May 4, 1926. 1,583,442

J. BROADHEAD

HOIST

Filed August 18, 1924 3 Sheets-Sheet 1

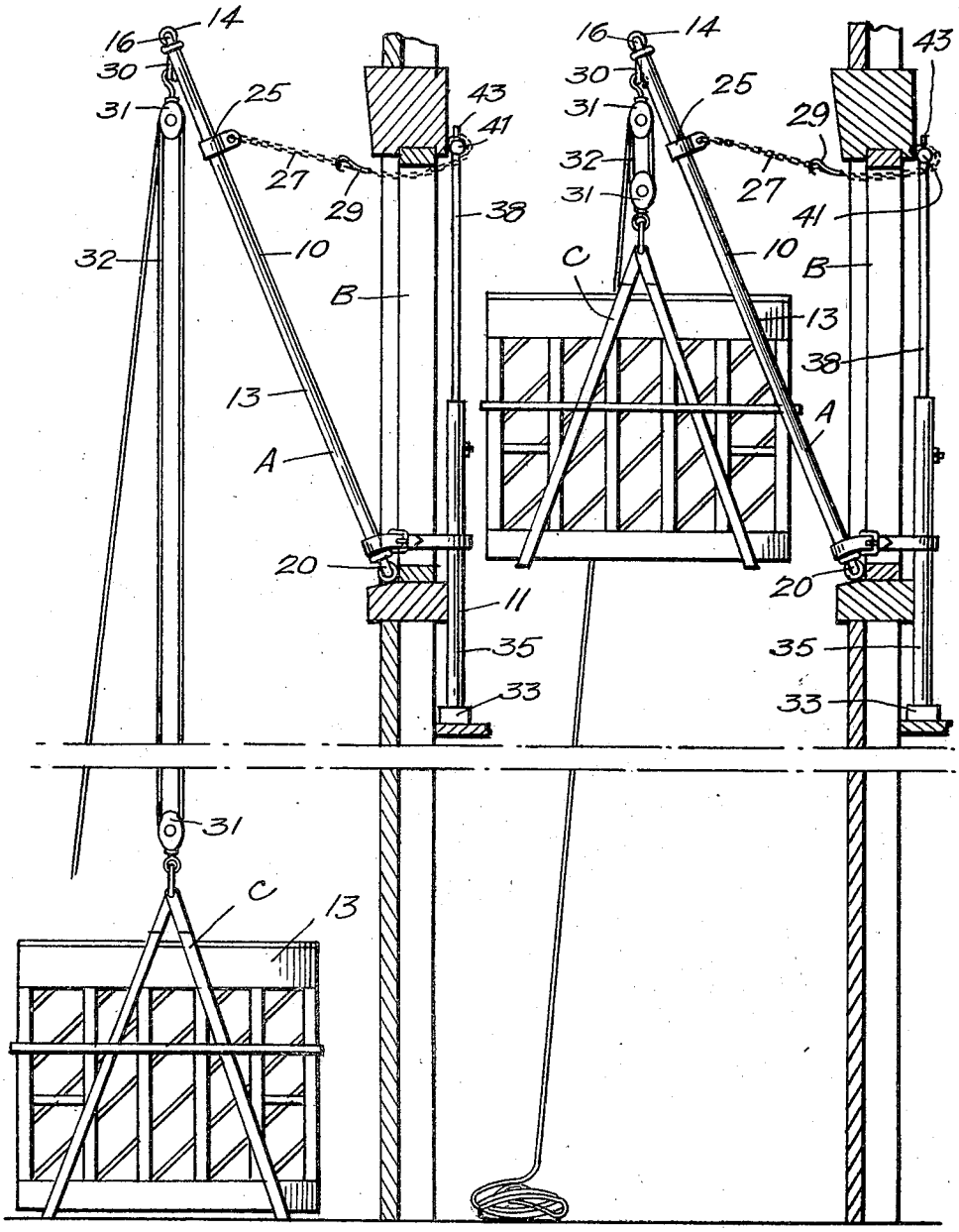


Fig. 1.

Fig. 2.

