Sheet 1, 2 Sheets.

W. Dobbins.

Steam Press.

No. 80,654. Patented Feb. 9, 1869.

Fig: 1.

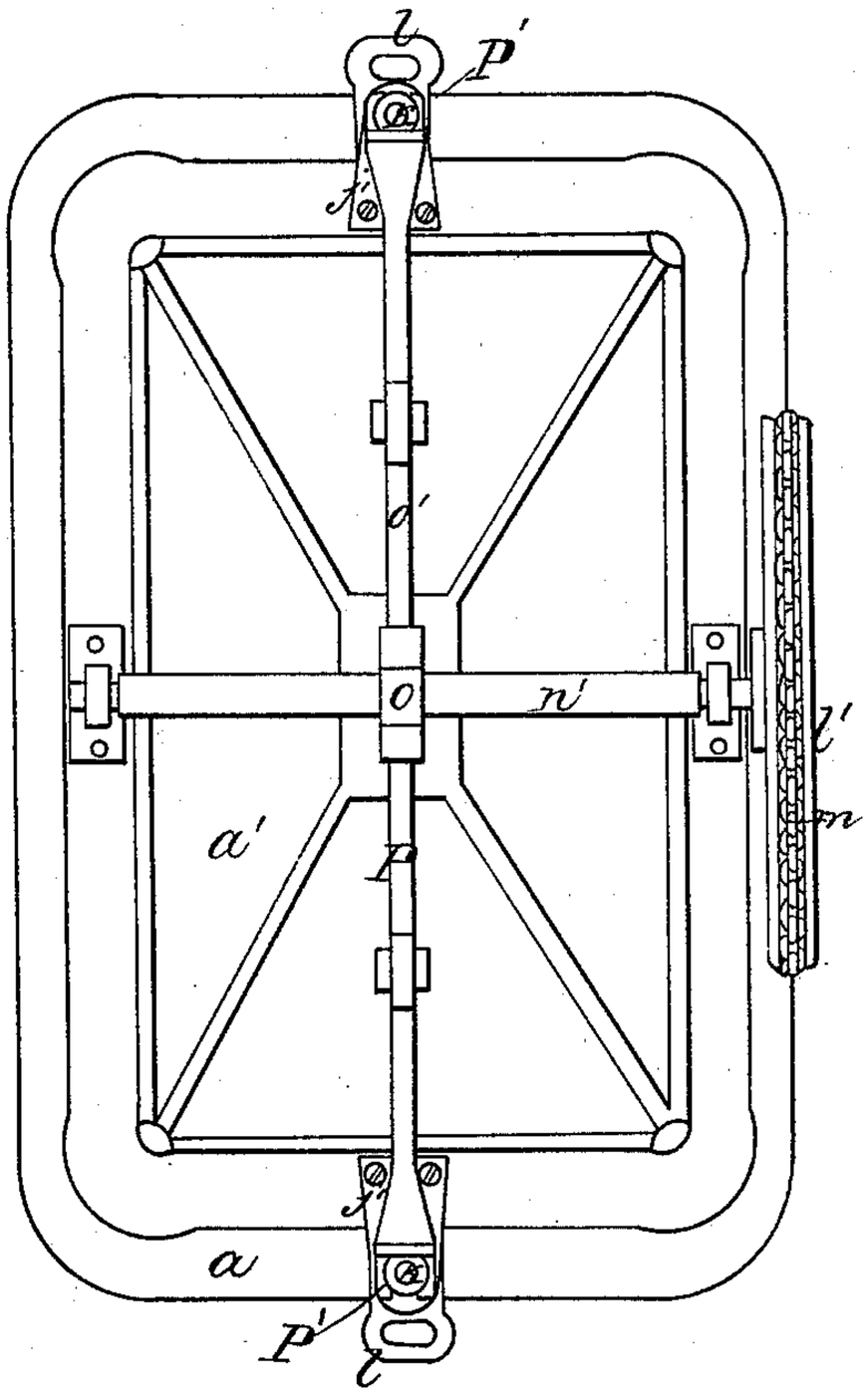
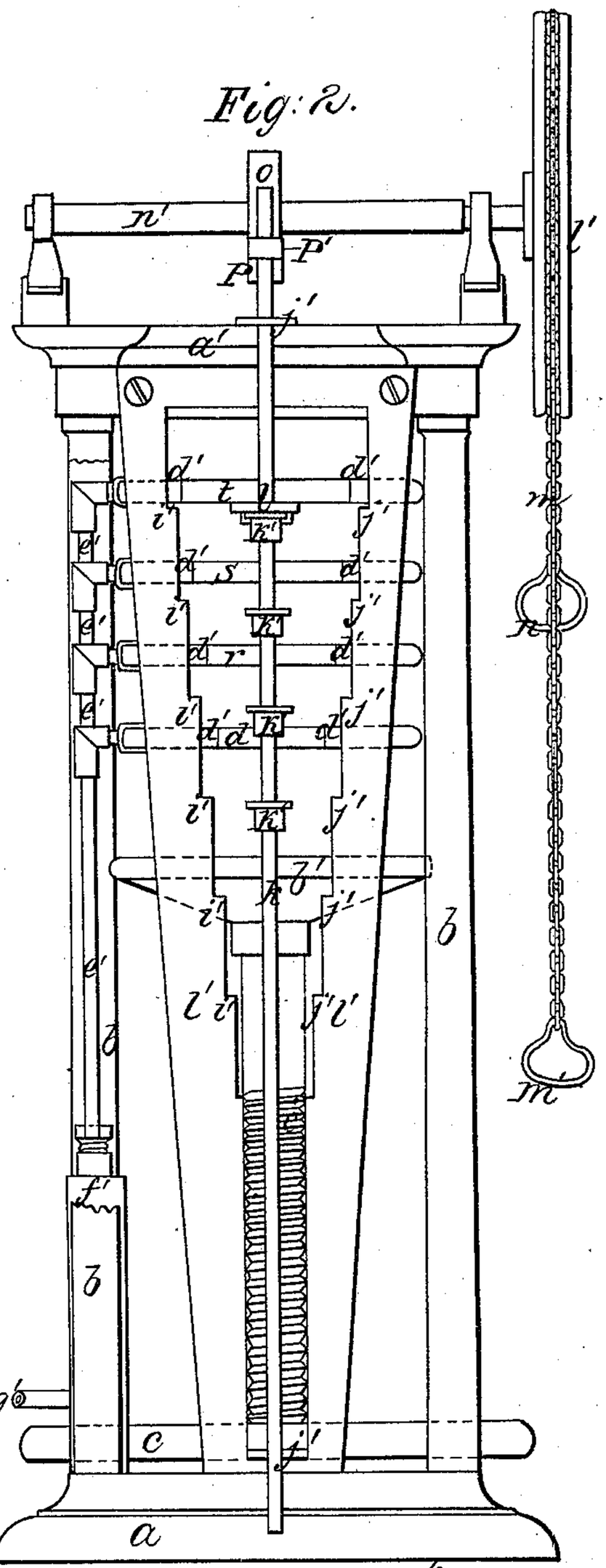


