

M. F. LYONS.
Portable Derrick.

No. 197,645.

Patented Nov. 27, 1877.

Fig: 2

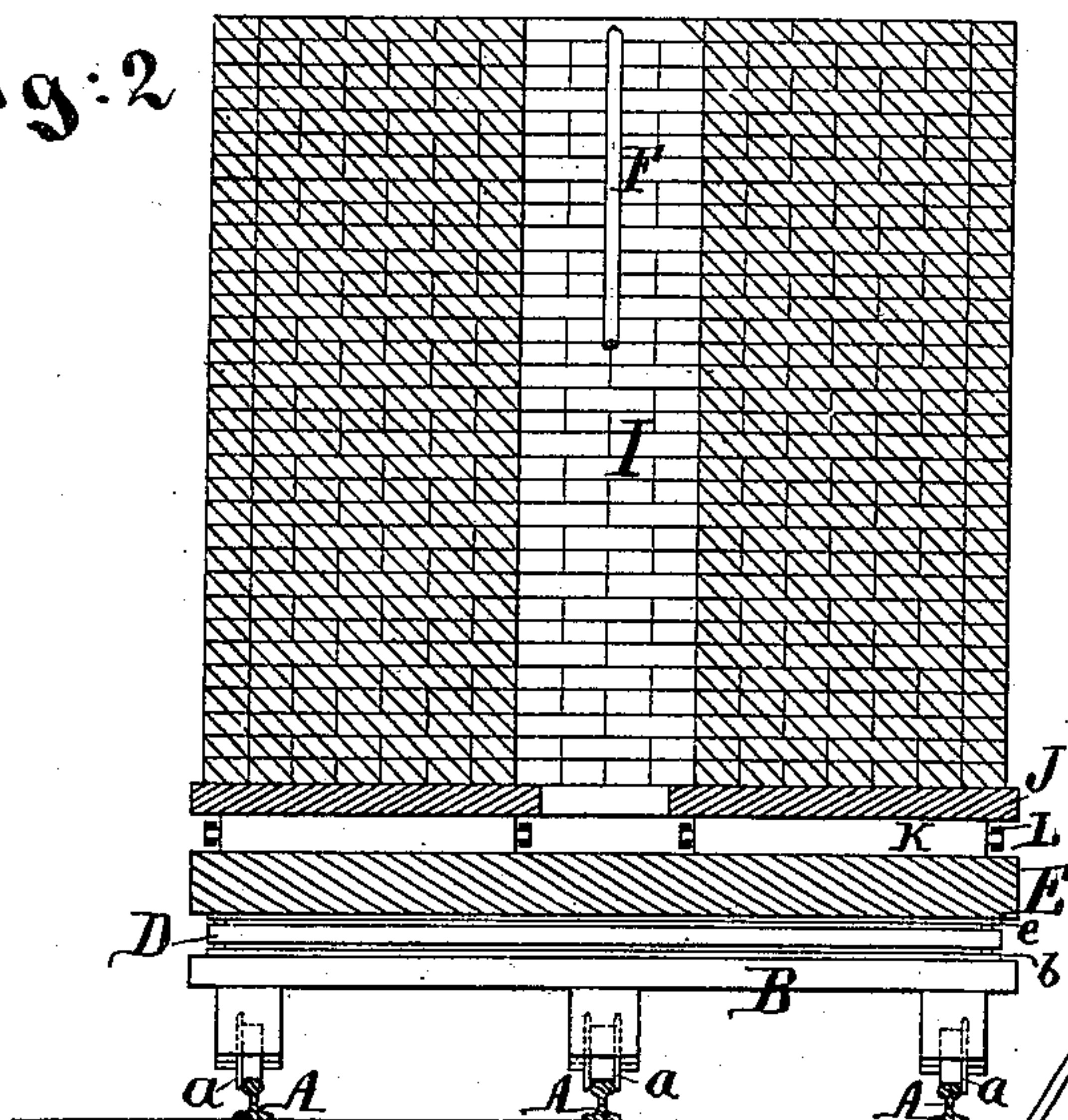
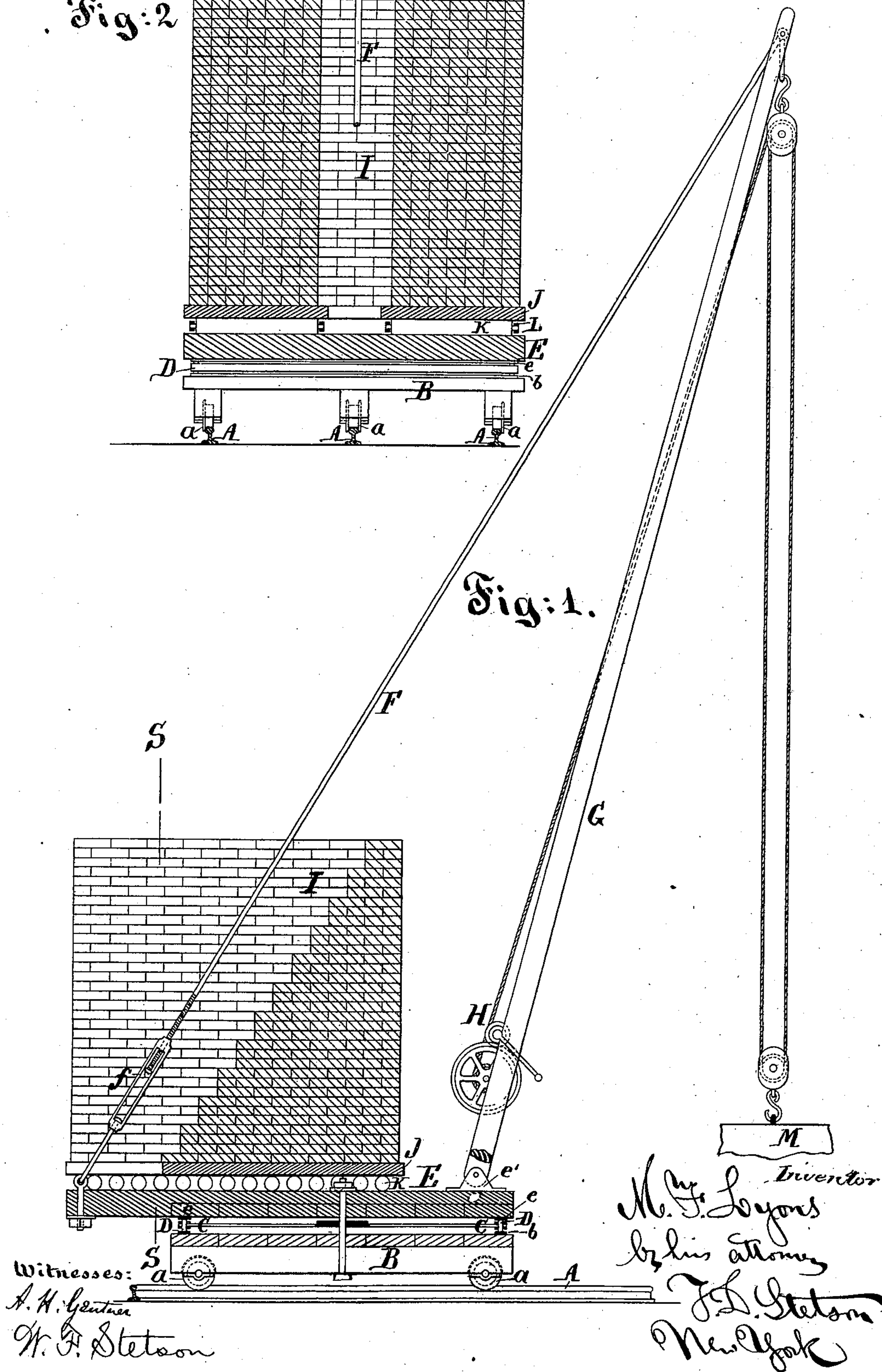


Fig: 1.



