

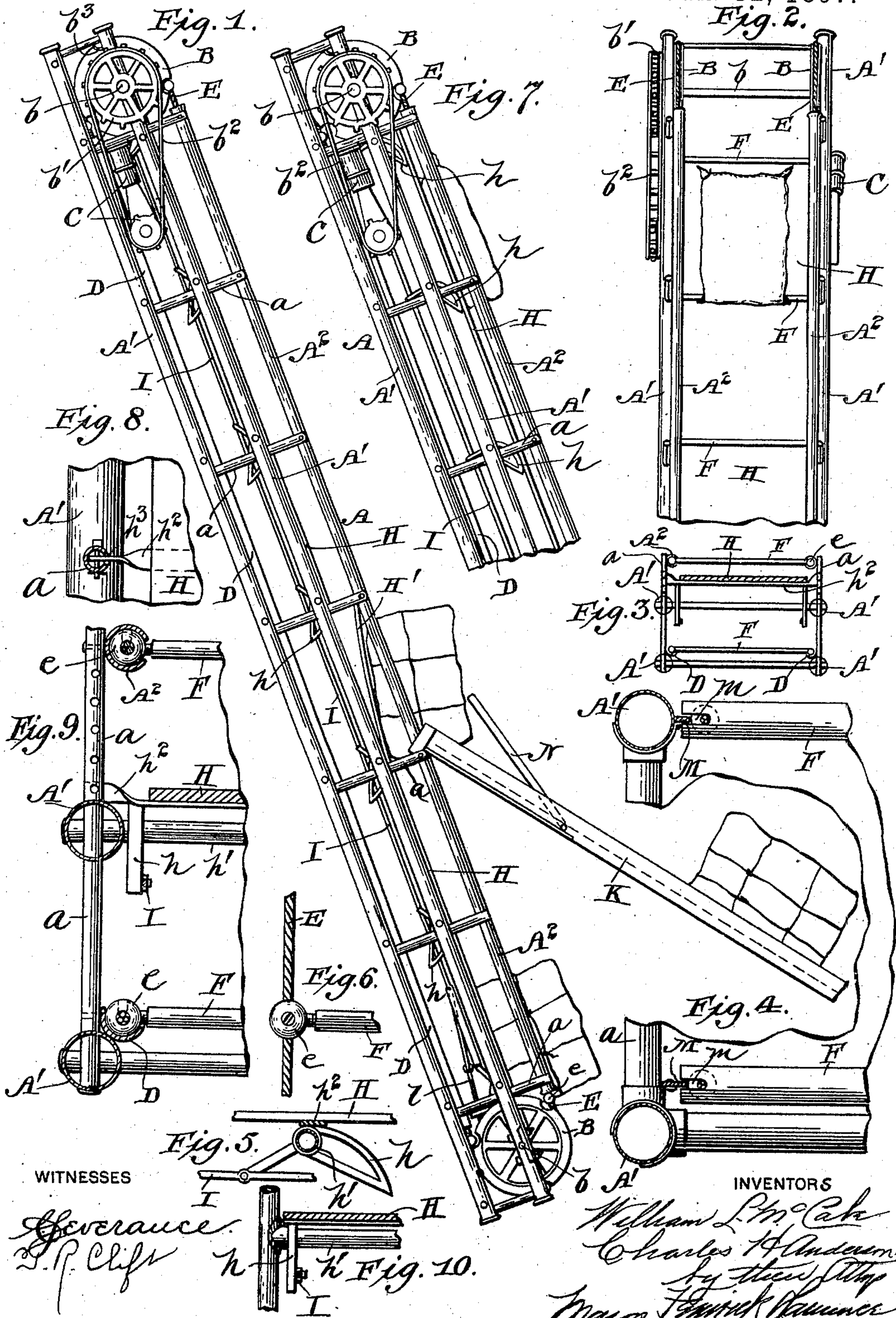
(No Model.)