Fig: 2.



Witnesses;
William Dobbins

Inventor;
William W. Gladman
Geo. E. Perry.

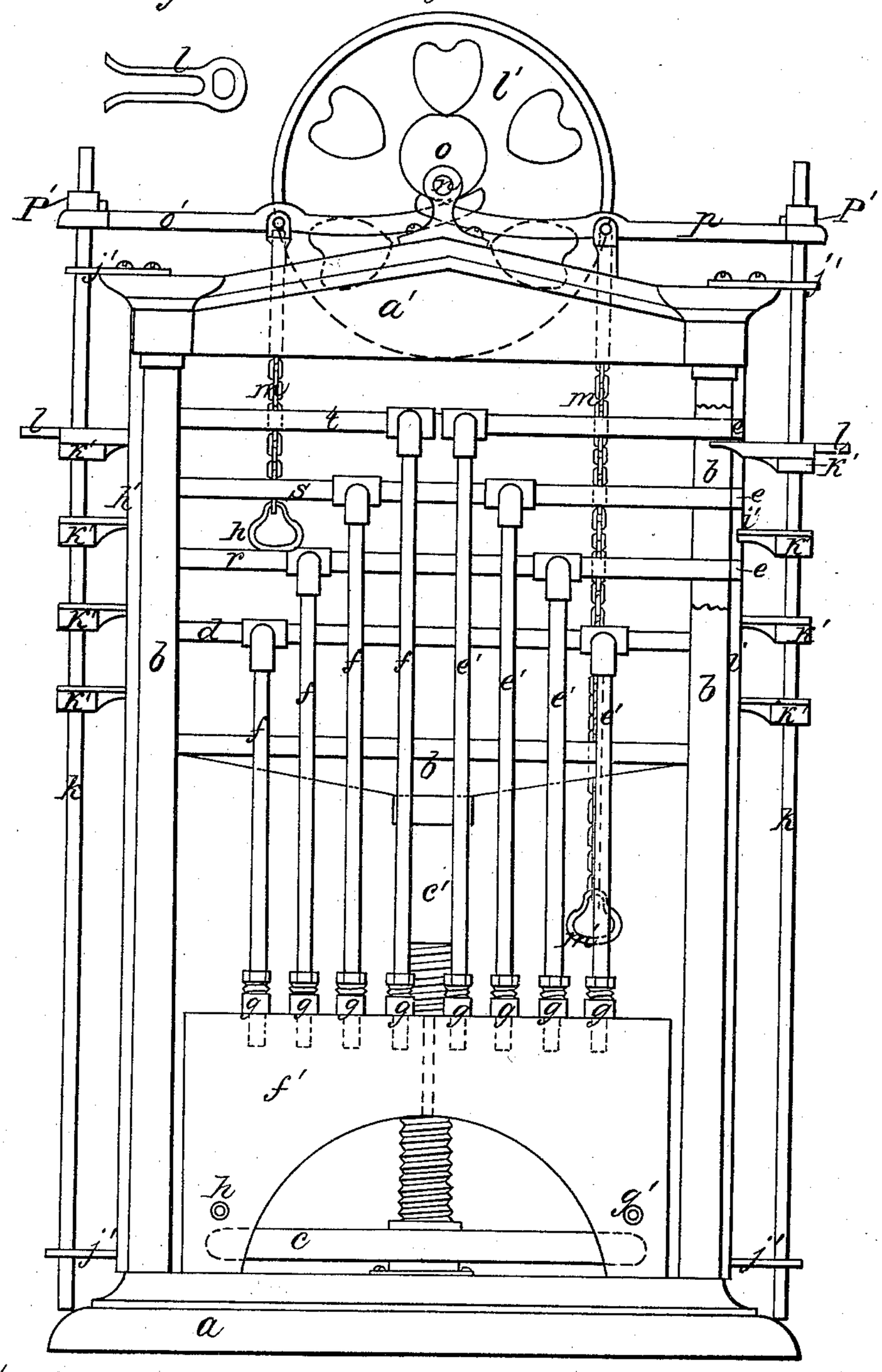
Sheet 2, 2 Sheets.

