C. J. CLOUSER.

SWING.

APPLICATION FILED MAR. 19, 1921.

1,390,502.

Patented Sept. 13, 1921.

2 SHEETS—SHEET 1.

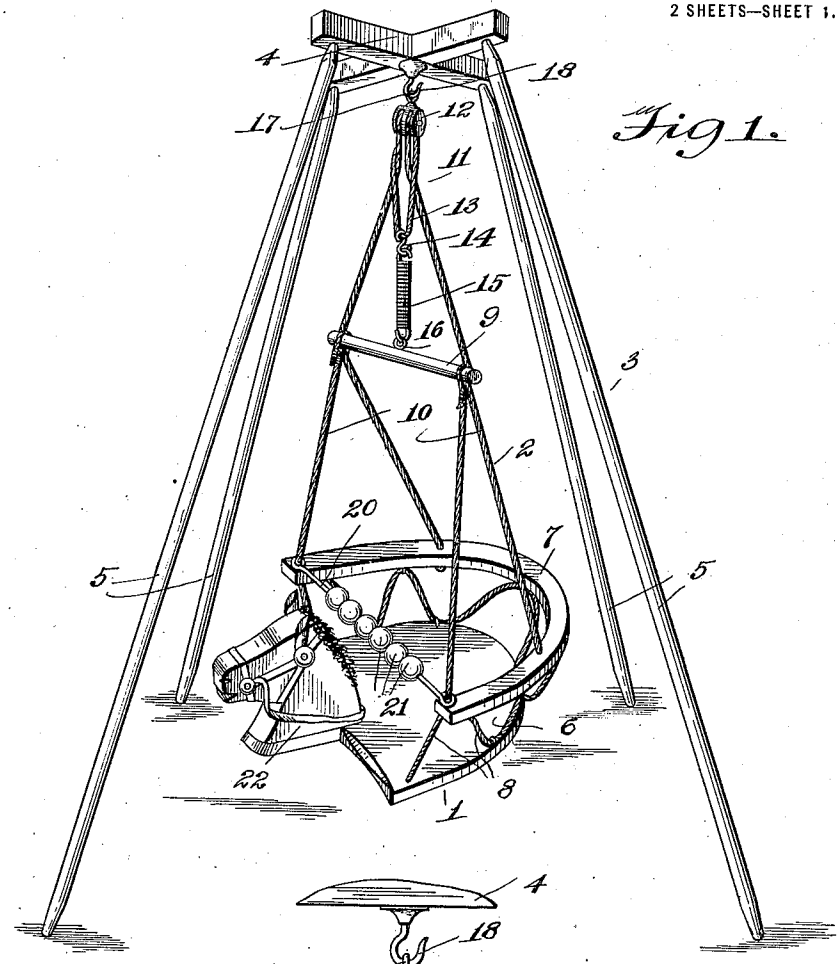


Fig 1.

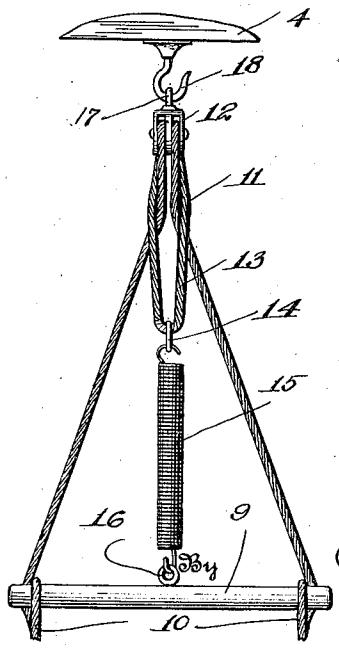


Fig 2.