UNITED STATES PATENT OFFICE.

MICHAEL F. LYONS, OF NEW YORK, N. Y.

IMPROVEMENT IN PORTABLE DERRICKS.

Specification forming part of Letters Patent No. **197,645**, dated November 27, 1877; application filed October 29, 1877.

To all whom it may concern:

Be it known that I, MICHAEL F. LYONS, of New York city, in the county and State of New York, have invented certain new and useful Improvements relating to Portable Derricks, of which the following is a specification:

My invention is intended more particularly for use in the streets where buildings are being erected.

I employ a railway extending parallel to the building, of sufficient width and sufficiently well supported, and mount thereon a platform with small wheels adapted to traverse on the rails. This platform supports another circular railway, which, through the medium of a set of rollers arranged radially, supports a platform above, having a corresponding circular rail under it. All the parts are low, so that the upper platform is only a little above the ground, and all are of great strength. The upper platform being heavily loaded with stone in the center and on the side opposite to the adjustably-slanted frame, the latter is enabled to support the proper tackle, and the entire device serves to lift the stones or other objects and place them with facility. The derrick may be run to the right and left on its lower and stationary track, and whirled around on its circular track, the adjustably-inclined frame may be shifted to any desired angle, and the balancing-load may be also shifted outward and inward, if required, as will be set forth below. It may thus be shifted out to balance a heavy stone, and shifted inward to avoid oversetting the derrick when stone is lowered and released.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a section parallel to the main rails. Fig. 2 is a section on the line S S in Fig. 1. The figures show the derrick turned quarter round to take up a stone.

Similar letters of reference indicate like parts in both figures.

A represents the stationary rails, firmly held on the ground. B is the lower platform, supported on small wheels *a*. On it is sup-

ported a strong circular track, *b*, on which runs a series of rollers, D, supported by a guiding frame-work, C. E is the upper or main platform. It is formed with a circular rail, *e*, on its under face, which runs on the rollers C, and with lugs or eyes *e'*, which support an adjustable frame, G, provided with approved tackle H, for hoisting and lowering heavy masses, M. The frame G is supported by an adjustable brace, F, provided with a turn-buckle, *f*, by which it may be lengthened and shortened with great nicety. A compact mass of brick, pig-iron, or other suitable weights, I, is mounted on the structure, so as to balance the load M.

It is important that this mass I be so placed as to effectually balance the load when held out at a considerable angle, and also that it will be so supported as to not overturn the structure when the weight M is liberated. I propose to mount the weight I on a support, J, carried on a set of small rollers, K, held together by a frame, L. This load will usually be held with its center of gravity near the outer edge of the structure, opposite the frame G; but when the frame G is unloaded, the load I, of brick or other material, may be moved inward, and when the frame G is required to carry a very heavy load, M, or is required to support it at a considerable distance, so as to require more leverage in the balancing-weight I, the latter may be moved outward on the rollers K.

I propose to use two of the braces or guys F, one on each side of the load I; but in case one alone is preferred, there may be a narrow opening provided through the mass of brick or other material I, so as to allow the mass to be shifted outward and inward on the rollers K as much as may be required.

Various elaborate means may be applied for moving the load when required; but I prefer to do it by simply prying with bars or forcing with jack-screws. Stout projections (not represented) may be provided at the sides to afford abutments for jack-screws or hydraulic jacks for this purpose.

The quantity of the balancing-load I may be varied from time to time by adding to or taking from the bricks or other materials at the top, as will be obvious.

My invention allows the employment of various patented or other hoisting-gear. I can employ steam, if desired.

I claim as my invention—

1. The balance-derrick described, having the load I and frame G, supported on the platform E, in combination with the circular railway *b e*, and with the straight railway A, for the purposes specified.

2. In a balance-derrick, the provisions, J K

L, for allowing the shifting of the balance-weight I outward and inward, as required.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

MICHAEL F. LYONS.

Witnesses:

E. G. THOMPSON,
CHAS. C. STETSON.