W. Dobbins.

Steam Press

No. 86,654. Patented Feb. 9, 1869.

Fig: 3. Fig: 4.



Witnesses;
William Dobbins

Inventor;
William W. Gladwin
Geo. E. Perry.

United States Patent Office.

WILLIAM DOBBINS, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JOHN J. CRAWFORD, OF SAME PLACE.

Letters Patent No. 86,654, *dated February* 9, 1869; *antedated December* 2, 1868.

IMPROVED STEAM-PRESS.

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 DOBBINS, of Lowell, in the county of Middlesex, and State of Massachusetts, have invented new and useful Improvements in Steam-Presses; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the employment of a steam-chest or box, formed with two distinct parts or chambers, which are provided with a supply and discharge-pipe, and supplied with the requisite stuffing-boxes, and used in connection with the steam-finishing plates, as hereinafter described.

It also relates to the arrangement, construction, and combination of the hoisting-device with the finishing-plates, which consists of two vertical rods supplied with fingers, they being provided with adjustable slides, racks, and levers, and operated by a cam.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 represents a plan of a steam-press with my improvements attached.

Figure 2 represents a side elevation, with parts broken out, showing the operation of my improvements.

Figure 3 represents a plan of the adjustable slide.

Figure 4 represents a back elevation of the press, with parts broken out, showing the operation of the steam-chest, with its connections, and the hoisting-device.

Similar letters in the different figures indicate corresponding parts.

The press is constructed in the usual way, with a bed or base-plate, *a*, and cap or top-plate, *a'*, which cap, *a'*, is supported and connects with the bed-piece *a* by means of the columns *b b b b*.

Between these columns is placed the follower *b'*, which is operated by means of the hand-wheel *c* and screw *c'*, which screw passes through the centre of the bed-piece *a*, and is supplied with a female step or nut, secured to the same.

The press is also provided with the required number of steam-finishing plates, *d*, *r*, *s*, and *t*, which are placed in position between the follower *b'* and cap, *a'*, their insides being so constructed as to give the greatest area of steam-heating surface, and are furnished at each end with projections, *d' d'* and *e e*, at the back part of the same, they being connected, by means of the requisite ingress and egress-pipes, *e' e' e' e'* and *f f f f*, with the steam-chest or box *f'*, which is located at the back part of the press, and firmly secured to the top of the base or bed-plate *a*, its top being supplied with the requisite stuffing-boxes *g g g*, through which the ingress and egress-pipes *e' e' e' e'* and *f f f f* pass and operate, these boxes *g g g* forming a steam-tight joint for the same.

The chest, or box *f'*, its inside being made hollow, and divided off by a partition through its centre, thus forming two separate and distinct chambers, as shown in fig. 4 by dotted lines.

Connecting with these chambers are the supply and discharge-pipes *g'* and *h*.

