

(No Model.)

2 Sheets—Sheet 1.

P. RINK.
PORTABLE SHELVING.

No. 454,293.

Patented June 16, 1891.

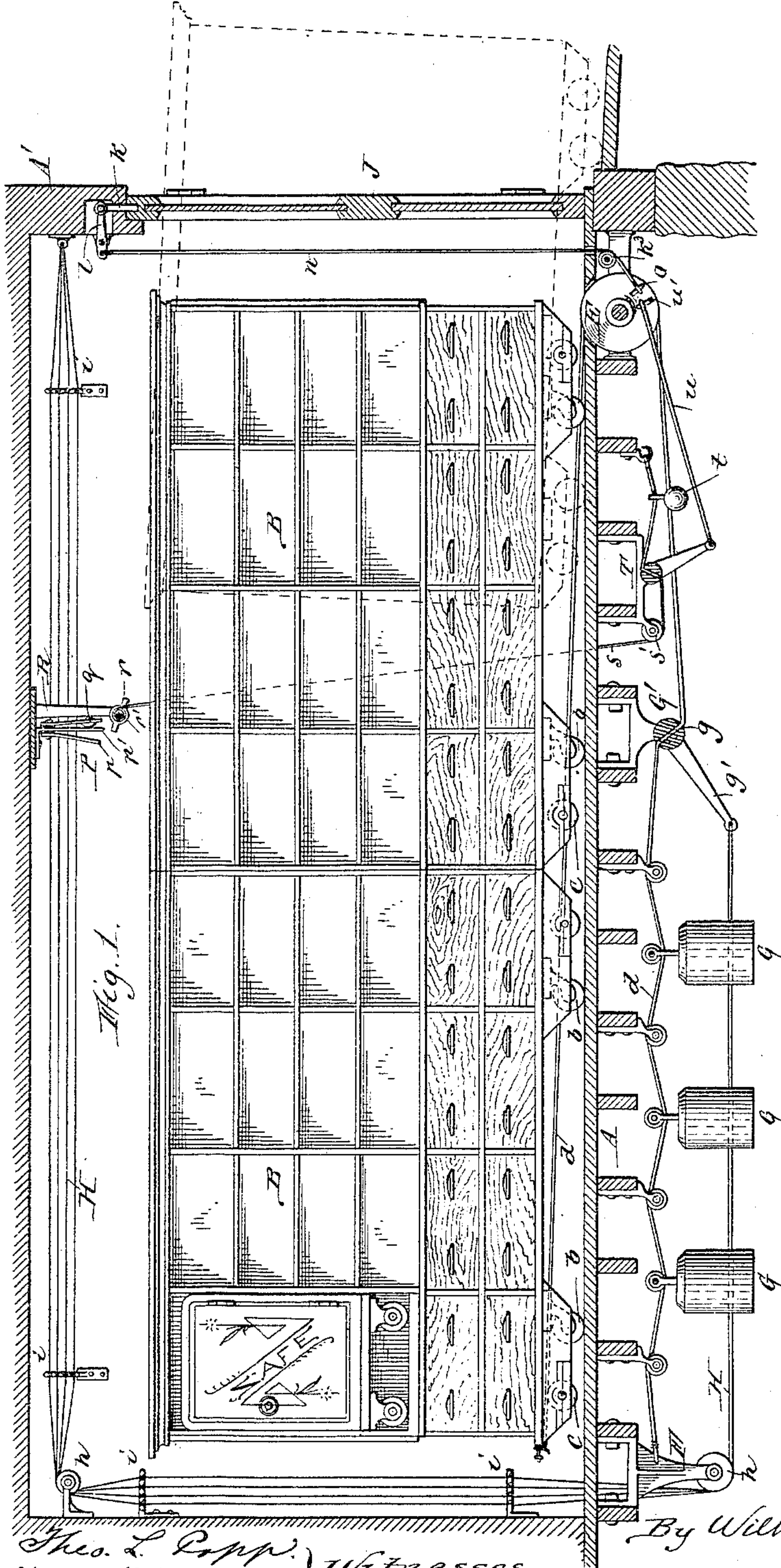


Fig. 1.

Fig. 3.