Inventor
Clarence J. Clouser

By C. C. Shepherd

Attorney

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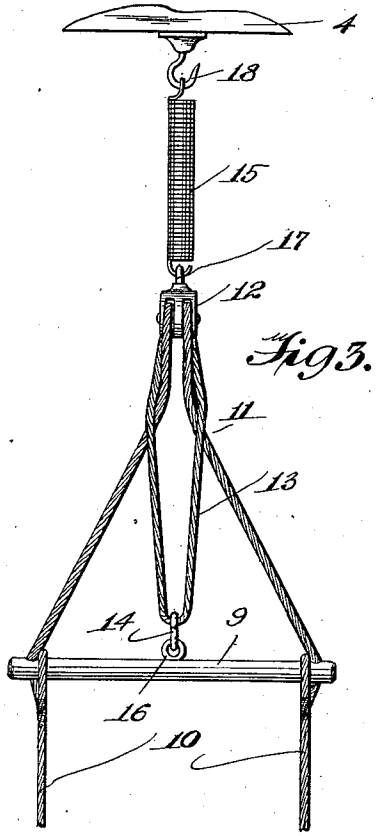


Fig 3.

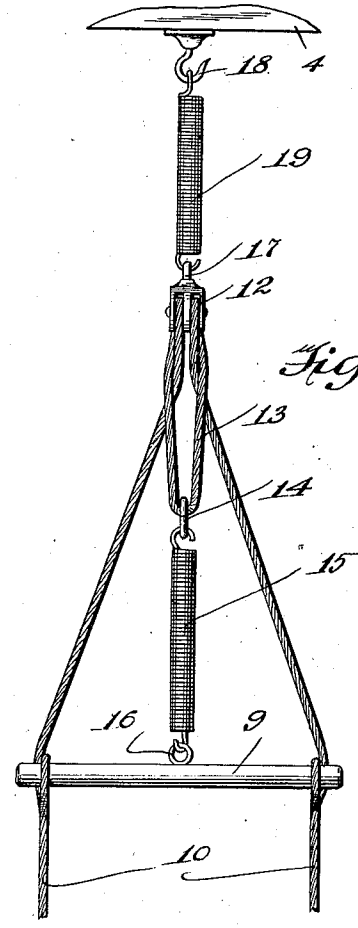


Fig 4.

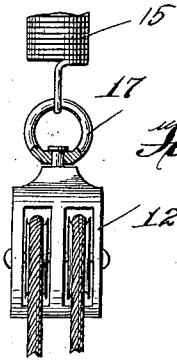


Fig 6.

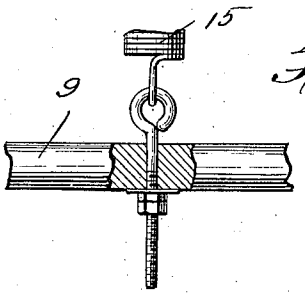


Fig 5.

Inventor

Clarence J. Clouser

By C. C. Shepherd

Attorney

UNITED STATES PATENT OFFICE.

CLARENCE J. CLOUSER, OF COLUMBUS, OHIO.

SWING.

1,390,502. Specification of Letters Patent. Patented Sept. 13, 1921.

Application filed March 19, 1921. Serial No. 453,607.

To all whom it may concern:

Be it known that CLARENCE J. CLOUSER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, has invented certain new and useful Improvements in Swings, of which the following is a specification.

This invention relates to improvements in swings or other similar oscillatory devices adapted for amusement or recreation purposes, the primary object thereof being to provide a swing which will be of substantial, simple and economical construction and wherein an improved construction is provided for effecting the resilient support of the seat structure thereof.

In accordance with the present invention a swing is provided which consists of a seat structure adapted to be supported for oscillatory movement by means of an improved cable suspension which is formed to include a transversely disposed rod member situated above the seat and from which diverging cords depend for connection with the seat structure proper, the said rod member being further connected with the lower divergent ends of a superimposed cable which is so formed that the intermediate portions thereof may be trained upwardly through a pulley construction and thence downwardly to overlap and engage the upwardly extending portions thereof, the extreme lower and intermediate portions of the cable being connected with a coiled spring situated between the lower end of the cable and the rod member, the said pulley in turn being suitably connected with any desired supporting object, the arrangement of the cables being such that the seat structure will be permitted to freely oscillate, may be vertically adjusted and at the same time will be resiliently supported in an efficient and substantial manner for comfortable use.

