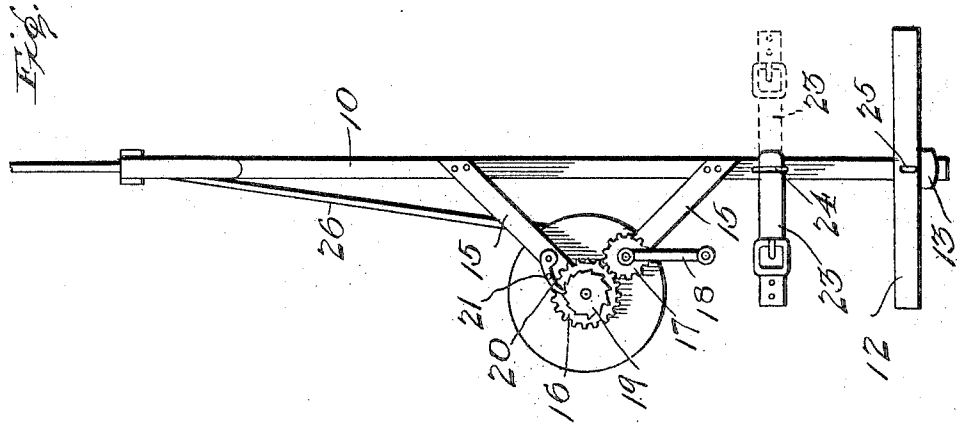
No. 797,722. PATENTED AUG. 22, 1905.

H. B. CRANDALL.

HOIST CHAIR.

APPLICATION FILED DEC. 31, 1904.

Fig. 2.



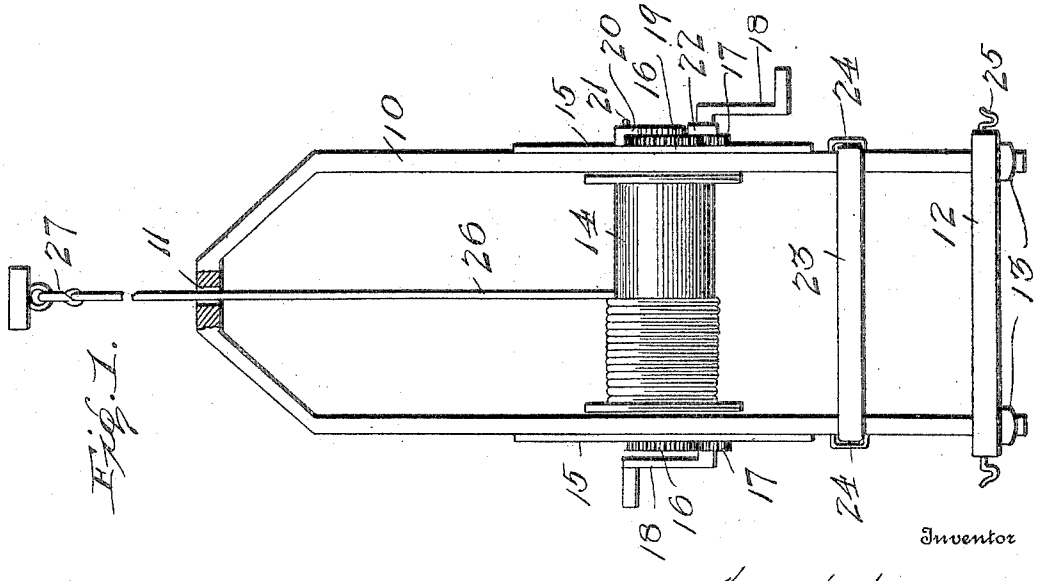


Fig. 1.

Witnesses

J. L. Mackaye

H. Joseph Doyle

Inventor

Henry B. Crandall

By

A. H. Harrison

Attorney

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY B. CRANDALL, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-FOURTH TO JOHN L. McMANUS AND ONE-FIFTH TO JAMES D. MACPHERSON, OF LYNN, MASSACHUSETTS.

HOIST-CHAIR.

No. 797,722. Specification of Letters Patent. Patented Aug. 22, 1905.

Application filed December 31, 1904. Serial No. 239,263.

To all whom it may concern:

Be it known that I, HENRY B. CRANDALL, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Hoist-Chairs, of which the following is a specification.

This invention relates to chairs or seats of that type which is suspended from an overhead structure and which may be hoisted or lowered to enable a workman to vary his position relatively to the building or other structure upon which he is engaged. Chairs of this type are used by painters, riggers, or by workmen employed upon other kinds of construction or repair work on elevated structures. It is essential, of course, that such a device to be useful must be safe and strong and easily operated.

The object of my invention is to provide a hoist-chair of this type which shall not only meet the above requirements, but shall be simple and of low cost.

A further object of my invention is to provide a device of this character which will present no material obstruction to the workman whether he is sitting facing one way or the other.