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J. BROADHEAD

HOIST

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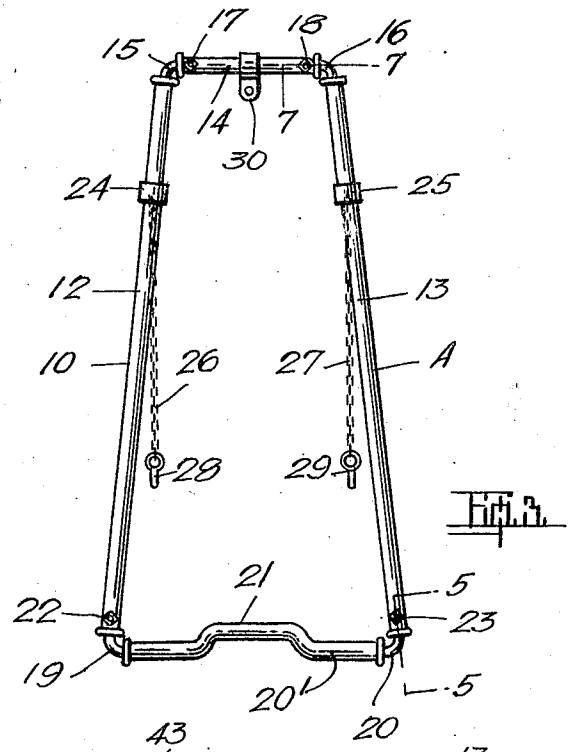


Fig. 3.

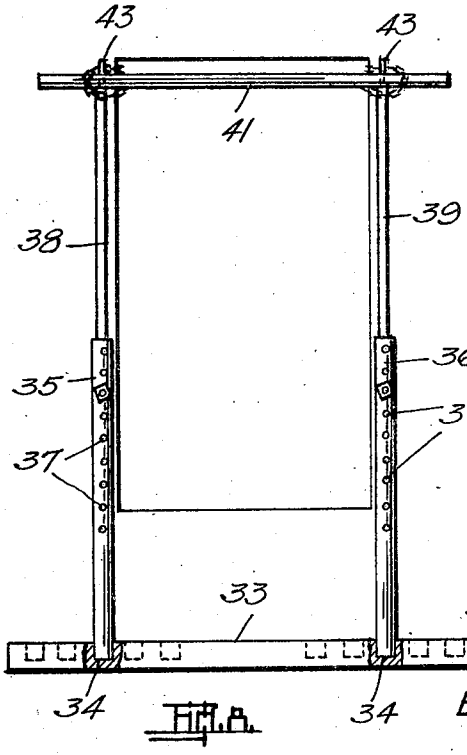


Fig. 8.

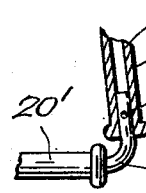


Fig. 4.

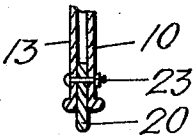


Fig. 5.

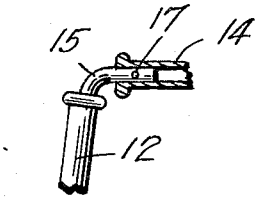


Fig. 6.

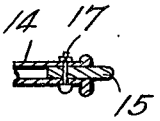


Fig. 7.

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J. BROADHEAD

HOIST

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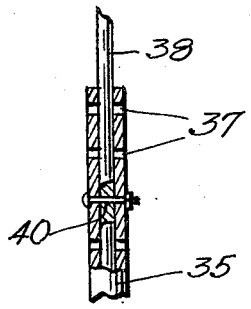


Fig. 9.

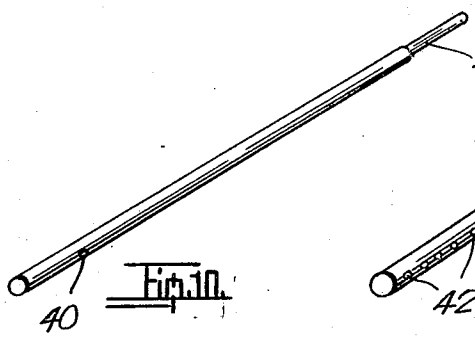


Fig. 10.

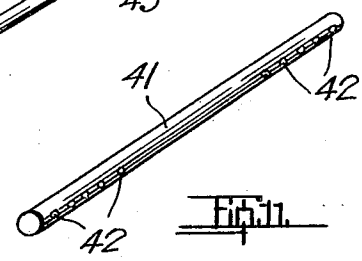


Fig. 11.

