

No. 837,006.

PATENTED NOV. 27, 1906.

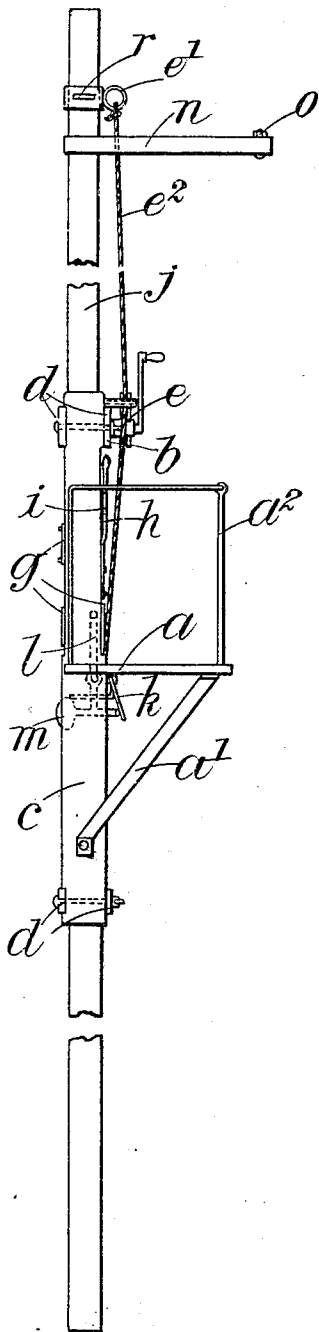
B. A. SPAULL & E. J. HALL.

PORTABLE SCAFFOLD.

APPLICATION FILED AUG. 31, 1905.

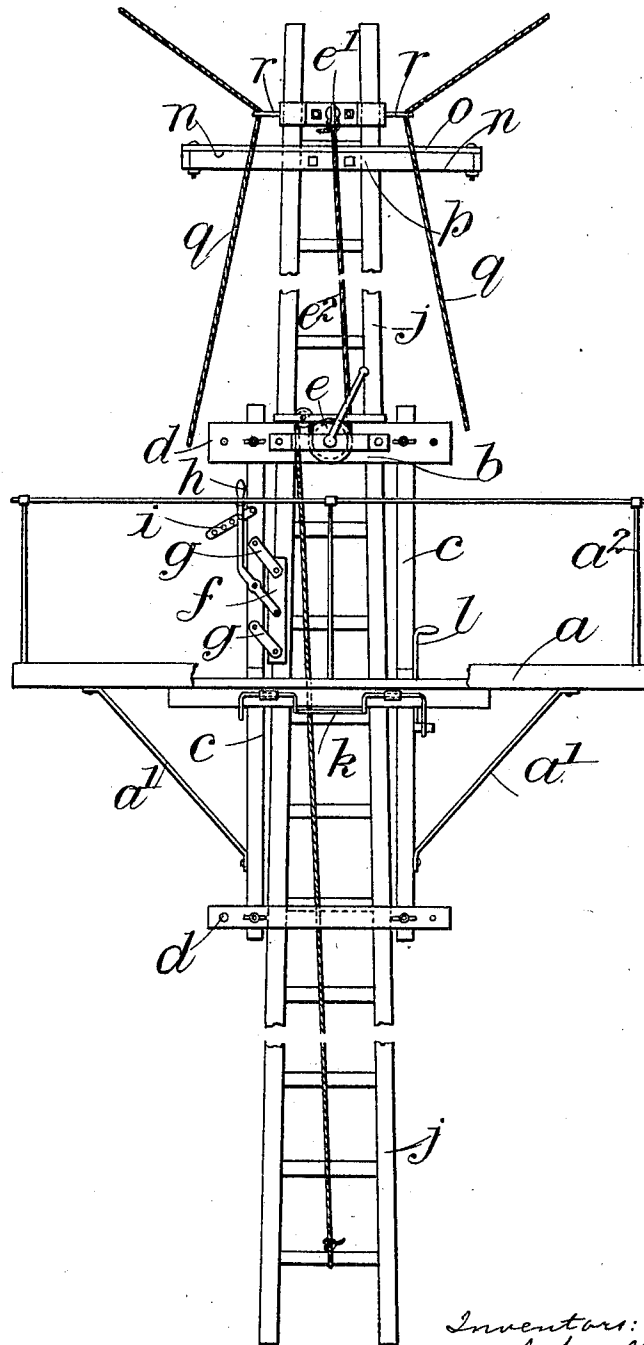
2 SHEETS—SHEET 1.

Fig. 2.



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Fig. 1.



