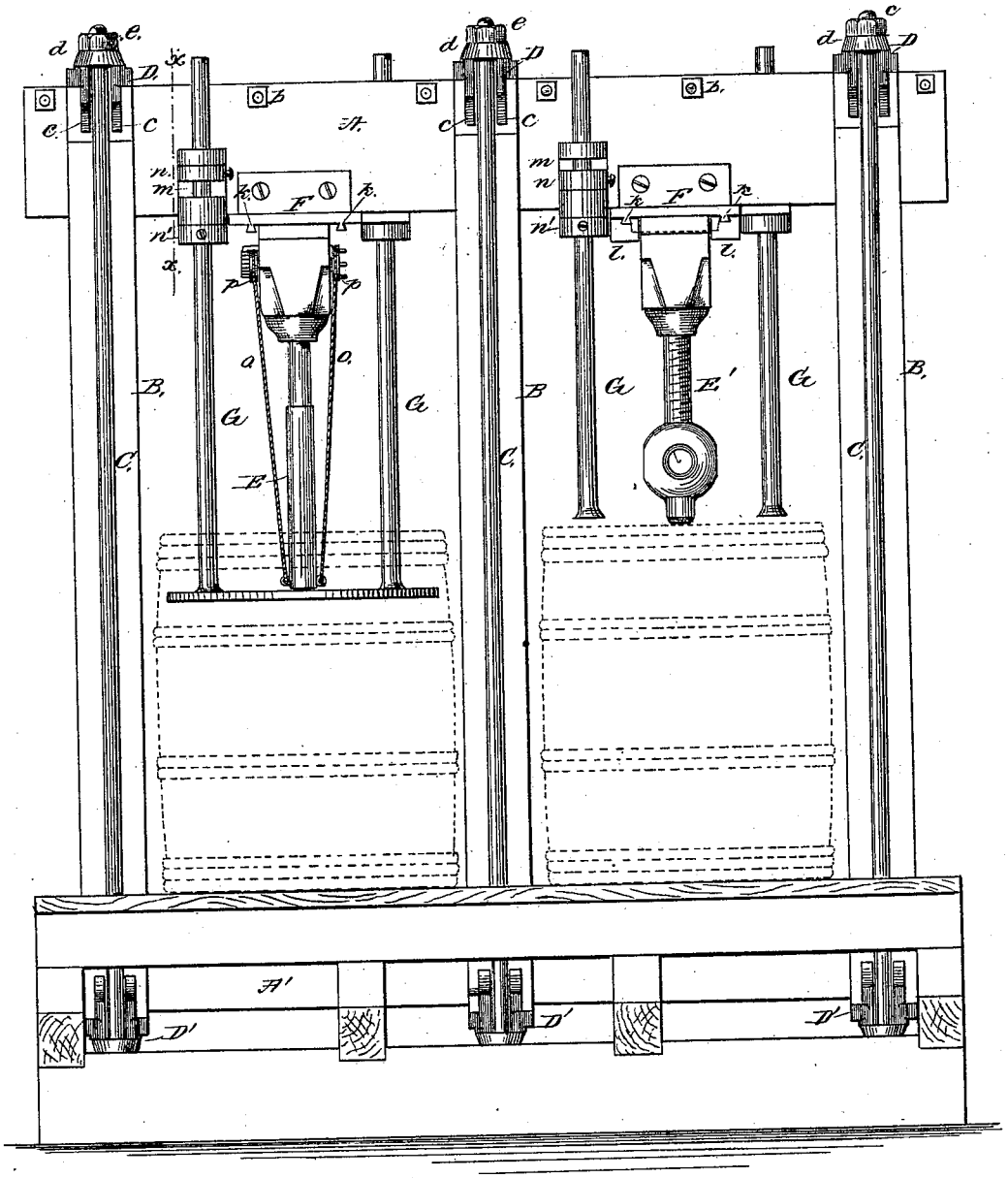
2 Sheets—Sheet 1.

F. B. DEANE.

Apparatus for Pressing Tobacco.

No. 212,446. Patented Feb. 18, 1879.

FIG. 1.



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2 Sheets—Sheet 2.

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Apparatus for Pressing Tobacco.

No. 212,446. Patented Feb. 18, 1879.

FIG. 2.

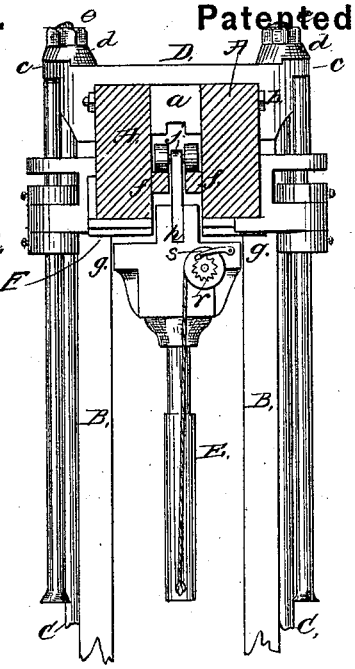


FIG. 3.

