(No Model.)

2 Sheets—Sheet 1.

J. DAIGNEAU.

BARK PRESS.

No. 322,687. Patented July 21, 1885.

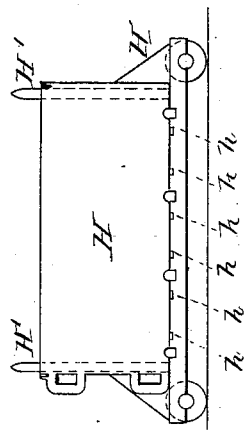


Fig. 3.

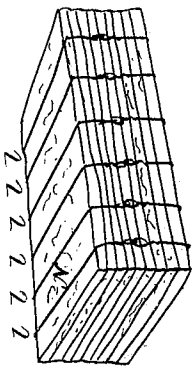


Fig. 7.

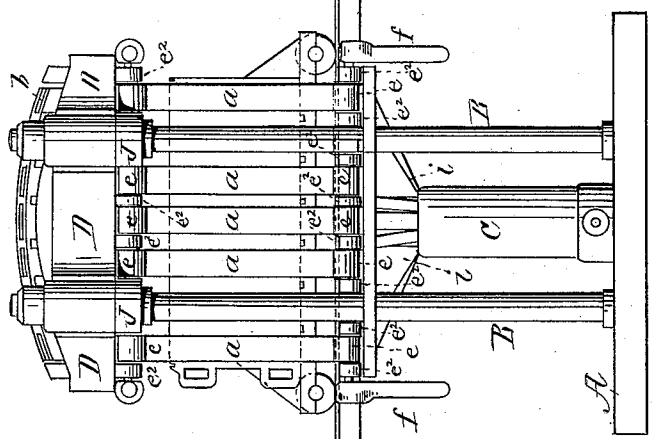


Fig. 1.

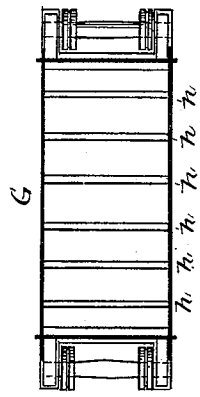


Fig. 2.

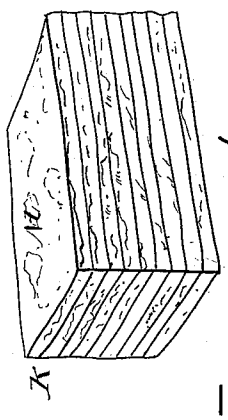


Fig. 6.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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BARK PRESS.

No. 322,687. Patented July 21, 1885.

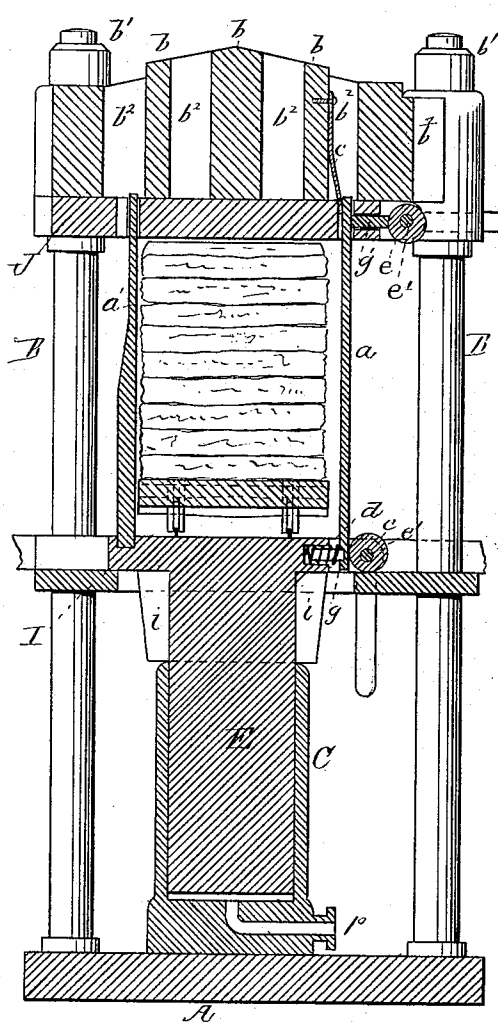


Fig. 4.

