

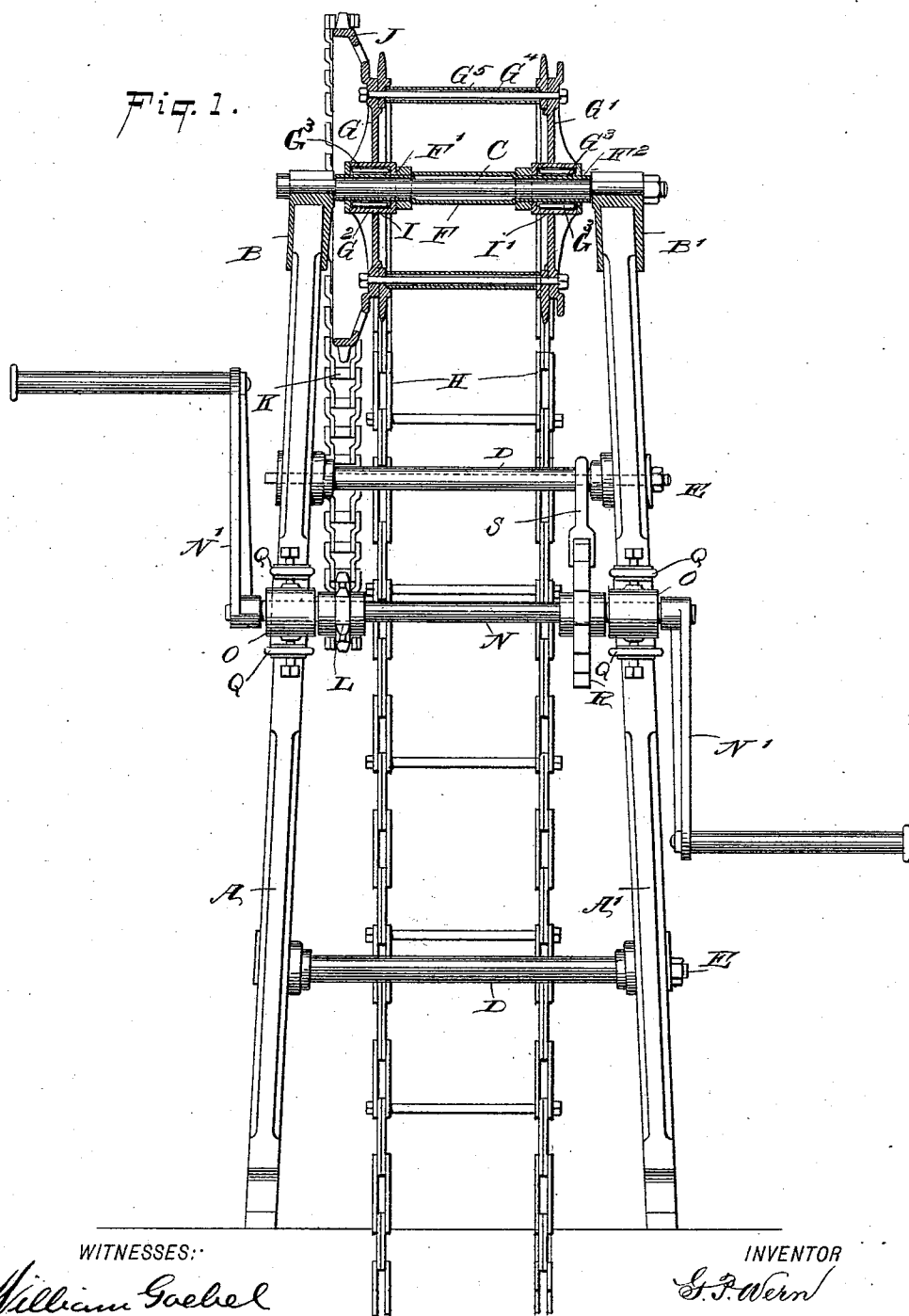
(No Model.)

2 Sheets—Sheet 1.

G. P. WERN.  
HOD HOISTING MACHINE.

No. 538,990.

Patented May 7, 1895.



WITNESSES:·

William Gaebel

Rev. G. Hoskins

INVENTOR

G. F. Wern

BY

BY *Munn & Co*  
ATTORNEYS.

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(No Model.)

