

June 17, 1924.

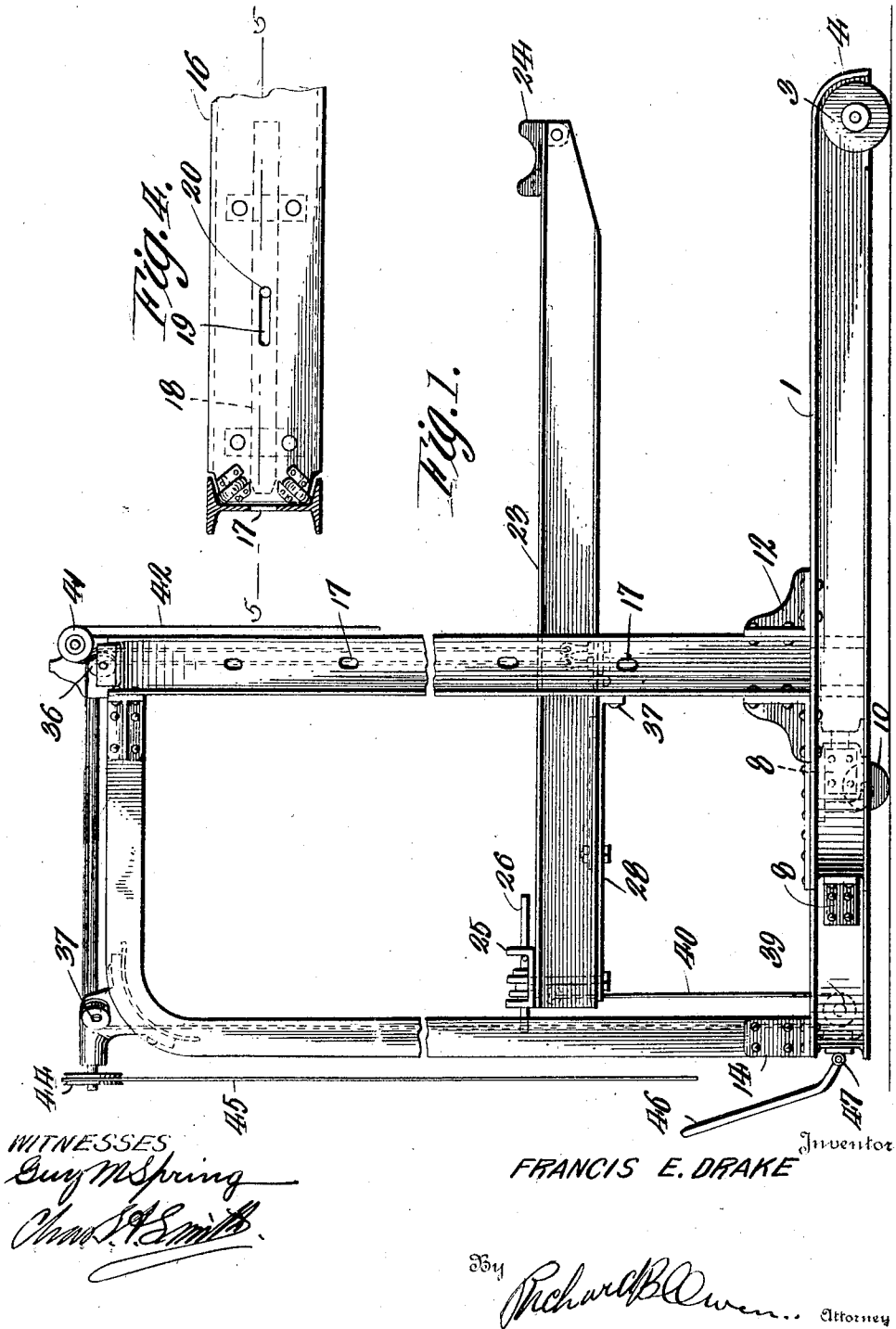
1,498,020

F. E. DRAKE

HOIST

Filed Oct. 25, 1922

3 Sheets-Sheet 1



June 17, 1924.

1,498,020

F. E. DRAKE

HOIST.

Filed Oct. 25, 1922

3 Sheets-Sheet 2

By Richard B. Owen.. Attorney

June 17, 1924.

