

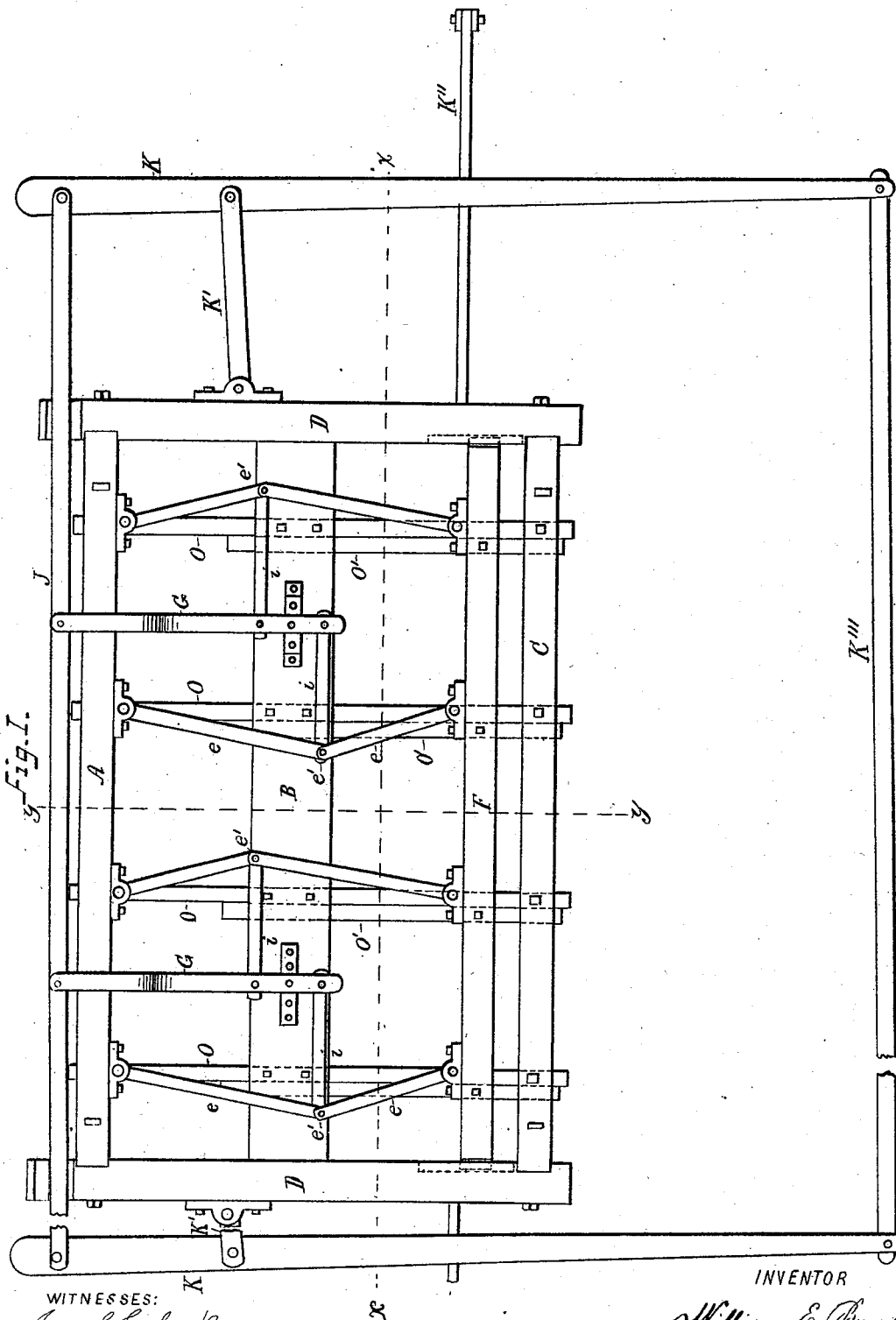
(No Model.)

2 Sheets—Sheet 1.

W. E. BROCK.
TOGGLE PRESS.

No. 517,092.

Patented Mar. 27, 1894.



WITNESSES:
Jas S. Corbanc
George Ball.

INVENTOR
William E. Brock
BY Francis C. Bowen
ATTORNEY.

(No Model.)

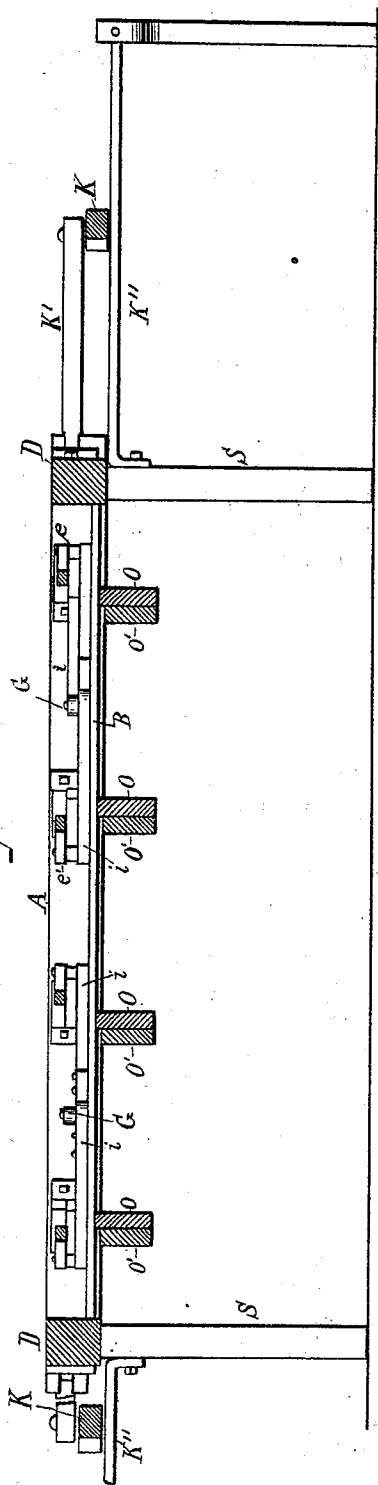
W. E. BROCK.
TOGGLE PRESS.

