

No. 639,563.

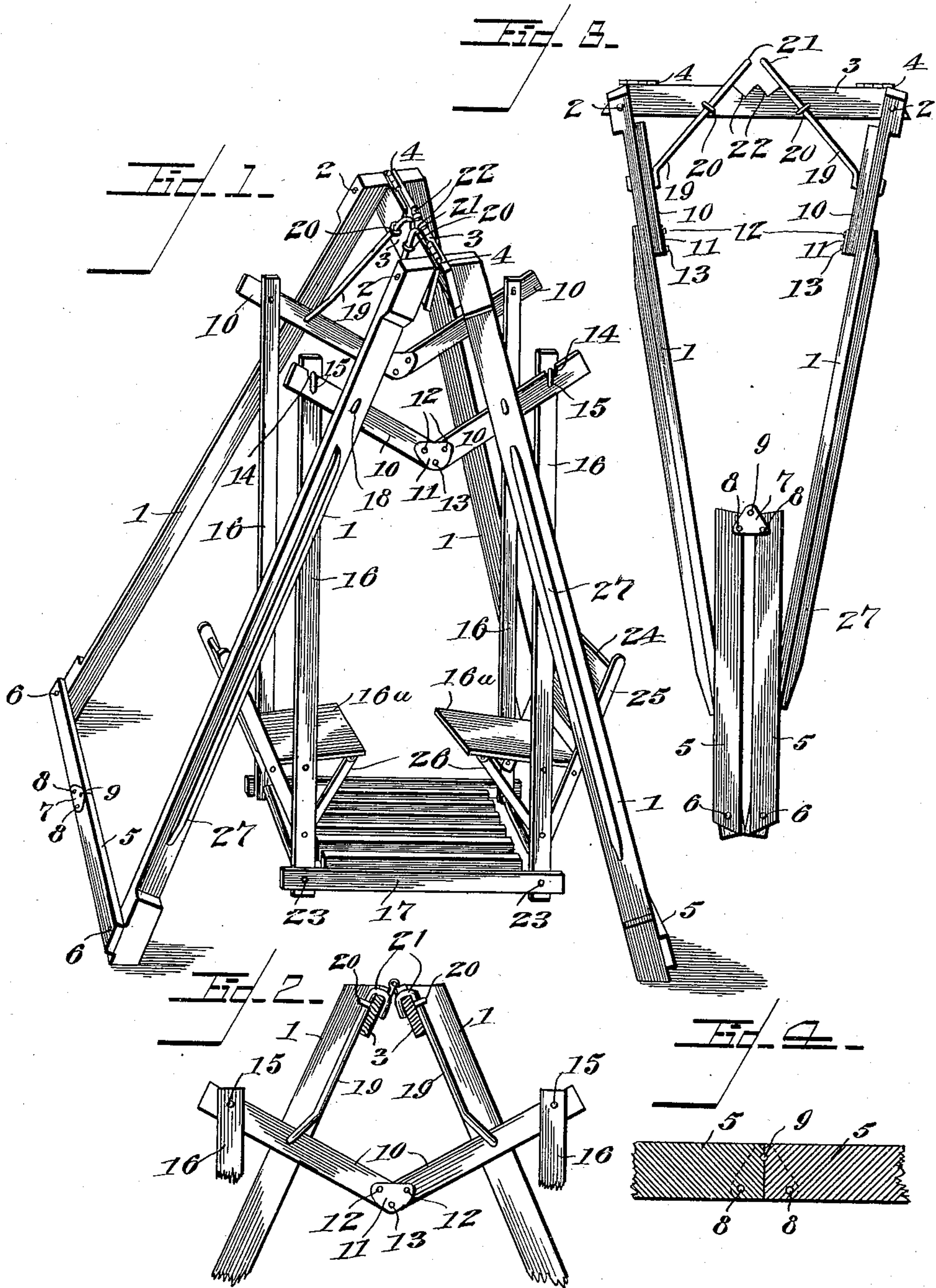
Patented Dec. 19, 1899.

F. L. HARRIS.

SWING.

(Application filed Sept. 27, 1899.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK L. HARRIS, OF OAKFIELD, NEW YORK.

## SWING.

SPECIFICATION forming part of Letters Patent No. 639,563, dated December 19, 1899.

Application filed September 27, 1899. Serial No. 731,838. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK L. HARRIS, a citizen of the United States, residing at Oakfield, in the county of Genesee and State of New York, have invented a new and useful Swing, of which the following is a specification.

The invention relates to improvements in swings.

The object of the present invention is to improve the construction of swings and to increase their strength and durability and to provide a simple and comparatively inexpensive one which may be compactly folded when not in use and also to facilitate storing and shipping.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a swing constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the upper portion of the swing. Fig. 3 is a side elevation of the supporting-frame, illustrating the manner of folding the same. Fig. 4 is a detail sectional view illustrating the manner of hinging the bottom connecting-bars.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates standards of a supporting-frame of a swing, and the said standards, which are arranged at an inclination and converge toward the top of the frame, are connected by pivots 2 to top cross-bars 3, which are hinged together at their upper edges at 4 and are adapted to swing together to permit the standards at the ends of the frame to fold together. The pivots 2 permit the standards at the sides of the frame to fold inward to bring their lower ends together, and they are connected at that point by transverse bottom bars 5, composed of sections pivoted at their outer ends at 6 to the standards and hinged at their inner adjacent ends by means of approximately triangular plates 7 and pivots 8. The triangular plates, which are arranged at the inner and outer faces of the bottom bars 5, are connected by the pivots 8, which pass through the ends of the plates,

and the tops of the latter are connected by fastening devices 9, which are interposed between the abutting ends of the sections. The bottom bars, which are adapted to break at the center, fold inward and upward, as clearly illustrated in Fig. 3 of the accompanying drawings, and permit the lower ends of the standards to come together.

