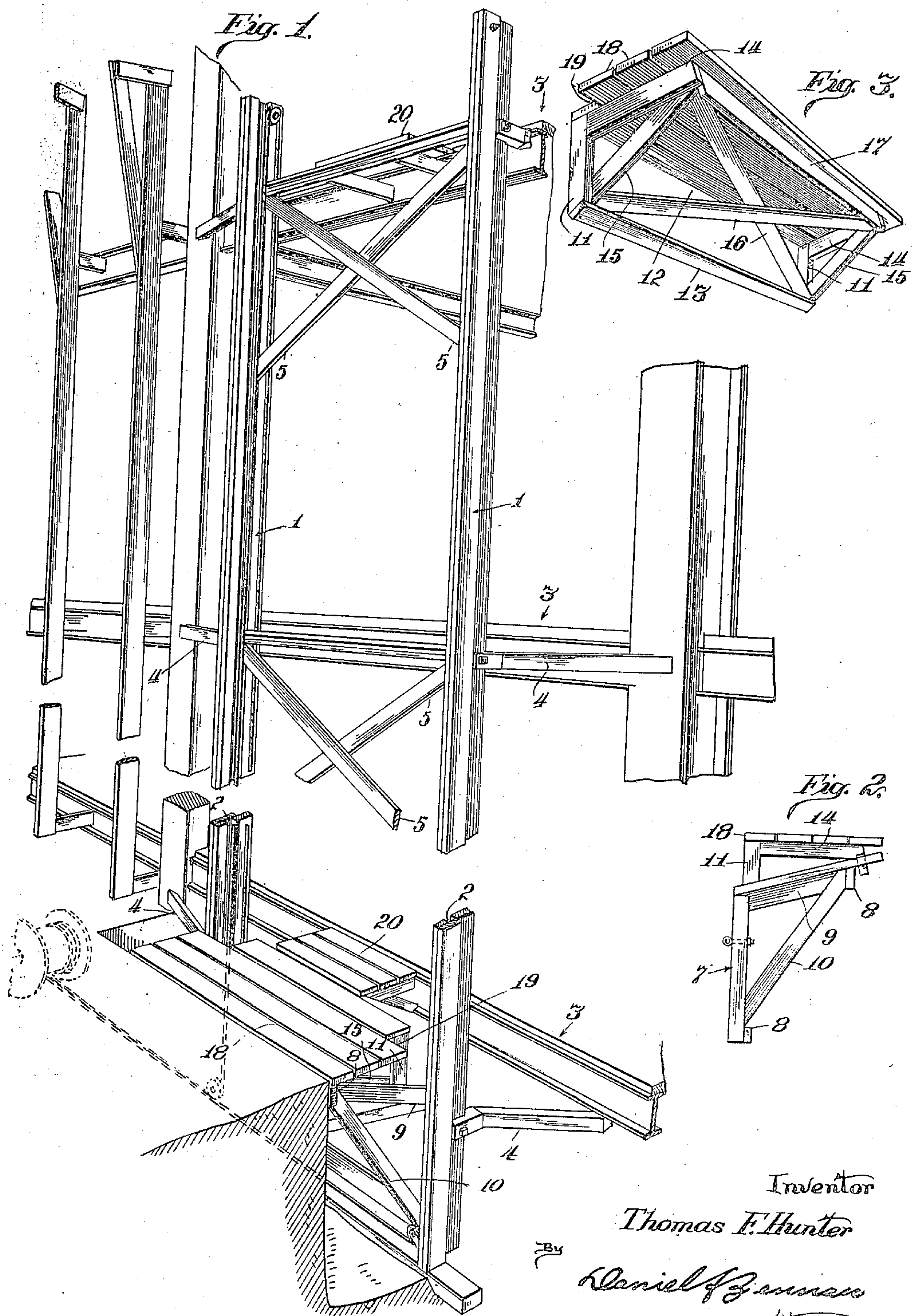


Jan. 2, 1923.

T. F. HUNTER.
HOISTING APPARATUS.
FILED DEC. 4, 1920.

1,440,919.

