

No. 780,871.

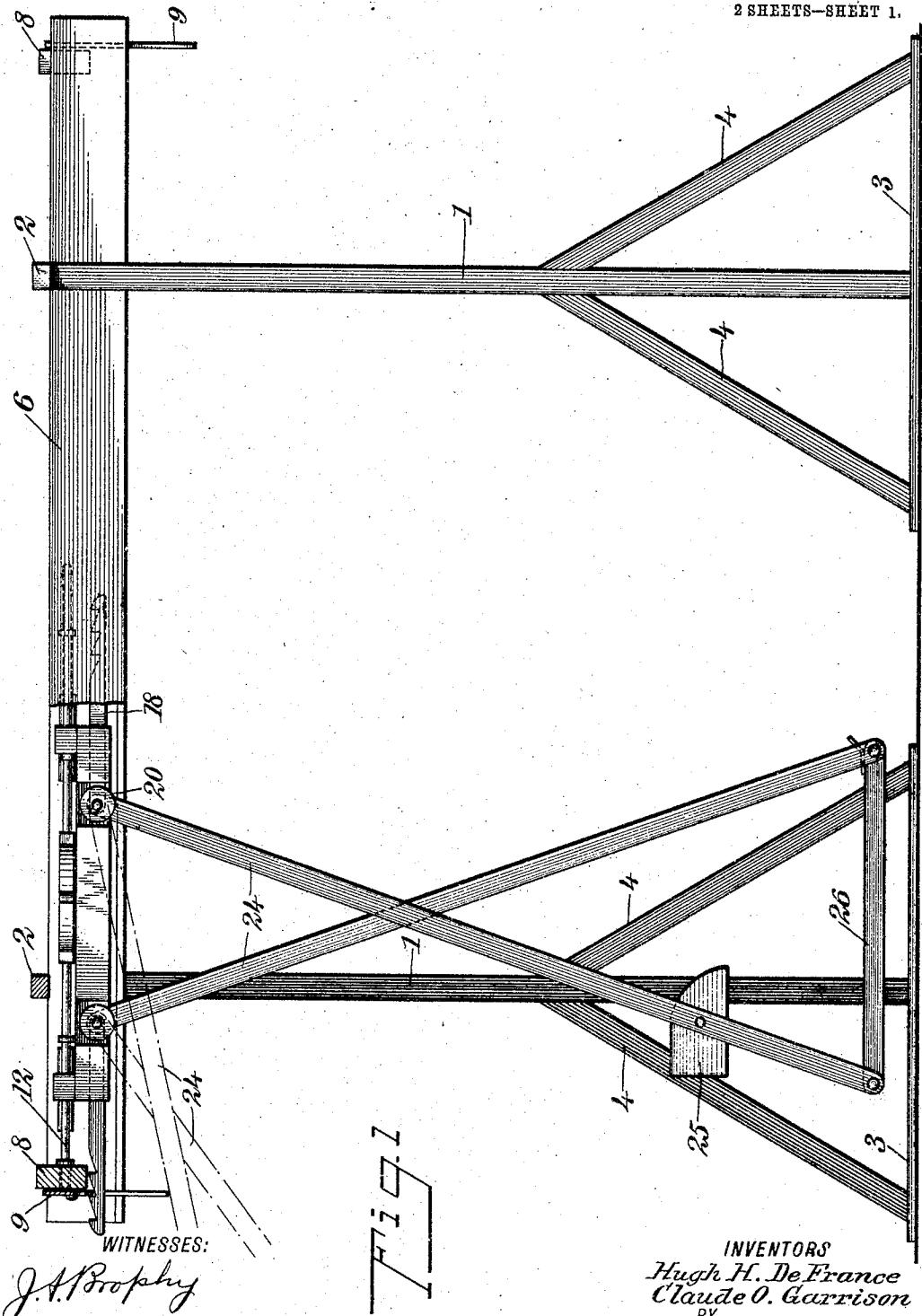
PATENTED JAN. 24, 1905.

H. H. DE FRANCE & C. O. GARRISON.

SWING.

APPLICATION FILED SEPT. 23, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

J. A. Brophy

W. M. Avery

INVENTORS

Hugh H. DeFrance
Claude O. Garrison

BY

Wm. W. M. Avery
ATTORNEYS

No. 780,871.

