

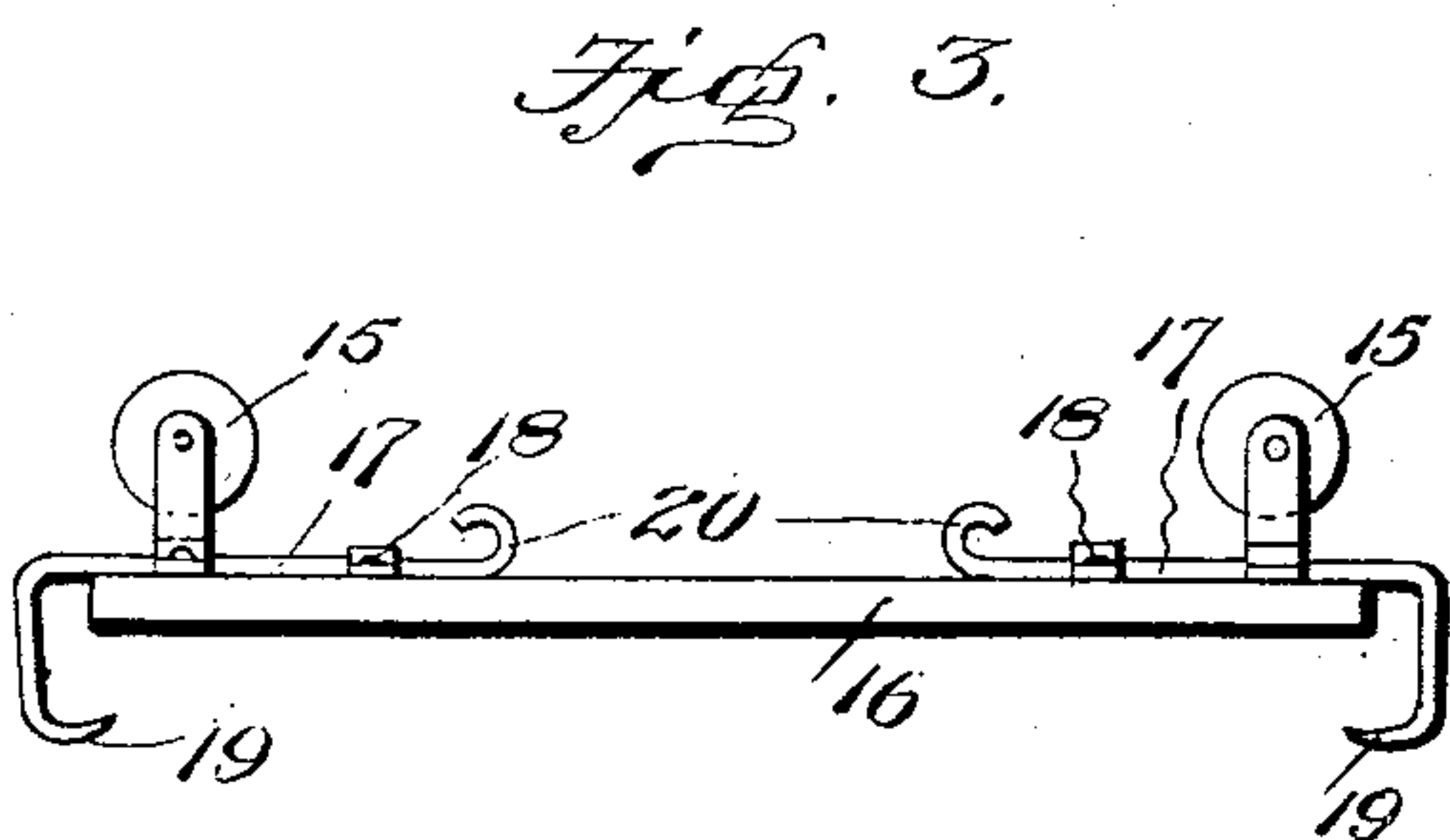
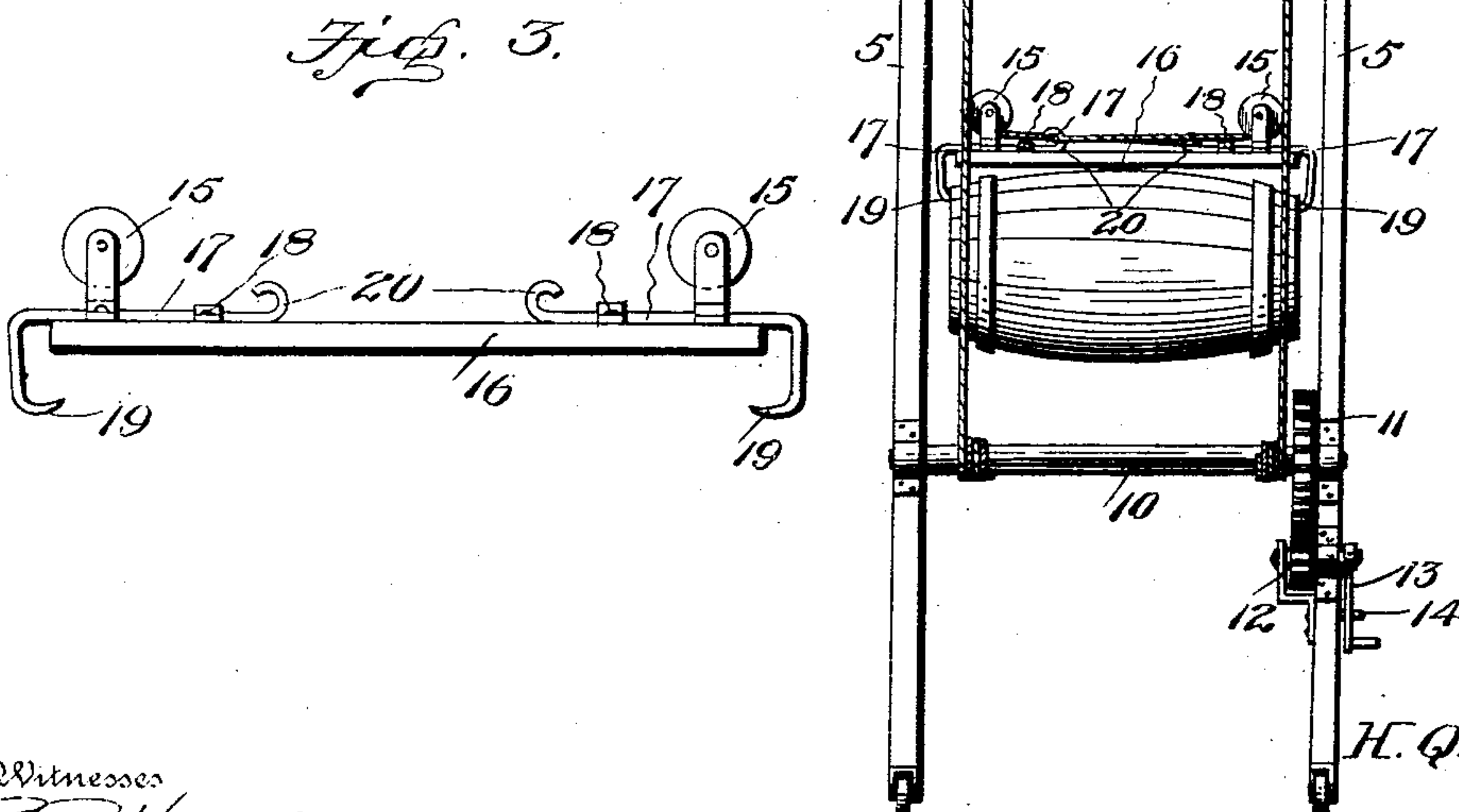
