No. 819,462. PATENTED MAY 1, 1906.

J. B. SCHOFIELD.

STAVE PRESS.

APPLICATION FILED MAY 27, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

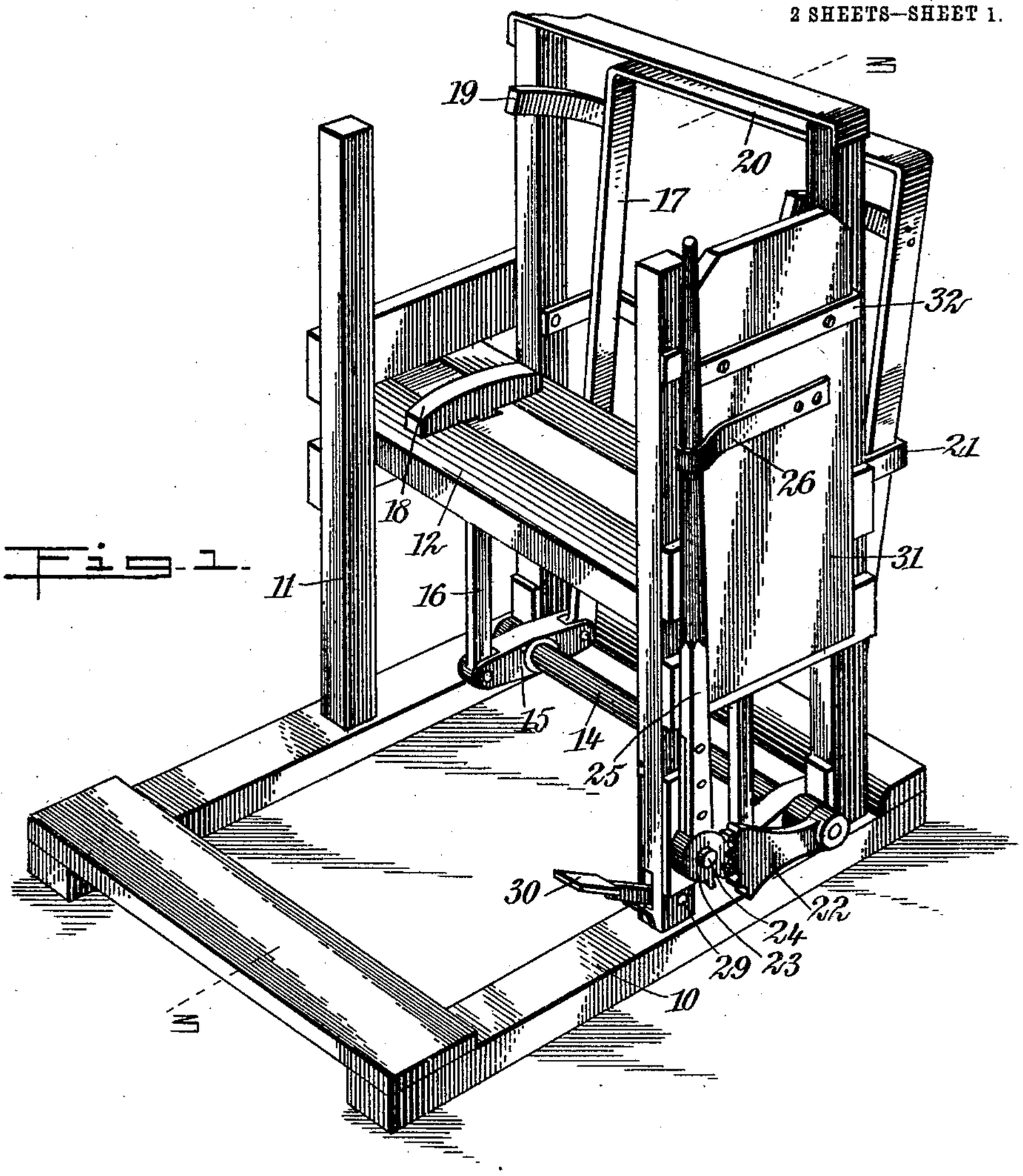
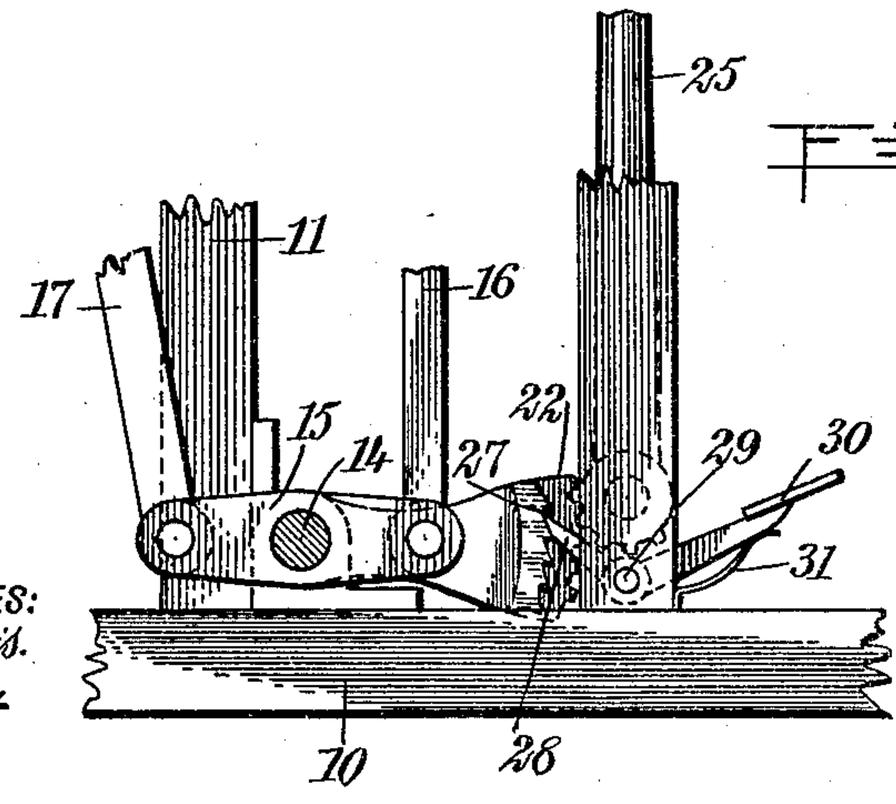