The standards are connected near their upper ends by inclined braces 10, arranged in pairs at opposite sides of the frame and pivoted between their ends to the inner faces of the standards, and their inner ends are hinged together by approximately triangular plates 11 and pivots 12, a fastening device 13 being interposed between the abutting ends of the members of each pair of braces. The inclined braces, which project outward beyond the standards, are provided near their outer ends with notches 14, located at their upper edges and engaged by hooks 15 of oscillating bars 16, which suspend the seats 16<sup>a</sup> and the platform 17 from the frame.

The pivots 18 of the hinged braces are formed by the lower ends of oppositely-inclined bracing-rods 19, located between the standards and extending upward from the braces to the centers of the top bars 3. The upper portions of the bracing-rods pass through guides 20 and terminate in hooks, which engage the upper edges of the bars 3, the latter being provided with notches 22 to receive the said hooks 21. The guides consist of suitable eyes and are preferably formed by staples, and by this construction the bracing-rods are adapted to slide upward or outward when the standards are folded inward. The weight upon the outer portions of the hinged braces holds the inner ends of the braces firmly in engagement and increases the rigidity and stability of the supporting-frame, and the bracing-rods also operate to equalize the strain.

The platform, which is pivoted at 23 to the lower ends of the supporting-bars 16, may be of any desired construction, and the seats may be arranged in any suitable manner. These seats are shown secured to the supporting-bars 16 and are connected with backs 24 by side pieces 25, braces 26 being preferably provided for supporting the front portions of the seats.

In order to enable the standards to be con-



constructed of comparatively light material to lessen the weight and cost of construction and the expense of shipping, the standards 1 are reinforced at their outer faces by longitudinal strips or pieces 27, secured at their 5 inner edges to the standards and having their ends slightly tapered, as shown. The ends of the standards are preferably enlarged, as shown, and the reinforcing strips or pieces 27 10 terminate short of the enlarged ends. The strips or pieces secure the necessary strength and rigidity and reduce the cost and weight of the standards to a minimum.

It will be seen that the supporting-frame is 15 simple and comparatively inexpensive in construction, that it possesses great strength and durability, and that it may be compactly folded for storing or shipping. It will also be apparent that the weight upon the outer ends 20 of the inclined braces 10 operates to hold the inner ends of the braces firmly in engagement with each other and that the bracing-rods are capable of limited longitudinal movement to permit the standards to swing laterally of 25 the frame.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or 30 sacrificing any of the advantages of this invention.

What is claimed is—

1. In a device of the class described, the combination of a supporting-frame comprising 35 transverse top bars hinged together, the standards pivoted to the top bars and arranged to swing transversely on such pivots, said standards being adapted to swing longitudinally on the pintle or pivot of the 40 top bars, the supporting-bars and means for suspending the same, substantially as described.

2. In a device of the class described, the combination of a supporting-frame comprising 45 standards arranged at the corners of the frame and hingedly and pivotally connected together and adapted to swing both longitudinally and transversely of the supporting-frame to fold the same, the bottom bars connecting the standards and composed of sections hinged together and pivoted to the said 50 standards, means for connecting the standards at their upper ends, and folding braces disposed longitudinally of the supporting-frame and connecting the standards, and 55 bars suspended from the braces and adapted to support the seats, substantially as described.

3. In a device of the class described, the 60 combination of the standards arranged at the

corners of the supporting-frame and hingedly and pivotally mounted and adapted to swing both longitudinally and transversely of the supporting-frame to fold the same, means for 65 connecting the upper ends of the standards, and the folding braces disposed longitudinally of the supporting-frame and pivoted between their ends to the standards and having their inner ends abutting, and bars suspended from the outer portions of the braces, 70 substantially as described.

4. In a device of the class described, the combination of the corner-standards, means for connecting the upper ends of the standards whereby the same are permitted to swing 75 both longitudinally and transversely, folding braces pivoted to the standards and having inner abutting ends, and bars suspended from the outer portions of the braces, substantially as described. 80

5. In a device of the class described, the combination of the top bars hinged together, the standards pivoted to the top bars, the folding braces hinged at their inner ends and extending outward beyond the standards, the 85 bracing-rods engaging the top bars and extending therefrom to the folding braces, said bracing-rods being detachably interlocked at one end, whereby they are capable of longitudinal movement to permit the standards to 90 swing inward, and bars suspended from the outer portions of the braces, substantially as described.

6. In a device of the class described, the combination of the top bars hinged together 95 and provided with guides, standards pivoted to the top bars, bracing-rods extending from the standards, passing through the guides and provided with hooks engaging the upper edges of the top bars, and means for suspending oscillating bars from the upper portion of the 100 frame, substantially as described.

7. In a device of the class described, the combination of the top bars hinged together, standards pivoted to the top bars, the folding 105 braces hinged at their inner ends and extending beyond the standards, and the inclined bracing-rods provided at their upper ends with hooks engaging the upper edges of the top bars, said bracing-rods having their lower 110 ends passed through the folding braces and the standards and forming pivots for the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 115 the presence of two witnesses.

FRANK L. HARRIS.

Witnesses:

C. H. GRIFFIN,  
E. A. TORPY.