W. H. BEAM.

HOISTING APPARATUS.

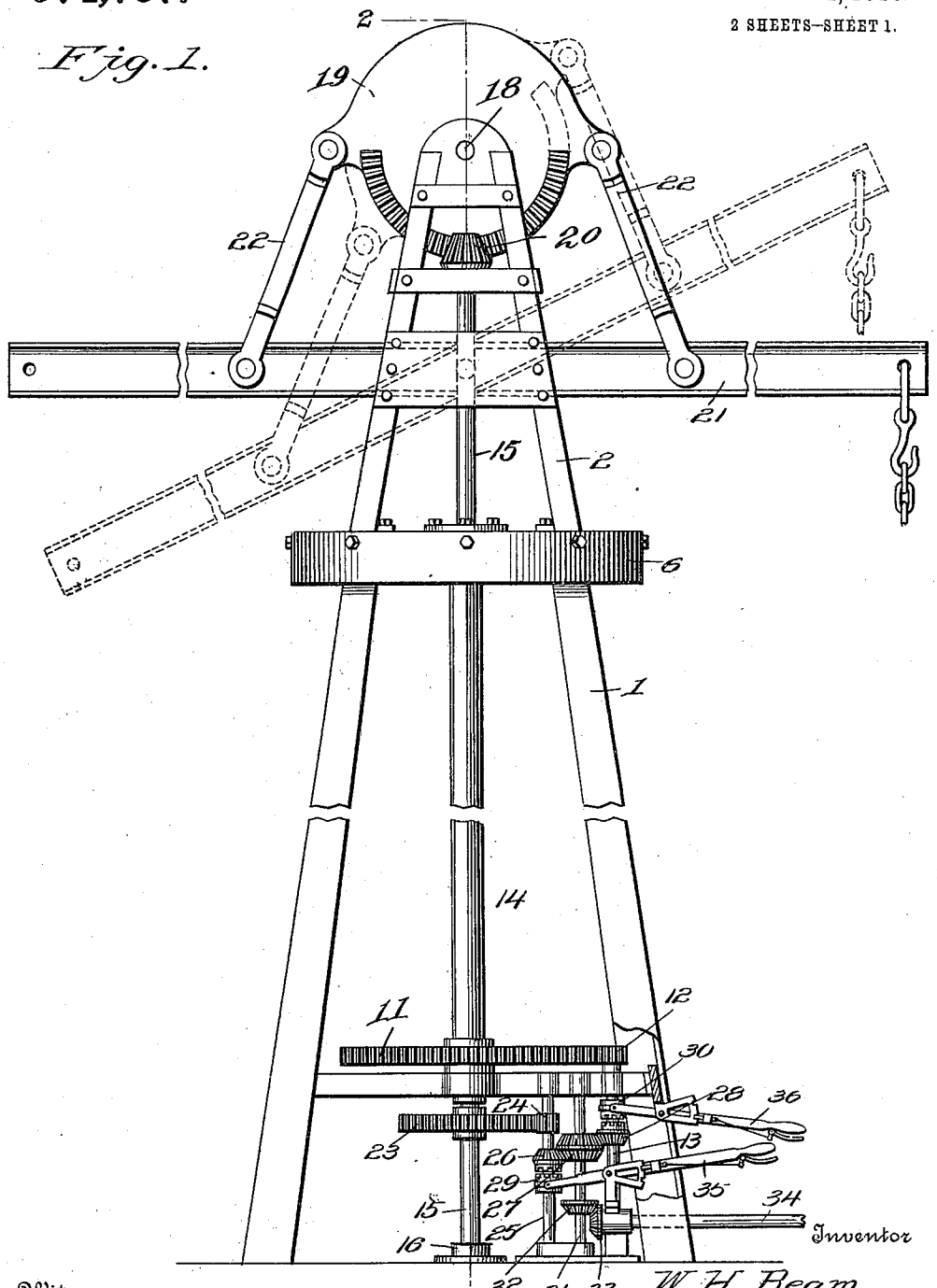
APPLICATION FILED FEB. 4, 1910.

974,737.

