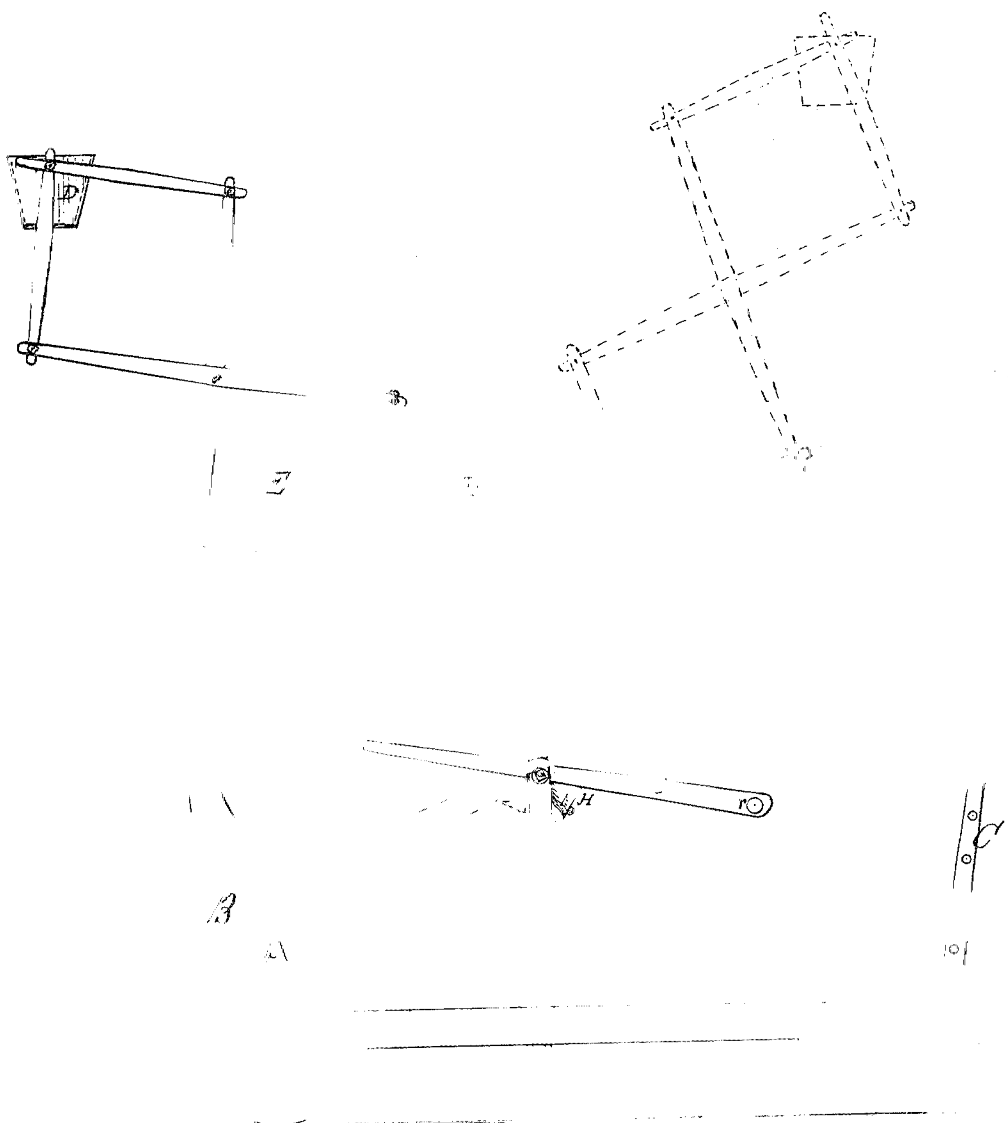
2 Sheets--Sheet 1.

WILLIAM DE PEW.

Improvement in Fire-Escapes.

No. 114,421. Patented May 2, 1871.



Witnesses.

C. A. Hankess

Robt. E. Bouuse

United States Patent Office.

WILLIAM DE PEW, OF PARIS, CANADA.