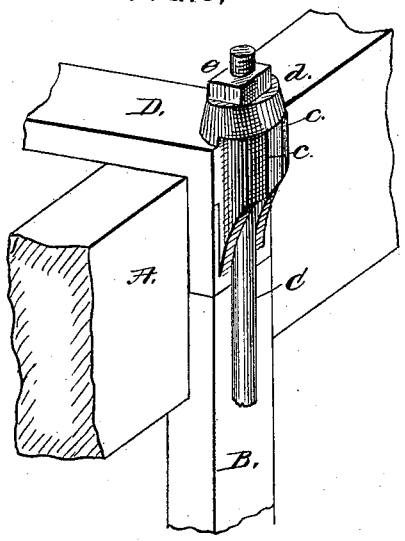
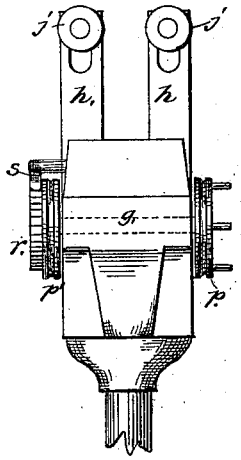


FIG. 4.



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UNITED STATES PATENT OFFICE.

FRANCIS B. DEANE, OF LYNCHBURG, VIRGINIA.

IMPROVEMENT IN APPARATUS FOR PRESSING TOBACCO.

Specification forming part of Letters Patent No. **212,446**, dated February 18, 1879; application filed December 23, 1878.

To all whom it may concern:

Be it known that I, FRANCIS B. DEANE, of Lynchburg, in the county of Campbell and State of Virginia, have invented a new and Improved Apparatus for Pressing Tobacco, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a cross-section through the upper portion of the apparatus at the line *x x*, Fig. 1. Fig. 3 is a detail, in perspective, of the connection of the tie-rods and yoke-shaped plates. Fig. 4 is a detail of the jack-frame.

My invention relates to an improved apparatus for pressing tobacco, the same being designed more particularly for pressing tobacco into hogsheads, but applicable also to other uses.

The object of my invention is to reduce the time, labor, and expense of packing the tobacco; and to this end the improvement consists mainly in the construction and arrangement of a suspended jack, arranged to travel over a row of hogsheads, so that a single jack gives successively to each hogshead the desired pressure.

In connection with said traveling jack I employ, also, a peculiarly-constructed set of retainer-bars, which are adapted to hold the tobacco down after being pressed while the jack is operating upon the other hogsheads.

My invention also comprises means for holding the jack to its place when under pressure, and in the structure of the press-frame, certain means designed for greater facility in removing, renewing, or replacing its parts, together with other details, hereinafter more fully described.

In the drawings, A A represent two heavy beams at the top, which are separated at their upper edges by block *a*, and are clamped together upon the block by transverse bolts *b*. A′ A′ are two corresponding beams at the bottom, which are arranged in the same vertical plane with the upper beam, and are connected thereto by the standards or struts B B and by the tie-rods C C. These standards are rabbeted or mortised at their ends upon their sides to form shoulders, which extend beneath the edges of the beams A and over the edges of A′, so as to properly sustain the frame-work above.

The tie-rods C are connected to plates D D′ at top and bottom, and carry the strain when the pressure of the jacks is applied.

The lower set of beams, A′ A′, and plate D′ are arranged beneath the floor of the compartment, so that the upper surface of said floor is unincumbered for the easy placing of the hogsheads beneath the jack, while the upper beam, A, and plate D are arranged in most cases near the ceiling or floor of the next story of the building.

In arranging the frame in the relation described, I construct the plates D D′ of a yoke shape, so that they extend across both the timbers A A and A′ A′, and project at right angles over the outside edges, so as to furnish an additional brace or tie for said timbers. I also construct these plates with two offsetting lugs, *c c*, on each side, having an open space between for the lateral insertion of the vertical tie-rods C, which lugs are extended above the general level of the upper surface of the plates. Just above these lugs, and encircling the tie-rod, I place a washer, *d*, having upon its inner side a lug equaling in depth the altitude of the lugs *c* of the plate.

When the washer is in place, and the nut *e* upon the end of the tie-rod is screwed up, the lug of the washer rests behind the upward extension of the lugs *c c* of the plate, and prevents the tie-rod from bursting or slipping out laterally from between the lugs *c c* when the pressure is applied. This provision is necessitated by the open space between the lugs *c c*, in which the tie-rod is inserted, and the absence of metal in the plate to resist the lateral outward movement of the tie-rods.

The reason for this lateral insertion of the tie-rod is as follows: The upper frame, it will be remembered, is for the most part near the ceiling at the top, while the lower timbers are beneath the ground-floor. Now, if one of the tie-rods should be broken, or it should be necessary, for any reason, to remove the tie-rods for renewing parts of the frame, it will be perceived that if they passed through holes in the plates D D′ the length of said rods is so great

that there would be neither room to remove them at the bottom nor at the top, and the only mode of taking the same out would be to tear up a portion of or bore through the upper floor and take them out through the second story.

The open space between the lugs, it will be seen, permits the easy lateral insertion of the tie-rods.