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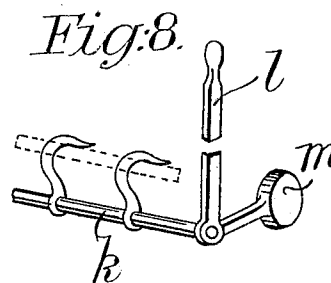
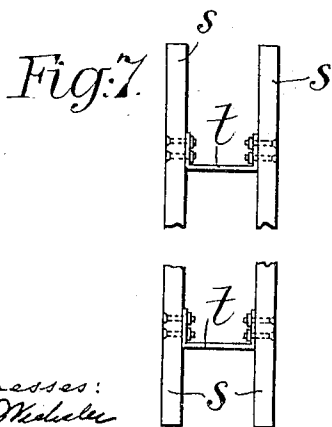
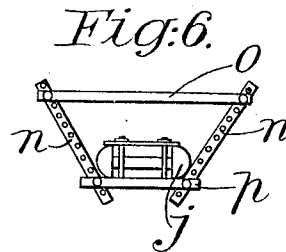
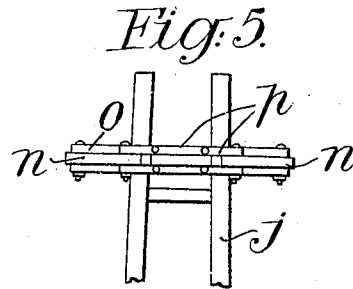
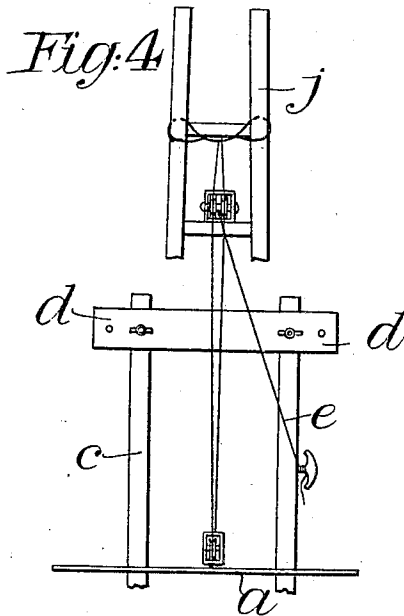
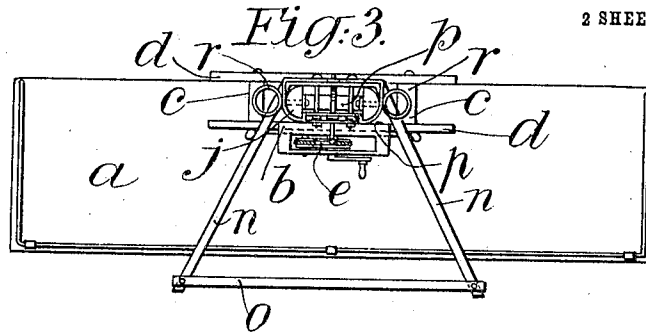
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

BARNARD A. SPAULL AND EDWIN J. HALL, OF LONDON, ENGLAND.

## PORTABLE SCAFFOLD.

No. 837,006.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed August 31, 1905. Serial No. 276,493.

*To all whom it may concern:*

Be it known that we, BARNARD ALFRED SPAULL and EDWIN JAMES HALL, citizens of the United Kingdom of Great Britain and Ireland, and residents of London, England, have invented certain new and useful Improvements in Portable Scaffolding or Scaffolds, of which the following is a specification 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 scaffolding or scaffolds, and has for its object, among other things, the utilization of ordinary ladders or poles as supports for such scaffolds.

In carrying out this invention we construct a frame to inclose the ladder, said frame being formed of wood or of wood and iron or of any other suitable material and having two uprights or battens running parallel, or nearly so, with themselves or with the poles of the ladder. These uprights we fasten together by adjustable cross-ties formed of other battens or bars or rollers running parallel with the rungs of the ladder, both back and front, thus inclosing the ladder in a frame. This frame is capable of being moved freely up and down the ladder and stopped at any desired point. Upon this frame we fix or attach with suitable brackets, struts, or other supports a platform, which is preferably railed around.

We will now describe our invention with reference to the accompanying drawings, in which—

Figure 1 shows a front elevation of our scaffold fixed on a ladder as in use. Fig. 2 shows a side elevation of same. Fig. 3 shows a plan view of same. Fig. 4 shows a method of raising or lowering the scaffold by means of hoisting-tackle. Fig. 5 shows a method of attaching the arms to the ladder. Fig. 6 shows a plan view of the arms or struts which keep the ladder away from the house. Fig. 7 shows two poles broken off with the connecting-brackets forming a skeleton ladder. Fig. 8 shows an automatic stop formed by a weighted bar and two hooks which engage with the rungs of the ladder when the scaffold descends unless held back by the lever attached.

*a* is the platform.

*a' a'* are stays for platform.

*a<sup>2</sup>* is a railing around platform.

*b* is the adjustable frame.

*c* is one of the side battens.

*d d* are adjustable cross-bars.

*e* is the winding-gear for raising platform.

*e'* is a ring to secure rope for same.