Letters Patent No. 114,421, dated May 2, 1871.

IMPROVEMENT IN FIRE-ESCAPES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM DE PEW, of Paris, in the Province of Ontario and Dominion of Canada, have invented an Improved Fire-Escape; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation, showing the apparatus extended and ready for use;

Figure 2 is a similar elevation, showing the same apparatus folded up and ready for transportation; and

Figure 3 is a bottom view of the front end of the car with the shafts attached.

Similar letters of reference in the accompanying drawing denote corresponding parts.

This invention relates to that class of fire-escapes which employ a "Jacob's ladder" or "lazy tongs" as a means for reaching the walls of the building; and

It consists—

First, in a new method of constructing and supporting said ladder, whereby it can be more conveniently handled and more readily adjusted than heretofore.

Secondly, in the employment of a shield at the front end of the car for the purpose of protecting the workmen from the fire.

Thirdly, in a new construction of the draft-poles or shafts, whereby they are adapted to answer as a ladder, and also will allow a larger number of persons to assist in drawing the car than heretofore.

In the drawing—

A is the car, running on wheels *a a*, and provided with a sheet-metal shield, B, at its front end, to protect the workmen from the heat of the fire.

Said shield is constructed with triangular side flanges *b b*, which serve to support it and at the same time to furnish additional protection from the heat that might reach the car laterally.

It may be firmly attached to the end of the car by rivets or screws, as shown, or it may be pivoted so as to be turned back out of the way when not in use.

C C are the shafts of the car, connected together by rounds *c c*, some of which project through the shafts as shown at c^1 c^1, forming handles by which the vehicle can be dragged along.

The whole is capable of assuming a horizontal position, or turning back on its pivot c^2 to the position shown in fig. 2, to form a ladder, whereby the rescued women and children can descend from the basket D, in which they have escaped from the building.

Said box or basket swings freely upon the upper connecting-rod of a Jacob's ladder, E, and by means thereof can be raised, lowered, and moved directly and obliquely forward and backward, at pleasure.

The two lower arms of the ladder, *e e'*, are supported and pivoted at their centers upon a stout rod, *f*, connecting the upper ends of the two standards, G G, near the center of the car, said standards being suitably braced to enable them to sustain the weight of the ladder in its different positions.

The lower ends of the arms *e e'* are made slightly stouter than the upper ends, and are connected by rounds *r r'*, the lower one of which projects through the arms and forms a handle, and also a stop, which, striking against the standards, prevents the ladder from turning in either direction beyond the position shown in fig. 2.

An alarm-bell, H, may be attached to any part of the machine, preferably to the center of the cross-bar *f*.

A hook may, if desired, be secured to the middle of the rounds *r r'*, and a chain to the car beneath, by which said rounds can be instantly fastened at any height, and the ladder thus kept at any desired elevation as long as may be necessary.

The operation of my improved fire-escape above described is as follows:

A number of the workmen take hold of the rounds *r r'* and the arms or levers *e e'*, each side of the standards G G, and, by depressing said levers, instantly raise the basket to any desired elevation, at the same time directing its movements with perfect accuracy and precision by merely accelerating or retarding the movement of the levers on either side of the standards. While doing this they are protected from the heat by the shield B, as above described.

Having received the persons from the burning building into the basket D, they instantly swing the latter away from the wall to the position shown in dotted lines in fig. 1, and rapidly lower it to the position shown in fig. 2.

They then throw the shafts up and back till their upper ends rest against the edge of the basket, when the occupants of the same can readily and safely descend to the ground, and the basket can be instantly thrown up to the window again to receive other persons who may be in danger.