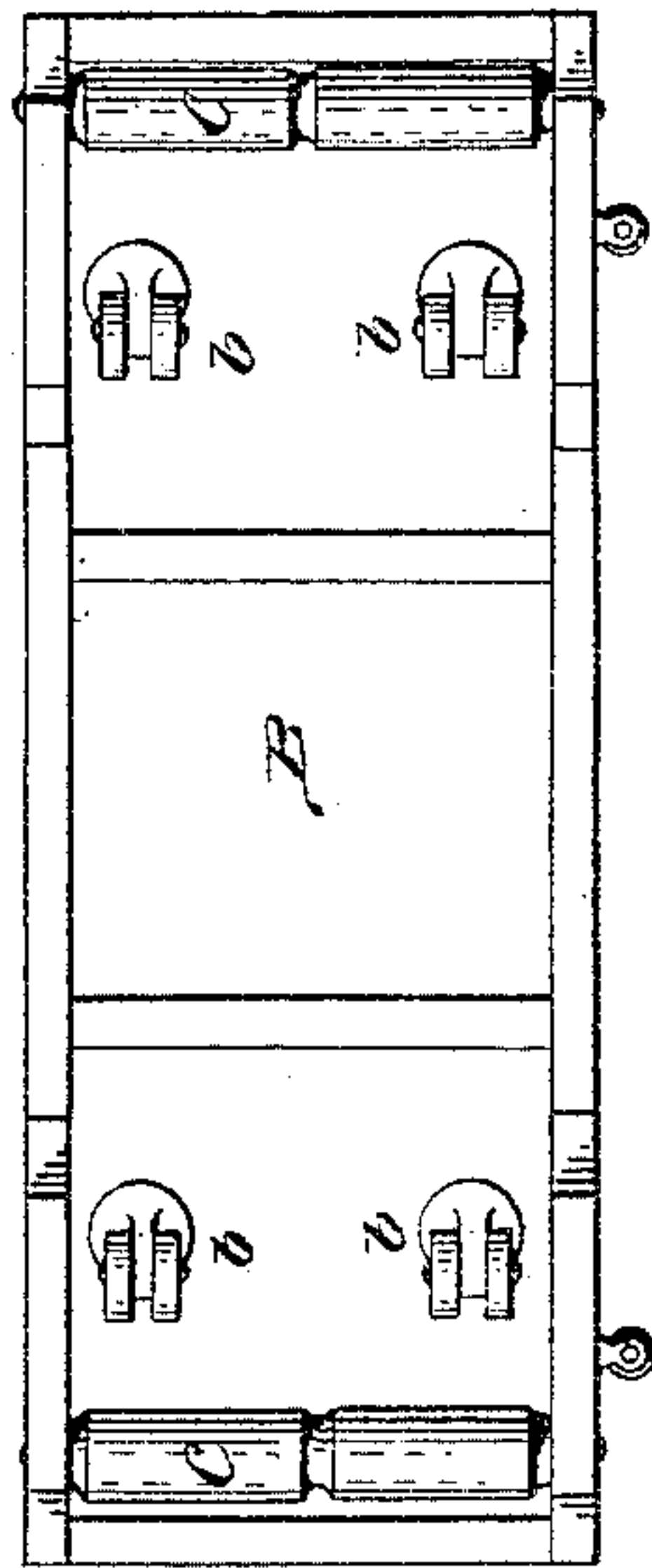


Fig. 2.

Theo. L. Rupp. } Witnesses.
Jacob Nupenblatt }

Peter Rink
Inventor.
By Wilhelm Ruppert
Attorneys.

