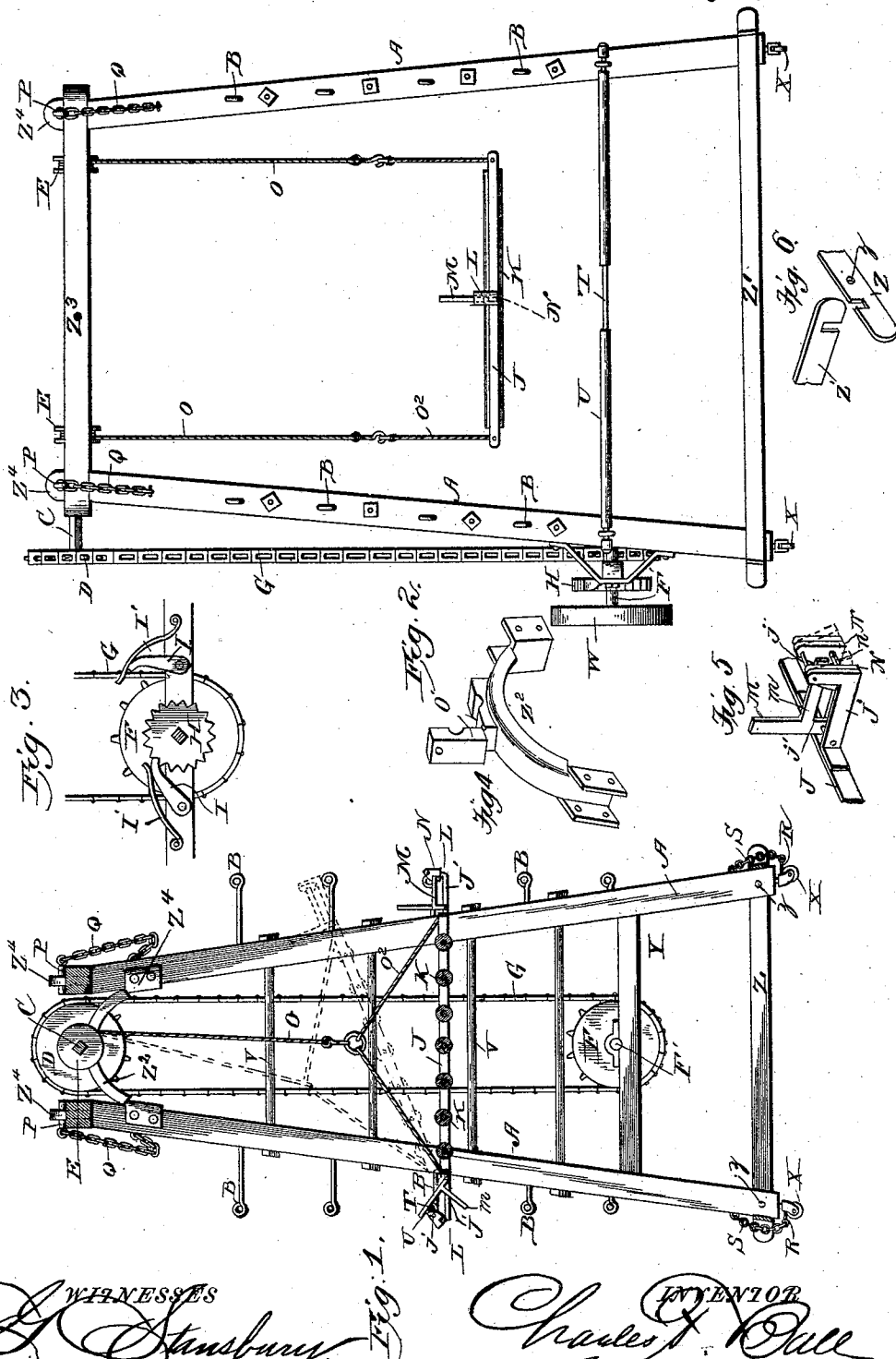


(No Model.)

C. F. BALL.
HOISTING PLATFORM.

No. 478,078.

Patented July 5, 1892.



WITNESSES
L. Stansbury
E. B. Anderson

INVENTOR
Charles F. Ball
by *Draide* Attorneys

UNITED STATES PATENT OFFICE.

CHARLES F. BALL, OF MEMPHIS, TENNESSEE.

HOISTING-PLATFORM.

SPECIFICATION forming part of Letters Patent No. 478,078, dated July 5, 1892.

Application filed February 11, 1892. Serial No. 421,157. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. BALL, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Hoisting-Platforms; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a new and useful improvement in hoisting-platforms; and it consists, generally stated, in constructing a knockdown frame, in which is detachably swung a hoisting-platform, and providing means whereby the same may be tilted at any predetermined level.

Another feature of the invention resides in providing means for actuating the platform independent of the tilting mechanism.

These objects I obtain by the construction illustrated in the accompanying drawings, forming a part of this specification, wherein like letters of reference refer to like parts wherever they occur, and in which—

Figure 1 is a central vertical section. Fig. 2 is a front elevation of the same. Fig. 3 is a detail view of the ratchet-and-pawl mechanism. Fig. 4 is a perspective view of the upper brace and journal-box thereon. Fig. 5 is a detached perspective view of the releasing mechanism for the pivoted ledge, and Fig. 6 is a detached perspective view of the mortised ends of the lower braces.

In the drawings, A represents two pairs of uprights rigidly secured together by braces Z and Z² at their lower ends and upper ends, respectively, said pairs of uprights A being secured, when assembled, by removable braces Z' and Z³, the former of which is provided with mortises at its extremes adapted to engage similar mortises in the ends of the braces Z, while the brace Z³ is provided with a mortise adapted to fit over a stud or tenon Z⁴ on the upper ends of the uprights A and be retained in position by a pin P, passing through an opening in the tenon above the brace Z³. This pin P is secured to the upright A by a

chain Q to prevent misplacement of the same.

