spring pressed lock pins **42** and **43**. When the cross brace member **33** and its bar **37** are moved toward or away from the cross brace member **32** the lock pins **42** and **43** are adapted to enter holes **44** which are oppositely positioned in the long leg members **27** and **28** of the two side member. The pins thus serve to lock the cross brace member **33** in a desired height adjustment.

The details of construction of one type of spring pressed lock pin are shown in Fig. 5. A cup shaped housing **45** is braised or welded to the outer surface of the tubular cross brace member **33**. The lock pin **43** is movable longitudinally and centrally in the housing **45** with its inner end passing through a suitably located hole in the tube **33** and a registering hole in the long leg **28**. A spring **46** bears against one end of the housing and against a fixed washer **47** carried by the pin **43**, thus urging the pin inwardly with respect to the tube **33** on which it is mounted.

The Fig. 4 embodiment of the invention is used in the same manner as described in Fig. 3 embodiment. It may be placed on its short leg portion as a base supporting the long leg portion in an upright position, or it may be placed on its long leg portion as a base supporting the short leg portion in an upright position. When the short leg portion is being used as a base the cross brace member **33** may be raised or lowered to a desired height setting. The weights **40** and **41** serve to provide counterbalance resistance against tilting or tip-over of that portion of the hurdle which is being held upright.

Having described the invention with sufficient clarity to enable those familiar with this art to construct and use it, I claim:

1. A two position combination high and low hurdle comprising: a pair of rigid substantially identical generally L-shaped side members each having a short leg and a long leg, said members being similarly positioned in spaced parallel planes; rigid transverse cross brace members having their opposite ends connected to the respective side members to form a rigid hurdle structure which may rest on its short leg portion as a base supporting the long leg portion upright, or which may rest on its long leg portion as a base supporting the short leg portion upright; two weight carrying rods, one for each side member, each rod having one end connected rigidly to a respective side member short leg near its outer end, and each rod having its opposite end connected rigidly to a respective side member long leg intermediate its ends; and a pair of substantially identical weights, one mounted to slide along each rod under the force of gravity, whereby when the hurdle is supported on either its long leg or short leg portion as a base, the weights automatically gravitate downward on their rods to the base portion and away from that portion in upright position, and provide counterbalance resistance against tilting or tip-over of said upright portion.

2. The hurdle structure described in claim 1 in which the cross brace members are three in number, one brace having its opposite ends connected to the respective side member short legs near their outer ends, a second brace member having its opposite ends connected to the respective side long legs near their outer ends, and the third brace member having its opposite ends connected to the respective side members near the points of juncture of the respective long and short legs.

3. A two position combination high and low hurdle comprising: an open frame work structure generally L-shaped in cross section and having a long leg portion and a short leg portion either of which it may rest on as a base, said structure including a pair of laterally spaced juxtaposed L-shaped side members; an integral transverse cross brace member connecting the outer ends of the respective short legs of said side members; a second transverse cross brace member having its opposite ends rigidly connected to the respective side members near the points of juncture of the respective short and long legs thereof; a third generally U-shaped transverse cross brace member, its free ends being tubular and telescopically receiving the outer ends of the respective long legs of said side members; means for locking said third brace member in selected positions on the long legs of said side members; two weight carrying rods, one for each side member, each rod having one end connected rigidly to a respective side member short leg near its outer end, and each rod having its opposite end connected rigidly to a respective side member long leg intermediate its ends; and a pair of substantially identical weights, one mounted to slide along each rod under the force of gravity, whereby when the hurdle is supported on either its long leg or short leg portion as a base, the weights automatically gravitate downward on their rods to the base portion and away from that portion in upright position, and provide counterbalance resistance against tilting or tip-over of said upright portion.

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