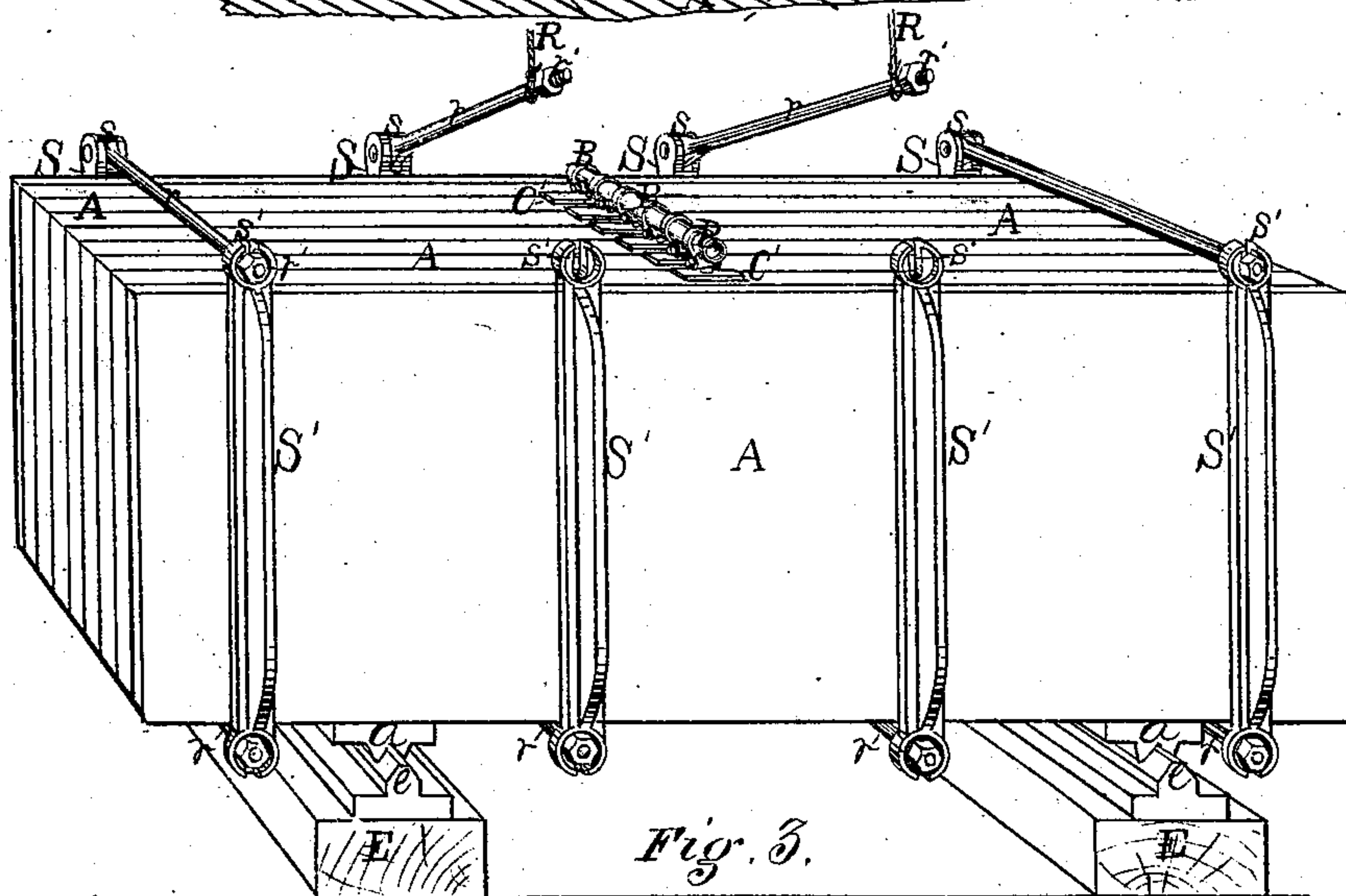
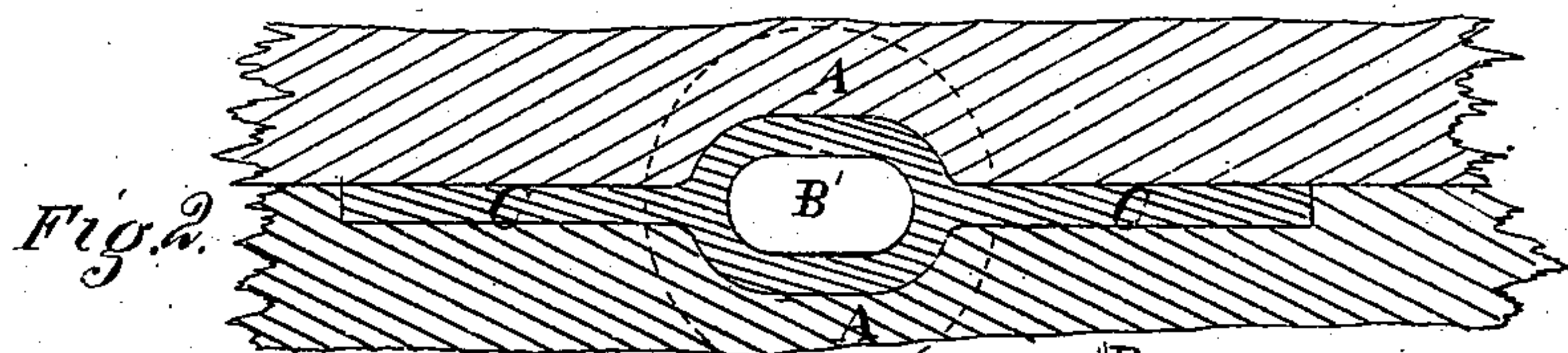