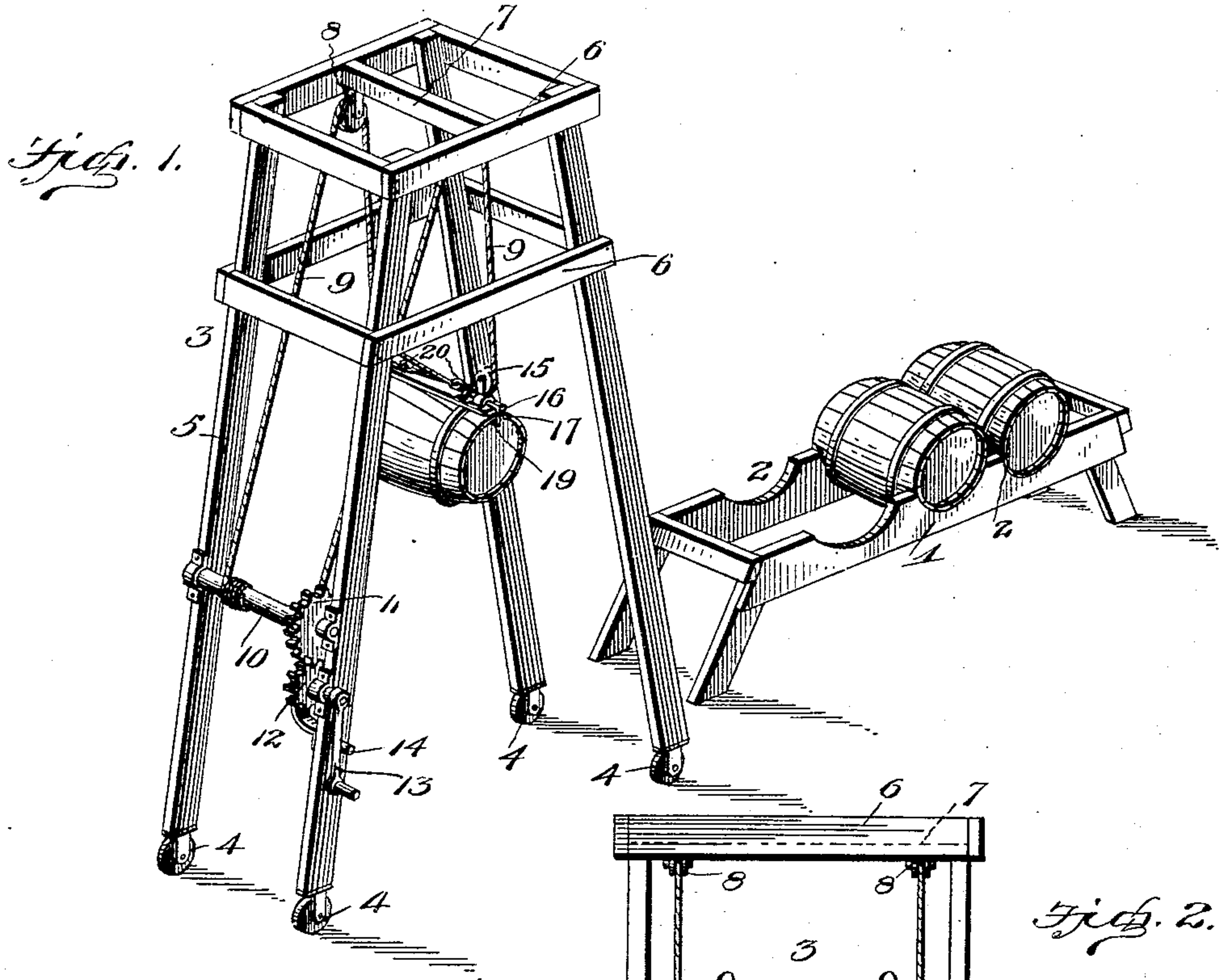
No. 685,764.