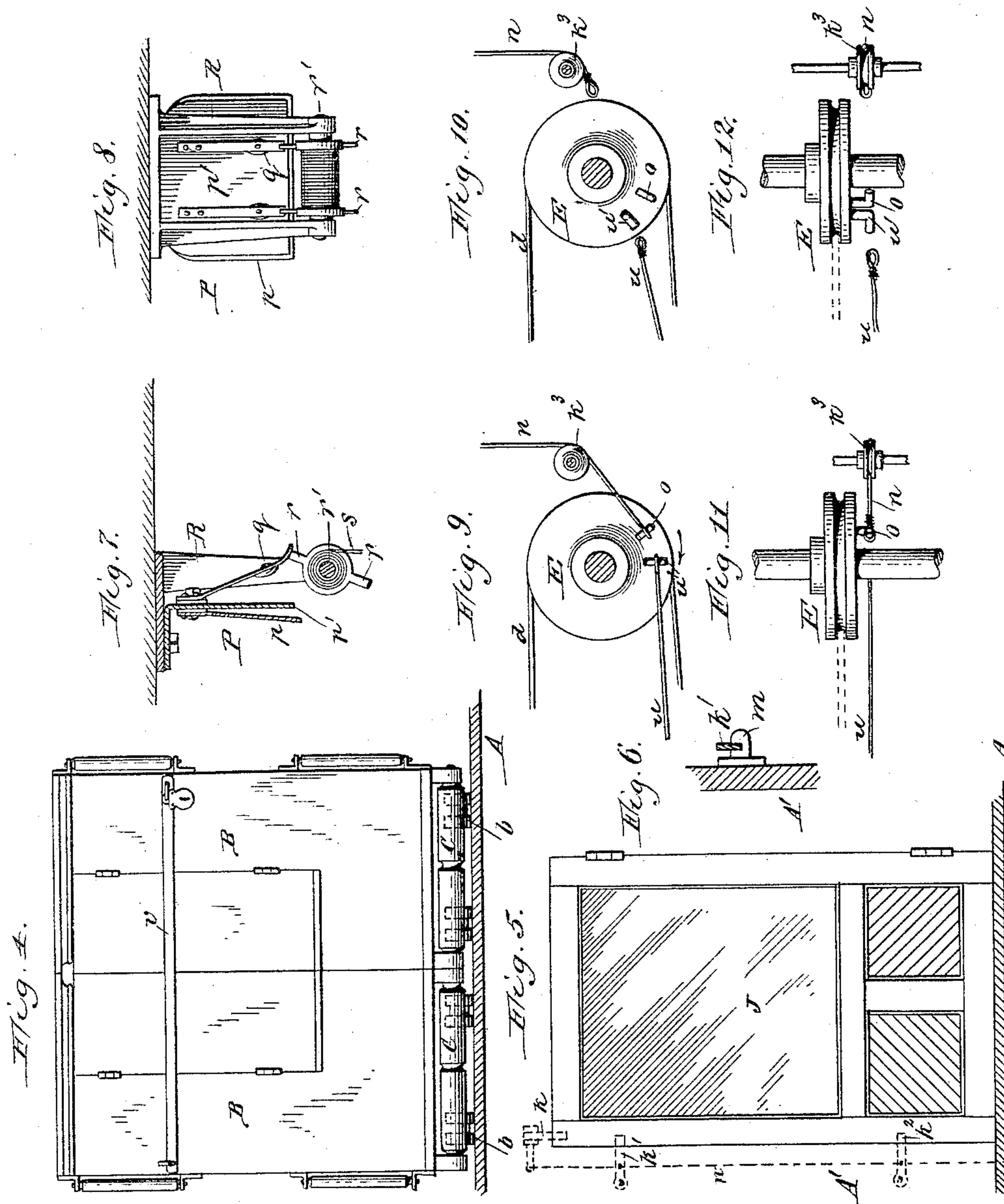
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2 Sheets—Sheet 2.

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Witnesses:
Thos. L. Popp
Jacob Nipentblatt

Peter Rink Inventor.
By Wilhelm Bonnet.
Attorneys.

UNITED STATES PATENT OFFICE.

PETER RINK, OF GOWANDA, NEW YORK.

PORTABLE SHELVING.

SPECIFICATION forming part of Letters Patent No. 454,293, dated June 16, 1891.

Application filed August 16, 1890. Serial No. 362,166. (No model.)

To all whom it may concern:

Be it known that I, PETER RINK, a citizen of the United States, residing at Gowanda, in the county of Cattaraugus and State of New York, have invented a new and useful Improvement in Portable Shelving, of which the following is a specification.

This invention relates to portable shelving for stores, and has for its object to facilitate the removal of the shelving from the store in case of fire.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a store provided with my improved portable shelving. Fig. 2 is a bottom plan view of one of the cases. Fig. 3 is a detached view of the brake of the draft-cable, showing the position in which the cable is released. Fig. 4 is an end view of two cases secured together face to face. Fig. 5 is an outside view of one of the hinged front windows of the store. Fig. 6 is a fragmentary vertical section of the window, showing one end of the locking-catches. Fig. 7 is a vertical cross-section of the alarm. Fig. 8 is a front view thereof. Fig. 9 is a side elevation of the wheel whereby the locking devices of the front window and the actuating device of the alarm are released, showing the retaining-cords connected to the wheel. Fig. 10 is a similar view of said wheel, showing the releasing-cords disconnected therefrom. Fig. 11 is a top plan view of said wheel with the releasing-cords attached to the same. Fig. 12 is a similar view with the releasing-cords detached.

Like letters of reference refer to like parts in the several figures.

A represents the floor of the store, and A' the front wall thereof.