Patented Nov. 1, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

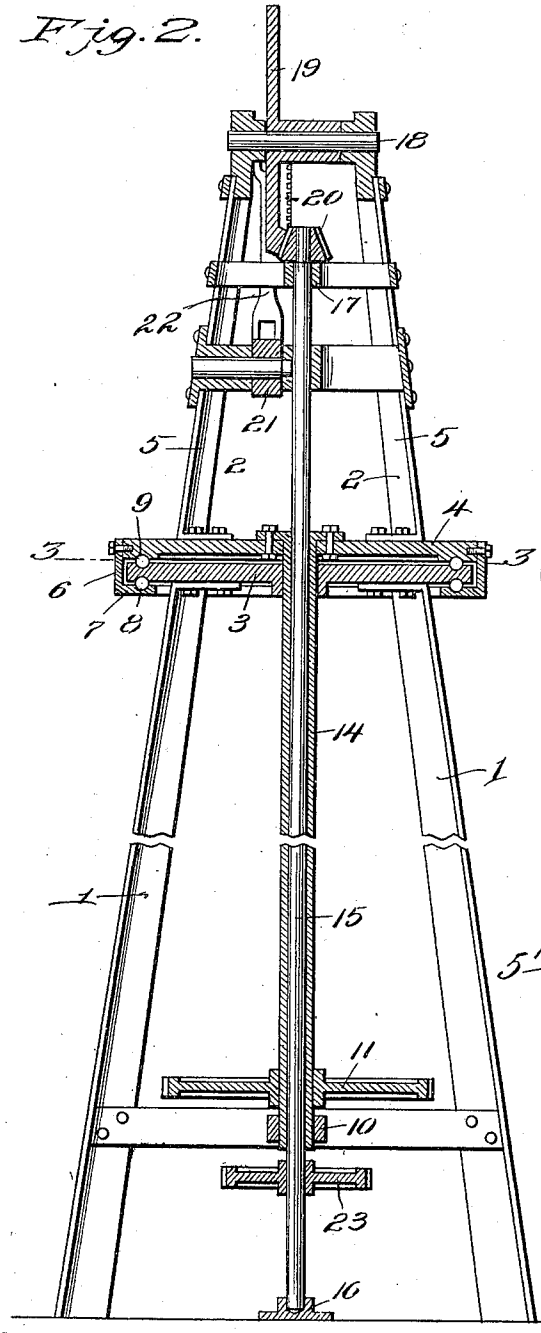


Fig. 3.

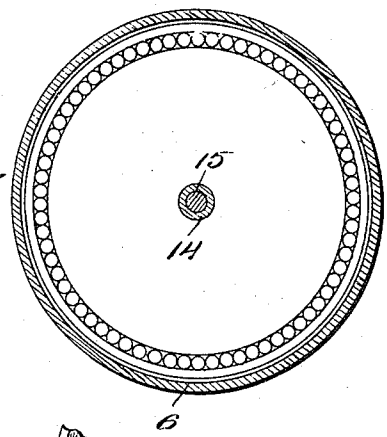
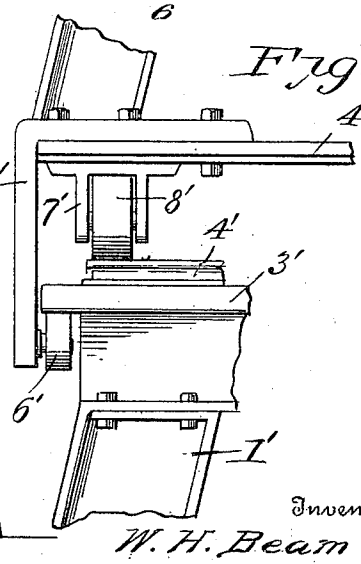


Fig. 4.



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HOISTING APPARATUS.

974,737. Specification of Letters Patent. Patented Nov. 1, 1910.

Application filed February 4, 1910. Serial No. 542,054.

To all whom it may concern:

Be it known that I, WILLIAM H. BEAM, a citizen of the United States of America, residing at Purcell, in the county of McClain and State of Oklahoma, have invented new and useful Improvements in Hoisting Apparatus, of which the following is a specification.

This invention relates to hoisting apparatus, and has for an object to provide a revolubly mounted lifting beam and to provide means whereby the beam can be adjusted angularly.

In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side elevation of my improved hoisting apparatus. Fig. 2 is a detail section taken on the line 2—2 of Fig. 1. Fig. 3 is a transverse section taken on the line 3—3 of Fig. 2. Fig. 4 is a detail elevation with parts broken away showing a slightly modified form of my invention.