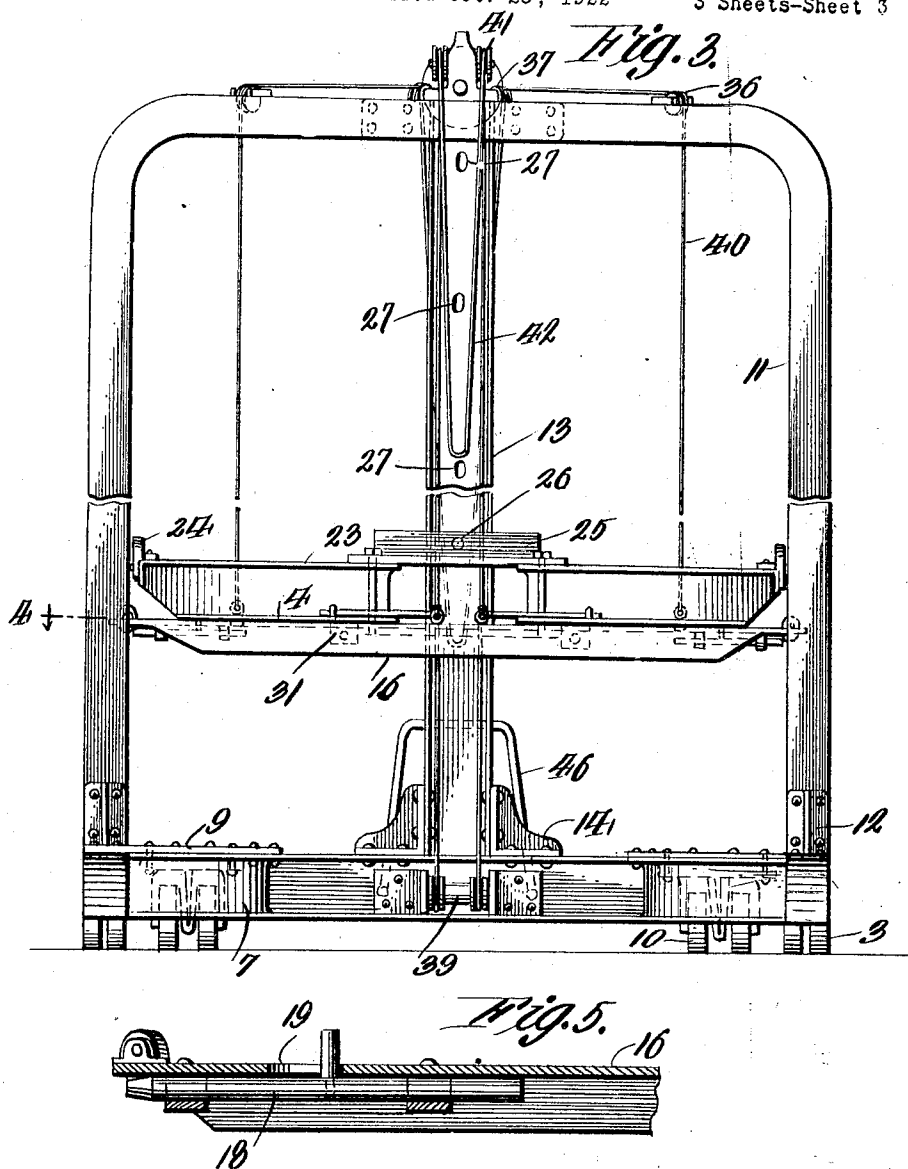
F. E. DRAKE

1,498,020

HOIST

Filed Oct. 25, 1922

3 Sheets-Sheet 3



WITNESSES

Guy McSpring
Char. McSpring

FRANCIS E. DRAKE ^{Inventor}

By Richard B. Owen ^{Attorney}

Patented June 17, 1924.

1,498,020

UNITED STATES PATENT OFFICE.

FRANCIS E. DRAKE, OF DAVENPORT, IOWA.

HOIST.

Application filed October 25, 1922. Serial No. 596,812.

To all whom it may concern:

Be it known that I, FRANCIS E. DRAKE, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Hoists, of which the following is a specification.

The present invention relates to a hoist having for its principal object to improve upon the structure disclosed in Letters Patents No. 1,413,526 issued to me April 18, 1922 and No. 1,426,264 issued to me August 15, 1922.

Another important object of the invention is to generally improve upon hoisting devices of this nature by providing a simple and efficient structure which is reliable in operation and may be manufactured at a comparatively low cost, and be reliable in operation.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing:—

Figure 1 is a side elevation of the apparatus embodying my improved hoist,

Figure 2 is a top plan thereof,

Figure 3 is a front elevation thereof,

Figure 4 is a detail view taken substantially on the line 4—4 of Fig. 3 looking in the direction of the arrow,

Figure 5 is a section through the lifting bar taken substantially on the line 5—5 of Fig. 4,

Figure 6 is a detail view showing the construction of the double pulley mounted in the base of the apparatus, over which pass the equalizing cables, and

Figure 7 is a detail fragmentary view of plate 28.