B are the cases containing the shelves, and which are mounted upon rollers or casters *b*.

C represents auxiliary or relief rollers arranged near opposite ends of each case and extending nearly across the bottom of the casing. These relief-rollers are elevated above the main casters or rollers, so that in the event of the latter running into holes or ruts in the sidewalk or street the relief-rollers will support the case and permit the case to be moved until the casters are raised out of the holes. The relief-rollers are journaled

in the bottom frame of the case in any suitable manner.

d represents a draft cable or chain attached at one end to the rear end of the rearmost case B and running forwardly underneath the several cases and around a guide wheel or pulley E, journaled in the front part of the store below the floor. The opposite end of the cable is secured to a bracket F, or other stationary part, preferably in the cellar of the building. G are weights suspended from the lower portion of the draft-cable by anti-friction rollers, and which overbalance the shelf-cases and the goods contained therein. The shelf-cases are preferably provided on their rear sides with anti-friction rollers, which run against the wall and prevent binding of the cases against the wall.

G' represents a brake applied to the draft cable, preferably between the pulley E and the bracket F, and whereby the elevated weights are prevented from pulling down the cable and moving the shelf-cases. This brake consists of a short shaft or roller journaled in a depending bracket secured to the joists and provided with a diametrical slot or opening *g*, through which the draft-cable *d* passes. When the shaft is turned so that its slot stands at an angle to the direction of the cable, a bight or bend is formed in the cable, as represented in Fig. 1, firmly gripping the same and preventing it from slipping in the slot. When the shaft is turned so as to bring its slot in line with the direction of the cable, as represented in Fig. 3, the cable is released and free to be drawn through the slot of the roller by the elevated weight. The brake-roller is provided with an actuating-arm *g'*.

H represents an inflammable or combustible cord attached at one end to the actuating-arm of the brake G', and which passes upward into the store over a suitable guide-roller *h*, and is fastened at its opposite end to the wall or other stationary part. This combustible cord is arranged along the walls, preferably immediately below the ceiling, and in all places in the building which are exposed to fire, or where fire is likely to originate, so that in the event of a fire breaking out anywhere in the store or building the combustible cord will be severed. When the combustible cord is

parted, the brake-arm is released and the weights, tending to straighten the bight in the cable, cause the latter to turn the brake-shaft, so as to bring its slot in line with the direction of the cable, allowing the latter to slip through the slot and moving the shelf-cases toward the front part of the store. The combustible cord preferably consists of a group of cords. Shoe-maker's threads are desirable for this purpose, being very strong and highly inflammable. The threads are preferably separated between the guide-pulleys by combs or brackets *i*, having teeth between which the cords pass, so as to spread the several cords and cause them to burn more rapidly.

J represents one of the front windows of the store, which is hinged to the casing at one edge, so as to swing outward, and which is arranged directly in line with the adjacent shelf-cases, so that upon opening the window the shelf-cases may be moved out of the store onto the sidewalk or into the street.

The window is locked by catches or bolts *k k' k²*. The upper catch *k* consists of a vertically-sliding bolt, which engages a recess in the upper edge of the window and is attached to the inner end of a horizontal lever *l*, which is pivoted to a bracket secured to the top of the window-casing. The lower catches *k' k²* each consist of a bar or lever pivoted centrally to the inner side of the window-casing and engaging with its inner end in a notch formed in a projecting plate *m*, secured to the inner side of the window, as represented in Figs. 5 and 6.

n represents a releasing-cord connected with the outer arms of the several catches *k k' k²*, and passing through an opening in the floor and around a guide-pulley *k³*. The lower looped end of the cord is removably attached to a hook *o*, secured to the lower portion of the pulley *E*. The nose of this hook points outwardly, standing about at right angles to the cords in the normal position of the pulley, so that during the first part of the turning movement of the pulley *E* in the direction of the arrow in Fig. 9 the cord remains attached to the hook and is caused to shift the catches and disengage the same from the window. As soon as the hook reaches a position in which it stands in line with the loop of the cord, as represented in Fig. 10, the loop is stripped from the hook, thereby preventing the cords from being wound around the axle of the pulley after the catches have been released from the window.

P represents an alarm of any suitable construction, which is automatically operated when the cases are moved, so as to arouse the proprietor or occupants of the building in case of a fire at night. This alarm consists, preferably, of a pair of flat sheet-metal plates *p p'*, which are suspended at their upper ends from a suitable bracket and are struck by a vibrating tongue or hammer *q*, producing an

unusual clattering sound, which is readily distinguished from other alarms.