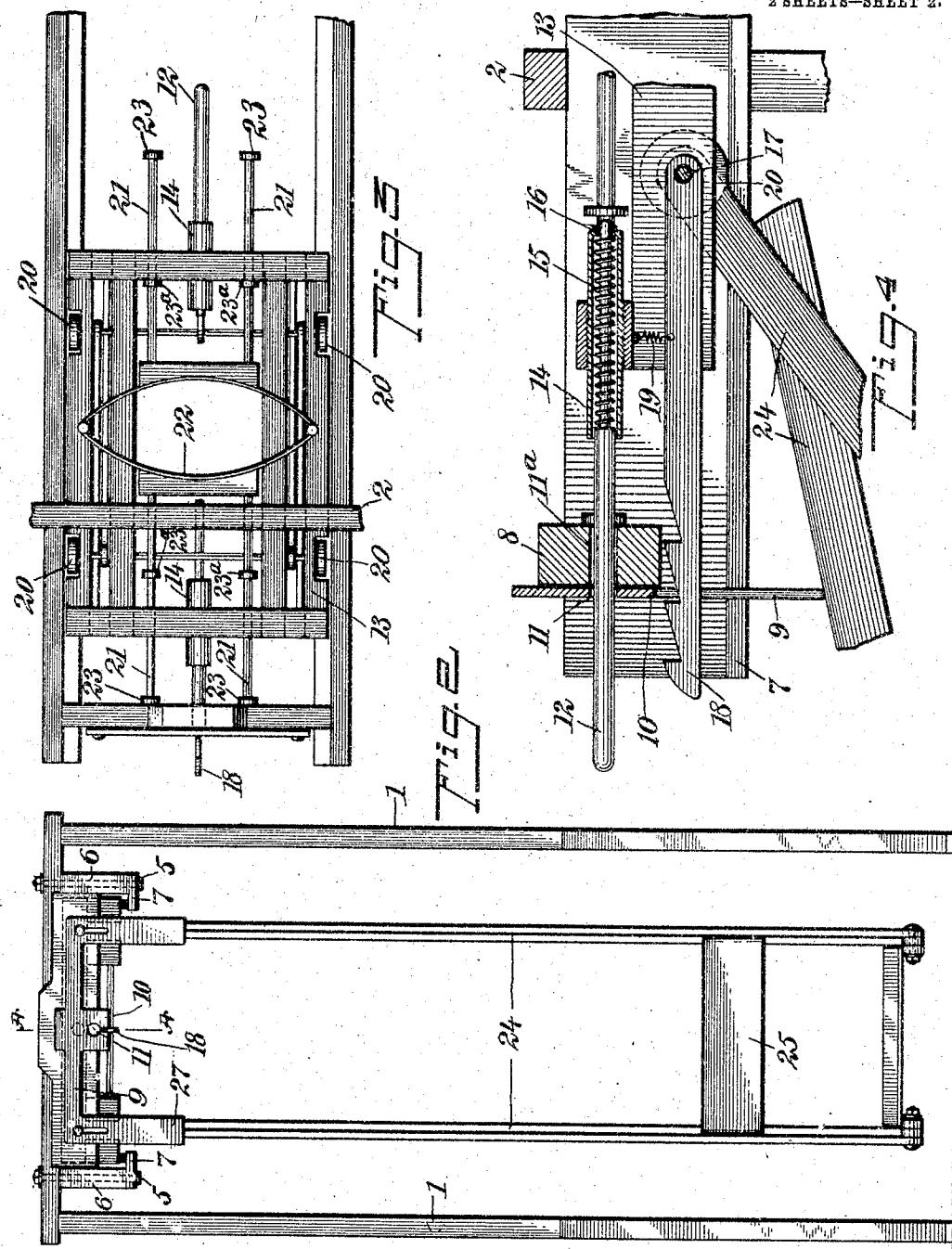
PATENTED JAN. 24, 1905.

H. H. DE FRANCE & C. O. GARRISON.

SWING.

APPLICATION FILED SEPT. 23, 1904.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

HUGH HOWELL DE FRANCE AND CLAUDE OSCAR GARRISON, OF GOLDEN, COLORADO.

SWING.

SPECIFICATION forming part of Letters Patent No. 780,871, dated January 24, 1905.

Application filed September 23, 1904. Serial No. 225,576.

To all whom it may concern:

Be it known that we, HUGH HOWELL DE FRANCE and CLAUDE OSCAR GARRISON, citizens of the United States, and residents of 5 Golden, in the county of Jefferson and State of Colorado, have invented a new and Improved Swing, of which the following is a full, clear, and exact description.

The object of our invention is to provide a 10 swing which is suspended from a carriage running on a track supported on a frame.

It further consists of means for locking the carriage at one end of the track and holding it there until the swing moves to a predetermined height, when it automatically unlocks the carriage and by its momentum on the forward movement after the swing has passed a perpendicular line through the center of the carriage moves the carriage to the other end 20 of the track, where it is again locked in a similar manner.