Referring to the drawing in detail it will be seen that the base of the apparatus includes a pair of parallel spaced beams 1 terminating in right angular extensions 2 so as to be substantially L-shaped. These two beams 1 are of I construction, and the top portion thereof is continued over the end of the bottom portion which terminates a slight distance from the end as is illus-

trated to advantage in Fig. 1, whereby the rollers or wheels 3 may be journaled to the ends of the beams 1 and the portion 4 of the top portions of the beams 1 act as guards for the wheels 3 should the front end of the base come into contact with any obstacles. A U-shaped beam 6 is provided at its ends with right angular extensions 7 which are fixed to the intermediate portion of the beams 1 adjacent the curved extensions 2, and the curved extensions 2 are fixed to the legs of the U-shaped beam 6. The angle brackets 8 are used for this purpose. The plates 9 are mounted on the extensions 2 and 7 covering the space therebetween and suitable castors 10 are supported by these plates.

The upright frame of the apparatus is of an inverted U-shaped structure. This frame 11 is of I-beam structure and its ends are mounted on the beams 1 adjacent the extensions 7 of the U-shaped beam 6 and the frame is securely held in place by the angle brackets 12. A second upright 13 being of an inverted L-shaped structure has its lower end fixed to the intermediate portion of the U-shaped beam 6 by the angle brackets 14 and its other end is fixed to the intermediate portion of the frame 11 by the angle brackets 15. A lifting bar 16 is constructed so that its ends project in the inner channels of the upright frame 11 and is movable vertically in this frame. The legs of the frame 11 are provided with apertures 17 for receiving bolts 18 slidably mounted on the under surface and ends of the lifting bar 16. Slots 19 are provided in the lifting bar 16 so that the pins 20 on the bolts 18 may project therethrough and the bolts operated easily so as to engage the apertures 17. These bolts are used for locking the lifting bar 16 in any desired vertical adjusted position.

A pair of lifting arms 23 rest at their intermediate portions on the lifting bars 16 and are provided at their forward ends with suitable object engaging members 24, the present members 24 being designed for engaging an axle of an automobile or the like. The rear ends are pivotally engaged with a plate 25 having a bolt 26 slidably mounted therein for engagement with a plurality of apertures provided in the upright portion of the member 13, said apertures being seen at 27 in Fig. 3. A plate 28 is provided at its rear end with diverging arms 29 upon which the rear ends of the

lifting arms 23 are fulcrumed. A pair of diverging arms 30 are provided on the forward end of the plate 28 and are fixed as at 31 to the lifting bar 16. A pair of links 32 are pivoted together by a pin 33 that extends through a longitudinally extending slot 35 in the plate 28 and the other ends of these link are pivoted to the intermediate portions of the arms 23. This structure is illustrated to advantage in Letters Patent No. 1,426,264.

An equalizing mechanism is now provided for holding the lifting bar 16 in any vertical adjusted position. A pair of pulleys 36 are mounted on the frame 11 at its intermediate portion being spaced from each other and situated adjacent the ends of the intermediate portion as is illustrated to advantage in Fig. 2. A pair of pulleys 37 are situated on the bracket 38 forming part of a commercial screw geared chain block. A double pulley 39 is situated at the central part of the beam 6. A pair of cables 40 are trained over these pulleys 36, 37 and 39 having their ends fixed respectively to the plate 25 and the lifting bar 16. A screw geared chain block 41 is suitably mounted on the central portion of the intermediate portion of the frame 11, and a cable 42 passes thereover being attached to the lifting bar 16 whereby it may be adjusted vertically as desired. I provide a commercial screw geared chain block, such as now

commonly in use, and this is operated by the pulley 44 over which passes the operating cable 45.

A handle 46 is pivoted at 47 to the intermediate portion of the beam 6 so that the hoist may be moved from place to place as may be desired.

Having thus described my invention what I claim is:—

1. A hoist comprising a frame provided with channels, a lifting bar movable in the frame and having its ends disposed in the channels thereof, lifting arms resting on the lifting bar and horizontally adjustable, means for moving the lifting bar for adjusting the lifting arms vertically, and means for locking the ends of the lifting bar in the channels of the frame.

2. A hoist comprising a frame, a lifting bar movable vertically in the frame, lifting arms resting on the lifting bar and horizontally adjustable, said frame provided with channels for receiving the ends of said lifting bar, rollers on the ends of said lifting bar in said channels, and means for locking the ends of the lifting bar in the channel of the frame.

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

FRANCIS E. DRAKE.

Witnesses:

H. JOHANSEN,
GEORGE D. WEBER.