The brace Z², connecting the upper ends of the uprights A, is preferably constructed of a single piece of metal curved or flanged as shown, said brace supporting a journal-box O', which has its upper portion hinged thereon to permit the ready insertion and removal of the drum-shaft C, hereinafter described. Intermediate the upper and lower braces of the uprights are stay-bolts V, the object of which is to retain the rigid relation of the two pairs of uprights A. Extending from the uprights A is a series of ring-bolts B, the rings of which are in vertical alignment and in horizontal alignment with its correlative ring.

T indicates a tripping-rod adapted to be inserted in the rings of the bolts B, and has mounted thereon sleeves or rollers U to reduce the friction and facilitate the discharge of the article when the platform is tilted.

C indicates a drum-shaft mounted in the journal-boxes O', portions of which are angular in cross-section, upon which angular portions are mounted the drums E and the drive-sprocket D.

Secured upon the drums E is a cord or chain O, to the lower end of which is secured a hook engaging a ring, which is the apex of two branch cords secured to the platform J in any suitable manner, thus rendering the platform detachable. The platform J is composed of a skeleton frame, within which are mounted rollers K, forming the floor of the same, the object of such rollers being to reduce the friction and accelerate the discharge of the article from the platform. The drums E, which actuate the platform, are actuated by a sprocket D, over which passes a drive-chain G, said chain being driven by a sprocket F, mounted on a stub-shaft F' on the brace Y, connecting the lower ends of the uprights A. The sprocket F is preferably actuated by a belt driven from any suitable power passing over a pulley W; but it is obvious that, if desirable, a crank may be substituted and the device operated manually.

H indicates a ratchet-wheel mounted on the shaft F', and has engaging therewith two pawls I, which are normally held in engagement with the wheel by springs J. These pawls may be turned back out of engagement with the wheel, when desired, by simply en-

gaging the nose of the pawls under the curvature of the springs J, as shown at the right of Fig. 3, thus permitting the rotation of the wheel in either direction.

- 5 Extending from the frame of the platform J are angle-bars J', the outer upper edges of which are connected by a pin or rod j and the inner edges by a pin or rod j'. Mounted upon the rod j are swinging tabs N, having their
10 lower edges connected by a cross-piece n. The inner surfaces of these tabs N are curved to present a cam-surface to the tripping-rod T and throughout the cross-piece n to disengage the horizontal portion m of the pivoted
15 ledge M and permit the same to fall over, what would otherwise be an obstruction, the vertical outer ends of the angle-bars J'. The vertical portion of the ledges act as retaining-ledges when the platform receives its load, they being held rigidly upright by the en-
20 gagement of the portion M with the cross-piece n on the tabs N.

X indicates rollers on the lower ends of the uprights, which may be chocked by the insertion of a pin R, suspended from a chain S, secured to the uprights, thus preventing the movement of the device when placed.

- The operation is as follows: The pairs of uprights are placed in position and connected
30 to the braces Z' and Z³, the shaft C mounted in the boxes O', and chain G passed over wheel D. The platform is then secured to the hooks on the lower ends of the cords O, and suitable power being supplied to the pul-
35 ley the device is ready for operation. The tripping-rod T is then put in place in the rings of the bolts B at any desired level. The article to be elevated or lowered, as the case may be, (for it is obvious that the device may
40 be used as an elevator proper by removing the tripping-rod T,) the pawls are set to actuate the wheels F in the proper direction, which, actuating the shaft C, winds the cords O on the drums E, which raises the platform.
45 The tripping-rod T, being in the path of the bars J' and the cam-surfaces of the tabs N, first strikes the tabs and releases the pivoted ledge M, which falls of its own gravity over the vertical portion of the bars J'. The con-
50 tinued upward movement of the platform tilts or elevates one side thereof, and when such tilting has reached a sufficient incline the article on the platform is discharged, at which time the pawl is disengaged from the

wheel H, and the platform descends of its own gravity. 55

I am aware that many minor changes in the construction and arrangement of the parts of my device can be made and substituted for those herein shown and described 60 without in the least departing from the nature and principle of my invention.

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

1. A hoisting apparatus comprising the supporting-frame provided with projecting ring-bolts in vertical alignment, a tripping-rod adapted to be inserted in two of said ring-bolts, a platform suspended in the frame, an-
70 gle-bars on the platform, and a pivoted ledge adapted to be released by the tripping-rod, substantially as and for the purposes described.

2. A hoisting apparatus comprising the 75 frame provided with an adjustable tripping-rod, a roller-platform suspended therein, angle-bars projecting from said platform in the path of the tripping-rod, and a ledge adapted to swing over the angle-bars upon contact
80 with the tripping-rod, substantially as and for the purposes described.

3. A hoisting apparatus comprising the supporting-frame provided with ring-bolts in vertical alignment, a tripping-rod in two of
85 said ring-bolts, a roller-platform suspended in the supporting-frame, angle-bars on said platform, a ledge pivoted in said angle-bars, and tabs in the path of the tripping-rod adapted to be actuated and release the ledge, substan-
90 tially as and for the purposes described.

4. A hoisting apparatus comprising the supporting-frame and its adjustable tripping-rod, a suspended platform in said frame, an-
95 gle-bars extending from said platform, a ledge pivoted in said angle-bars, tabs provided with cam-faces mounted in the ends of the bars, and a cross-piece connecting said tabs and adapted to support the ledge in a vertical po-
100 sition, substantially as and for the purposes described.

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

CHARLES F. BALL.

Witnesses:

T. B. HILLS,
J. B. HAYS.