2 Sheets—Sheet 1.

W. L. McCABE & C. H. ANDERSON.
PORTABLE CONVEYER.

No. 575,264.

Patented Jan. 12, 1897.



WITNESSES

G. P. Clift
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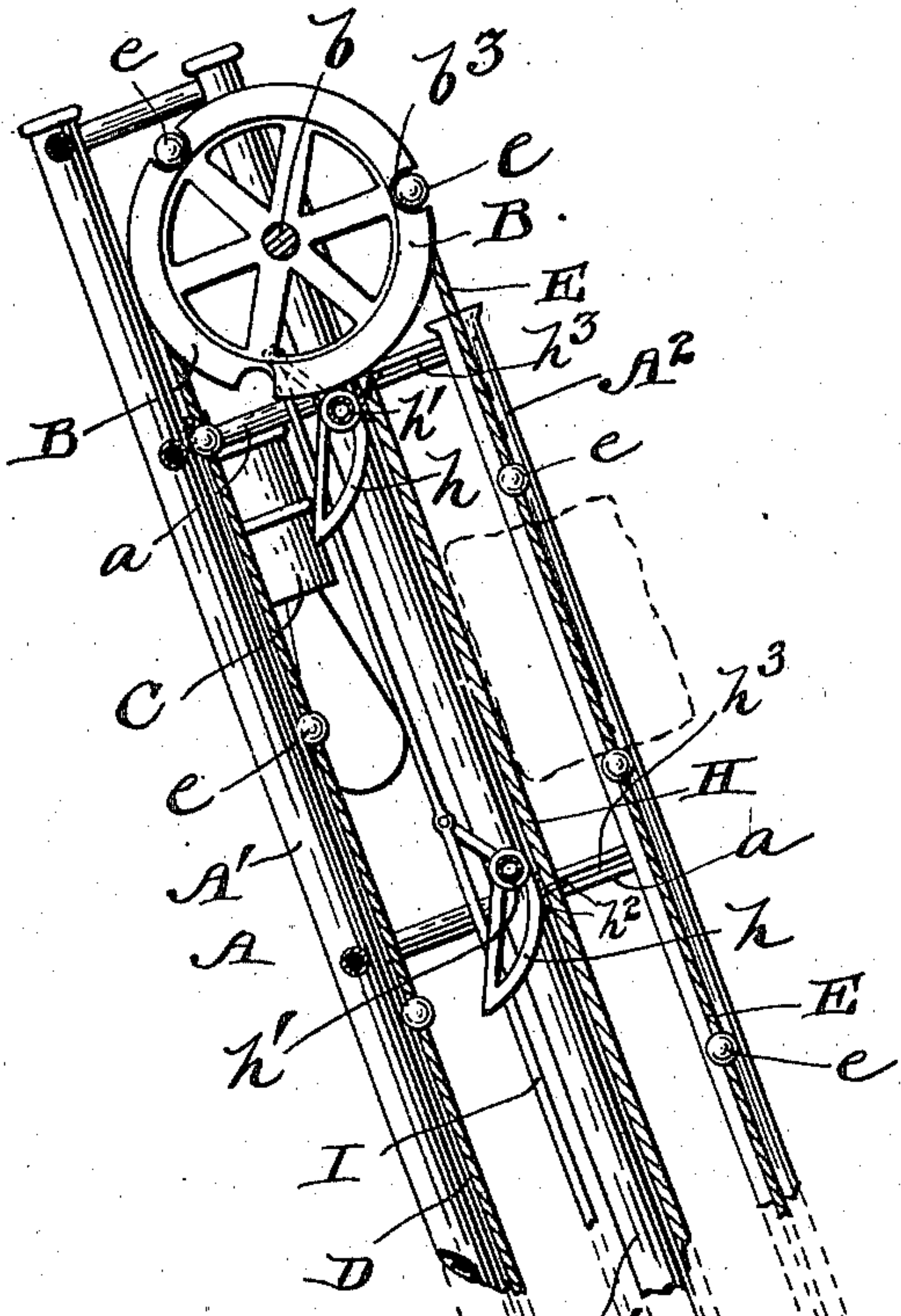


Fig. 11.

