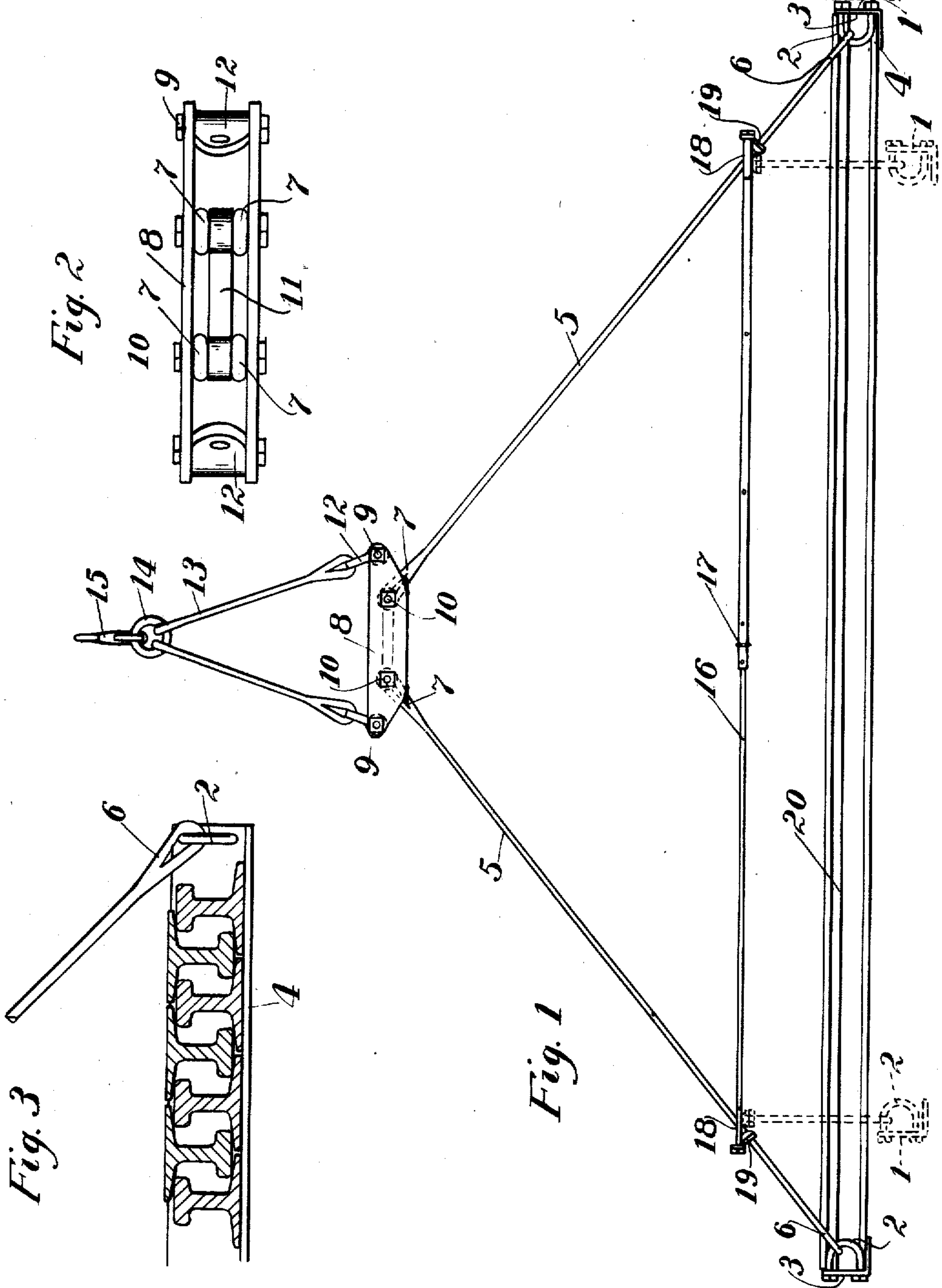


E. N. DREW.  
HOISTING APPARATUS.  
APPLICATION FILED OCT. 14, 1908.

922,105.

Patented May 18, 1909.

2 SHEETS—SHEET 1.



Witnesses:

Ervin Chelpey  
Mary M. Dillman

Inventor:

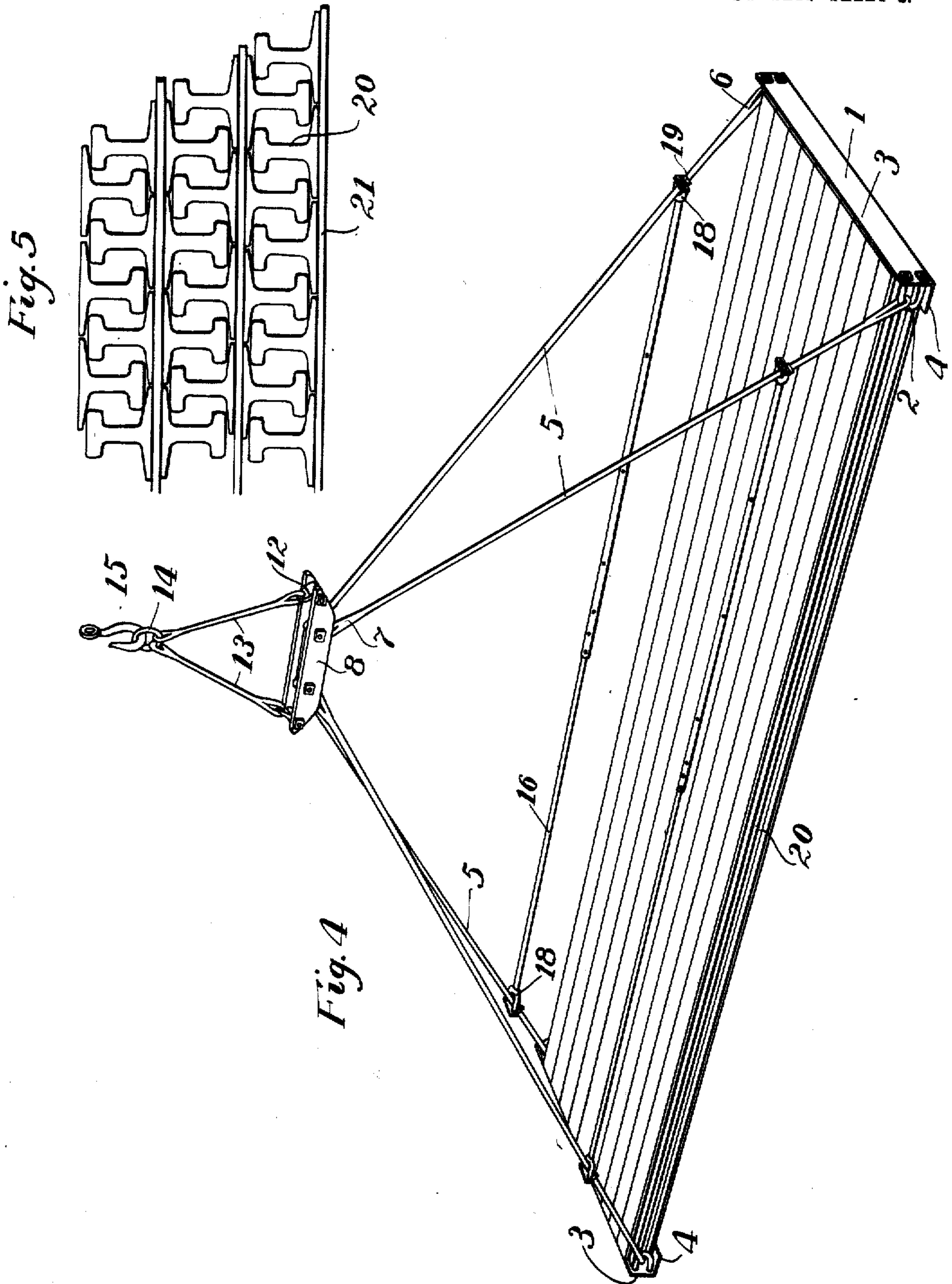
Edward N. Drew,  
By Kummer & Kummer  
Attorneys.

E. N. DREW.  
HOISTING APPARATUS.  
APPLICATION FILED OCT. 14, 1908.

922,105.

Patented May 18, 1909.

2 SHEETS—SHEET 2.



Witnesses:

Edwin Phelps  
Mary H. Dillman

Inventor  
Edward N. Drew  
By *Rummler & Rummler*  
Attorneys.



# UNITED STATES PATENT OFFICE.

EDWARD N. DREW, OF SOUTH CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO AXEL E. ANDERSON AND ONE-THIRD TO PATRICK T. DREW, BOTH OF SOUTH CHICAGO, ILLINOIS.

## HOISTING APPARATUS.

No. 922,105.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed October 14, 1908. Serial No. 457,685.

*To all whom it may concern:*

Be it known that I, EDWARD N. DREW, a citizen of the United States of America, and a resident of South Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Hoisting Apparatus, of which the following is a specification.

The main object of this invention is to provide an improved form of hoisting apparatus particularly adapted for loading, unloading and piling rails, lumber and other materials in the form of bars of substantially uniform length. This object is accomplished by the device shown in the accompanying drawings, in which:

Figure 1 is a side elevation of a hoisting apparatus constructed according to this invention. Fig. 2 is a detail of the yoke which connects the supporting cables. Fig. 3 is a detail showing the manner in which the load supporting bars engage the load. Fig. 4 is a perspective view of the apparatus with its load. Fig. 5 is a section through a pile of rails, illustrating the usual method of stacking them.