Reference is to be had to the accompanying drawings, forming a part of this specification, which represents a practical embodiment of 25 our invention and in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a swing constructed in accordance with the principles of 30 our invention. Fig. 2 is an end elevation thereof. Fig. 3 is a plan. Fig. 4 is an enlarged section on the line A A of Fig. 2, and Fig. 5 is a detail of the locking-plate.

The swing comprises uprights 1, connected 35 at the top by cross-pieces 2 and held in a vertical position by base-pieces 3 and braces 4. To the cross-pieces 2 are securely fastened, by means of bolts 5 or equivalent securing means, the rails 6, which are formed with 40 flanges 7, operating as tracks upon which the wheels of the carriage run. The rails 6 are further connected by cross-pieces 8 at each end. Upon these cross-pieces are mounted locking-plates 9, which are slidable upon their 45 securing means and are formed near the middle with locking-dogs 10. A hole 11 is made in each locking-plate for receiving a bolt 12, mounted on the carriage 13, which supports

the swing. This bolt 12 is supported in a socket 14 and is normally pressed forward by 50 a spring 15, located in said socket and surrounding said bolt. One end of this spring 15 coöperates with a shoulder formed on the bolt 12 and the other end with the end of the socket 14. By this means the bolt is normally urged forward until a pin 16 in the end thereof strikes the socket 14. The bolt 12 is in position on the carriage to pass into an opening 11^a, formed in each of the cross-pieces 55 8. This opening is in alinement with the opening 11 in the locking-plate 9 when said plate is in its highest position.

Upon the carriage 13 are mounted rods 17, on which are racks 18, which are normally held in position to engage the locking-dogs 10 60 by means of coiled springs 19, secured to the carriage at one end and at the other end to the racks. The racks are formed with several teeth, each having one vertical face and one inclined face, the vertical face being on the side 65 toward the carriage. The end of each rack is curved so that it will automatically move downward when it strikes the dog.

Upon the rods 17 of the carriage are mounted 70 wheels 20, which are adapted to run upon the tracks 7 and support the carriage 13. In each end of the carriage are supported two buffer-rods 21. These rods are supported in 75 openings in the frame of the carriage 13 and are normally pressed forward by a bow-spring 22. The end of each buffer-rod has a head 23 formed thereon to prevent their passing completely through the frame, and thus getting 80 out of position. The object of having the spring 22 is to cushion the blow which would follow if the carriage were suddenly arrested. The bow-spring 22 is made of such strength 85 as to resist the maximum amount of force which would ordinarily be exerted upon it. Collars 23^a on the rods 21 resist the pressure 90 of the spring 22.

In order to provide for locking the carriage in different positions according to the amount of pulling force which urges it forward, the teeth are formed on the racks 18, so that the 95 tooth which is nearest the locking-dog when

the movement of the carriage has been completely arrested will hold it in substantially that position.

Suspended from the rods 17 are the supporting-pieces 24 for the swing. On two of these pieces is supported a seat 25 of any ordinary construction. The lower ends of the pieces 24 are connected, by means of arms 26, to keep them spaced at a uniform distance.

10. The locking-plates 9 are formed with downward extensions 27, which are in the path of the pieces 24 and extend downward a sufficient distance to be raised thereby when the swing reaches the height intended for the unlocking 15 to take place, as shown in dotted lines, Fig. 1.

The operation of the device is as follows: The swing is started with the carriage locked in position at one end of the track. When the pieces 24 reach the height such that they will 20 raise the plate 9 a sufficient distance to bring the opening 11 in the path of the bolt 12, said bolt will be pushed forward through said opening by the spring 15, which is in tension. At the same time the dog 10 will be lifted 25 out of the rack 18, thus freeing the carriage. When the swing moves forward, the momentum produced thereby will move the carriage forward along the tracks until it reaches the opposite end. Here the bolt 12 at the opposite end of the carriage will pass through the opening 11^a in the cross-piece 8 and strike the locking-plate 9. As the carriage moves farther the spring 15 will be compressed, thus setting the bolt for action as soon as the unlocking takes place. At the same time the 30 rack 18 will ride over the dog 10 until the spring 22 has stopped the forward movement of the carriage by means of the buffers 21. The spring 19 then draws the rack 18 upward, so as to cause the rack to engage the dog. 40 By this means the carriage is automatically locked at the other end, and the same operation is continued from time to time.

While this is our preferred construction, we 45 do not wish it limited to the precise details herein set forth, but only as defined by the claims.