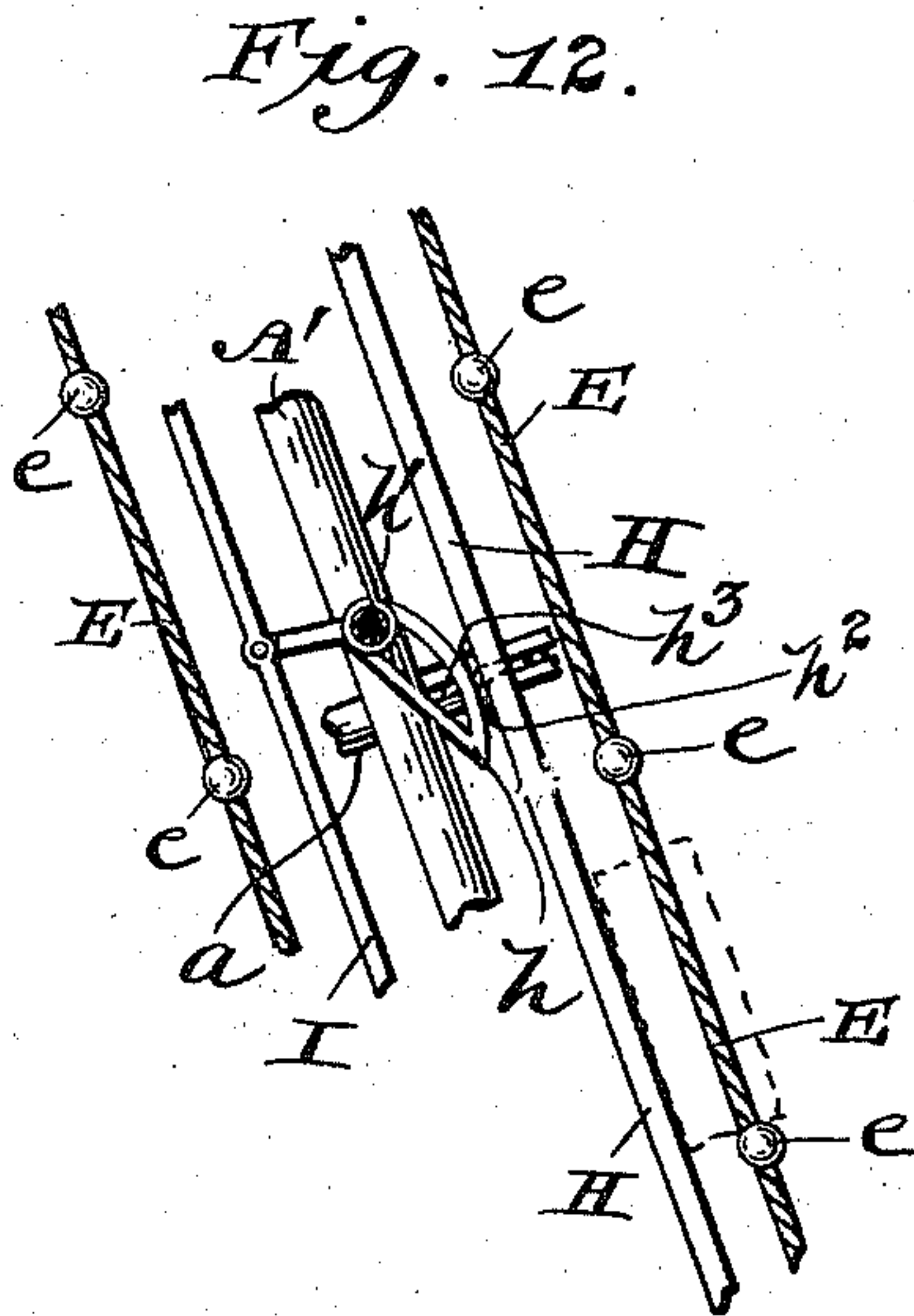


Fig. 12.