Another object of the invention resides in forming the suspension cables and cooperative members of the swing in such manner as to permit of the use of one or more springs and to use the springs in a way that will enable the resiliency of the swing to be varied and also to control the height of operation of the seat structure, thus enabling the swing to be used effectively by children of varying ages and weight and to thereby extend the period of usefulness of the swing.

A further object of the invention resides in providing an improved resilient suspension structure for the form of swing disclosed in my prior co-pending application bearing Serial Number 406,745 filing date August 30, 1920.

With these and other objects in view, as will appear as the description proceeds, the invention accordingly consists in the novel features of construction, combinations of elements and arrangements of parts, hereinafter to be fully described and pointed out in the appended claims.

In the accompanying drawings, forming a part of this specification, and in which similar characters of reference denote like and corresponding parts throughout the several views thereof;

Figure 1 is a perspective view of the improved swing comprising the present invention,

Fig. 2 is a fragmentary front elevation of the upper portion of the swing, and disclosing more particularly the suspension structure thereof,

Fig. 3 is a similar view disclosing a slightly different method of utilizing the spring,

Fig. 4 is a similar view showing the method of mounting the swing wherein a pair of springs is employed, and

Fig. 5 is a detail view of the vertically movable retaining rod.

Fig. 6 is a detail view disclosing the swivel connection between the pulley and screen construction employed in the swing.

Referring more particularly to the details of the invention, use is made of a child's swing which consists broadly of a seat structure 1, a cable suspension 2 and a supporting frame 3, the cable suspension serving to connect the seat structure for swinging movement with the frame 3 and to permit of the controlled oscillation on the part of the seat structure. The frame 3 in this instance consists of intersecting bars 4 with which are connected detachable downwardly diverging supporting posts 5, the lower ends of the latter being adapted to engage with the floor or ground and to be spaced apart a sufficient distance to permit of normal swinging movements on the part of the seat structure. When not in use the posts 5 may be disconnected from the bars 4 readily and thus enable the frame to be collapsed and to be compactly stored.

This feature of collapsibility is also present in the seat structure 1 and in its cable suspension 2, and forms one of the practical advantages embodied in the present invention.

The seat structure 1 has been described in detail and furnishes the basis of my aforesaid application and hence its construction *per se* is not claimed in this application. However, for purposes of description the said seat structure may consist of a base 6 of any suitable form and of a curved U-shaped arm and back rest 7, which is adapted to be connected with the base 6 by means of cables 8, which afford a substantial construction and yet permit of the collapsing of the seat structure when the latter is not in use.

The cable construction 2, which forms the gist of the present invention, includes a transversely extending rod member 9, which is located above the seat structure 1 and has suitably connected therewith downwardly divergent cords 10, the latter having their lower ends suitably spaced and secured to the arm rest 7, whereby when the rod member 9 is properly supported the weight within the seat structure will be properly balanced and therefore undue tilting and oscillation in a lateral direction of the swing is precluded. To effect the support of the rod member 9 and the parts carried thereby a cable 11 is utilized. This cable has its lower divergent ends suitably connected with the outer portions of the rod member 9, the intermediate portions of the said cable being trained upwardly so as to pass about the spaced sheaves of a double pulley 12, and thence to be trained downwardly and vertically, so that the last described portions will embrace and frictionally engage the divergent ends of the cable 11 so as to draw the latter together and to guide the same around the wheels of the pulley. This downwardly and vertically extending portion of the cable 11 constitutes a loop 13, which has its lower end connected with a substantially S shaped link 14 with which is also connected the upper end of a vertically disposed coiled spring 15, the latter having its lower end detachably connected with a fixed eye member 16 carried intermediately of the rod 9. The pulley frame or block is equipped with a swiveled eye 17, which is removably connected with a fixed hook 18 carried by the intersecting portions of the bars 4.