In the form shown in the drawings, the load engaging members are in the form of angle bars, each having at each of its ends a staple 2 extending transversely into the space between the vertical shoulder or flange 3 and the horizontal flange 4 of the respective bar and serving to connect it with a suspending cable 5. The cables are provided with loops 6 at their lower ends or are otherwise arranged so as to have hinged connection with the bars 1 in such manner that said bars may be turned on their points of suspension about an imaginary axis lying along the bar and in the angle between the vertical and horizontal flanges thereof. The cables 5 are of equal length, and each is provided with a loop 7 at its upper end. The upper ends of the cables 5 are connected together by means of a yoke 8 which consists of a pair of bars connected together by four bolts 9 and 10. The bolts 10 pass through the eyes 7 of the cables and are braced by means of a strut 11 located between the bars which is provided with an eye at each end, which eyes engage the bolts 10 between the points of attachment of the cables, as illustrated in Fig. 2. Clevises 12 mounted on the bolts 9 serve as spreaders

for the side bars of the yoke, and are connected with a pair of cables 13 by means of which the yoke is supported from a ring 14 so as to permit of supporting the whole apparatus from the hook 15 of a crane or other hoist.

In order to space the bars 1 the desired distance apart, the cables 5 are spread apart at a point above the bars 1 by means of spreaders 16 which are preferably made in two parts, one telescoping the other so as to be adjustable to different lengths. The length of the spreaders 16 is determined by pins 17 which extend through registering apertures in the telescoping parts of the spreaders. The ends 18 of the spreaders 16 are shaped so as to loosely engage the cables 5, and are supported by shoulders 19. In the form shown, the ends of the spreaders are forked, and the cables are confined in the forks by cross-pieces which are secured by nuts.

The operation of the device shown is as follows:—When the device is not loaded, the parts of the cables 5 which are below the spreaders 16 hang downward, and the bars 1 hang in the position shown by dotted lines in Fig. 1. When the device is supporting a load, as, for instance, a row of rails 20, then the lower flange 4 of each bar 1 is placed under the load as in Fig. 1, and the vertical flange 3 engages the ends of the rails. The vertical flanges 3 resist the inward thrust of the bars 1 under the strain of the load upon the cables 5, and on account of the manner in which the cables 5 are connected to the bars 1, there is no danger of the bars 1 becoming tilted and dropping the load. The spreaders 16 should, of course, be so adjusted as to permit the cables 5 to straighten out when under load. The spreaders 16 may be light, as their strength need only be sufficient to spread the bars 1 apart when unloaded.

Rails are usually stacked in the manner shown in Fig. 5. Cross-strips 21 support each row of rails near its ends and separate the successive rows, the rails in each row being alternately set upright and inverted so as to occupy a minimum amount of space. In connecting the hoisting apparatus to the load, men are placed at opposite ends of the pile, and it is simply necessary for the men at opposite ends to slip the horizontal flanges 4 under the same row of rails. When a strain



is put upon the apparatus by hoisting the hook 15, the entire row of rails which is engaged by the bars 1 will be supported in the manner shown in Fig. 1. After depositing the load, the bars 1 may be readily disengaged when the cables 5 become slack.

This apparatus results in a great saving of time as compared with that required where the usual slings are first passed around the load, and it also has the advantage of lifting the load without disturbing the relation of the rails to each other, so that it saves the time of restacking them. If the rails are stacked so that their ends are uneven, the inward thrust of the bars 1 due to the first pull upon the cables pushes the projecting bars inward and lines up the load before it is lifted. The only limit to the capacity of the apparatus is that which is determined by the strength of its parts, since any number of rows of rails may be supported, each row serving as a platform upon which the successive row rests.

The device shown in the drawings is a preferred embodiment of this invention, but it will be readily seen that numerous details of the construction shown may be altered without departing from the spirit of this invention.

I claim:—

1. The combination of a yoke, two pairs of cables depending therefrom, and a pair of bars, each suspended in horizontal position by one of said pairs of cables and each comprising a horizontal flange adapted to support a load and a vertical flange adapted to bear inwardly against a load supported on said horizontal flange, and means connecting said cables to their respective bars and arranged so that the strain on said cables due

to a load on said bars will be directed into the angle between the flanges of each bar.

2. A hoisting apparatus, comprising means adapted to be suspended from a hoisting cable and a pair of bars separately suspended from said means and adapted to hang in parallel relation to each other and substantially in the same horizontal plane, each of said bars having a horizontal surface for supporting a load and having a shoulder extending upwardly above said horizontal surface, the shoulders on said bars being spaced away from the inner edges of the bars and adapted to bear sidewise on the load, and a spreader extending between said suspending means and adapted to space said bars a predetermined distance apart when no load is supported thereon.

3. The combination of two pairs of cables of substantially equal length, means connecting said cables at their upper ends and adapted to be supported from a hoisting apparatus, a pair of bars, each having its ends connected to the lower ends of the respective pair of cables, each of said bars comprising a vertical flange and a horizontal flange, the horizontal flanges extending toward each other from said vertical flanges and being located below the upper edges of the respective vertical flanges, and said cables having hinged connection with said bars and being adapted to swing as on an axis parallel with the respective bar and located within the angle between the flanges of such bar.

Signed at Chicago this 12th day of October, 1908.

EDWARD N. DREW.

Witnesses:

EUGENE A. RUMMLER,  
PATK. T. DREW.