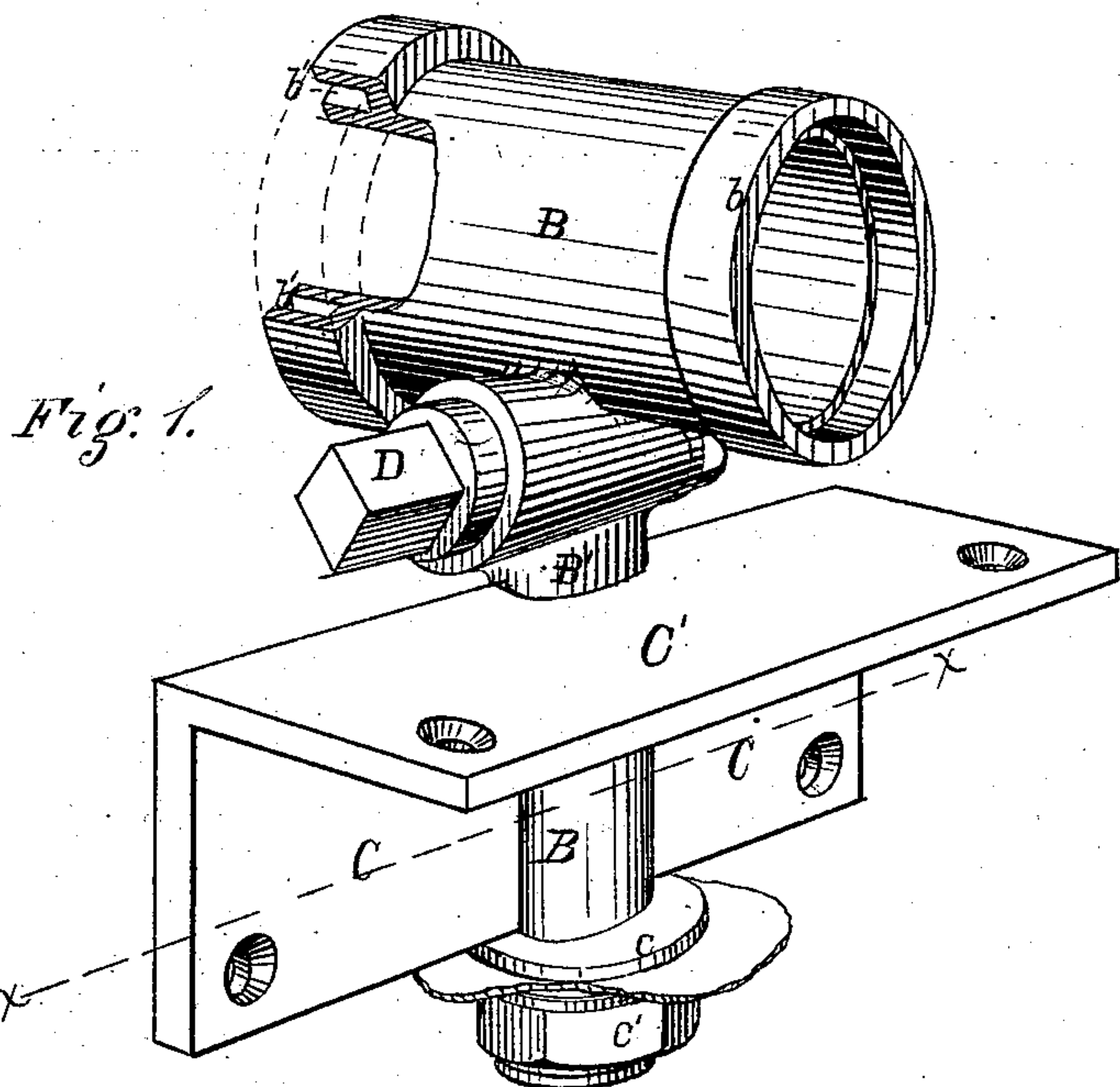


