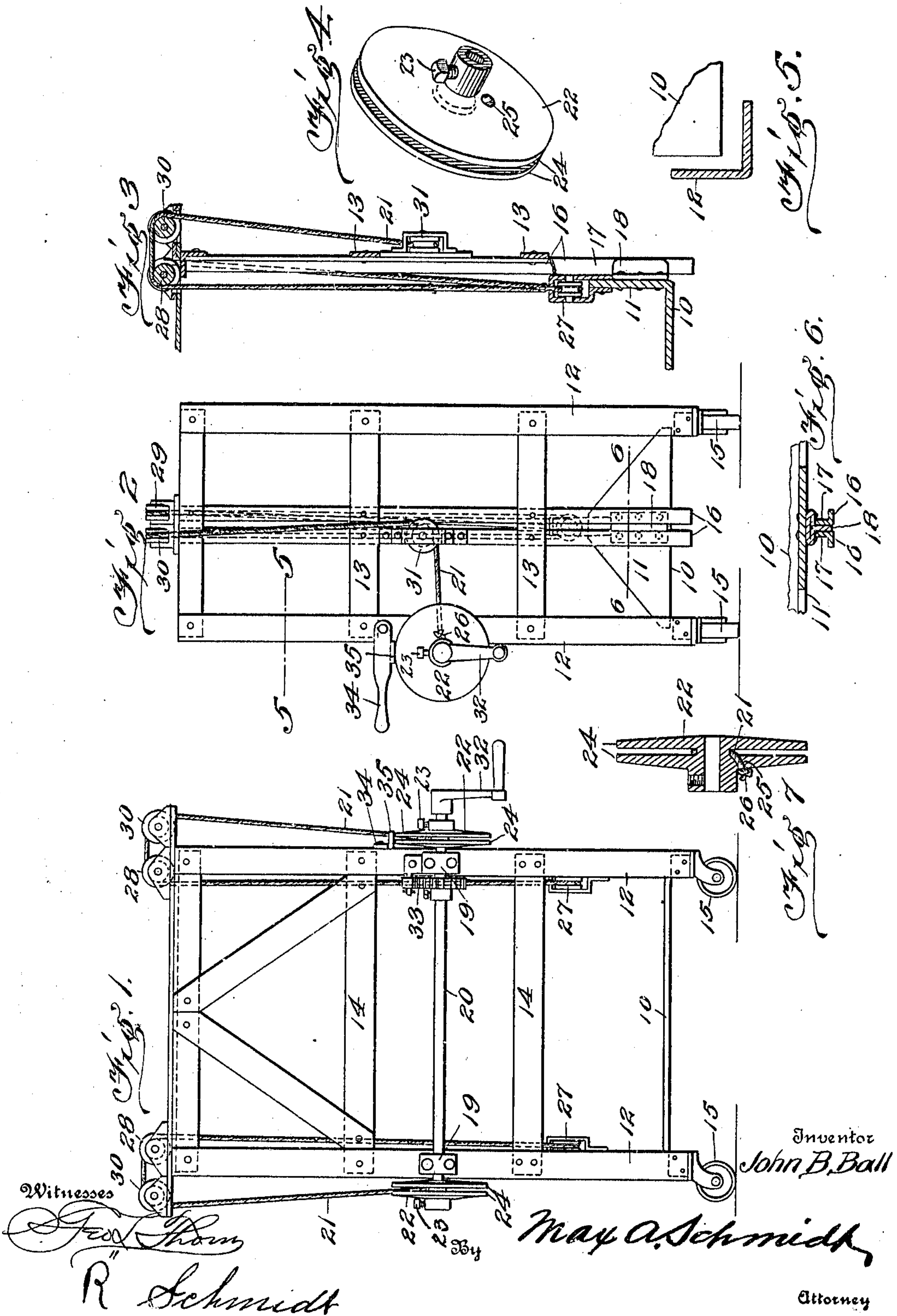


J. B. BALL.
 PORTABLE ELEVATOR.
 APPLICATION FILED MAR. 23, 1909.

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JOHN B. BALL, OF LOUISVILLE, KENTUCKY.

PORTABLE ELEVATOR.

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Specification of Letters Patent. Patented Apr. 26, 1910.

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To all whom it may concern:

Be it known that I, JOHN B. BALL, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Portable Elevators, of which the following is a specification.

The elevator which is the subject of the present invention is designed primarily for use in bonded warehouses to raise whisky barrels so that they can be rolled onto the racks. It is, however, not limited to such use, and may be employed wherever bulky and heavy articles are to be lifted or taken down.

The object of the invention is to provide a portable elevator which is simple in structure, strong and light, and also one which can be readily moved about from one part of the warehouse to another, and which can be easily operated to lift the load.