3 SHEETS—SHEET 1.



Inventor

Thomas F. Hunter

By Daniel F. Bennett

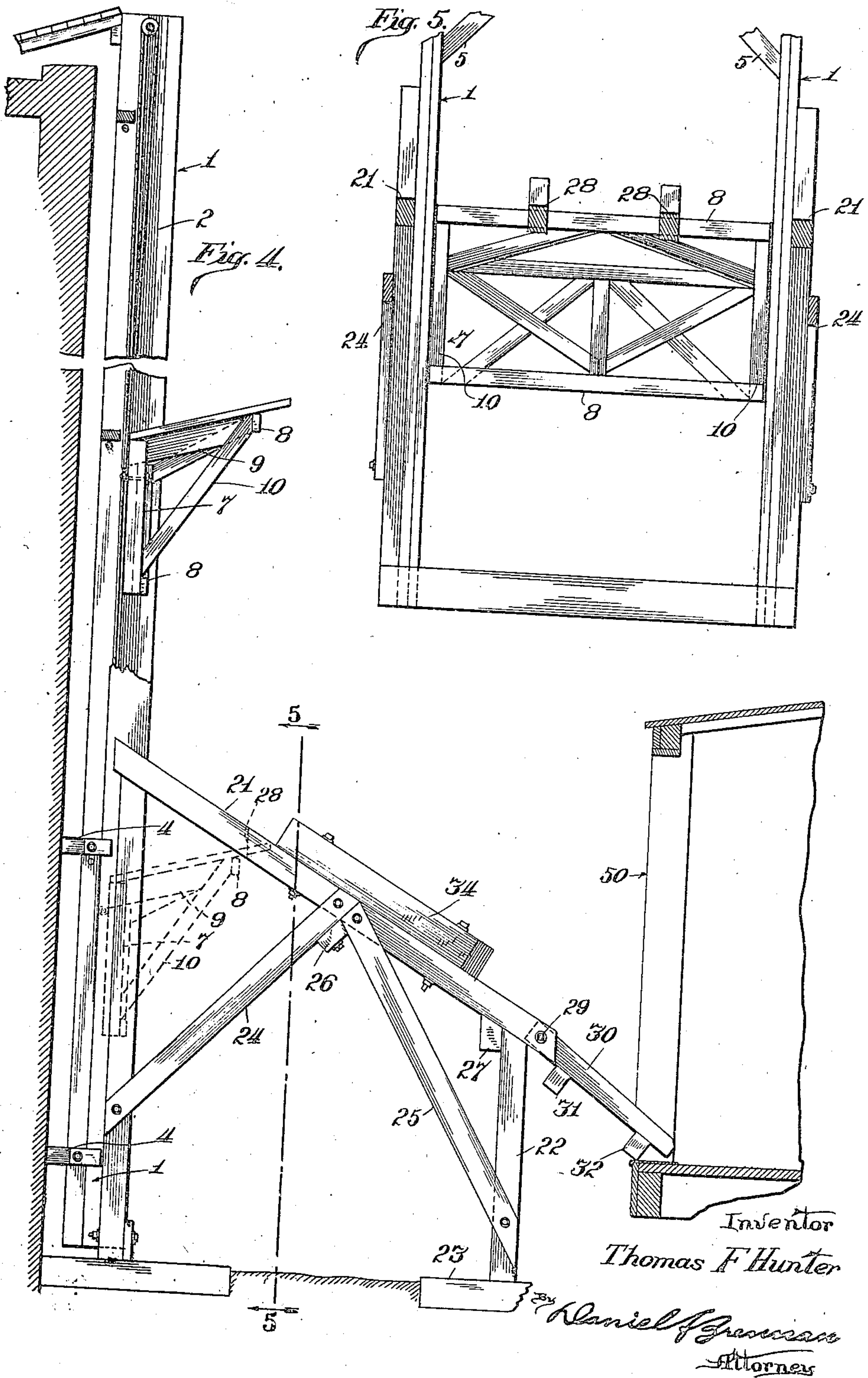
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