Patented Nov. 5, 1901.

H. Q. HOOD.  
HOISTING APPARATUS.

(Application filed Feb. 14, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 685,764, dated November 5, 1901.

Application filed February 14, 1901. Serial No. 47,257. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM Q. HOOD, a citizen of the United States, residing at Carthage, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Hoisting Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in hoisting apparatus, and particularly to hoisting means for raising and lowering barrels for piling the same in rows, raising and lowering them to and from a suitable rack or support, and for other analogous work.

The object of the invention is to provide a simple, durable, and efficient device of this character which may be easily and conveniently operated and produced at small cost.

With this and other minor objects in view, which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a hoisting apparatus embodying my invention. Fig. 2 is an end elevation of the same. Fig. 3 is an enlarged detail view of the clutch or gripping bar.

Referring now more particularly to the drawings, the numeral 1 represents a barrel rack or support having one or more seats 2 for the reception of a barrel or barrels, and 3 represents a derrick-frame mounted on suitable rollers or travelers 4, so as to be conveniently moved toward and from the rack and pushed or drawn from place to place for transporting the barrels.

The derrick-frame 3 is composed of pairs of side legs or supports 5, connected at their upper ends and a short distance below the same by suitable braces 6 and spaced apart so as to straddle the barrel-rack 1, so that it may be conveniently moved thereover to deposit a barrel thereon or remove it therefrom.

In the upper portion of the derrick-frame is mounted a transverse shaft or cross-bar 7, carrying a pair of sheaves or pulleys 8, over

which are passed two draft ropes or cables 9, which are secured at one end to a drum-shaft 10, mounted in bearings upon the outer end of the frame and carrying a gear-wheel 11, with which meshes a pinion 12, having suitable connections with a crank-handle 13, by means of which said drum-shaft is operated. Instead of attaching the ropes or cables 9 directly to the shaft I may attach said cables to a drum or cylinder fixed to the said shaft, as in the ordinary construction of winding-drums. The crank 13 is adapted to be held fixed to prevent retrograde motion of the shaft 10 when the cables 9 are elevated in hoisting a barrel or other analogous receptacle by a stop-plug 14, which is adapted to be fitted in an opening in one of the supporting-legs of the derrick-frame to hold the crank against backward rotation.