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UNITED STATES PATENT OFFICE.

WILLIAM LEGGET McCABE AND CHARLES HERBERT ANDERSON, OF
TACOMA, WASHINGTON.

PORTABLE CONVEYER.

SPECIFICATION forming part of Letters Patent No. 575,264, dated January 12, 1897.

Application filed July 23, 1896. Serial No. 600,262. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM LEGGET McCABE and CHARLES HERBERT ANDERSON, citizens of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Portable Conveyers; and we do hereby 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.

Our invention relates to improvements in portable conveyers for loading and unloading vessels and handling boxes, bales, and general merchandise.

The invention consists of the combination, with a suitable framework, of endless conveying-belts and a vertically-adjustable platform or support upon which articles to be conveyed are adapted to be placed and carried forward by said belts.

It also consists of certain other novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of the apparatus embodying our invention. Fig. 2 represents a top plan view of the same. Fig. 3 represents a transverse section through said apparatus. Fig. 4 represents a transverse section through a modified form of our invention. Fig. 5 represents a detail side elevation of one of the cam-levers and the connecting-rod, and Fig. 6 represents a detail top plan view of the attachment of one of the cross-bars to a ball of the endless belt. Fig. 7 represents a detail side elevation of the upper part of the apparatus, the platform and supporting-cams being in a different adjusted position from that shown in Fig. 1. Fig. 8 represents a detail fragmentary plan view of the movable connection of the platform with the frame of the device. Fig. 9 represents a detail cross-section of a portion of the improved conveyer. Fig. 10 represents a detail of one of the cams. Fig. 11 represents a side elevation of the conveyer, the near side of the frame being removed and parts being shown in section; and

Fig. 12 represents a detail of a portion of the conveyer similar to Fig. 11, but showing the cam in an adjusted position.

A' A' in the drawings represent the tubular vertical portions of the frame A. Horizontal bars or braces *a a* connect the bars A' A' at intervals and extend beyond the same to form braces and supports for the tubular slotted guides A² A².

Belt-wheels B B are journaled in pairs at each end of the frame by means of suitable shafts *b b*, one of which shafts is provided with a sprocket-wheel *b'*, by which power is transmitted to the belt-wheels carried thereby. This sprocket-wheel is connected by a suitable chain *b²* with a motor or engine C, mounted at any suitable point upon the frame. Each of the belt-wheels B B is grooved about its periphery to receive its respective belt and is also provided at intervals about said periphery with notches *b³*, the use of which will be hereinafter more fully explained. Supporting-troughs D D, extending from one set of belt-wheels B B to the other, but not so as to interfere with the movement of the same, are arranged longitudinally along the lower portion of the frame to support the endless conveyer. This conveyer comprises two endless ropes or belts E E, arranged at the opposite sides of the machine and passing about the belt-wheels B B.

Metallic balls *e e* are secured upon the belt at suitable intervals, and the coinciding balls of the two belts are connected by cross-bars F F, whose ends are screw-threaded to engage screw-threaded recesses in said balls. When the belts are operated, the balls and the cross-bars are accommodated by the notches or recesses in the peripheries of the belt-wheels, and the belts are thus prevented from slipping from the said belt-wheels as they revolve to apply the power to the belts. The balls upon the upward-moving portion of the belt fit snugly within the tubular guides A² A², the ends of the cross-bars sliding in the slots in said guides, while the balls upon the downward-traveling portion of the belt rest within the troughs D D.