(No Model.)

J. F. WILCOX & E. M. PEARSON.
Clay Press.

No. 236,132.

Patented Dec. 28, 1880.



Witnessed
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UNITED STATES PATENT OFFICE.

JOHN F. WILCOX, OF ALLEGHENY, PENNSYLVANIA, AND EDWARD M. PEARSON, OF WHEELING, WEST VIRGINIA.

CLAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 236,132, dated December 28, 1880.

Application filed November 18, 1880. (No model.)

To all whom it may concern:

Be it known that we, JOHN F. WILCOX, of Allegheny, county of Allegheny, State of Pennsylvania, and EDWARD M. PEARSON, of Wheeling, county of Ohio, State of West Virginia, have invented or discovered a new and useful Improvement in Clay-Presses; and we do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of our improved clay-press valve. Fig. 2 is a transverse sectional view through the discharge-port of the valve, such section being taken in the plane of the line *xx*, Fig. 1; and Fig. 3 is an outline perspective view of the press, showing a succession of valves arranged thereon, and also illustrating other features of improvement, as hereinafter described.

Our invention relates to certain improvements in clay-presses used in the preparation of potters' clay; and it consists, in part, in the form and construction of the valve or valves, whereby a much stronger connection is made to the leaves of the press without cutting away the leaves at the points of attachment as much as heretofore; also, in the means employed for supporting the leaves and bringing them to their proper relative positions in the press, so that the different valves or their pipe ends may properly unite to form a continuous pipe across the press; also, in means for clamping or binding together the leaves of the press.

In the drawings, *A A* represent the leaves of the press, which may be of any desired size and number. These leaves are hollowed out on their adjacent faces, within their boundary edges, so that when arranged in a pack, as in Fig. 3, they shall inclose chambers between such adjacent faces, within which the usual bags are arranged. In these respects the leaves and bags are of the usual or any desired form.

In order to dry and prepare potters' clay for use, it has been customary to force it into these bags under heavy pressure; and in order to conduct the clay to such bags valves have been used consisting of a section of a main or trunk

pipe, *B*, a branch pipe, *B'*, leading from such section, a cock or plug, *D*, arranged to open and close communication to the branch from the main section, and side wings or plates, *C*, for attaching such valve to the side face of a leaf; but in such construction the branch pipe *B'* has been made round or square in cross-section, and in setting or sinking it into the face of the leaf the leaf must be cut away to a depth on each side equal to half the diameter of this pipe. Such cutting away so weakens the leaf that it is liable to break under the heavy pressure and strain to which it is subjected.