The free ends of the draft ropes or cables 9 are passed around sheaves or pulleys 15, arranged at or near the opposite end of a clutch or grip bar 16, and are connected to sliding grippers 17, mounted loosely in guides 18, applied to said bar, so that the free ends thereof are adapted to move toward and from the ends of the bar. These free ends of the sliding grippers preferably have the form of hooks 19, which are adapted to engage the chimes at the ends of a barrel or other similar receptacle to be handled. The inner ends of the gripper are also formed with hooks 20, to which the ends of the draft ropes or cables 9 are connected. To provide for the automatic operation of the gripping devices to adapt the hooks 19 to engage and securely grip the chimes of the barrel, the free ends of the draft ropes or cables are arranged to pass through and are connected reversely to the gripping devices, the cable passed around the pulley at one end of the clutch-bar being extended so as to engage the inner hooked end 20 of the gripper 17 at the opposite end of the bar, and vice versa, the construction and arrangement being such that as the draft ropes or cables are drawn upon by the action of the drum-shaft 10 the tension or pull thereof, as well as the resistance to the upward movement of the clutch-bar 16 opposed by the weight of the barrel or other body engaged thereby, will cause the gripper 17 to be drawn inwardly, so that the hooked free



ends 19 thereof will be held in close engagement with the chimes of the ends of the barrel or other receptacle in a manner readily understood.

5 When it is desired to convey a barrel from any determined point to the rack 1, the derrick-frame or carriage 4 is moved over the said barrel and the draft ropes or cables lowered until the clutch-bar 16 rests upon the  
10 upper side of the barrel. The hooked ends 19 of the grippers are then adjusted to engage the chimes of the barrel and the crank-handle 13 operated to wind up the cables 9 and to thereby hoist the barrel to the desired  
15 height. The action of the cables 9 when thus being drawn upon, as well as the resistance to the upward movement of the clutch-bar 16 opposed by the barrel, causes the grippers 17 to be drawn inwardly by said cables, whereby  
20 the hooked free ends 19 are moved into close engagement with the barrel-chimes and are retained firmly in such engagement until the barrel is lowered so as to rest upon its support. When the barrel has been hoisted to  
25 the desired height, the stop-plug 14 is inserted within the opening provided therefor to hold the crank 13 against backward rotation, and the derrick-frame is then moved to and over the rack 1 until the barrel is held suspended  
30 over the seat 2 designed for its reception. The derrick-frame will then straddle the rack, and the barrel may be lowered and deposited into said seat by simply withdrawing the stop-plug 14 and rotating the crank 13 backward,  
35 whereupon the draft ropes or cables 9 are unwound and the barrel allowed to descend into its seat. Upon the seating of the barrel the grippers 17 are automatically loosened or withdrawn from engagement with the chimes  
40 of the barrel and may be conveniently released by simply lifting one end of the barrel or the other, as will be readily understood. In the same manner a barrel may be removed from the rack and transported to a suitable  
45 point of deposit. The derrick may also be

used for piling barrels or other similar receptacles in tiers or rows one upon the other and for general hoisting purposes.

From the foregoing description, taken in connection with the accompanying drawings, 50 the construction, mode of operation, and advantages of my improved hoisting apparatus will be readily understood without requiring a more extended explanation, and it will be seen that it provides a simple, durable, and 55 effective device for the purpose for which it is designed.

Various changes in the form, proportion, and minor details of construction may be made within the scope of the invention without de- 60 parting from the spirit or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 65

1. In a hoisting apparatus of the character described, the combination, with a rack or support provided with one or more seats, of a movable derrick-frame adapted to straddle the rack, and hoisting mechanism carried by 70 said derrick-frame, substantially as set forth.

2. In a hoisting apparatus of the character described, the combination of a derrick-frame, draft-cables, operating means therefor, a clutch-bar provided with pulleys around 75 which the cables pass, and grippers mounted upon said bar and connected with the cables, said grippers being provided with means for engaging the chimes of the ends of the barrel or like receptacle and adapted to be auto- 80 matically engaged therewith by the movement of said hoisting device, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit- 85 nesses.

HIRAM Q. HOOD.

Witnesses:

J. F. BARKER,  
MYRTLE L. DOME.