An adjustable platform H is mounted within the frame and is provided with cross-bars *h²* upon its under side, the ends of which are

adapted to move and be confined in guide ways or slots h^3 in the inner sides of the braces $a a$. It will be apparent from the foregoing that the platform is free to be moved transversely with respect to the frame, but is held against any longitudinal movement by said bars h^2 . The said platform II rests upon cam-levers h . Each of these levers is secured to a cross-bar h' , which is journaled in the frame, so that said cams may be partially rotated or oscillated to cause the adjustment of the platform, which rests upon them. This oscillation of said cams is caused by a longitudinal rod I, which is pivotally connected to all of said cam-levers, so as to operate them simultaneously to move outwardly and inwardly the platform evenly along its whole length, for placing it near to or farther from the endless conveyer E E. This rod is adjusted longitudinally by means of a screw-bolt l , that has one of its ends pivotally secured to said rod and its opposite end, which is screw-threaded, adjustably secured to the frame by a suitable adjusting-nut. By providing this means of adjusting the platform nearer to or farther from the moving endless belts carrying the cross-bars different-sized boxes, bales, and general merchandise are adapted to be struck by the said bars and conveyed by the belts along the said platform and deposited at the end of the machine, or at an intermediate point, into a boat being loaded, or onto a dock from a vessel being unloaded.

It is sometimes desirable to automatically remove a box or bale from the platform at some intermediate point along its length, and to accomplish this we provide the platform with a hinged section H' , that may be turned up, as shown in Fig. 1, to force the article being conveyed outward onto an adjustable chute K, which is adapted to be set against the side of the conveyer at any desired point. This chute is provided with an upwardly-opening automatic trap N, that permits the bale to pass upward through the opening, which it closes, and then automatically falls back to its seat, so as to complete the chute for discharging the bale.

In the modified form of our invention shown in Fig. 4 the longitudinal tubes of the frame are provided with guiding-flanges M, that fit within slots m in the ends of the cross-bars, the balls of the belts in this case occupying positions within the ends of the cross-bars, whereby the latter are carried along.

When an article is placed upon the platform, it is carried along by its engagement with the cross-bars until it reaches the desired point of delivery.

This conveyer may be moved from one part of the wharf or other place to any desired point thereon with the greatest ease because of its extreme lightness, due to the hollow tubing, of which all its parts are constructed.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a portable conveyer the combination with a suitable framework, of an endless conveying-belt and an outwardly and inwardly adjustable platform or support intermediate said conveying-belt and parallel therewith upon which articles to be conveyed are adapted to be placed and carried forward by said belts, substantially as described.

2. In a portable conveyer the combination with a suitable framework, of an endless conveying-belt, an outwardly and inwardly adjustable platform which is adapted to be brought nearer to or farther from the conveying-belt for conveying different-sized articles and cams for moving said platform outwardly and inwardly, substantially as described.

3. In a portable conveyer the combination with a suitable supporting-frame, of endless conveying-belt, a platform adapted to be adjusted transversely with respect to the frame for bringing different-sized articles to be conveyed nearer to or farther from the conveying-belt, means for holding the platform in its adjusted positions, means for preventing longitudinal movement of said platform, and an automatic intermediate discharge-chute for said platform, substantially as described.

4. In a portable conveyer the combination with a suitable framework, of endless conveying-belts connected by cross-bars, guides for said belts, an adjustable platform, a series of cams for adjusting said platform outwardly and inwardly, and means for operating all of said cams simultaneously, substantially as described.

5. In a portable conveyer, the combination with a suitable framework, of endless conveying-belts arranged on opposite sides of the same, tubular guides through which said belts pass, balls upon said belts, cross-bars connecting the opposing balls of the respective belts, an adjustable platform, and means for securing the same in its adjusted positions, substantially as described.

6. In a portable conveyer the combination with a suitable framework, of an endless conveying-belt, an adjustable platform, a section hinged at one end to said platform and free at the other end for discharging its contents at some intermediate point along its length, and a chute for receiving the discharge at said intermediate point, substantially as described.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

WILLIAM LEGGET McCABE.
CHARLES HERBERT ANDERSON.

Witnesses:

FRANK JAY MILLER,
C. M. EASTERDAY.