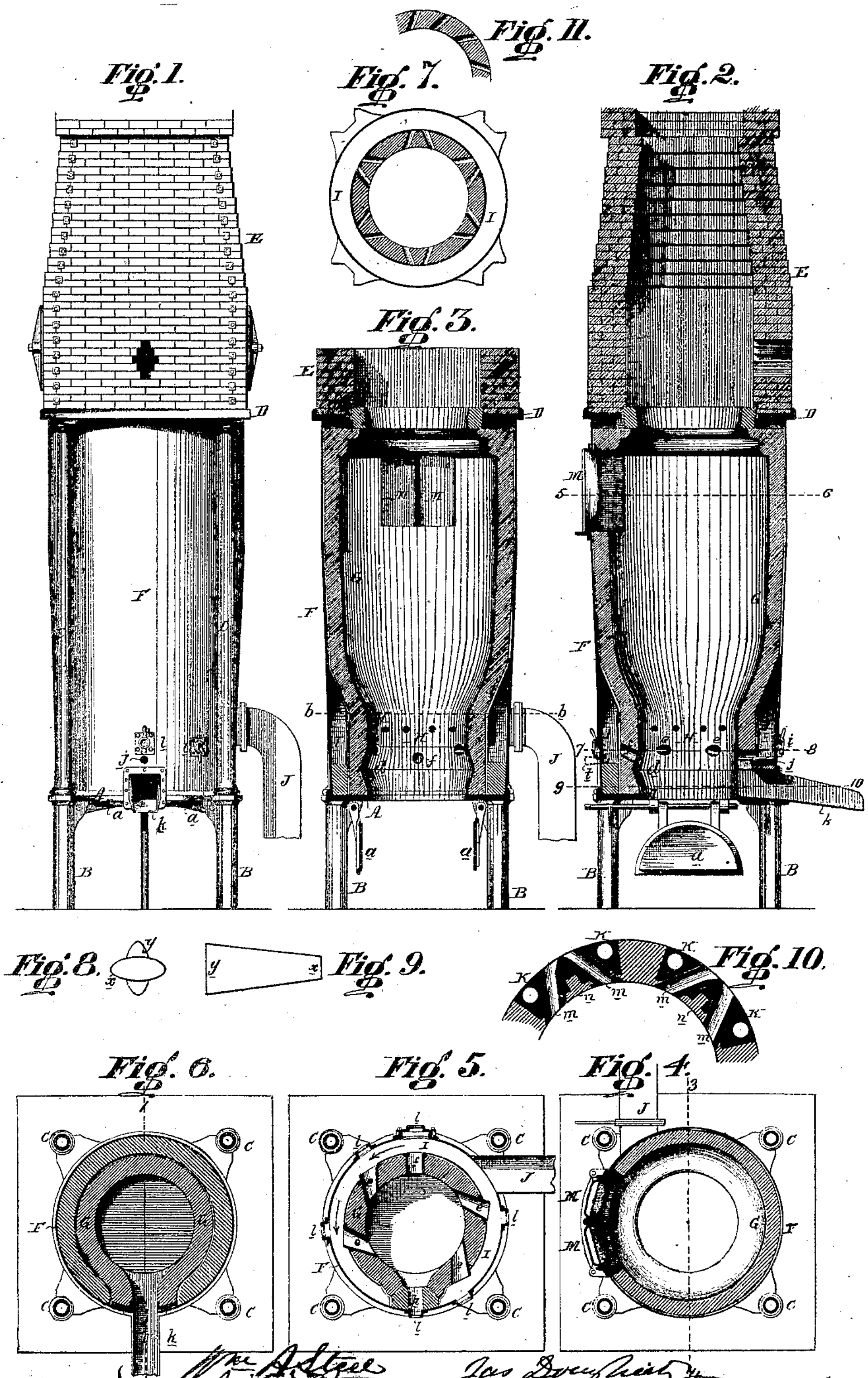
The operations of this apparatus are not retarded nor hampered by the use of rollers and cords or pulleys, for raising and lowering, nor is the machine encumbered with guide-ropes for controlling the movements of the basket, but the whole is effectually and easily done by suspending the ladder at the top of the standards and employing the lever-arms *e e'* to operate it, as described.

The machine is thus relieved of superfluous weight,

JAMES DOUGHERTY.

Improvement in Cupola-Furnaces.

No. 114,422. Patented May 2, 1871.



WITNESSES { Wm A Steel
John Parker

Jas Dougherty
By his Attys Howson & Son