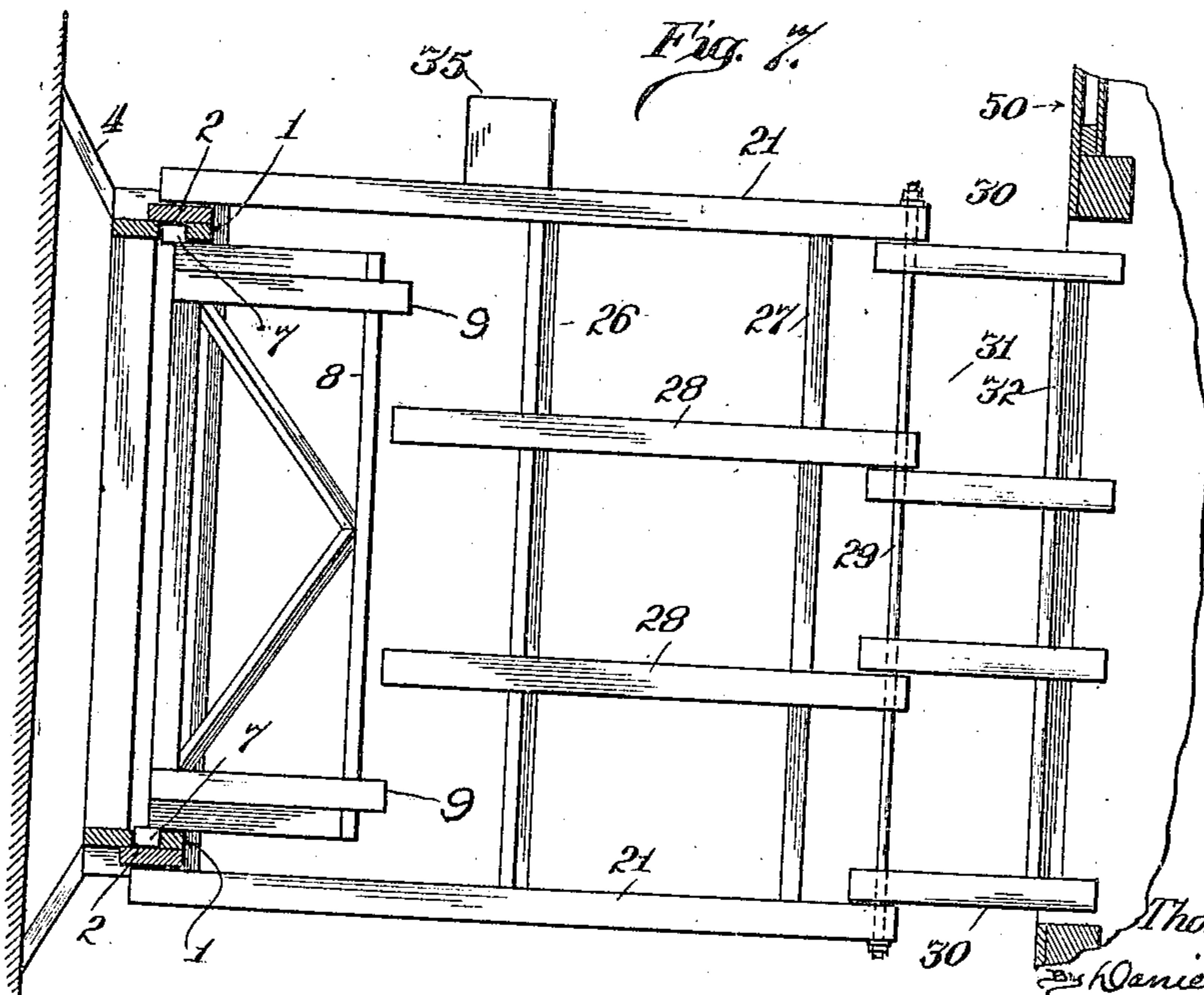
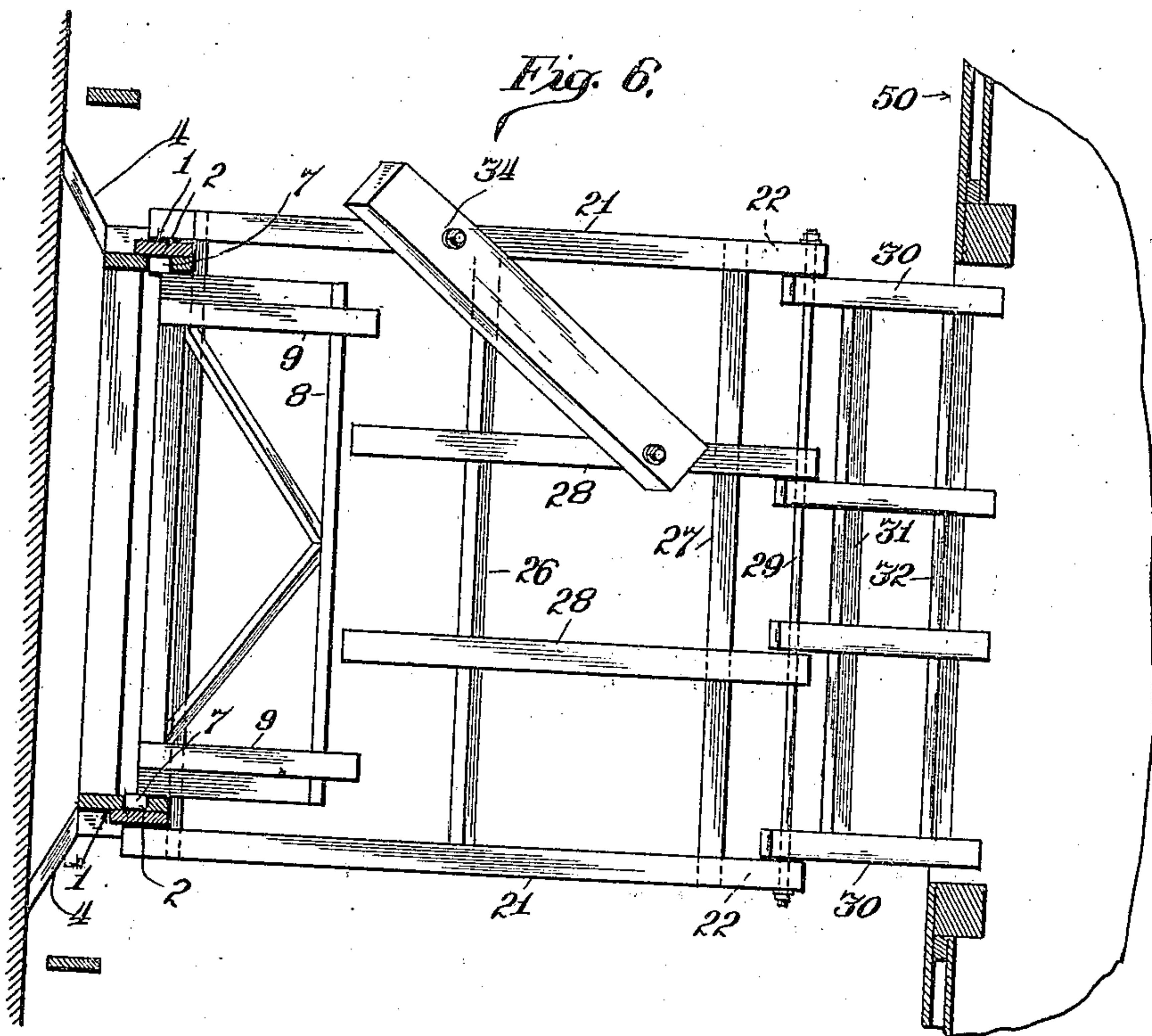
Daniel F. Grossman
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3 SHEETS—SHEET 3.



