

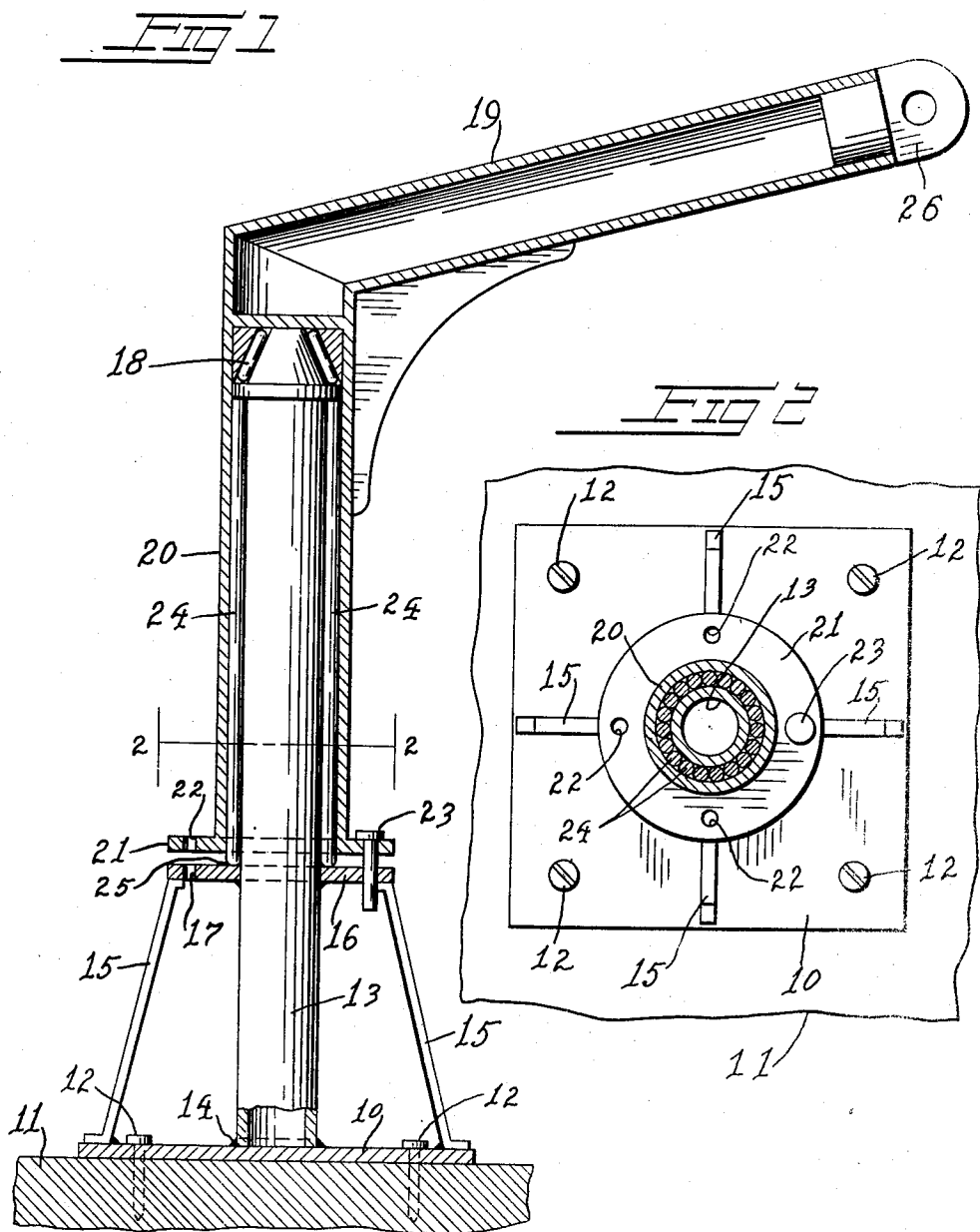
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ROTARY CRANE

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ROTARY CRANE

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2 Claims. (Cl. 212-61)

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This invention relates to hoists and more particularly to rotary cranes.

The primary object of the invention is to provide a crane equipped with a gib rotatably mounted on a standard by means of a sleeve firmly connected with the gib and surrounding the standard, an elongated roller bearing being arranged between the sleeve and the standard.

Another object of the invention is to provide a crane of the character indicated above the gib of which rests on a thrust roller bearing arranged on top of the standard.