Fig. 4.



WITNESSES:
C. A. Jarvis.
A. E. Fay.

INVENTOR
John B. Schofield
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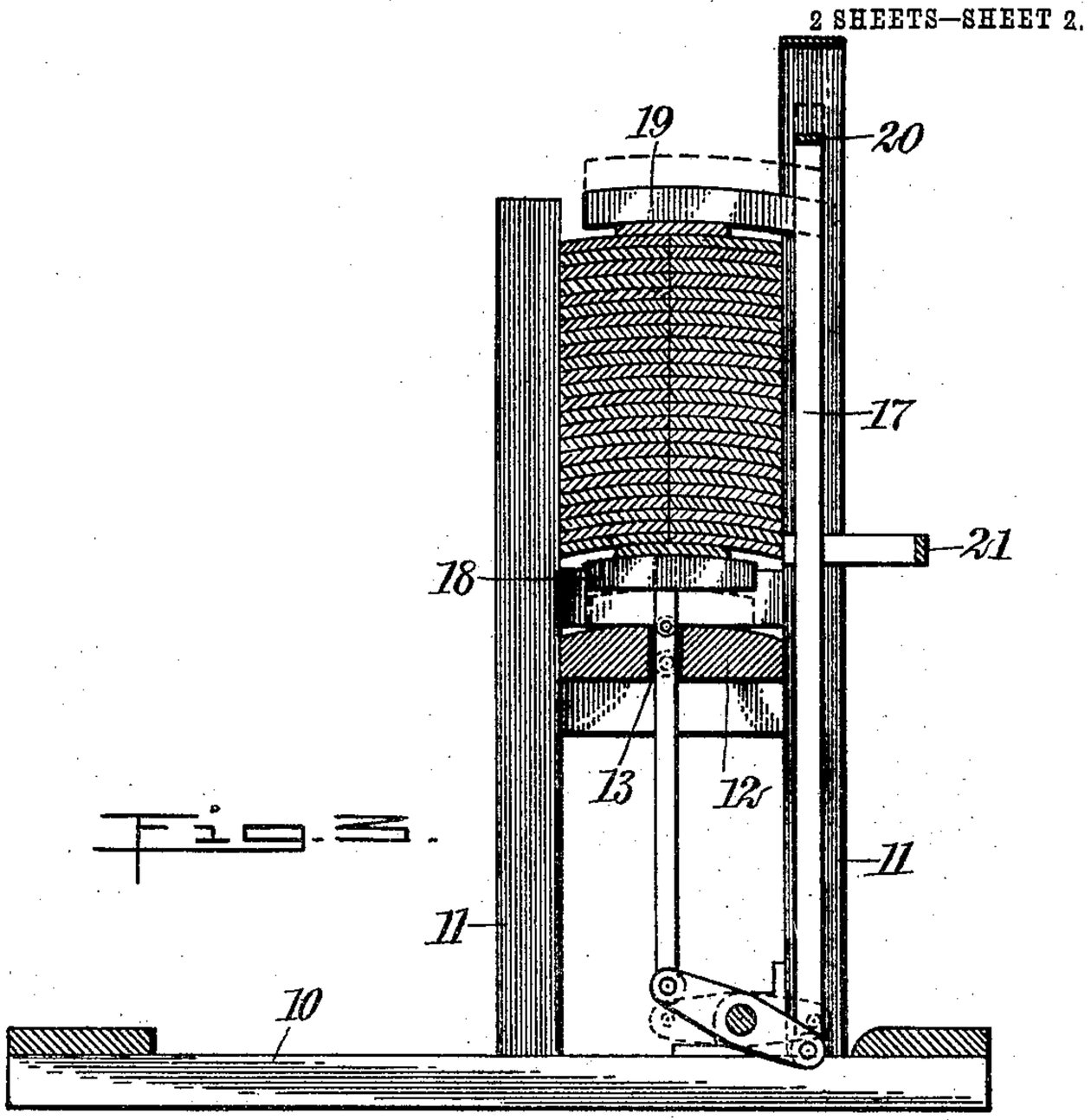