Inventor
Thomas F. Hunter
By Daniel A. Bennett

Attorney

UNITED STATES PATENT OFFICE.

THOMAS F. HUNTER, OF CHICAGO, ILLINOIS.

HOISTING APPARATUS.

Application filed December 4, 1920. Serial No. 428,248.

To all whom it may concern:

Be it known that I, THOMAS F. HUNTER, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Hoisting Apparatus, of which the following is a specification.

This invention relates to improvements in hoisting apparatus, and particularly, to that class of apparatus which is used in building construction.

One of its objects is to facilitate the transfer of material from the interior of a building to be erected to the carrier of the hoisting apparatus and to successive floors of a building under construction.

Another object of the invention is to provide reinforcing structures for the uprights of the hoisting apparatus and to arrange these reinforcing structures at different elevations of the uprights in such relation to the floors of the building that the transfer of material from the floors to the carrier of the hoisting apparatus will not be interfered with by the reinforcing structure.

It is also an object of the invention to provide a readily removable platform which can be placed on the carrier of the hoisting apparatus so as to facilitate the transfer of material from over this carrier.

It is, furthermore, an object of the invention to combine with the platform to be placed on the carrier a platform extension communicating between the hoisting apparatus and the building itself, to permit the use of wheel-barrows and the like for the transfer of material from the interior of the building.

It is also an object of the invention to combine with the hoisting apparatus a readily removable skid or loader through which the material from the carrier can be automatically discharged into cars or other transporting means placed adjacent the hoisting apparatus.

Another object of the invention is to combine with the removable loader means for deflecting during the transfer from the hoisting apparatus to the car or the like the articles which pass over the loader so that they will be automatically placed in proper position for entering the car or the like, thereby accelerating the operation of loading.

With these and many other objects in

view, embodiments of the invention are described in the following specification in which reference is made to the accompanying drawing.