By this construction it will be manifest that the swing will be so formed that its seat structure will be permitted to oscillate freely within the confines of the posts 5, and by the arrangement of the cable construction 2 the seat structure will be so supported that undue teetering or oscillation in a lateral direction will be prevented, in order that the swing will be rendered safe in operation. Then, by the method described of positioning the cable 11 the tension on the spring 15 will be relieved of excessive strain, since by the provision of the pulley and by the method of intertwining the cable 11 the spring will be permitted to carry greater loads than if the same were employed to directly support the entire weight placed within the seat structure. When the spring is positioned as shown in Figs. 1 and 2, the seat structure may be used by growing children. However, when the swing is intended to be employed for the use of infants, using the latter term in its generally accepted sense, the link 14, as shown in Fig. 3, is directly connected with the eye 16, and the spring 15 is moved so that the upper end thereof will be connected with the hook 18 and the lower end with the eye 17 provided in connection with the pulley 12. When so positioned the plane of operation of the seat structure will be lowered and also, since the spring receives the full weight of the swing and its contents, greater resiliency on the part of the swing may be obtained, thus adapting the structure particularly to the requirements of infants or small children. Then, as shown in Fig. 4 it is possible to employ a plurality of springs, the spring 15 being utilized in the same capacity as when it is employed in the preferred form of the invention, and an extra spring 19 being added by situating the same between the hook 18 and the eye 17. This construction also serves to regulate the effective height of the seat structure and to permit of the desired degree of resiliency in the cable suspension. If desired, the forward portions of the cable 8 may be equipped with a vertically sliding rod 20, carrying ornamental devices 21, this rod being utilized for the purpose of retaining a child within the seat structure and to prevent a child from falling out of the swing accidentally. Also, the base of the seat structure may include a suitable ornamental figure such as the head 22 of an animal, in order that the attractiveness of the toy may be enhanced.

In view of the foregoing it will be apparent that the present invention provides a swing wherein an improved construction obtains for the purpose of effecting the oscillating support of a seat structure, the arrangement affording a considerable adjustment both in the height of operation of the seat structure and also in varying its resiliency, in order that the swing may be adapted for children of varying ages, a feature which enables the swing to be used for a considerable number of years by any growing child. In view of what has been said it is believed that the operation, construction and advantages of the invention will be readily understood, and therefore a more extended explanation has been accordingly omitted.

What is claimed is:

1. In a swing, a support therefor comprising a double pulley, a seat structure, a transverse rod above said seat structure, downwardly diverging cords between said rod and seat structure, a cable connected with the outer ends of said rod, the intermediate portions of said cable being trained around the pulley so as to produce a downwardly extending loop, a connection between the lower end of said loop and said rod, and a spring coöperative with said cable to effect the resilient support of the seat structure.

2. In a swing, a support therefor comprising a double pulley, a seat structure, a transverse rod above said seat structure, cables connecting said rod with said seat structure, a cable connected with the outer ends of said rod and extending above the latter, said cable being situated so that the intermediate portions thereof will be trained around said pulley and thence vertically downward to produce a loop, a spring having the upper end thereof connected with said loop, and a connection between the lower end of said spring and said rod.

3. In a swing, a support therefor comprising a pulley, a seat structure, a transverse rod above said seat structure, a cable connection between said rod and said seat structure, said cable being continued upwardly above said rod and trained around said pulley to produce a downwardly extending vertical loop, the sides of said loop being disposed to engage with the intermediate portions of said cable and to guide the latter around said pulley, and a resilient connection between the lower portion of said loop and said rod.

4. In a swing, a support therefor comprising a double pulley, a seat structure, a transverse rod above said seat structure, a cable connecting said rod with said seat structure, said cable being extended so as to converge upwardly and to pass around said pulley so as to produce a downwardly extending loop, the sides of said loop being disposed to engage with the upwardly converging portions of said cable to guide the latter about said pulley, a resilient connection between the lower end of said loop and said rod, and a second resilient connection between said pulley and a fixed support.

In testimony whereof I affix my signature.

CLARENCE J. CLOUSER.