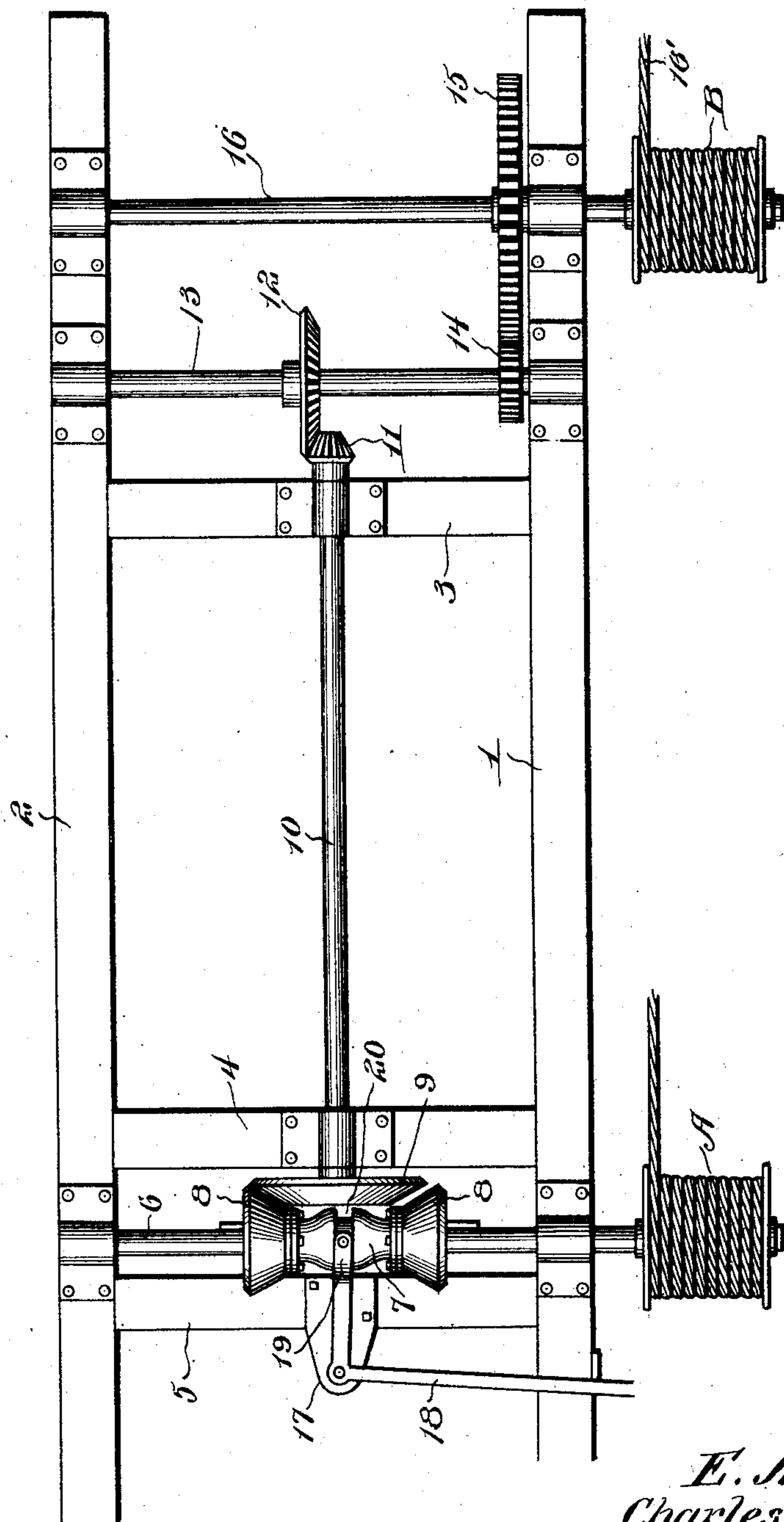


APPLICATION FILED SEPT. 20, 1904.

Patented Dec. 15, 1908.



Witnesses

Louis R. Heinrichs  
D. W. Gould.

Inventors

*E. A. Sohn*  
*Charles Gonder*

இது

Victor J. Evans

**Attorney**



# UNITED STATES PATENT OFFICE.

EDWARD A. SOHN AND CHARLES GONDER, OF BEDFORD, INDIANA, ASSIGNORS TO BEDFORD  
FOUNDRY & MACHINE COMPANY, OF BEDFORD, INDIANA.

## HOIST.

No. 906,951.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed September 20, 1904. Serial No. 225,250.

*To all whom it may concern:*

Be it known that we, EDWARD A. SOHN and CHARLES GONDER, citizens of the United States, residing at Bedford, in the county of Lawrence and State of Indiana, have invented new and useful Improvements in Hoists, of which the following is a specification.