In order to avoid so deep a cut and still retain the requisite area of pipe, we flatten it or make it elliptical in form, as clearly shown in Fig. 2, the major diameter being in the plane of the plate *C* and of the leaf *A*. A wider seat or cut is thus required in the face of the leaf; but, on the other hand, it is not as deep as would be required if this branch pipe *B'* were round, and consequently the leaf is strengthened at that point, and in that direction at or in which it is most subject to breakage. In order, also, to further strengthen the leaves at this point, as well as to give the valves a firmer and more rigid attachment, we make caps or top plates, *C'*, extending at right angles to the side plates, *C*. These caps are adapted to rest upon and are bolted to the top edges of the leaves. Heretofore the only attachment has been by bolts through the side or face plates, *C*, and the entire strain was sustained by such bolts. This soon caused them to loosen, and thus not only throw the valves out of position, but also endanger the integrity of the leaves. By combining the flattened pipe *B'* with the cap-plate *C'* we overcome these difficulties, strengthening the leaves at the point of attachment of the valves, and also greatly increasing the stability, as well as durability, of the valves. These valves are so arranged on the successive leaves that when the latter are bound in a pack, as in Fig. 3, the main pipe-sections *B* are in line, and, uniting end to end, form a continuous trunk or supply-pipe. This union is secured by fitting one end, *b*, of each section into an annular recess, *b'*, made in the oppo-

site end of another section, the ends *b* and *b'* of two succeeding sections being adjacent. Then, when the leaves are bound together, these joints unite, making a continuous and practically tight pipe, which may be connected with any suitable supply and pressure apparatus in the usual or any desired way.

The bags which occupy the chambers between the leaves may be secured to the lower ends of the branch pipes *B'*, between the shoulder *c* and nut *c'*, so that these pipes may discharge into their respective bags.

The manner of operating the parts thus far described is the same as in presses of this class heretofore in use. In order, however, to facilitate the operation of opening and closing the press, and to insure the proper coupling of pipe-sections *B* with precision, we arrange metal tracks *e* under the press, supporting them upon any suitable bed-timbers, *E*. We prefer to use two of these tracks, which are placed near the ends of the press, crosswise of the same. On the under edge of each of the leaves are secured notched guides *a*, which are adapted in form to take the tracks *e* and bring the several leaves, when in upright position, into proper endwise adjustment to insure the entry or coupling of the abutting ends of the pipe-sections without that careful alignment and adjustment by hand which has heretofore been required for such purpose. The leaves of the press are bound or clamped together by means of rods *r*, which are hinged or jointed at one end, *s*, to the buck-staves or upright bars *S* on the back of the press. The front ends of these rods *r* rest in open slots *s'*, made in the ends of the front buck-staves, *S'*. Nuts *r'* on the ends of the rods serve to bind or unbind the leaves, as desired.

By means of the hinged connection *s* at the back ends of the rods we greatly increase the ease and rapidity in manipulating the press, as the parts, when unbound, retain their rear connection, and it is only necessary to handle the front buck-staves, *S'*, and the free ends of the binding-rods; and in order to increase the convenience of this last operation cords *R* may

be attached to the free ends of the top rods, *r*, which cords may be carried over suitable pulleys and counterbalanced by weights, which will hold the rods up out of the way when the press is opened, as represented, by the two inner top rods, Fig. 3.

As heretofore made, both ends of the binding-rods have been received in open slots in the ends of the buck-staves, as at *s'*. The principal objection to such construction is that all the parts separate when unbound, and when it is desired to rebind the press these parts must be separately handled by the operator.

We claim herein as our invention—

1. A valve for clay-presses having a main pipe-section, *B*, a flattened or elliptical branch or inlet pipe or port, *B'*, plug *D*, adapted to open and close passage from *B* to *B'*, and cap and side plates, *C' C*, for affording attachment of the valve to the leaves of the press, substantially as set forth.

2. In a press for preparing potters' clay, the combination of leaves *A*, in any desired number, pipes *B B'*, attached to each of the leaves and adapted by coupling to form a continuous pipe across the press, tracks *e*, and guides *a*, the latter being attached to each of the leaves, and adapted, with tracks *e*, to bring the leaves into proper position to align the pipe-sections *B* of the valves, substantially as set forth.

3. In a press for preparing potters' clay, the combination of leaves *A*, in any desired number, side buck-staves, *S S'*, and clamping-rods *r*, the latter being hinged at one end to staves *S* at the back of the press, and adapted to be placed within and removed from slots *s'* in the ends of the staves *S'* on the front side of the press, substantially as and for the purposes set forth.

In testimony whereof we have hereunto set our hands.

JNO. F. WILCOX.
E. M. PEARSON.

Witnesses:

JOHN W. SCHULTZ,
L. A. SALADE.