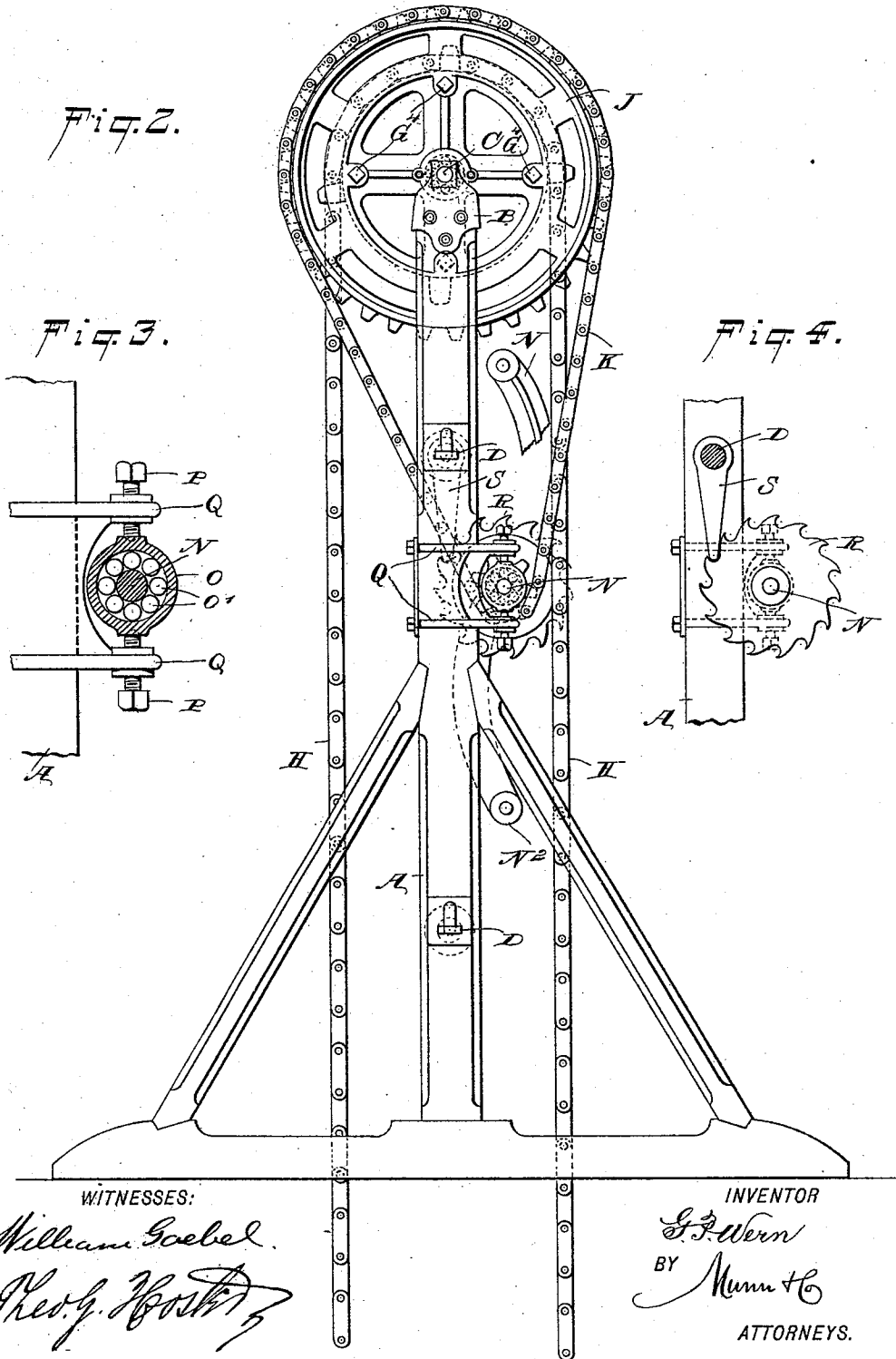
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Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GUSTAF PERSON WERN, OF BROOKLYN, NEW YORK.

## HOD-HOISTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,990, dated May 7, 1895.

Application filed June 25, 1894. Serial No. 515,637. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAF PERSON WERN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Hod-Hoisting Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved hod hoisting machine, which is comparatively simple and durable in construction, and arranged to effectively withstand the heavy and constant strain to which machines of this class are subjected, and to reduce the friction to a minimum so as to permit of operating the machine with great ease, preferably by hand power.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter fully described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is an end elevation of the improvement with parts in section. Fig. 2 is a side elevation of the same with parts broken out. Fig. 3 is an enlarged sectional side elevation of the main driving-shaft bearings, and Fig. 4 is a side elevation of the devices for preventing the return movement of the main driving-shaft.

The improved hod hoisting machine is provided with the two standards A and A', having suitable bases and braces, as plainly shown in Fig. 2, and inclined toward each other as illustrated in Fig. 1. The upper ends of the standards A and A' carry fixed sockets B and B' respectively, connected with each other by a stay shaft C, formed with proper shoulders at the inner faces of the sockets B and B'. The standards A and A' are also connected with each other by pipes D, having suitable flanges abutting on the inner faces of the standards, and through each pipe passes a bolt E, engaging the outer faces of the standards by their key heads and nuts, as plainly illustrated in the drawings.

