Feb. 12, 1929.

W. R. LEAS

1,701,683

SWING HANGER

Filed Feb. 23, 1927

2 Sheets-Sheet 1

Fig. 1.

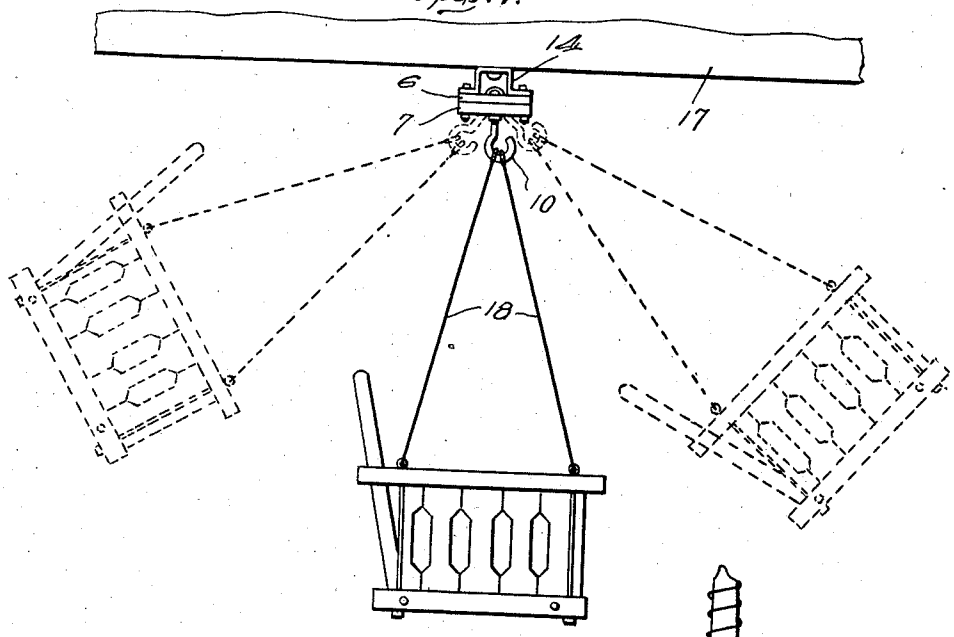


Fig. 2.

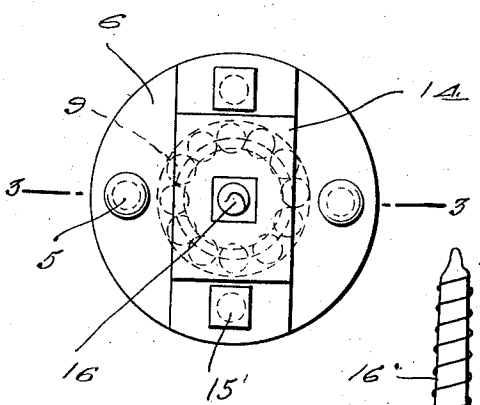


Fig. 3.

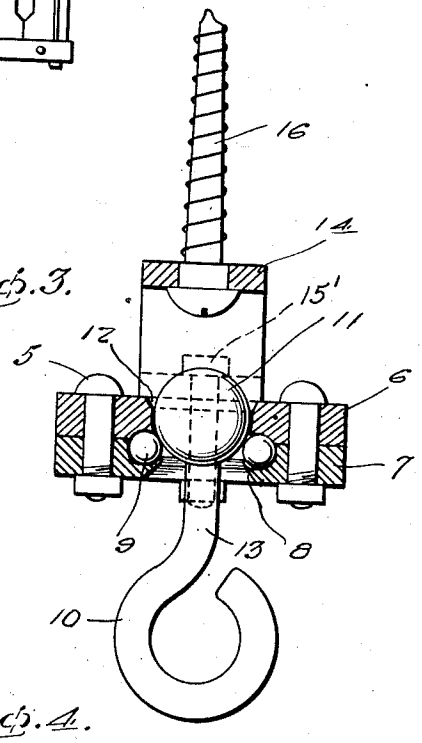
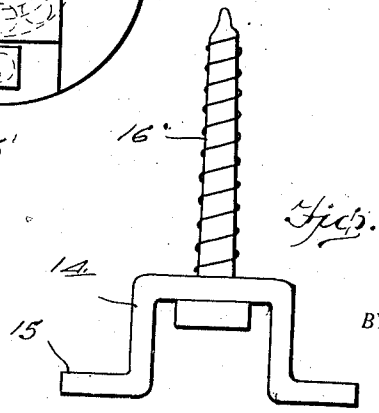


Fig. 4.



INVENTOR.
Warren R. Leas
BY
W. E. Beach Jr.
ATTORNEY.