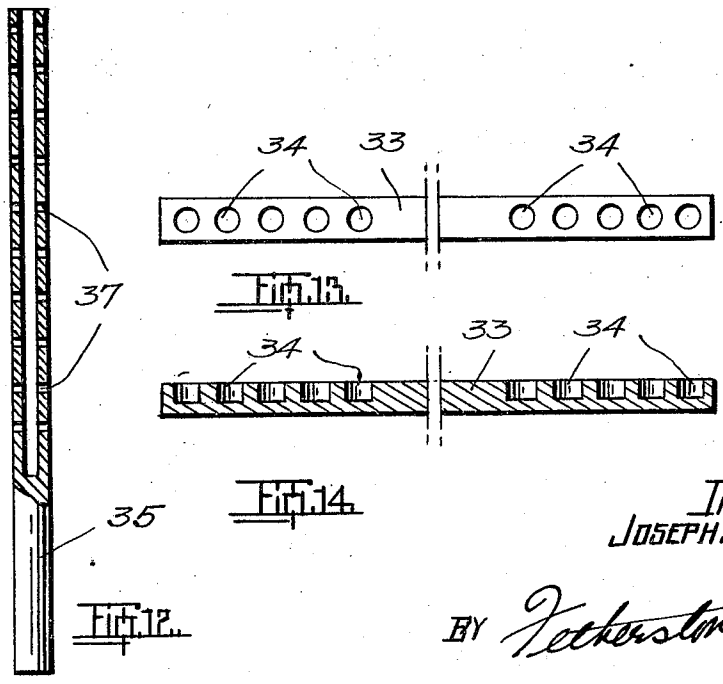


Fig. 12.

Fig. 13.

Fig. 14.

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Patented May 4, 1926. 1,583,442

UNITED STATES PATENT OFFICE.

JOSEPH BROADHEAD, OF EDMONTON, ALBERTA, CANADA, ASSIGNOR OF ONE-HALF TO ALBERT BROADHEAD, OF EDMONTON, CANADA.

HOIST.

Application filed August 18, 1924. Serial No. 732,716.

To all whom it may concern:

Be it known that I, JOSEPH BROADHEAD, a subject of the King of Great Britain, and resident of the city of Edmonton, in the Province of Alberta and Dominion of Canada, have invented certain new and useful Improvements in Hoists, of which the following is a specification.

This invention relates to improvements in hoists and the objects of the invention are to provide an efficient and adjustable hoist that can be quickly assembled or collapsed and which is designed, particularly in hoisting pianos and the like, to swing out through a window into hoisting position.

Further objects are the provision of a hoist of this character which can be adapted to fit any window of a building and which can be adjusted to operate from within, thus avoiding any danger to the operator by having to stand outside on the window sill when hoisting pianos or other articles into a building.

With the foregoing and other objects in view the invention consists essentially in the novel arrangement and construction of parts as described in the accompaying specification and illustrated by the accompanying drawings, forming part of the same.

Referring now to the drawings in which like characters of reference indicate corresponding parts;

Figure 1 is a side elevation, part in section of a window in a building fitted with my improved hoist in a lowered position.

Figure 2 is a similar view showing the hoist with a load ready to be swung inwardly.

Figure 3 is a plan view of the swingable member of the hoist.

Figure 4 is a sectional detail of the means for joining the parts of the swingable member.

Figure 5 is a section on line 5—5 of Figure 3.

Figure 6 is a sectional detail of the means for joining the top and sides of the swingable member.

Figure 7 is a section on line 7—7 of Figure 3.

Figure 8 is a plan view of the anchoring member of the hoist, partly in section.

Figure 9 is a sectional detail, showing telescopic construction of the anchoring member.

Figure 10 is a perspective detail of the engaging supporting bars of the anchoring member.

Figure 11 is a perspective view of the top cross bar.

Figure 12 is a sectional detail of the receiving bar showing holes for adjusting the telescopic bar therein.

Figure 13 is a plan view of the floor plate.

Figure 14 is a longitudinal section of the floor plate.