Fig. 3.

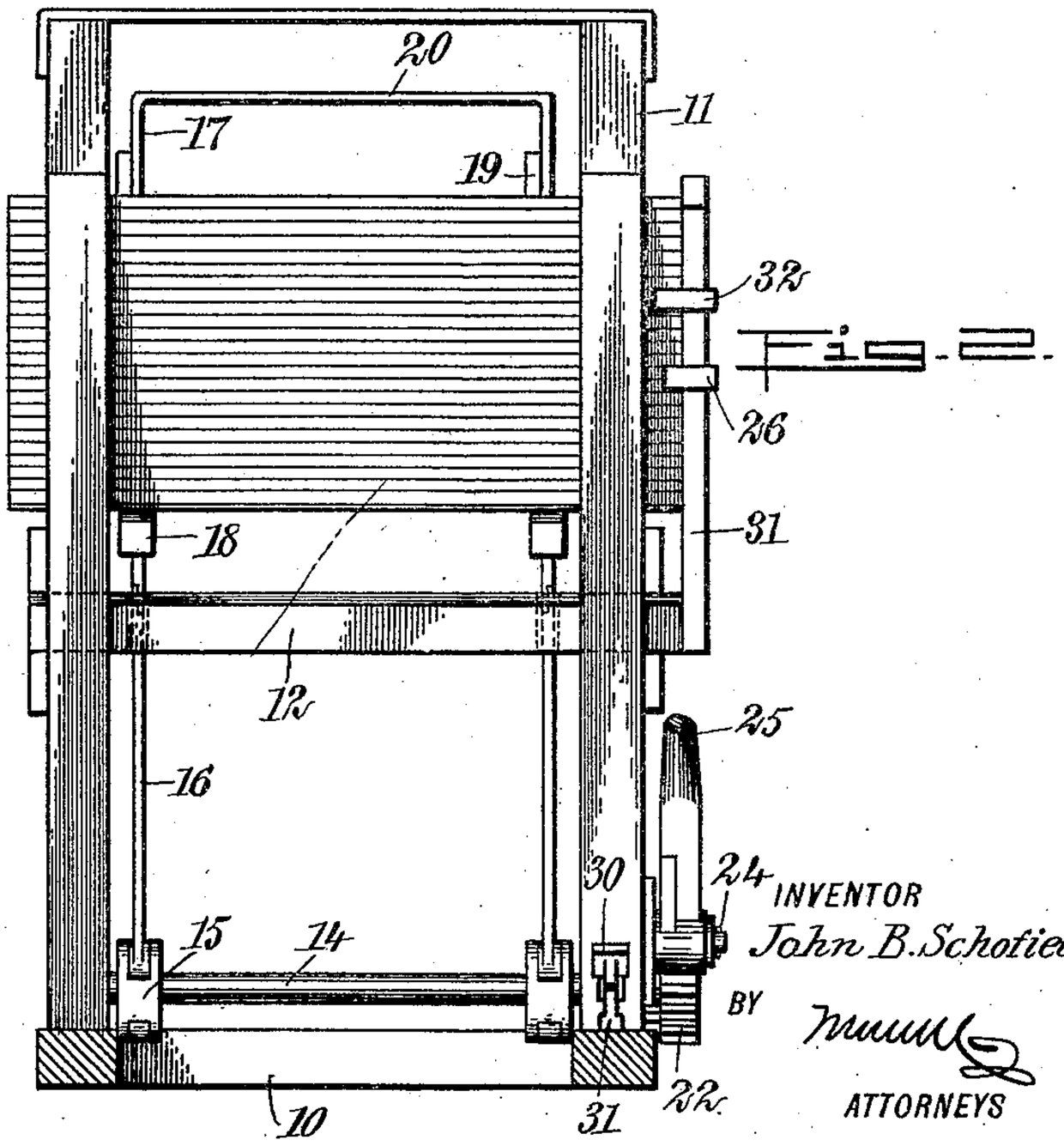

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN B. SCHOFIELD, OF TOMAHAWK, WISCONSIN.

STAVE-PRESS.

No. 819,462. Specification of Letters Patent. Patented May 1, 1906.

Application filed May 27, 1905. Serial No. 262,624.

To all whom it may concern:

Be it known that I, JOHN B. SCHOFIELD, a citizen of the United States, and a resident of Tomahawk, in the county of Lincoln and State of Wisconsin, have invented a new and Improved Stave-Press, of which the following is a full, clear, and exact description.

My invention relates to a press for use in bundling staves and for similar purposes.

The principal objects thereof are to provide means whereby top and bottom clamps can be forced toward each other simultaneously and at the same time preserve the curves of the staves and prevent flattening them out.

Further objects of the invention are to provide for an increase in leverage and to secure convenience in operation and handling in other particulars, reference to which will be made below.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a stave-press, illustrating the principle of my invention. Fig. 2 is a front elevation of the same, showing staves in position. Fig. 3 is a sectional view on the line 3 3 of Fig. 1; and Fig. 4 is an enlarged elevation of the inside of a portion of the machine, showing a part in section.

I provide the machine with a heavy base 10, having uprights 11, which constitute the main frame of the machine and also form guides for the bundle of staves when being pressed. The uprights or standards 11 are provided with a cross-piece or table 12, having passages 13. On the base is journaled a shaft 14, having a plurality of arms 15 extending in opposite directions therefrom and preferably rigidly connected together and capable of turning with the shaft. The opposite ends of these arms are pivotally connected with rods 16 and 17, which support clamps 18 and 19. The upper surface of the clamp 18 and the lower surface of the clamp 19 are preferably made in the form of curves, so as to preserve the curvature of the staves while the pressing is being done. The bar 16 passes