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W. R. LEAS

SWING HANGER

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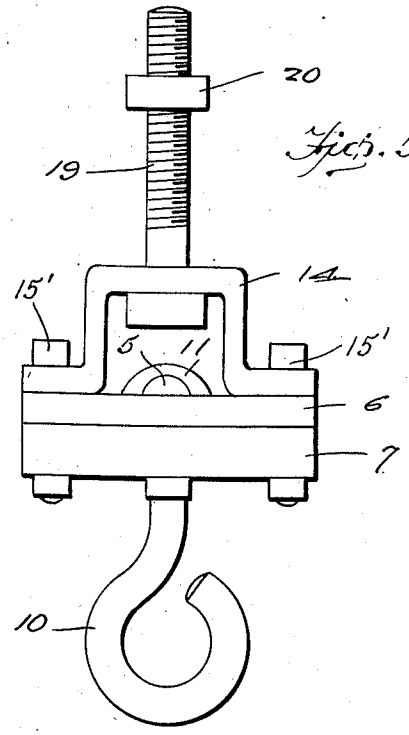


Fig. 5.

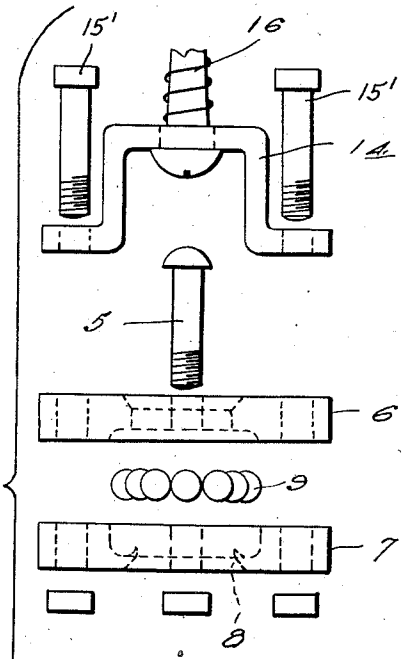


Fig. 6.

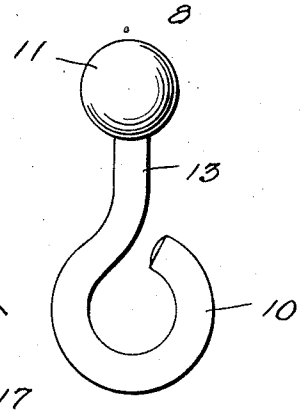
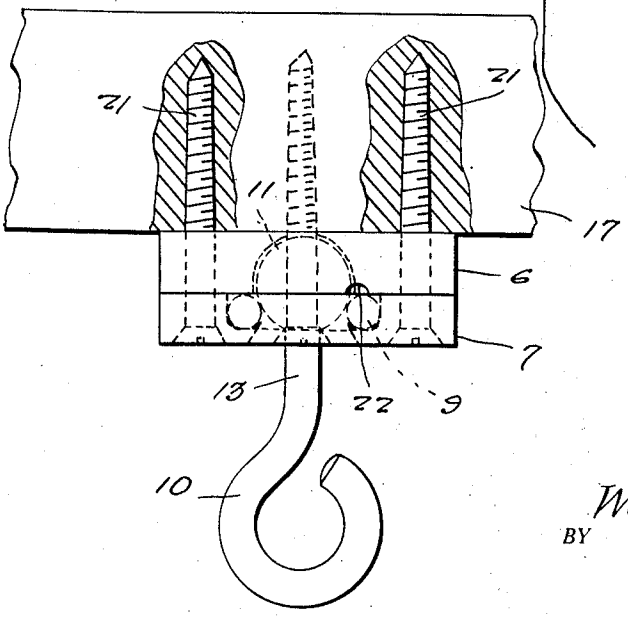


Fig. 7.



INVENTOR.
Warren R. Leas
BY
W. E. Beck Jr.
ATTORNEY.

Patented Feb. 12, 1929. 1,701,683

UNITED STATES PATENT OFFICE.

WARREN R. LEAS, OF WYOMING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO FRED S. HOPPER, OF WYOMING, PENNSYLVANIA.

SWING HANGER.

Application filed February 23, 1927. Serial No. 170,311.

My invention relates to hangers for porch swings and the like and has for its object to suspend a hook from a bracket adapted to be secured overhead and to form a ball on the upper end of the hook for swivelly mounting upon a set of ball bearings arranged in the bracket whereby to produce a freely swinging hanger devoid of irritating squeaks of any character and which will allow swing to move freely in any direction, forward, backward, side to side and in a whirling circular motion.

Another object is to provide a plate within which the ball from which the hook is suspended is swivelly arranged and having an oil groove adapted to keep the parts engaged by the ball well lubricated.

A further object is to provide a device of this character which is simple and strong in construction, easily and quickly secured to a rafter or other object and inexpensive to manufacture.

Other objects and advantages reside in the special construction, combination and arrangement of the various elements forming the invention 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 shows my invention in use illustrating the radius of movement of the hook,

Figure 2 is a top plan view,

Figure 3 is a vertical sectional view taken along a line 3—3 of Figure 2.

Figure 4 is a detail of the rafter attaching bracket,

Figure 5 is a view in elevation of the assembled hanger employing the use of a bolt for attaching to the rafter,

Figure 6 is a disassembled group view of the various parts comprising the invention, and

Figure 7 shows a modified form in attached position.