To these ends the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings, Figure 1 represents a chair embodying my invention in elevation, the upper portion of the yoke-frame being in section, said figure also representing the hoisting-rope as connected to a portion of an overhead structure. Fig. 2 represents an elevation from one side of Fig. 1.

Similar reference characters indicate the same or similar parts in both figures of the drawings.

The frame of the chair comprises a yoke 10, having an eye 11 at its top, the said yoke being preferably composed of a single piece of wrought-iron or other suitable metal. It may be formed of tubing or of solid round or flat metal. The lower ends of the side members of the frame or yoke 10 are preferably screw-threaded, whereby nuts 13 may be employed to secure the seat 12, said seat having openings at its ends through which the side bars of the yoke extend.

A winding drum or shaft 14 is mounted in bearings formed in brackets or braces 15, which extend out of the plane of the yoke to a suitable distance, so that the bearings formed at the apex of the brackets will support the winding-drum in a position where it will not conflict with the operations of the workman. Secured to each end of the shaft of the winding-drum is a gear 16, meshing with a pinion 17, mounted to rotate in a suitable bearing formed in or on the bracket 15 below the plane of the axis of the winding-drum. Each pinion is provided with a crank 18, by means of which it and the winding-drum may be operated. Since the axis of the winding-drum is above the horizontal plane of the axes of the two pinions 17, the said winding-drum is farther above the level of the workman than would be the case if its axis was coincident with or below the plane of the axes of the pinions. Consequently a workman sitting on the seat 12 will not find the winding-drum an obstruction in case he is facing that way, although he will be able to reach one or both of the cranks 18 to raise or lower himself.

One or both of the gears 16 has a ratchet 19, secured to or integral with it, and a detent-pawl 20 is pivoted to the bracket 15 and so arranged as to engage the ratchet 19 to prevent the unwinding of the rope from the drum. The pawl 20 may be provided with a knob or pin 21 to enable the workman to conveniently throw the pawl out of engagement with the ratchet.

At 22 I have conventionally represented a suitable friction-brake which may be employed to prevent a too-rapid descent of the chair if the pawl should be disengaged from the ratchet and at the same time neither of the cranks in the hand of the workman.

At 23 I have represented a strap adjustable in length by means of a buckle, said strap being engaged with the side bars of the frame or yoke and prevented from sliding vertically thereon by means of suitable loops 24, formed on or connected with the side bars of the yoke. This strap may be thrown either forward or back, as indicated by full lines and dotted lines in Fig. 2, to suit the

direction in which the workman is facing. Said strap is usually employed to form a back for the workman or a guard to prevent him from falling backward.

The rope 26 or equivalent flexible connection has one end suitably secured to the winding drum or shaft and is coiled thereon and extends through the eye 11 at the top of the yoke. Said rope may have a hook 27 at its upper end to be engaged with any suitable overhead rigid support, such as an eye, attached to a beam of the kind frequently employed on the roof of a building to enable a scaffold to be suspended therefrom.

The seat 12 may be provided with hooks 25, on which either paint-pails or bags of tools may be hung.

It will be observed that the construction is such that the suspending-rope extends in a nearly straight line from the winding-drum to its extreme upper end, said rope passing through but one guide-eye, and therefore being little liable to become worn. The device may be used with either side facing the work to be done. If the workman wishes to have the winding-drum constantly between him and the building, the drum will not present a material obstruction to his work because it is elevated considerably above the plane of his seat. There is therefore not even a rope in front of him to interfere with his work. If he wishes to work with his back to the drum, the crank-handle at either side can be easily reached and operated whenever the workman wishes to change his vertical position, as a partial turning of the workman upon the seat will enable him to reach one or the other of the cranks. It is to be noted that the yoke is not only rigid, but is open both in front of and behind the operator and above him, so that, if desired, he may stand upright on the seat 12 and have his body in the plane of suspension. By this structure the workman or operator is allowed great freedom of movement.

Having now described my invention, I claim—

1. A hoist-chair comprising a rigid open yoke having an eye at its top and having a seat extending across and connecting its lower ends and rigid therewith, a winding-drum in a plane at one side of the vertical plane of the yoke and above the plane of the seat to permit the workman to occupy the plane of suspension and conveniently reach the drum, and means for operating said drum.

2. A hoist-chair comprising a rigid open yoke having an eye at its top and having a rigid seat extending across and connecting its lower ends, rigid brackets projecting from the sides of the yoke and having bearings, a winding-drum mounted in said bearings and having gears, pinions meshing with said gears and mounted in the brackets below said gears, and cranks connected with said pinions, the location of the winding-drum as described, enabling the workman to occupy the plane of suspension and to conveniently reach the said cranks.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

HENRY B. CRANDALL.

Witnesses:

H. JOSEPH DOYLE,

CHARLES F. ROBERTS.