In the drawing:

Fig. 1 is a perspective view of the hoisting apparatus, the reinforcing elements, and platform.

Fig. 2 is a side elevation of the carrier with the removable platform in place;

Fig. 3 is a perspective view of the removable platform;

Fig. 4 is a side elevation, partly in section, of the hoisting apparatus combined with the loader;

Fig. 5 is a sectional elevation on line 5—5 of Fig. 4;

Fig. 6 is a partly horizontal section through the hoisting apparatus and partly a top plan view of the removable loader with the deflecting device shown thereon; and,

Fig. 7 is a view similar to Fig. 6, showing a modification of the deflecting means.

The uprights 1 of the hoisting device are provided with guiding grooves 2 in which portions of the carrier are adapted to slide vertically.

The floors of the building are diagrammatically indicated at 3, and braces 4 may serve for maintaining the uprights 1 in proper position, with respect to the wall of the building, said braces 4 being preferably attached to the outside of the uprights 1 and connecting the same with portions pertaining to the floors 3.

In order to brace this structure without, however, interfering with the transfer of material from the interior of the building to the carrier, bracing elements 5 in the form of diagonal struts are interposed between opposite uprights 1. The upper ends of these bracing elements are located adjacent the lower surface of the floors 3, so as to permit of the transfer of material carried on the floors from the interior of the building to the carrier. The bracing elements 5, being located adjacent the ceilings of the various stories are relatively high above the floors on which the men walk.

The carrier structure, itself, may be of any construction and may comprise the upright guiding structure 7 which is suitably braced and the side bars of which may travel in the grooves 2 of the uprights, horizontal members 8, the slanting top 9 composed of

a few boards near the ends, as shown in Figure 6, and the struts 10. The mechanical for causing said carrier to travel in vertical direction does not form a part of the present invention, and is not described herein.

The invention contemplates to provide a readily removable platform which can be placed upon the top of the carrier so as to change the inclined position of said top 9 into a horizontal position and to facilitate the transfer of material from the interior of the building over said carrier. This removable platform, as shown in Figs. 2 and 3, includes a substructure consisting of the uprights 11, the transverse members 12 and 13 secured to the lower and upper ends of the vertical members, respectively, horizontal end members 14, inclined end members 15 and the diagonal elements 16 which are located in the plane of the inclined members 15 and serve for connecting the lower rear portion of the substructure with the upper front portion at the diagonal opposite end. Another approximately horizontal member 17, in the form of a board, may be used for preventing displacement in fore and aft direction of the detachable platform, the lower edge of said board projecting beyond the upper edge of the upper horizontal member 8 of the carrier, as indicated in Fig. 2.

The superstructure of the removable platform consists of a number of boards 18 which are placed on top of the horizontal members 14, and which may be permanently united therewith. The rear end of this superstructure also may be cut out as indicated in Fig. 1, to provide a shoulder 19 for clearing the uprights 1 when the platform is placed in position. An intermediary platform 20 preferably is placed between the front wall of the building at any of the floors and the platform 18, said platform being braced in the embodiment illustrated against a flange of one of the floor beams and serving in a suitable way for permitting the working men to push wheel-barrows from the interior of the buildings to the detachable platform 18.

For the purpose of facilitating the loading of relatively long and heavy elements, beams, props, reinforcing bars and the like, from the interior of the building directly into a car or other transporting device adjacent the building, a removable skid or loader may be combined with the carrier, and means may be provided on the loader for readily deflecting these elements so as to enter the transporting device. For this purpose, according to Figs. 4 to 7, the upper ends of slanting beams 21 are fastened to the outside of the uprights 1, while the lower ends of these beams are supported by short uprights 22 which rest on a suitable base 23. The intermediate portions of the slanting members 21 are connected with the uprights

1 by the braces 24 fastened to the uprights and they are also braced by slanting members 25 which are secured to the shorter uprights 22, as illustrated in Fig. 4. Transverse bars 26 and 27 serve for connecting the slanting elements 21 of the loader, these transverse elements also being used for supporting intermediary slanting elements 28 which are disposed between the outer beams 21. These intermediary slanting elements 28 do not extend, however, close to the plane of the uprights 1, but terminate at a sufficiently large distance to permit the carrier to travel between the elements 21 below the inclined plane defined by these parallel elements 21.

An adjustable front portion is movably secured to the loader and for this purpose a rod 29 extends transversely through the slanting elements 21 and 28. This rod serves as a pivotal support for a plurality of short beams 30 which are held in spaced relation by transverse members 31 and 32, as indicated in Fig. 4. This front portion of the loader can be lifted or lowered by a pivotal movement about the bar 29 so as to rest with its front edge on the transporting device to which the elements delivered by the carrier are to be transmitted.

