

(No Model.)

P. W. CLAYPOOL.

CATAPULT FOR THROWING LIFE LINES

No. 266,772.

Patented Oct. 31, 1882.

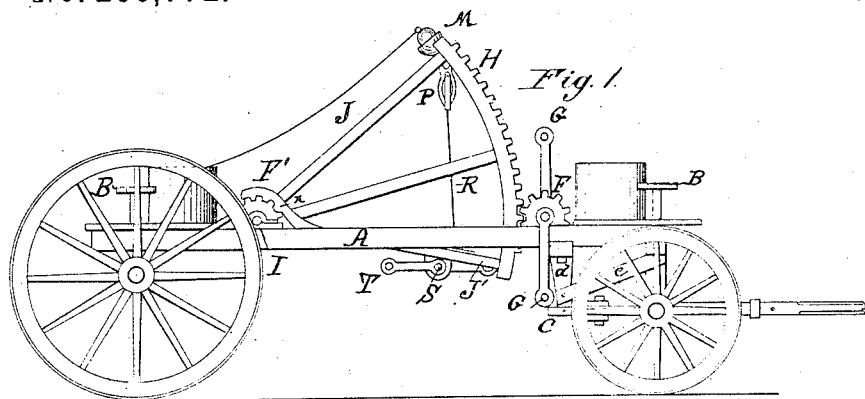


Fig. 4.

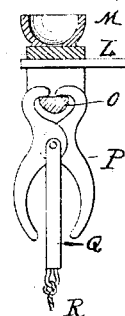


Fig. 2.

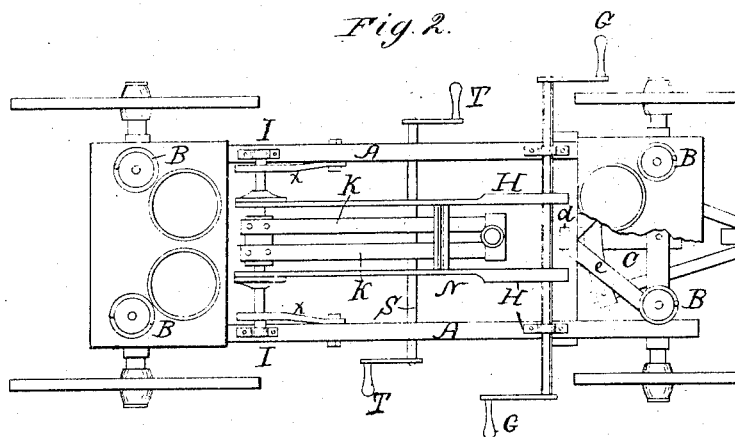


Fig. 5.

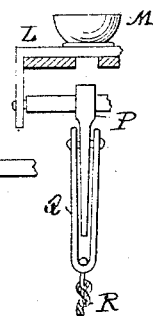


Fig. 3.

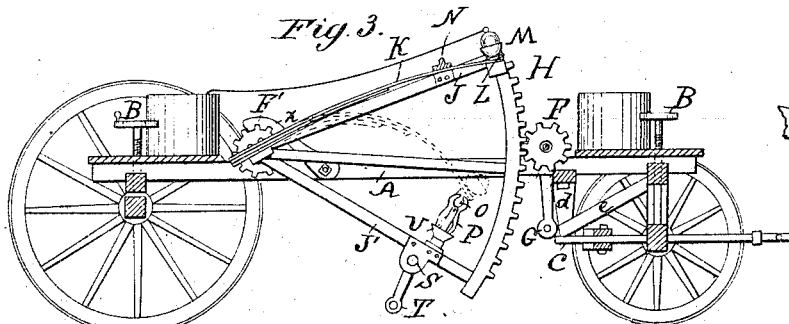
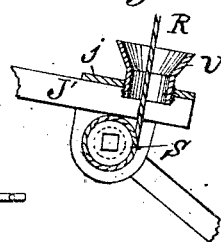


Fig. 6.



WITNESSES:

W. W. Hollingsworth
John C. Kemmer

INVENTOR:

Philip W. Claypool

BY *Wm. L. Le*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PHILIP W. CLAYPOOL, OF DENVER, COLORADO.

CATAPULT FOR THROWING LIFE-LINES.

SPECIFICATION forming part of Letters Patent No. 266,772, dated October 31, 1882.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, PHILIP W. CLAYPOOL, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Life-Saving Apparatus, of which the following is a specification.

My invention relates to such machines or apparatus as are put in operation by rescuers from a place of safety, rather than by those to be rescued from a place of danger; and the objects of my invention are, first, to provide an apparatus which, being operated by firemen or other rescuers, will enable them with certainty, in the shortest time and with safety to themselves, to give to persons in danger, from whom other means of escape are cut off, a sure, speedy, and safe means of escape from the interior of burning buildings, from sinking vessels, and other places of danger; and, second, to provide the means whereby such an apparatus may be quickly, rapidly, and safely transported from place to place. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the entire apparatus; Fig. 2, a top view of the apparatus, with a portion of the flooring of the platform removed to show the improved method of coupling, hereinafter particularly described. Fig. 3, a vertical section of the apparatus, showing the changes in the position of the parts thereof, which occur in the operation of the same; Fig. 4, a front view of the nippers, hook, and cup, the two latter being in section; Fig. 5, a side view of the same partly broken away; and Fig. 6, a sectional view of the funnel-shaped releasing device for the nippers.

Similar letters refer to similar parts throughout the several views.