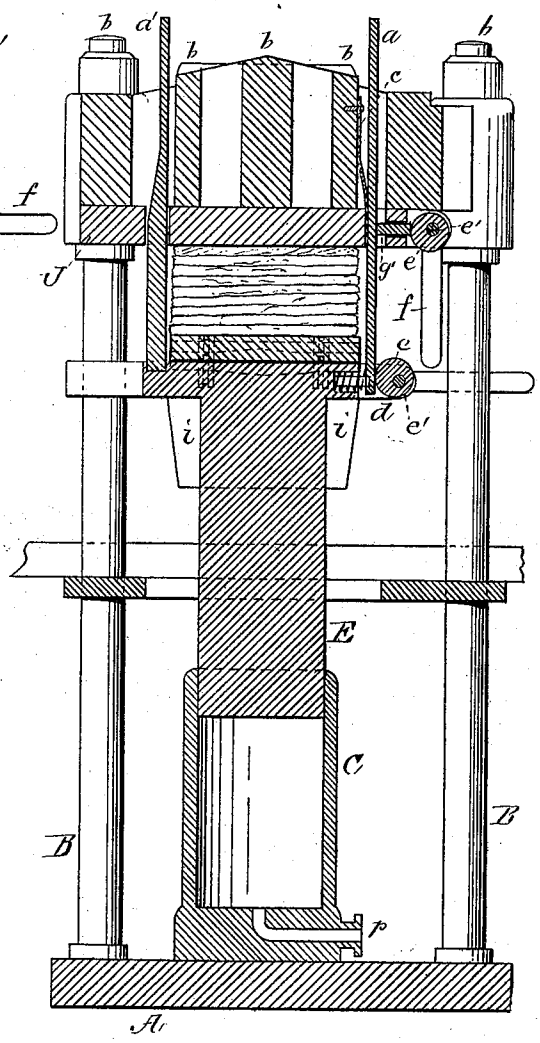


Fig. 5.

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UNITED STATES PATENT OFFICE.

JÉRÉMIE DAIGNEAU, OF LOWELL, MASSACHUSETTS.

BARK-PRESS.

SPECIFICATION forming part of Letters Patent No. 322,687, dated July 21, 1885.

Application filed May 15, 1883. Renewed February 26, 1885. (No model.)

To all whom it may concern:

Be it known that I, JÉRÉMIE DAIGNEAU, a citizen of the United States, residing at Lowell, in the county of Middlesex, State of Massachusetts, have invented Improvements in Bark-Presses, of which the following is a specification.

My invention relates to improvements in power-presses for pressing loose bark for transportation, in which layers of bark as taken from the tree are compressed into from two-thirds to three-fourths the space occupied by loose bark and while under pressure are wired or tied in bales; and this compression is accomplished by means of a hydraulic press, in which process the bark is first piled into a box, open at the top and having movable sides, upon a truck outside of the press, and when the box is filled the truck is run on rails into and upon the floor of the press, the movable sides removed, and the floor carrying the loaded truck is pressed upward and the bark compressed and tied, and then the truck is lowered to its former position, run out of the press, and unloaded.

The object of my invention is to compress loose bark into bales for transportation, especially transportation by water in vessels, where space is a great consideration; and I attain this objeet by means of the press herein described; and in order that others skilled in the art may understand the nature and use of my invention I refer to the accompanying drawings, and to the letters of reference thereon, which are made a part of this specification, in which—

Figure 1 is a front elevation of the machine, in which the truck is represented as within the press. Fig. 2 is a plan of the truck. Fig. 3 is a side elevation of the same. Fig. 4 is an end elevation and cross vertical section of the machine having a loaded truck within the press and ready for the application of the pressure. Fig. 5 is the same view, showing the compression and when the bale is ready for tying. Fig. 6 shows a pile of bark untied, and Fig. 7 shows a bale tied or wired for transportation.

The letter A represents the base of the press; B, the upright posts resting upon the base and supporting the head or upper part of the press; C, the cylinder; D, the head of the press-frame; E, the piston moving in the cylinder C and bearing upon its upper end the floor of the press, the braces, or supports; F, the platforms on either side of the press, having rails thereon for the truck-wheels; G, the truck, the bottom of which is grooved; H, movable sides of an open box formed, while loading, by the truck-bottom and the ends H′, which are fastened to the truck-bottom and are strengthened by the braces H^2, secured also to the truck-bottom and extending up the outside of said ends H′; I, the lower floor of press, resting upon and being a part of the upper end of the piston E, and J the upper floor of the press or end of the press opposite the floor or end I.

a represents the movable side pieces of the press, having springs at the top and bottom; *a′*, similar opposite side pieces of press, strengthened on the outside; *c*, springs on the top of the side pieces, *a*, and *d* spiral spring on the bottom of the same; *b*, cross-pieces of the frame-head D; *e*, cams on a movable cam-bar; *e′*, cam-bar, having thereon cams *e*, which press against the side pieces, *a*, at top and bottom; e^2, projections of floors I and J, through which pass the cam-bars *e′*; *f*, levers on the ends of cam-bars *e′*; *g*, pegs attached to bottom of side pieces, *a*, on the inside, around which are the spiral springs *d*, and *g′* movable blocks playing in slots in the end piece, J, (see Figs. 4 and 5,) between the side pieces, *a*, and the cams *e*, against which the cams press; *h*, grooves in the bottom of truck, and also the floor or upper end of the press, corresponding with the grooves in the bottom of the truck when in the press; *i*, braces holding up or strengthening the floor of press; *k*, loose pieces of bark; *l*, wires or strings; M, a loose pile of bark; N, bale or wired pile of bark.