The vibrating hammer *q* consists of an elastic arm secured at its upper end to the bracket of the alarm, and having at its lower end a head or ball, which strikes against the free end of the adjacent alarm-plate. The vibrating hammer is moved away from the plates by a series of trip-fingers *r*, secured to a rotating shaft or drum *r'*, journaled in a hanger or bracket *R*. Upon rotating this shaft in the proper direction the trip-fingers deflect the vibrating hammer outwardly, and upon clearing the fingers the arm springs inwardly against the alarm-plates.

s represents an actuating-cord wound upon the shaft *r'*, and passing through an opening in the floor of the store and around the guide-pulley *s'*, the lower end of the cord being attached to the joist or other fixed part.

T represents a brake similar to the brake *G'* and controlling the movement of the actuating cord *s*, and *t* is a weight hung upon the cord between the brake *T* and the adjacent fixed end of the cord. *u* is the releasing-cord attached at one end to the arm of the brake *T* and having its opposite looped end detachably connected to a hook *u'*, secured to the lower part of the pulley *E*. The nose of this hook points inwardly and stands about at right angles to the cord when the pulley is in a normal position, so that the releasing-cord remains attached to the pulley during the initial movement of the pulley, and the bight is maintained in the releasing-cord, while as soon as the hook reaches a position in line with the loop of the releasing-cord by the continued rotation of the pulley the loop is stripped from the hook of the pulley, releasing the actuating-cord *s*, and allowing the weight to unwind the cord from the shaft, so as to rotate the latter and render the alarm.

In case a fire breaks out in any part of the building the adjacent portion of the combustible brake-cord is burned in two, causing the brake to release the draft-cable and allowing the overbalancing-weights to move the shelf-cases toward the front of the store. As soon as the pulley *E* has made a partial turn the catches of the front window are unlocked, leaving the window free to be pushed outward upon being struck by the front case, and permitting the case to move onto the sidewalk or into the street. At the same time that the cases are moved and the window is unlocked the actuating mechanism of the alarm is released and the alarm sounded.

After the cases are removed from the store they are preferably secured together in pairs, face to face, as represented in Fig. 4. Each case is provided at its ends with a hinged door, which may be swung inwardly to close the opening between the end portions of the contiguous cases and prevent pilfering of the goods. The doors are held in a closed position by a transverse locking-bar *v*, perma-

nently attached to one of the cases and removably attached to the staple of the other case by a padlock, as shown. This bar also serves to securely connect together the two cases. The overhanging cornices of the two cases abut against each other and protect the goods from the weather.

It is obvious that, if desired, the doors may be provided with locking-catches, which may be operated from the pulley E in a manner similar to the catches of the window.

I claim as my invention—

1. The combination, with the movable shelf-case, of a draft-cable attached to the same and running around suitable guide-rollers, weights suspended from said cable, and a brake or retaining device controlling the movement of said cable, substantially as set forth.

2. The combination, with a portable shelf-case, of a draft-cable attached to the same and running around suitable guide-rollers, a weight suspended from said cable, a brake device controlling the movement of said cable, and a combustible cord connected with said brake device, substantially as set forth.

3. The combination, with a portable shelf-case and a draft-cable connected therewith and running around suitable pulleys, of a weight suspended from said cable, and a door or window having a locking-catch connected with the draft mechanism of the portable shelf-case, substantially as set forth.

4. The combination, with the portable shelf-case and the weighted draft-cable connected

therewith, of a guide pulley or wheel around which said cable runs, a door or window having a locking-catch, and a releasing-cord connecting said locking-catch with said guide-wheel, substantially as set forth.

5. The combination, with the portable shelf-case and the weighted draft-cable connected therewith, of a guide-roller around which said cable runs and having a hook, a window or door having a locking-catch, and a releasing-cord attached at one end to said catch and at its opposite end to the hook of the guide-pulley, substantially as set forth.

6. The combination, with a portable shelf-case and a draft-cable connected therewith and running around suitable pulleys, of a weight suspended from said cable, a door or window having a locking-catch connected with the draft mechanism of the portable shelf-case, and an alarm also connected with the draft mechanism and which is automatically operated when the cases are moved, substantially as set forth.

7. The combination, with the shelf-case having rollers or casters, of relief-rollers extending across the bottom of the case and raised above said casters, substantially as set forth.

Witness my hand this 5th day of August, 1890.

PETER RINK.

Witnesses:

CARL F. GEYER,
ALICE G. CONNELLY.