through a passage 13 and is guided thereby, so that the turning of the shaft 14 in one direction will raise the clamp 18 directly upward above the slot and will depress the clamp 19 in the opposite direction, thus forcing the two clamps toward each other simultaneously. The bars 17 are preferably connected together by a cross-bar 20 and are capable of swinging backwardly upon their pivots, so as to allow the clamps 19 to be swung to one side of the press in order that the staves can be placed on the machine and removed therefrom. A stop 21 is provided to limit the motion of the arms in one direction.

For operating the shaft it is provided with a segment 22, with which meshes a pinion or segment 23, mounted to oscillate upon a stud 24 and having rigidly connected with it an operating-handle 25. The operation of the two clamps upon the turning of the handle from the position shown in Fig. 1 to an inclined position will be obvious. The position of the parts under the influence of this motion is indicated in Fig. 3. A catch 26 is provided for holding the lever in vertical position. In order to provide for holding the clamps in the position which they assume when the pressure is applied, the segment 22 is provided with a series of teeth 27, and with these teeth a dog 28 engages. This dog is pivotally mounted upon a stud 29, and it is provided with a treadle 30 at the front of the machine and within easy reach of the operator. A spring 31 normally holds the treadle in elevated position and the dog in a position ready to engage any of the teeth 27. Therefore as the segment is forced upwardly by the operating-lever the dog will follow it and be ready to engage a tooth and prevent the shaft from turning backwardly when the operating-lever is relieved from pressure. By this means the bundle of staves is held in its compressed position while being tied. In order to release the press from the dog, the operating-lever is preferably operated to increase the pressure slightly and allow the dog to be removed from the tooth with which it engages, and then the treadle 30 is pressed upon so as to remove the dog and permit the shaft to return to original position.