Secured at each side of the press, to the bed and cap-plates *a* and *a'*, and located between the columns *b b b b*, are the double racks *h'* and *i*, which are provided with notches or teeth, *i' i'* and *j j*, formed on the same, for the reception of the projections *d' d'* and *e e*, to rest when not in use. These racks also serve as guides for the finishing-plates *d*, *r*, *s*, and *t*.

Attached to the top of the cap and bed-plates *a'* and *a*, near their centres, are suitable stands *j' j'*, projecting from the same, through which the rods *k k* pass and operate, they being provided with the required number of fingers, *k' k'*, located the desired distance from each other, and firmly secured to the same, on which the adjustable slides *l l* operate.

l' is the chain-wheel, to which is secured a chain or cord *m*, the ends of which are provided with handles *m'* and *n*. This wheel is firmly secured to the end of the shaft *n'*, which is furnished with the requisite bearings, located in the centre, on the top, front, and back of the cap-plate *a'*.

Between these bearings, and secured to the shaft *n'*, is the cam *o*, which operates the levers *o'* and *p*, they being provided with suitable bearings, located near their centres, the other ends of these levers *o'* and *p* coming directly in under the collars *p' p'*, which are secured to the rods *k k*, thus operating the same.

Operation.

The press being thus constructed, with my improvements attached, is then ready for use, the steam-finishing plates *d*, *r*, *s*, and *t*, their projections *d' d'* and *e e* resting on the teeth *i' i'* and *j j* of the double racks *h'* and *i*. The goods to undergo this steam-finishing process are neatly folded, between each fold of which is placed a sheet of paste-board or paper. When of the desired thickness, a place is prepared in the press to receive it, commencing with the follower *b'*, by placing the adjustable slides *l l* on the fingers *k' k'*, their ends projecting in under the edges of the plate *d*; then, by aid of the handle *n* and chain *m*, the wheel *l'* is operated, which operates the cam *o*, depressing the ends of the levers *o'* and *p* under the same. They being pivoted near their centres, raises the other ends, which, coming in contact with the collars *p' p'*, secured to the rods *k k*, operate the same, carrying up or elevating and holding the plate *d*, as desired.

The prepared goods are then placed on the follower *b'*, in under the plate *d*, previously raised. Then, by

aid of the handle *m'*, the cam *o* is reversed, letting the plate *d* on to the same, this operation being continuous throughout the filling of the entire press, which, when filled, by aid of the wheel *c* and screw *c'*, the follower *b'* is forced upward, until the required pressure is given to the goods, as desired.

Steam is then let into the supply-pipe *g'*, which connects with the chamber in the steam-chest *f'*. By its pressure, it is forced through the ingress-pipes *e' e' e' e'* into the steam-finishing plates *d*, *r*, *s*, and *t*, passing throughout the same, to the egress-pipes *f f f f*, where it is conveyed into the chamber of the steam-chest *f'*, where it is discharged from the same by means of the pipe *h*, thus keeping a continual current of steam throughout the steam-finishing plates *d*, *r*, *s*, and *t*, which, after the goods have been thus subjected to this steam-finishing process the desired length of time, the supply of steam is stopped, and cold water is forced through the plates *d*, *r*, *s*, and *t* until the goods are cold, as commonly expressed.

The pressure is then removed from the same by means of the wheel *c* and screw *c'*, and the goods removed from the plates *d*, *r*, *s*, and *t*, commencing with the top plate *t*, which, after it has been cleared, the plate *t* is raised from the goods underneath the same, as before explained, in filling the press, and so on, alternate, until the whole lot is removed from the press.

Thus it will be seen, by the use of the steam-chest *f'*, arranged and constructed with two distinct chambers, and provided with stuffing-boxes *g g g*, and connecting the same with the steam-finishing plates *r*, *d*, *s*, and *t*, by ingress and egress-pipes *e' e' e' e'* and *f f f f*, the plates *d*, *r*, *s*, and *t* can be operated as desired, "raising or lowering the same," without disconnecting them from the discharge or supply of steam, and the connections kept steam and water-tight with but little trouble and expense.

Also, the plates *d*, *r*, *s*, and *t* can be raised and lowered, and held in position, as required, for the convenience of taking out and putting in the goods to be finished, by my arrangement and combination of devices, which constitute the hoisting-device, easily and quickly, being, on the whole, compact, durable, cheap in its construction, useful, and easily and quickly applied and kept in repair.

I do not claim the press nor the finishing-plates, as they are old and have long been in use; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

In combination with the steam-finishing plates *d*, *r*, *s*, and *t*, the rods *k k*, with their fingers *k' k' k' k'*, adjustable slides *l l*, racks *k'* and *i*, levers *o'* and *p*, and cam *o*, when constructed and arranged to operate as and for the purposes herein described.

WILLIAM DOBBINS.

Witnesses:

WILLIAM W. GLADWIN,

GEO. E. PEVEY.