The invention relates to an improvement in derricks, being more particularly directed to a means whereby the swinging boom of the derrick may be directly and appropriately controlled from the shaft carrying the hoisting rope drum. In derricks of this character it is usual to control the movement of the swinging boom through a cable mounted upon a drum, the latter being operated by hand or by a separate engine.

The object of the present invention is to avoid the necessity of independent power for swinging the derrick and to accomplish this result directly from the operating shaft which carries the drum for the hoisting cable, the means for accomplishing this result being so arranged that the operator may at will actuate the swinging boom cable in either direction or permit the same to remain stationary without in any way affecting the operation of the hoisting cable.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which the figure is a plan view of a device constructed in accordance with the invention, the hoisting cable and swinging cable drums being shown upon their respective shafts.

Referring particularly to the accompanying drawings it is to be primarily noted that the shaft 6 in the drawings is a continuation of that shaft of the derrick on which the drum A for the hoisting cable is fixed while the shaft 16 is a continuation of the shaft on which the drum B for the cable for swinging the derrick beam is mounted.

In the detailed structure of our improvement we provide a frame including side bars 1 and 2, which are connected intermediate their ends by cross bars 3 and 4, beyond the latter of which and adjacent thereto is secured another cross bar 5. The shaft 6, which as heretofore noted is a continuation of the hoisting drum shaft of the derrick, is journaled in bearings fixed upon the side bars 1 and 2 and preferably disposed be-

tween the cross bars 4 and 5. Splined upon the shaft 6, or that portion thereof included between the side bars 1 and 2, is a sleeve 7 provided at each end with a fixed beveled friction wheel 8, the mounting of the sleeve upon the shaft 6 permitting an independent longitudinal movement of the sleeve but insuring rotation thereof with the shaft. Arranged to be engaged by either of the friction wheels 8 at the will of the operator is a beveled friction wheel 9 fixed upon one end of a shaft 10 extending longitudinally of the frame and mounted in bearings secured upon the cross bars 3 and 4, the friction wheel 9 being so constructed and arranged as to permit it to be driven by either of the wheels 8, and being arranged between said wheels so that the wheels 8 will respectively engage diametrically opposing parts of the wheel 9 and are thereby adapted for driving said wheel 9 in either direction in accordance with the particular wheel 8 engaged. The end of the shaft opposite that carrying the friction wheel 9 is provided with a beveled gear 11 and arranged to mesh with a beveled gear 12 mounted upon an auxiliary shaft 13 arranged transverse the frame and supported in bearings fixed upon the side bars 1 and 2. A gear 14 is secured upon the shaft 13 adjacent one of the side bars, as 1, and said gear meshes with a gear 15 fixed upon the shaft 16, which latter shaft is, as previously stated, a continuation of the derrick shaft carrying the hoisting cable drum B, and is mounted in bearings fixed upon the side bars 1 and 2.

Secured upon the cross piece 5 adjacent the sleeve 7 is a bearing plate 17, on which is mounted a right angle lever 18, the shorter leg of which extends toward the sleeve 7 and is terminally bifurcated at 19 to fit in a circumferentially formed groove 20 arranged centrally of the sleeve, the longer leg of the lever extending beyond the main frame to a position convenient to the operator of the derrick. By this construction the hoisting drum shaft 6, which, of course, is driven during the hoisting operation, will rotate the friction wheels 8, and by the use of the lever 18 the operator may cause either of said wheels to frictionally engage and drive the friction wheel 9, thereby operating the swinging cable drum B in either direction desired. With the sleeve so disposed that neither wheel 8 engages the friction wheel



9 no movement will be imparted to the swinging boom of the derrick notwithstanding the continued operation of the hoisting drum.

5 From the above description it will be noted that the operator of the derrick proper may conveniently and instantly control the swinging of the boom as desired, and that  
10 by the use of the improvement described this control may be affected directly at the engine for controlling the hoisting drum shaft, thereby dispensing with additional power and labor for controlling the swing-  
15 ing boom and what is more important permitting a single operator to control both to avoid the probability of misunderstanding of the signals and possible accident.

Having thus described the invention what is claimed as new, is:—

20 The combination with the framework of a derrick including a hoisting rope drum shaft and a swinging rope drum shaft, of bearings carried by said frame, the hoisting rope drum shaft of the derrick extended

and supported in said bearings, other bear- 25 ings on said frame and spaced from said first mentioned bearings, the swinging rope drum shaft of the derrick extended and mounted in the latter bearings, a longitudinal shaft mounted for movement in the 30 framework, fixed gearing connecting the longitudinal shaft and the extension of the swinging rope drum shaft of the derrick, and manually controlled gearing between the longitudinal shaft and the extension of 35 the derrick hoisting rope drum shaft, whereby the hoisting rope drum shaft and swinging rope drum shaft of the derrick may be independently or simultaneously operated in the same or reverse directions. 40

In testimony whereof, we affix our signatures in presence of two witnesses.

EDWARD A. SOHN.  
CHARLES GONDER.

Witnesses:

P. B. MONICAL,  
W. R. MARTIN.