If long articles are placed on the carrier which project beyond the end portions of the latter, these elements will automatically be lifted from the carrier when it, in its downward movement, passes beyond the plane defined by the slanting elements 21 of the skid. The projecting ends of the articles to be carried will thereby be lifted automatically from the carrier which continues its downward travel for a short distance. Owing to the slanting position of the loader, these articles will then be delivered automatically to the transporting device 50.

In order to deflect these articles so as to readily enter the door of the transporting device (which is not shown), a deflector may be associated with the loader, this deflector being shown in Fig. 6 as a short beam 34 fastened in some suitable way to the slanting elements 21 and 28, respectively, while in Fig. 7 instead of the deflecting element 34 fastened to the skid a post 35 is shown as being erected closely adjacent to one of the outer elements 21.

When the articles, after having been automatically transferred to the loader, slide down, one end of these articles will strike the deflecting element 34 or 35, respectively, whereby the continued movement of that particular end of the articles is prevented without, however, causing a stoppage of the movement of the other portion of said article. The article, therefore, will be deflected from a position substantially transverse to the skid into a position at an angle to the transverse direction, one end of the

article entering the door of the transporting device 50 and thereby facilitating the loading operation of these articles.

While the drawings disclose preferred embodiments of the invention, it is to be understood that many changes and alterations may be made without departing from the spirit of the invention, and it is not the intention to limit the invention to the details as shown, but to include all modifications thereof, constituting departures within the scope of the invention, as defined by the appended claims.

I claim:

1. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, said carrier being provided with a supporting surface slanting in direction toward the plane of said uprights, a detachable platform adapted to be placed on said carrier and including members located in a substantially horizontal plane with respect to the uprights.

2. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, the carrier having a supporting surface slanting in direction towards the plane of said uprights, a detachable platform having a slanting substructure adapted for engagement with the slanting supporting surface of the carrier, and a horizontal superstructure secured to said substructure.

3. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, said carrier being provided with a supporting surface slanting in direction towards the plane of said uprights, a detachable platform, including a substructure which consists of vertical members, horizontal members extending from the top of said vertical members, braced connecting elements between the free ends of said horizontal and vertical members, and a plurality of boards secured to the horizontal members.

4. In combination with a hoisting apparatus having uprights and a carrier with a slanting portion traveling along the uprights, a detachable platform adapted to convert the slanting portion of the carrier into a horizontal surface, and means for locking said detachable platform against shifting movement on the carrier.

5. In a hoisting apparatus having uprights extending through several floors of a building and a carrier traveling along said uprights, bracing elements connecting said uprights, said bracing elements being fixedly connected with said uprights at a substantially large elevation from the floors of the building and additional braces securing the uprights to floors of the building.

6. In a combination with a hoisting apparatus having uprights associated with several floors of a building and a carrier traveling along the uprights, the carrier having a slanting surface portion, a detachable platform adapted to be placed on said slanting surface portion and supplementing said carrier to present a horizontal surface, and an additional platform removably attached to the floor of a building adapted to permit the passage of men and transportation devices from the interior of the building to the detachable platform.

7. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, a loader including slanting members between which the carrier may travel, whereby in the passage of the carrier through the plane defined by said slanting members articles projecting beyond the ends of the carrier are automatically transferred to said slanting members.

8. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, a loader consisting of slanting members braced to the uprights, and a deflecting element functionally associated with said slanting members adapted to deflect articles whose ends project beyond the slanting members from a direction transverse to said members to a different angular direction.

9. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, a loader having slanting members parallel to each other and braced to the uprights near the lower part thereof, said slanting members being sufficiently spaced from each other to permit the carrier to travel through between the same, guiding elements secured between said slanting members and parallel to the same, and a deflecting element associated with said loader and adapted to deflect articles projecting beyond the slanting members from their position.

10. In combination with a hoisting apparatus having uprights and a carrier traveling along the uprights, a loader consisting of slanting members secured to the uprights and resting on a supporting structure at their lower ends, and an additional skid pivotally connected with the lower end of said slanting members.

In testimony whereof, I affix my signature in the presence of two witnesses at 36 West Randolph St., Chicago, Illinois.

THOMAS F. HUNTER.

Witnesses:

DANIEL A. BRENNAN,
L. OPIE READ.