Having thus described our invention, we claim as new and desire to secure by Letters

50 Patent—

1. The combination of a frame, a straight horizontal track supported upon said frame, a carriage adapted to run upon said track, and a swing supported entirely by said carriage.

55 2. The combination of a track, a carriage adapted to run upon said track, a swing supported by said carriage, and means for locking said carriage at one end of the track.

3. The combination of a track, a carriage 60 adapted to run upon said track, a swing supported by said carriage, and means for locking said carriage at either end of said track.

4. The combination of a track, a carriage adapted to run upon said track, a swing sup-

ported by said carriage, and means for automatically locking said carriage at either end of said track. 65

5. The combination of a track, a carriage adapted to run upon said track, a swing supported by said carriage, means for automatically locking said carriage at either end of said track, and means for automatically unlocking said carriage. 70

6. The combination of a track, a carriage adapted to run upon said track, a swing supported by said carriage, means for automatically locking said carriage at either end of said track, and means for automatically unlocking said carriage when the swing reaches a predetermined height. 75

7. The combination of a track, a carriage adapted to run upon said track, a swing supported by said carriage, means for automatically locking said carriage at either end of said track, and means for automatically unlocking said carriage when the swing reaches a predetermined height, said locking means comprising a locking-plate having a locking-dog mounted on the frame, and a coöperating rack mounted on the carriage. 85

8. The combination of a track, a carriage adapted to run upon said track, a swing supported by said carriage, means for automatically locking said carriage at either end of said track, means for automatically unlocking said carriage when the swing reaches a predetermined height, said locking means comprising a locking-plate having a locking-dog mounted on the frame and a coöperating rack mounted on the carriage, and means for cushioning the blow when the carriage reaches the end of the track. 95

9. The combination of a track, a carriage adapted to support a swing running upon said track, and an automatic locking mechanism for holding said carriage at one end of said track, comprising a rack pivotally mounted at one end on the carriage and a coöperating dog formed on a sliding plate secured to the frame and normally held in the path of the rack. 105

10. The combination of a track, a carriage adapted to support a swing running upon said track, an automatic locking mechanism for holding said carriage at one end of the track, comprising a rack pivotally mounted at one 115 end on the carriage and a coöperating dog formed on a sliding plate secured to the frame and normally held in the path of the rack, and an automatic release consisting of a spring-pressed bolt mounted upon said carriage and adapted to pass through an opening formed in the sliding plate, thereby holding it elevated and freeing the rack. 120

11. The combination of a track, a swing slidingly supported therefrom, and means for locking the swing against sliding motion with respect to the track. 125

12. The combination of a track, a swing

slidingly supported therefrom, and means for automatically locking the swing against sliding motion along the track.

13. The combination of a track, a swing 5 slidingly supported therefrom, means for locking the swing against sliding motion with respect to the track, and means for automatically unlocking the swing from the track when the swing is oscillated to a certain height.

14. The combination of a track, a swing 10 slidingly supported therefrom, means for automatically locking the swing against sliding motion along the track, and means for automatically unlocking the swing from one position 15 and permitting it to slide to another position.

15. The combination of a track, a swing 15 slidingly supported therefrom, means for automatically locking the swing against sliding motion along the track, means for automatically unlocking the swing from one position 20 and permitting it to slide to another position, and means for automatically locking it against sliding motion in the second position.

25 16. The combination of a track, a swing slidingly supported therefrom, and means for locking the swing against sliding motion with respect to the track; said means comprising a locking-plate, a dog, and a coöperating rack 30 connected with the swing.

17. The combination of a track, a swing 35 slidingly supported therefrom, and means for locking the swing against sliding motion with respect to the track; said means comprising a locking-plate mounted in a stationary posi-

tion, a locking-dog, and a rack coöperating with the dog and mounted to move with the swing.

18. The combination of a track, a swing 40 slidingly supported therefrom, and means for locking the swing against sliding motion with respect to the track; said means comprising a rack pivotally mounted with respect to the track, and a dog coöperating with the rack and slidingly mounted with respect to the 45 track, said dog being normally held in the path of the rack.

19. The combination of a track, a swing 45 slidingly supported therefrom, and means for locking the swing against sliding motion with 50 respect to the track; said locking means comprising a rack pivotally mounted with respect to the track and connected with the swing, a sliding plate connected with the track and having an opening therethrough, a dog coöperating 55 with the rack and mounted on the sliding plate, and an automatic release consisting of a bolt connected with said swing and adapted to pass through the opening in the sliding plate, thereby holding it in elevated 60 position and freeing the rack.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HUGH HOWELL DE FRANCE.
CLAUDE OSCAR GARRISON.

Witnesses:

L. B. HARRISON,
R. I. CAMPBELL.