*e<sup>2</sup>* is the rope.

*f* is the brake-block.

*g g* are links connecting *f* to frame *b*.

*h* is the lever for operating *f*.

*i* is a rack for fixing lever *h*.

*j* is the ladder.

*k* is the automatic stop.

*l* is the lever.

*m* is a weight for stop *k*.

*n n* are arms or struts.

*o* is a cross-stay.

*p p* are the cross-bars for attaching arms *n* to ladder.

*q q* are ropes for shifting purposes.

*r r* are rings for ropes *q*.

*s s* are ordinary scaffold-poles.

*t t* are brackets for connecting poles *s*.

It will be seen that the platform may be raised or lowered by ropes and pulleys or other suitable mechanism, but preferably by means of a rope attached to a bar or other suitable device at or near the top of the ladder, which rope is passed partly round a wheel with a grooved periphery or partly round a wheel having radial arms bent alternatively in different directions and over a jockey-pulley, both of which are fixed to the frame or platform, and the said rope is then drawn down to the foot of the ladder and fastened in that position, thus forming a rigid rope for the travel of the platform. The said grooved or other wheel is operated from the platform by a handle or other means and will when turned raise the platform or lower same when the motion is reversed. The said wheel may be controlled in the usual way by a ratchet and pawl. We also provide arms or stays adjustable or otherwise and capable of being easily attached to or removed from the ladder. These arms or struts we place near the top of the ladder and their ends rest against the building. They serve to keep the ladder and scaffold at the required distance from the wall. We also provide suitable means for moving this ladder and scaffold when erected either to the right or the left. For this purpose we employ two ropes, one attached in any suitable manner to the right side of the building and the other to the left. The ends of these ropes are passed through eyes or loops fixed near the top of the ladder, and

these ends are then fastened to the ladder at or near the foot of same. These ropes have a double function. They serve to hold the ladder in position and also to move it when required. On the said frame or platform we also provide a suitable means for operating wedges or clamps or other devices for the purpose of steadying the frame and platform when raised from the lower or wider part of the ladder to the upper or narrower part.

Preferably we use an iron plate adjustable by screws, so as to press against the side of the ladder, said screws being operated by a lever-handle or other suitable means, or we employ links pivoted to suitable bearings on frame and operate said plate by a lever, which will throw out the said plate and fix it in position, so as to fill the space between the poles of the ladder and the frame. The said wedges or cams or other device would also act as a safety-locking arrangement in case the rope used for drawing up the platform should break, and as an additional safety attachment we provide hooks or a projecting bent bar, or both, on the frame or platform to engage with the rungs of the ladder. This bar and hooks can be thrown out by a weighted lever or any suitable device, so as to engage automatically with the rungs and can be freed by a handle on the platform when the frame carrying the platform has to be lowered. Where more convenient, in place of the ladder before mentioned, we use two or more poles of any suitable length, construction, and material, bracketed or connected together to form a skeleton ladder, and we inclose them in a frame or inclosure similar to that described for a ladder.

The method of working is as follows: The ladder or pole arrangement is first erected with the arms attached or otherwise, as may be most convenient, and the sidewise-shifting ropes are fastened to the ladder and to the building. Then the frame (with the front cross-ties removed) is placed against the ladder and the cross-ties refixed. The lifting-tackle is then attached and the apparatus is ready for use.

What we claim, and desire to secure by Letters Patent, is—

1. In a device of the class described, a ladder, a platform adapted to slide up and down the ladder, a driving pulley or drum carried by the platform, a jockey-pulley adjacent to the driving pulley or drum, a cable secured at one end to the top and at the other to the bottom of the ladder passing under the bottom side of the driving-pulley, and over the top of the jockey-pulley, and means actuated from the platform for rotating the driving-pulley.

2. In a device of the class described, a ladder, a platform adapted to slide up and down the ladder, a driving pulley or drum having a V-shaped cable-receiving annular groove in the periphery, carried by the platform, a jockey-pulley adjacent to the driving pulley or drum, a cable secured at one end to the top and at the other to the bottom of the ladder passing over the top of the jockey-pulley and under the bottom side of the driving-pulley, and means actuated from the platform for rotating the driving-pulley.

3. In a device of the class described, a ladder, two side pieces of substantially the width of the side pieces or risers of the ladder, two cross-bars secured to the ends of the side pieces at the front and rear of the ladder, in such manner that the distance between the side pieces may be adjusted to conform to the varying width of the ladder, a platform secured to the standards, a driving drum or pulley revolvably mounted upon or between the two top cross-pieces, a jockey-pulley located adjacent to the driving drum or pulley, means actuated from the platform for rotating the driving-drum and a cable passing around the drum and jockey-pulley secured at the bottom and top of the ladder.

In witness whereof we have hereunto set our hands in presence of two witnesses.

BARNARD A. SPAULL.  
EDWIN J. HALL.

Witnesses:

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HY. FAIRBROTHER.