On the stay shaft C previously mentioned is fitted a sleeve F, having the reduced ends F' and F<sup>2</sup>, on which are mounted to turn the

chain wheels G and G' respectively, over which pass the chains H of the elevator.

The spacing sleeve F limits the distance that the upper ends of the standards may be drawn toward each other by tightening the nut on the long stay bolt or shaft C. When the said nut is screwed up tight the upper ends of the standards will be firmly engaged with the ends of the sleeve F and hold it stationary. The shoulders formed by reducing the sleeve at its ends prevent the wheels from moving longitudinally on said sleeve and washers may be interposed between these shoulders and the inner ends of the wheel hubs if desired as shown in Fig. 1.

It will be seen that the stay bolt or shaft C and the sleeve F firmly stay and space the upper ends of the standards against movement toward and from each other and at the same time the sleeve F forms the axis of the wheels G G'.

The chain wheels G and G' are formed with hubs G<sup>2</sup>, recessed in such a manner as to receive friction rolls G<sup>3</sup>, mounted to roll on the reduced ends F' and F<sup>2</sup> of the sleeve F. The chain wheels G and G' are connected with each other by stay bolts G<sup>4</sup>, and the wheels are held separate by sleeves or pipes G<sup>5</sup> held on the said bolts between the inner faces of the wheels G and G'. The chain wheel G is in addition formed with a sprocket wheel J, over which passes the sprocket chain K, extending downwardly and passing over the sprocket wheel L, secured on the main driving shaft N, journaled in suitable bearings O supported from the standards A and A'.

Each bearing O is formed with a casing, see Fig. 3, containing a series of friction rolls O', engaging the peripheral bearing surface of the driving shaft N, as will be readily understood by reference to the said Fig. 3. The casing of each bearing O, is supported at top and bottom by bolts P, screwing in a bracket Q, fastened to the respective standard A or A'. By this arrangement the bearings can be readily adjusted vertically to bring the bearings in proper alignment, and to permit the shaft N to rotate without binding, so that the operators may be enabled to take hold of the crank arms N' on the shaft, to rotate the latter with great ease.

In order to prevent a return movement of the shaft N, I fasten on the latter a ratchet wheel R, having teeth with curved backs, as plainly illustrated in Fig. 4. This ratchet wheel R is engaged by a vertically disposed pawl S, hung on the piping D next above the shaft N, it being understood that the said pawl S engages at all times, by its own gravity, the corresponding tooth of the ratchet wheel R, thereby taking up all back strain in the direction of its length, so as to insure proper holding of the ratchet wheel and shaft N, by the strain applied in an upward direction on the standard A'.

By the construction described the entire machine is very strong and durable, and the individual parts are not liable to be thrown out of alignment, notwithstanding that the machine is subjected to very heavy strain in all directions.

It will also be seen that the friction is reduced to a minimum by the employment of the friction rolls in both the bearings O and the bearings for the chain wheels G and G'.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A hod hoisting machine, provided with standards inclined toward each other, a stay shaft or bolt for connecting the upper ends of the standards with each other, and provided with a nut for forcing the standards toward each other and said shaft or bolt being provided between the standards with means for spacing them apart substantially as shown and described.

2. A hod hoisting machine, comprising standards, a stay shaft connecting the upper ends of the standards with each other, a spacing sleeve held on the said stay shaft and formed with bearings, and chain wheels mounted to turn on the bearings of the said sleeve, substantially as shown and described.

3. A hod hoisting machine, comprising

standards, a stay shaft connecting the upper ends of the standards with each other, a spacing sleeve held on the said stay shaft and formed with bearings, chain wheels mounted to turn on the bearings of the said sleeve, and friction rolls between the wheel hubs and the bearings, substantially as shown and described.

4. A hod hoisting machine provided with a hoisting wheel consisting in two parallel chain wheels, and a driving sprocket wheel at the outer side of one of said chain wheels, bolts extending through all of said wheels and connecting them and tubes or spacing sleeves on the bolts between the inner faces of the chain wheels, substantially as described.

5. A frame for hoisting machines, comprising the standards A A' converging toward their upper ends, a series of stay bolts or shafts connecting the standards at their upper and lower portions and between their ends, and spacing shoulders on the two lower bolts between the standards and spacing them apart, the upper bolt being provided with a spacing sleeve having bearings for the hoisting wheel to turn on, substantially as described.

6. In a hod hoisting machine, the combination with the frame and the hoisting wheels, of a drive shaft geared to the said wheels, tubular bearings containing anti-friction rolls for the drive shaft, brackets having upper and lower horizontal arms between which said bearings are mounted and upper and lower vertically aligned set screws P extending inwardly toward each other through said bracket arms and at their inner ends engaging the upper and lower sides respectively of the said bearings, substantially as described.

GUSTAF PERSON WERN.

Witnesses:

THEO. G. HOSTER,  
C. SEDGWICK.