I do not claim broadly, however, the lateral application of the tie-rods between the slotted cross-head of a press, as this has been done; but when the cross-head or yoke D is provided with lugs or forks whose upper surface extends above the general level of the said yoke, the lateral displacement of the tie-rods, when under tension, is prevented.

In the space left between the bottom edges of the two timbers A A by the interposition of the blocks I arrange the rails *f f*, which constitute the track upon which the suspended jacks travel.

E E′ are the traveling jacks, of which two are here shown—the one E a hydraulic jack, and the other a screw-jack. Only one jack is required at a time, but the two are shown simply to indicate the applicability of each. The jack-frame is made with heavy shoulders *g g*, that extend over the lower edges of the timbers A A, and carry by abutting against said timbers the reacting strain of the pressure applied. From this jack-frame there rise two central tongues, *h h*, (see Figs. 2 and 4,) which extend up between the timbers A A, and are slotted at their ends for the reception of and loose connection with short axles resting in the wheels *j j*, which travel upon the rails *f f*. These latter devices constitute the means whereby the jack is suspended and enabled to travel over the series of hogsheads on the floor beneath, the connection between the tongues *h* and the axles being a loose slotted connection, to allow the shoulders *g* to drop sufficiently below the bottom of the timbers A A so as not to bind in traveling, and yet prevent strain upon the axles when the shoulders are close beneath the timbers and the strain is on. When the strain incident to the pressure is on, the jacks require something to keep them from slipping, especially when there is a torsional strain, as with the screw-jack, and a bearing-plate is also required to sustain said pressure without indenting the wood. For this purpose I provide the plates F and affix them to the under side of timbers A A, and construct them with dovetail ribs *k k*, arranged transversely to the beams. Upon these dovetail ribs on each side of the shoulders *g* of the jack-frame I slide the grooved stop-blocks *l*, Fig. 1, which hold the jack to its place and prevent it from traveling along the timbers. When it is desired to shift the position of the jack from one hogshead to the next, these blocks are removed and the jack slid bodily along to its position above the next hogshead.

After the desired pressure has been attained upon any one hogshead, and it is desired to transfer the jack, the tobacco pressed in said first hogshead must be held down by some means against its tendency to expand and rise. For this purpose I provide upon opposite sides of each set of plates F a retaining-bar, G, having a foot at its lower end and extending up through two laterally-projecting lugs of a plate, *m*, which is bolted to the beam A, and is provided with a lip that extends under the same. After the jack has forced the tobacco to its lowest point these retaining-bars are dropped upon the boards above the tobacco in the hogshead, and the two collars *n n′* are then rigidly fixed to the rod beneath the lugs of plate *m* by the set-screws carried by said collars, so that the retaining-bars cannot rise, and when the jack is raised from the tobacco they serve to prevent the latter from expanding. With respect to the use of a retaining-bar which is held by pegs or is blocked up to the desired adjustment, this I do not claim, as such expedients have long been resorted to for this purpose. When blocks are used, however, much time is consumed in adjusting them, and when pegs are employed there can be no adjustment between the holes except by blocking up. I therefore limit this feature of my invention to the retaining-bar, in combination with the collars, set-screws, and holding-lugs, which permit the exact adjustment to be at once obtained, whether this be great or slight.

With my invention I prefer to use for various reasons the hydraulic jack, and when this is employed in its unusual suspended position some means are required for quickly restoring and holding the adjustable section against gravity. For this purpose two chains or cords, *o o*, may be attached to the lower end of the adjustable section and wrapped around pulleys *p p*, fixed on a shaft journaled in the jack-frame, which pulleys are turned to wind up the cords or chains by handles projecting laterally from the same, the movable jack-section being held in its elevated position by a ratchet-wheel, *r*, and pawl *s* at the opposite end of the shaft.

Having thus described my invention, what I claim as new is—

1. The combination, with the upper timbers of a press-frame having rails or tracks, of a traveling jack suspended upon said track and arranged to be adjusted thereon to its several positions, substantially as described.

2. The combination, with the upper timbers of the press-frame having rails or tracks and a traveling-jack suspended thereon, of removable stop devices adapted to oppose the travel of the jack when under pressure, substantially as described.

3. The combination, with the traveling jack, of the bearing-plate F, affixed to the bottom of beams A, and having dovetail ribs *k* and removable stop-blocks *l*, substantially as described.

4. The combination, with the tie-rods and

the timbers, of the yoke-shaped plates having offsetting lugs *c c* projecting above the level of the said plates, and provided with an open space between adapted to receive the tie-rods by a lateral insertion, as described.

5. The combination, with the tie-rods and the timbers, of the yoke-shaped plates having offsetting lugs *c c* raised above the level of the said plates, together with a washer having a corresponding lug and a suitable fastening device, substantially as described.

6. The combination, with a pressing device, of one or more retaining-bars having one or more adjustable collars, *n*, with set-screws, and the plate *m*, fastened to the beam A, and having perforated offsetting lugs, as described.

The above specification of my invention signed by me this 19th day of December, 1878.

FRANCIS B. DEANE.

Witnesses:
EDW. W. BYRN,
SOLON C. KEMON.