Having thus described what the figures show and the application of the letters designating the several parts of the machine, I will now explain the use of these parts and the mode of operating the press. The press is an ordinary hydraulic or power press, having a piston, E, operating in an upright cylinder, C. Upon the upper end, as it stands, of this piston is laid a floor or platform, I, and to

strengthen which braces *i* are also attached to the piston and the floor, as shown in Figs. 1, 4, and 5. Upon this floor are rails for the wheels of the truck G. The cylinder C rests upon the base A, and into the bottom of the cylinder runs a pipe, *p*, through which presses the power to raise the piston. The four upright posts, B, rest upon the base A and support the floor or upper end, J, to which the head-frame D is fastened.

What I have designated as the head-frame is shown in Figs. 1, 4, and 5, and consists of the cross-pieces *b* b^2 and the buttons or screws *b'*, strongly fastened together and to the floor or upper end of the press J and the posts B. The floors I and J have projections e^2, (see Fig. 1,) which are attached to or are a part of the floors. Through these projections runs a cam-bar, *e'*, having thereon cams *e*, (see Figs. 1, 4, and 5,) securely fastened to said cam-bars, and the cam-bars are movable in the projections e^2 by means of the levers *f*, attached to their ends. The side pieces, *a'*, are securely fastened in the lower floor, I, and are movable as the floor moves up or down. The side pieces, *a*, are loosely attached to the floor I by means of pegs *g*, which are secured to said pieces, and the pegs play in sockets or holes in said floor I, and around these pegs, as they project into the sockets, are small spiral springs, and when no pressure is brought to bear upon the side pieces the levers *f* are in the position shown in Figs. 1 and 4. When pressure is made by the cams upon the side pieces, the levers are in the position shown in Fig. 5. The design of this side pressure is to even the side edges of the bark, (see Figs. 4 and 5,) and by depressing the levers of the upper cam-bar the cams press the movable blocks *g'* and the blocks press against the side pieces, *a*, and by raising the levers of the lower cam-bar the lower ends of the side pieces, *a*, are pressed up against the side edges of the bark, as seen in Fig. 5. When the bark is under pressure, as shown in Fig. 5, the side pieces *a* and *a'* extend up through openings in the head-frame of the press, as shown in Fig. 5. The end pieces, H', of the truck also extend upward through spaces seen, but not lettered, in Fig. 1. When the compression is complete and the bales wired in the position shown in Fig. 5, the position of the levers *f* are reversed and the springs *c* and *d* spring outward from the side pieces, *a*, the press is returned to the position seen in Fig. 4, and the floor I is lowered to the level of the platforms F.

The movable side pieces, H, of the truck G (see Fig. 3) are fitted on the truck by any convenient fastening when the truck is being loaded, and removed when in the press, as seen in Figs. 1 and 4.

As to the mode of compressing the bark: Fig. 4 shows a box open at the top and composed of the truck-bottom G, the movable side pieces, H, and the end pieces, H'. This box, so formed, is designed to be, in the inside, about two feet wide, four feet long, and four feet or any convenient number of feet in depth. The bark is laid in lengthwise, and when the box is filled the truck is run in upon the floor of the press from either platform F. The side pieces, H, are then drawn out, and the side pressure, by means of the cams *e*, brought to bear upon the sides of the bark. The pressure upward by the piston E is commenced, and while the pressure is being made the workmen, one on each side of the press, pass through the wires *l* in the grooves *h* at the top and bottom, and when the pressure is complete tie the ends of the wires and then lower the piston bearing the floor I to its first position, and then the truck is run out on the platform again and the bale unloaded.

The appearance of the bark before compression is shown by Fig. 6, and after compression by Fig. 7.

The bottom of the truck on the under side has grooves to admit the rails, (not shown in the drawings,) so the truck-bottom, when lifted from the wheels, sits squarely upon the floor I.

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

A hydraulic press for pressing bark, consisting of the piston E, the platform I, having projections e^2 through which runs a cam-bar, *e'*, having thereon cams *e*, and moved by levers *f*, the grooved end or floor J, fastened to the head of the press D, and having projections e^2, through which runs a cam-bar, *e'*, having thereon cams *e*, and moved by levers *f*, the side pieces, *a'*, secured to the platform I, and the side pieces, *a*, loosely attached to said platform by means of the pegs *g* entering sockets in said platform, the springs *c*, fastened to a cross-piece, *b*, in the head of the press, the springs *d*, arranged in said sockets about the pegs *g* and acting upon the side pieces, *a*, and the truck G, having end H' and braces H^2, and a bottom in which are grooves *h*, all parts being combined substantially in the manner and for the purpose shown and described.

JÉRÉMIE DAIGNEAU.

Witnesses:
FRANK G. PARKER,
J. L. NEWTON.