The invention also has for its object to provide an improved frame structure, having novel means for guiding the platform, together with a novel form of hoisting drum for raising and lowering the platform.

With the foregoing objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawing hereto annexed, in which drawing, Figure 1 is a side elevation of the elevator. Fig. 2 is an end view. Fig. 3 is a sectional detail of one of the ends of the frame. Fig. 4 is a perspective view of one of the drums. Fig. 5 is a section on the line 5—5 of Fig. 2. Fig. 6 is a section on the line 6—6 of Fig. 2. Fig. 7 is a vertical sectional view of one of the drums.

Referring more particularly to the drawing, 10 denotes the movable platform of the elevator. The ends of the platform are bent upwardly as indicated at 11, and serve as means for attaching the hoisting devices to be hereinafter described.

The frame of the elevator comprises upright corner posts 12 which are connected by end cross bars 13, and side cross bars 14. An open frame is thus had which gives free access to the platform on either side thereof, and enables the barrel to be rolled on and off the same.

For the purpose of enabling the elevator to be readily moved from one position in the warehouse, to another, the corner posts 12 are mounted on rollers 15.

To the cross bars 13 at each end of the frame, is secured a pair of upright angle bars 16, each having one of its flanges 17 inwardly presented and spaced apart so as to form a slot, in which slot works a fin 18 secured to the outer face of the upstanding end portion 11 of the platform, whereby the latter is guided in its movement up and down in the frame. The fins are plates which are riveted or otherwise secured to end portions 11, and have outwardly bent flanges entering the slots.

On the posts 12, at one side of the frame, are mounted bearings 19 in which a horizontally disposed shaft 20 is supported. On this shaft are mounted, so as to rotate therewith, drums, on each of which a hoisting line 21 is wound, which may be a rope or cable.

The drums are indicated at 22, and they are secured to the shaft 20 by set screws, or other suitable fastening means 23. Each drum is formed with spaced circular flanges 24, between which flanges the hoisting line 21 is received. The flanges are spaced apart such a distance that the line will be wound on the drum in a single layer, and it is fastened to the drum by passing its end through a transverse opening 25 in one of the flanges, and tying a knot 26 in said end on the outside of the flange.

By the herein described drum structure simple and efficient means are provided for fastening the hoisting line to the drum, and the line is wound on the drum evenly, so that it pays out regularly, and both ends of the platform will be raised and lowered uniformly.

Each hoisting line 21 is connected to the platform by means of a pulley 27 secured to the upstanding end portions 11 thereof. At the top of the frame are mounted laterally spaced pulleys 28 and 29, respectively, and in front of the pulley 28 is mounted a pulley 30. On the outside of one of the bars 16 is mounted a pulley 31, this pulley being in line with the drum.

The hoisting line is fastened to the drum as already described, and passes from the same over the pulley 31, thence over the pulleys 30 and 28, then downwardly to the pulley 27, and around the latter, and back to the pulley 29. From the last-mentioned pulley the line is again passed down to, and made fast to the frame of the pulley 27. Through the herein described arrangement

of pulleys the platform is raised and lowered when the line is wound on, or paid off the drum, and the arrangement enables the platform to be raised or lowered with ease.

5 The shaft 20 is provided with a crank handle 32 for rotating the same. A pawl-and-ratchet mechanism 33 is also provided for preventing the drums from slipping back.

10 In order to check the descent of the platform, there is provided a brake, comprising a lever 34 which is pivoted to one of the corner posts 12, and carries a laterally projecting flange 35 acting as a brake shoe, said flange being located so as to engage the
15 peripheries of the flanges 24 of one of the drums. The shoe engages both flanges, in view of which there will be sufficient friction surface to work against. The diameters of the flanges is sufficient to accommodate the
20 line 21 without the latter interfering with the action of the brake shoe.

The corner posts are angular in cross section, which, in connection with the cross strips forms a strong, rigid, and light frame.

25 I claim:

1. In a portable elevator, an open frame consisting of upright corner posts, side and end cross strips connecting said posts, and

upright angle bars secured to the end cross strips, one of the flanges of each of said
30 bars being inwardly presented, and said flanges being spaced from each other to form guide slots, a platform movable up and down in the frame, fins projecting from the
35 ends of the platform, and extending into the aforesaid slots, and means for elevating and lowering the platform.

2. In a portable elevator, an open frame consisting of upright corner posts, side and
40 end cross strips connecting said posts, and upright angle bars secured to the end cross strips, one of the flanges of each of said bars being inwardly presented, and said
45 flanges being spaced from each other to form guide slots, a platform movable up and down in the frame, and having upstanding end portions, fins projecting from said end
50 portions, and extending into the slots, and means for elevating and lowering the platform.

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

JOHN B. BALL.

Witnesses:

FRANK BALLARD,

JOSEPHINE QUINLAN.