The mechanism rests upon four wheels, which may be of the same size, or (as represented in the drawings) like ordinary wagon-wheels, the hind ones larger than the fore ones. On the axles on which the wheels revolve, and supported by bolsters sufficiently high to enable the fore wheels to turn under the body of the frame-work, and to permit of the free and unobstructed operation of the mechanism, rests a frame-work, A A, which is held in place by the four leveling-screws marked B, which

pass through nuts embedded in the frame, and, having a cup or head at the lower end, are held in place on the bolsters by iron collars embedded in and securely fastened by bolts or screws to the bolsters. The frame-work is further secured and the coupling of the hind and fore wheels completed by the braces C, d, and e, only one of each of which is shown in the drawings. The braces C extend from the fore and hind axles to points in the center, perpendicularly under that part of the frame which marks the boundaries of operation of the sector-wheels shown in the drawings, and are secured to the frame by the braces d. The braces e extend from the junction of C and d to the upper corners of the bolsters on which the frame rests, and are there secured to the bolsters. The braces d are mortised into the frame and the braces C into the axles. By this combination the jumping or jolting of the frame off the bolsters is prevented by the screws B, while a lateral or sliding motion of the frame, to some extent hindered by the same screws, is wholly prevented by the braces C, d, and e, and the coupling of the hind and fore wheels rendered perfect and complete. To the fore axle is attached a tongue with double and single trees in the ordinary manner.

Upon the forward part of the frame A (directly in the rear of the place where the forward brace d is mortised in the frame) is fastened a gearing, F F, which, operated by the cranks G G, moves the sector-wheels H H, revolving on the axle I, to which they are attached by the arms J and J', the axle I being fastened on the frame immediately in front of the place where the rear brace d is mortised into the frame, and being rendered stationary and immovable, when required, by the dogs z, working in slots or cogs F' on the surface of the axle.

To the axle I, and between the sector-wheels H H, are attached two or more strong steel springs, K K, in such a manner that when unsprung their natural position would be in the same plane as the upper arms, J, of the sector-wheels H H. The springs K are united at their free ends by the bar or band L, on which rests, and to the upper side of which is fastened, the cup M, which holds the ball to which is attached the line or rope to be thrown to the

point desired where the danger exists. A brace, N, uniting the upper arms, J, of the sector-wheels H, arrests the progress of the springs K and prevents their springing beyond the plane of the arms J.

To the lower part of the band or bar L is attached a hook, O, which is caught by nippers P, which, by means of a bar, Q, are attached to a rope, R, to be wound on the windlass S by the crank T through the funnel U. The windlass S is secured to the lower arms, J', of the sector-wheels H. The funnel U is screwed into a bar, J, joining the arms J of the sector-wheels H, just above the windlass S, (see Figs. 3 and 6,) the funnel U closing the arms of the nippers as the latter enter the funnel in their descent, and releasing the springs K and discharging the ball. The arms of the nippers are made of different lengths, and thus the springs K may be loosed at any point on the line extending from where the nippers P catch the hook O to where the rope R is wound on the windlass S, thus loosing the springs at any desired point and giving the ball any desired impetus.

That part of the frame not occupied by the gearing sector-wheels and springs is floored over, and at convenient places thereon, in light movable cans with flaring sides, are placed coils of lines or ropes with balls attached, the particular line to be first thrown being placed on the rear of the frame in the center. In diagonally-opposite corners of the frame are embedded four levels, two in each corner, (one at the front end, one at each side, and one at the hind end,) and by means of the leveling-screws B, passing through nuts in each corner of the frame, the same can be made level, whatever be the inequalities of the surface on which the wheels rest.

In practice the apparatus should be used as follows: It should be kept in readiness for removal at an instant's notice, with the sector-wheels elevated as far as possible and made stationary by the dogs x, the nippers P caught on the hook O, and the rope R held taut by the windlass S, as shown by Fig. 1 in the drawings. Having been rapidly hauled to the scene of operations, the apparatus should be turned with the rear toward the place where the danger exists. The apparatus can be then turned or aimed in any direction by simply backing the horses. The direction having been obtained, the frame may be rapidly leveled by means of

the leveling-screws, the desired elevation obtained by the gearing operating in the sector-wheels, the ball to which the line is attached placed in the cup, and the springs brought down by the rope and windlass till they are loosed by the nippers being drawn into the funnel, when the ball carrying the line will be thrown to the desired place.

Should it be deemed desirable to have the horses face the place of danger, the same apparatus reversed could be used—that is, with the fore part of the frame placed where, in the drawings, the rear is, and vice versa. In this latter case the ball and line would be thrown over the horses instead of from them, as illustrated. Should the line thrown be insufficiently strong to support the strain to which it would probably be subjected after it has been secured by the persons in danger, a larger line or rope could be attached to the first and be drawn up by the parties exposed. Should it be desired to reach more than one point, any number of lines which may be prepared could be thrown by removing the can containing the line first thrown and replacing it by another.

Seats could be arranged on the frame for the entire crew needed to manage the apparatus, which need consist of but three men—one driver and two to manage the apparatus. It is believed that such a crew, with very little practice, would become so skillful that within three minutes of its arrival at the scene of danger it could throw a line into any specified window or aperture of any building, or over any building or vessel whose occupants might be in danger, and thus provide for them a means of escape.

I claim—

1. The combination, with the wheel-frame A, provided with leveling-screws B, of the sector-wheels H, crank-shaft G, axle I, gearing F F', dogs x, and springs K, carrying cup M, substantially as described, and for the purpose set forth.

2. The combination of the gearing F, the sector-wheels H, and the springs K, with the hook O, the nippers P, the funnel U, and the windlass S, all substantially as set forth.

PHILIP W. CLAYPOOL.

Witnesses:

MICHAEL B. MCGRAW,
MARTIN DE MOULPIED.