Referring now to the drawings wherein for the purpose of illustration I have shown a preferred embodiment of my invention I provide a hanger for porch swings and the like comprising a pair of annular plates arranged in superimposed relation, each having a centrally aligned opening therethrough and secured by bolts or similar suitable fastening devices 5. The abutting face of each plate is provided with a concaved groove formed about the edge of the opening, the groove in the lower plate 7 being of greater depth than the groove in the upper plate 6 and together combining to form an annular raceway for a set of ball bearings 9. The edge of the groove in the lower plate extends into a slight upturned lip 8 so as to form a seat for the balls whereby to prevent displacement thereof.

A hook 10 is adapted to be carried by the plates by means of a ball 11 arranged on the upper end of the hook and seated upon the ball bearings 9. The ball 11 is of a size to freely fit within the opening in the upper plate 6 and the upper edge of the opening is bevelled to form a groove 12 circumscribing the ball and within which a limited quantity of oil may be placed for lubricating the ball and facilitate the free movement thereof.

The seepage of the oil around the sides of the ball will further operate to lubricate the ball bearings 9 and the seat for the ball bearings being slightly channelled by virtue of the lip 8 will retain the oil therein and prevent dripping upon occupants of the swing.

The edge of the opening in the lower plate is bevelled so as to provide the greatest possible radius of movement for the shank 13 of the hook.

Upon the upper face of the plate 6 is arranged a substantially U-shaped bracket 14 invertedly arranged having its ends 15 turned outwardly at a horizontal plane and provided with openings for receiving bolts 15′ whereby to secure the bracket to the plates. The intermediate portion of the bracket is also provided with an opening adapted to receive a lag wood screw 16′ providing means for attaching the bracket to an overhead beam or rafter 17.

After the parts above described have been assembled in the manner illustrated in Figure 3 the ends of cables 18 from which a swing is suspended may be placed over the hook and the device is then ready for use.

In Figures 5 and 7 I have illustrated modified forms of the invention, the modification in Figure 5 comprising the substitution of a threaded bolt 19 having a nut 20 arranged thereon as an alternative means of attaching the bracket to a rafter or the like, in such instance the bolt being inserted through an opening in the rafter and a nut placed thereon to securely tighten the hanger in position.

In Figure 7 the invention is shown with the

bracket omitted and the plates attached direct to the rafter 17 with extra long screws 21, the plates being secured to each other by machine screws to retain the parts in assembled position while attaching to the rafter. In such construction it is necessary to increase the width of the plate 6 and to dispense with the opening therein and in place thereof to substitute a concave recess at the bottom part of the plate for receiving the upper portion of the ball 11. Means for lubricating the ball and the ball bearings 9 is then provided by drilling a laterally extending opening 22 in the lower edge of the plate 6 and communicating with the recess and through such opening a suitable lubricant may be inserted.

All parts of the hanger may be made of iron with the lower plate and the ball on the end of the hook case hardened. These comprise the parts of the device that are subject to wear and the case hardening thereof enables the useage of the same for many years, practically a life time. In the manufacture of the parts no welding or other process requiring the expenditure of a great amount of time is necessary.

It is obvious from the foregoing that various changes in design and construction may be made without departing from the spirit of the invention or the scope of the appended claims and I accordingly claim as my own all such forms of the invention to which I am entitled.

I claim:

1. A hanger for porch swings comprising a pair of plates arranged in superimposed relation and fixedly secured to each other and having a central opening therethrough, a ball seated within said opening and having a hook suspended therefrom, anti-friction means carried by the lower plate and swivelly supporting said ball, said upper plate having the upper edge of its opening bevelled to form a groove circumscribing the ball and adapted to permit the feeding of a quantity of lubricant thereto and a substantially U-shaped bracket invertedly arranged and attachable to said upper plate and adapted to carry a screw for securing the same to a rafter or the like.

2. A hanger for swings comprising a pair of plates arranged in superimposed relation and fixedly secured to each other and having a central opening therethrough, an annular flange formed at the lower end of the opening of said lower plate and forming a raceway for a set of ball bearings, a ball disposed in the opening of said plate and swivelly supported by said bearings, a hook depending from said ball, the upper edge of the opening in said upper plate being bevelled to form a groove circumscribing said ball and adapted to permit the feeding of a quantity of lubricant thereto and a substantially U-shaped bracket invertedly arranged and adapted to be secured to said upper plate whereby to attach the same to a rafter or the like.

3. A hanger for swings and the like comprising a hook, a ball formed on the shank thereof, a pair of plates having a central opening therein, a ball bearing raceway formed about the edge of the opening in one of the plates and having a set of ball bearings fitted therein and adapted to swivelly support said ball, said raceway having an upturned lip formed about its edge providing an annular oil channel for the bearings, said other plate having the edge of its opening beveled and cooperating with said ball to form an oil groove around the ball whereby to permit the feeding of a quantity of lubricant thereto and a substantially U-shaped bracket invertedly arranged and attachable to said upper plate for securing the same to an object overhead.

In testimony whereof I affix my signature.

WARREN R. LEAS.