My improved hoisting apparatus consists of a stationary frame 1 and a movable frame 2. The frame 1 supports a horizontally disposed disk 3 upon which is mounted to rotate a support or table 4 to which the members 5 of the movable frame 2 are mounted. The support 4 is of circular form preferably and depending from the peripheral edge thereof is a collar 6 upon which is formed a horizontal shoulder 7. Suitable friction bodies 8 are interposed between the shoulder 7 and the bottom face of disk 3 and as shown, similar bodies 9 are interposed between the bottom face of the support 4 and the upper face of the disk 3.

A hollow shaft 14 is secured at its upper end to the central portion of the table or support 4, the lower end of the said shaft being mounted in a bearing 10 upon the stationary frame 1. This shaft has secured thereto a gear wheel 11 whose teeth mesh with those of a pinion 12 upon a driven shaft 13. A shaft 15 extends through the hollow shaft 14, the lower end of the said shaft being mounted in a step bearing 16 and the upper end in a bearing 17 upon the movable frame 2. The movable frame supports a horizontal shaft 18 to which is secured a gear segment 19 whose teeth mesh with those of a bevel pinion 20 at the upper end of the shaft 15. Beneath the shaft 18 and supported by the movable frame is a pivoted lifting beam 21 which is connected with the segment by links 22.

The shaft 15 has secured thereto a gear wheel 23 which meshes with a pinion 24 upon a counter shaft 25. The counter shaft has loosely mounted thereon a pinion 26 which meshes with the lower beveled toothed surface of the wheel 27. The upper beveled toothed surface of this wheel meshes with a loose bevel pinion 28 upon the shaft 13. A sliding clutch member 29 is mounted on the shaft 25 and is adapted for engagement with the bevel pinion 26 to cause it to rotate with the shaft. A clutch member 30 is slidable on the shaft 13 and is adapted to be engaged with the bevel pinion 28 to cause it to rotate with the shaft 13. The wheel 27 is mounted upon a shaft 31 upon which is mounted a pinion 32 which is engaged positively with the pinion 33 upon the driving shaft 34. A suitable lever 35 is operatively connected with the sliding clutch collar 29 to move it on its supporting shaft. A similar operating lever 36 is operatively connected with the clutch collar 30 to move it on its shaft. When the clutch collar 30 is moved into locking engagement with the pinion 28 power will be applied to the hollow shaft 14 to cause the movable frame 2 to revolve on its fixed supporting frame. When the collar 30 is moved out of engagement with the pinion 28 and the collar 29 moved into locking engagement with the pinion 26 power will be applied to the shaft 13 and transmitted to the gear segment 19. When the shaft 15 is rotated as described the lifting beam 21 can be moved to the desired angular adjustment.

In the form of my invention shown in Fig. 4, the fixed frame 1′ is provided at its upper end with a disk 3′ upon which is mounted a track 4′. The edge of the disk 3′ extends beyond the outer portion of the frame 1′ at the upper end thereof for a purpose to be hereinafter described. The table or support 4^a is provided with depending brackets 5′ which support rollers 6′ adapted to travel upon the under surface of the extended portion of the disk 3′. The table or support is provided with brackets 7′ in which are journaled rollers 8′ which travel upon the track 4′. The construction of the brackets 5′ is such that they are substantially equivalent to the collar 6, the rollers

6′ serving to prevent accidental displacement of the table or support.

I claim:—

1. An apparatus of the class described comprising a stationary frame, a revolving table mounted on the frame, a shaft carried by the table, means for revolving the shaft, a frame supported by the table, an angularly adjustable beam supported by the second frame, a second shaft, and geared connections between the said adjustable beam and the said second named shaft.

2. An apparatus of the class described comprising a stationary frame, a revolubly mounted table on said frame, a shaft carried by the table, a frame mounted on the table, a second shaft, a pivoted lifting beam supported by the second named frame, operative connections between the beam and the said second named shaft for moving the beam, and means for independently revolving the said shafts.

3. An apparatus of the class described comprising a fixed frame, a revolving table on the frame, a hollow shaft carried by said table, a frame mounted upon the table, a revoluble gear segment mounted upon the table-carried frame, a pivoted lifting beam operatively connected with the said gear segment, a driving shaft extending through the hollow shaft and geared to the said gear segment, and means for independently revolving the first and second named shafts.

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

WILLIAM H. BEAM.

Witnesses:
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A. M. Welbron.