By constructing a stave-press according to this principle, whether in the form illustrated or otherwise, several advantages are obtained. The pressure coming both from the bottom and top of the bundle, it takes slack out on both sides, which is an advantage not obtained by those presses which clamp from the bottom only. The curve of the staves is preserved by the fact that the curved clamps are used on both sides and flattening of the staves

is effectually prevented. The leverage is also greatly increased over other forms of presses with which I am familiar, and by the pivoting of the rods 17 and the use of the dog 28 great convenience is attained in the manipulation of the device and of the staves operated upon. The staves are kept in alinement at their ends by means of a plate 31, secured to the uprights by strips 32.

While I have illustrated my invention as especially applicable to slack barrel-stave presses, it will be understood that the invention is not strictly limited to this class of presses.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A press comprising a frame, a shaft journaled on the frame, a pair of clamps connected with said shaft, means for oscillating the shaft, comprising a segment rigidly connected with the shaft, a pinion meshing with the segment and oscillatably mounted upon the frame and an operating-lever rigidly connected with the pinion, and means for holding said segment, comprising a series of teeth on the segment and a dog adapted to engage said teeth.

2. A press comprising a frame, a shaft journaled thereon, a pair of clamps connected with the shaft, means for oscillating the shaft, comprising a segment and an operating means for the segment, and means for holding the segment, comprising teeth on the segment, a dog mounted on the frame and adapted to engage the teeth, a treadle connected with the dog and means for normally holding the dog in engagement with the teeth.

3. A stave-press comprising a frame having uprights, a shaft journaled on said frame, a pair of arms rigidly connected with said shaft, a rod pivotally connected with each of said arms, a clamp-head rigidly mounted on one of said rods and having an upper curved surface, and a clamp rigidly mounted on the other rod and having a lower surface correspondingly curved, said uprights constituting a stand for a bundle of staves and being adapted to hold the edges of the staves in vertical alinement while said clamps operate to press the bundle.

4. A stave-press comprising a frame having uprights, a cross-piece connecting said uprights and having a slot, a shaft journaled on said frame, a pair of arms rigidly connected with said shaft, a rod pivotally connected with each of said arms, one of said rods passing through said slot and the other being free to move about its pivot, a clamp on the first-named rod having an upper curved surface, a clamp on the other rod having a lower surface correspondingly curved, and means for oscillating said shaft; said means comprising a segment rigidly connected with the shaft, a pinion meshing with said segment and oscillatably mounted upon said frame, and an operating-lever rigidly connected with said pinion.

5. A stave-press comprising a frame having uprights, a cross-piece connecting said uprights and having a slot, a shaft journaled on said frame, a pair of arms rigidly connected with said shaft, a rod pivotally connected with each of said arms, one of said rods passing through said slot and the other being free to move about its pivot, a clamp on the first-named rod having an upper curved surface, a clamp on the other rod having a lower surface correspondingly curved, and means for oscillating said shaft; said means comprising a segment rigidly connected with the shaft, a pinion meshing with said segment and oscillatably mounted upon said frame, an operating-lever rigidly connected with said pinion, and means for holding said segment, comprising a series of teeth on the segment and a dog adapted to engage said teeth.

6. A stave-press comprising a frame having uprights, a cross-piece connecting said uprights and having a slot, a shaft journaled on said frame, a pair of arms rigidly connected with said shaft, a rod pivotally connected with each of said arms, one of said rods passing through said slot and the other being free to move about its pivot, a clamp on the first-named rod having an upper curved surface, a clamp on the other rod having a lower surface correspondingly curved, means for oscillating said shaft comprising a segment and an operating means for the segment, and means for holding the segment comprising teeth on the segment, a dog pivotally mounted on the frame and adapted to engage the teeth, a treadle connected with the dog, and a spring for normally holding the dog in engagement with the teeth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN B. SCHOFIELD.

Witnesses:

ERNEST J. AMEND,

HENRY W. F. MEYER.