In the drawings and referring more particularly to Figures 1 and 2;

A designates the hoist as a whole, set up in a window B carrying a load in the form of a crate C. My improved hoist consists essentially of an outside or swingable member 10 and inside or anchoring member 11. The outside or hoist member consists of a bar inwardly sloping from the bottom, hollow bars or pipes 12 and 13 forming the sides and connected at the top by a cross pipe 14, adapted to engage with suitably bent solid ends 15 and 16 of the sides 12 and 13, and bolted thereto at 17 and 18. The bottom of the side pipes 12 and 13 are designed to receive therein the solid elbows 19 and 20 of the base cross pipe 20′ formed with a central offset therein 21, the elbows 19 and 20 being bolted in to the sides 12 and 13 at 22 and 23 on the sides 12 and 13, and clevis members 24 and 25 to which are attached chains 26 and 27 provided with gripping hooks 28 and 29 adapted to engage with the anchoring or inside member of the hoist as hereinafter more fully described. Substantially midway of the cross pipe 14 is a clevis 30 to which is attached the hoisting tackle comprising a block and line 32.

From the foregoing it will be seen that the sides 12 and 13 are swingingly mounted in the base cross pipe 20′, thus enabling the hoist to be swung outwardly or inwardly as may be desired in operation, while to dismantle the hoist it is only necessary to unscrew the securing bolts for the sides and top and the whole hoisting member is readily taken apart.

Referring now more particularly to the anchoring member 11, this consists of a floor plate 33 provided with a plurality of counter sunk apertures 34 and designed to be placed on the floor on the inside of a window. Into the holes 34 are fitted vertical and tubular posts 35 and 36 provided with a

plurality of spaced holes 37 and into these posts are designed to slidably fit the supporting bars 38 and 39 having an opening 40 therein adapted to register individually with the openings 37 and to receive therethrough securing bolts whereby the bars 38 and 39 are fixedly secured at any required height.

On the top of these bars or posts is a cross piece 41 provided with a plurality of openings 42 registering with the openings 34 in the floor plate 33 and adapted to receive therein the supporting side bars 35 and 36, the ends of the posts 38 and 39 being pin formed at 43 to engage with the openings 42 individually whereby in combination with the openings 34 in the floor plate the telescopic supporting sides are adapted to be adjusted to any required width.

On the sides are chains 26 and 27 for flexibly securing the hoisting member to the anchoring member and also to limit the outward travel of the former. To prevent the hoisting member from slipping, embracing straps 44 are provided to bind it to the anchoring member.

From the foregoing the operation of my device will be apparent. The anchoring member is first fitted on the inside of a window, having been adjusted longitudinally and horizontally to register with the window space. The hoist member is then assembled and also adjusted to the size of the window space. It is then placed on the window sill outside or on the window ledge, as the case may be, and secured in the bottom to the anchoring member by means of straps, while the upper portion is also flexibly secured to the top of the anchoring member by the hoist chains carried by the hoist. The block and tackle complete the equipment of the hoist. The object to be hoisted, having been connected thereto, is drawn slowly up and when it reaches a position outside of the window space, the hoist member is swung inwardly carrying the object with it and delivering it without any risk to the operators within the building.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. In a device of the character described and in combination, a hoisting frame comprising a hollow base bar having an offset intermediate of its length, hollow side bars, elbows pivotally connecting the side bars with the base bar, a hollow top bar, elbows rigidly connecting the top bar with the side bars, chains suitably mounted on the side bars, an anchoring member and flexible binding means for the anchoring member and the hoisting frame.

2. In a device of the character described and in combination a swingly mounted hoisting member, an anchoring member flexibly connected to the hoisting member and comprising a floor-plate having a plurality of counter sunk orifices therein, hollow side posts adapted to engage with said plate and means formed in the posts adapted to engage retaining means for posts, whereby the latter are adjusted, a top plate having orifices therein registering with the orifices in the floor-plate and adapted to engage with said side posts and chain means for clamping the top plate and the side posts together.

3. In a device of the character described, the combination with a rigidly constructed and swingingly mounted hoisting frame of an anchoring frame formed of telescopic side posts and top and bottom orificed plates designed to engage with said posts, whereby the width of the frame is adjustable and the height of the frame through the telescopic side posts is also adjustable.

4. In a device of the character described, the combination with a hoisting frame, of an anchoring frame formed of telescopic sides and orificed top and bottom plates adapted to adjustably and detachably engage with said sides.

In witness whereof I have hereunto set my hand.

JOSEPH BROADHEAD.