A further object of the invention is to provide a crane of the character indicated above, having a sleeve and standard which are equipped with cooperating locking means for preventing accidental rotary movement of the gib about the standard.

An additional object of the invention is to provide a crane of the character indicated above having an elongated roller bearing, the rollers of which serve also the purpose of reinforcing the standard and the sleeve.

The invention consists in the details of construction and in the combination and arrangement of the several parts of the improved rotary crane whereby certain advantages are attained, as will be hereinafter more fully set forth.

In order that the invention may be better understood, the same will now be described with reference to the accompanying drawings, wherein:

Figure 1 is a view partly in side elevation and partly in section of a hoist constructed in accordance with an embodiment of the invention; and

Figure 2 is an enlarged sectional view taken on the line 2-2 of Figure 1.

The crane as herein embodied comprises a base plate 10 anchored to a crane support structure 11 of any suitable conventional construction by means of anchor bolts 12 or the like. A tubular standard 13 is firmly secured to the base plate 10 so that it extends upwardly therefrom. Preferably the standard 13 is welded onto the base plate as at 14.

A plurality of bracing legs 15 extend upwardly from the base plate 10 and are welded or otherwise secured to said plate around the lower portion of the standard 13. A locking flange 16 surrounds the standard and is firmly secured to the top ends of the bracing legs. A plurality of holes 17 are provided in the flange 16 equidistantly from each other and from the axis of the standard 13.

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A tapered roller thrust bearing 18 is mounted on top of the standard 13.

A tubular gib 19 has at its inner end a sleeve 20 extending at an angle from the gib and adapted to receive the upper portion of the standard 13. A flange 21 is arranged on said sleeve at its lower edge which is disposed above the locking flange 16. A plurality of holes 22 is provided in the sleeve flange 21 at the same distance from the axis of the standard 13 as the holes 17 so that these two sets of holes can be arranged coincidingly by rotating the gib 19 about the standard 13. A lock pin 23 is adapted to be inserted in a pair of coinciding holes 17 and 22 to prevent accidental rotary movement of the gib 19.

The upper race of the thrust bearing 18 is secured inside the sleeve 20 so that the gib rests on this thrust bearing.

A plurality of bearing rollers 24 are disposed between the standard 13 and the sleeve 20 and extend from the thrust bearing 18 to the lock flange 16. The lower end surface of each bearing roller 24 is formed semi-globular as at 25 and rests on the locking flange 16. A gib head 26 is mounted on the outer end portion of the gib 19.

The above specification shows clearly that the gib 19 can be rotated easily about the standard 13 since the gib rests on the thrust bearing 18 and the sleeve 20 of the gib forms the outer race of the elongated roller bearing comprising the standard 13 as inner race and the bearing rollers 24. The friction between the lower end surfaces of said rollers and the locking flange 16 is reduced to a minimum since these end surfaces are shaped semi-globular. The bearing rollers 24 serve at the same time to reinforce the upright members of the crane.

From the foregoing description it is thought to be obvious that rotary cranes constructed in accordance with my invention are particularly well adapted for use by reason of the convenience and facility with which they may be assembled and operated.

I claim:

1. A crane having a base, a standard mounted on the base and a gib rotatably mounted on the standard, including a sleeve firmly connected with and extending at an angle to the gib and surrounding the standard, a plurality of bearing rollers disposed between the sleeve and the standard, a tapered roller thrust bearing mounted on top of the standard, a top bearing race mounted inside the sleeve, and a stop flange surrounding the standard underneath the sleeve, the bearing

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rollers extending beyond the sleeve and resting on the stop flange, the lower end surfaces of said rollers being formed semi-globular.

2. A crane having a base, a standard mounted on said base and a gib rotatably mounted on the standard, including a sleeve firmly secured to and extending at an angle from the inner end of the gib and rotatably surrounding the standard, an outwardly extending flange on the lower end portion of the sleeve, a locking flange surrounding and rigidly secured to the standard underneath the flange on the sleeve, a plurality of bracing legs secured between the base and the underside of said locking flange, the two flanges being provided with holes adapted to be arranged coincidingly with each other, a locking pin adapted to be inserted in a pair of coincidingly arranged holes,

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and elongated bearing elements arranged longitudinally between the standard and sleeve and resting at their lower ends upon the locking flange.

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