2 Sheets—Sheet 2.

No. 517,092.

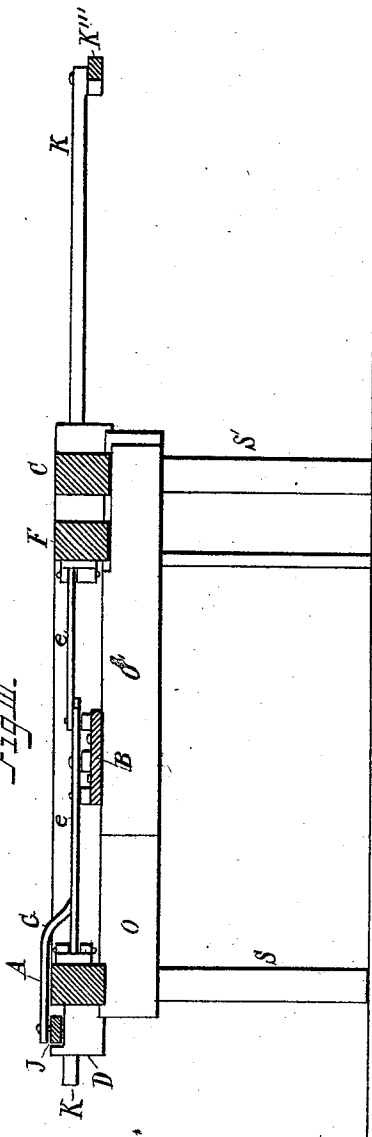
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Fig. II.



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Fig. III.



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UNITED STATES PATENT OFFICE.

WILLIAM E. BROCK, OF PLAINFIELD, NEW JERSEY.

TOGGLE-PRESS.

SPECIFICATION forming part of Letters Patent No. 517,092, dated March 27, 1894.

Application filed February 24, 1891. Renewed December 8, 1893. Serial No. 493,136. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BROCK, a citizen of the United States, and a resident of Plainfield, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Toggle-Presses, of which the following is a specification.

My invention is a toggle press which is especially designed to be used in the process of veneering lumber, but which is also adapted to other general purposes.

The novel features of my invention and the advantages arising therefrom are hereinafter fully described with reference to the accompanying drawings and pointed out in the claims.

In the accompanying drawings, Figure I. represents a plan or top view of a toggle press embodying my invention. Fig. II represents a vertical longitudinal section thereof, at line *x x*, Fig. I. Fig. III represents a vertical cross section thereof at line *y, y*, Fig. II.

Similar letters of reference indicate similar parts.

The letters A, B, C. indicate three parallel strips of wood or other suitable material one of which, A, is a head strip, another, C, a base strip and the other, B, an intermediate strip, and which are firmly united by end strips D, the whole forming the press frame.

F indicates the platen or follower which lies at a point between the base strip C, and intermediate strip B, of the frame, and is fitted in suitable guide ways of the end strips D D, to move toward and from the base strip.

To the platen F, is pivoted one end of a series of toggles *e e*, the other end of which is pivoted to the head strip A, in such a manner that when these toggles are either bent or straightened they act on the platen to move it in one or the other direction.

To one side of the intermediate strip B of the frame, is pivoted a series of operating levers G, each of which is connected to the joints *e'* of two adjacent toggles *e e*, by means of links *i i* of rigid material which are on opposite sides of the fulcrum of the respective operating levers, as shown in Fig. I; each of these levers thus being common to a pair of toggles.

To the series of operating levers G is pivoted a rod J, and to this rod in turn is piv-

oted a main lever or levers K, whereby a reciprocating motion may be imparted to the rod. In the example shown two of the main levers K are used, one at each end of the press, and to adapt said levers to the motion of the rod J, they are connected to the end strips D, by links K' the weight of the levers being sustained by rods K''. When two main levers K are used they may be connected together by a rod K''' to permit both levers to be actuated simultaneously. The arms *e e* of each of the toggles are of unequal length; the shorter and the longer arm thereof being alternately on opposite sides of the fulcrum of either operating lever G, to which they are connected. By this construction of the toggles *e e*, the links *i i* are brought at right angles to the operating levers G in the central position thereof, and the strain upon the toggles exerted by the operating levers, is brought in a direct line, while by the employment of the rigid links in contradistinction to a flexible connection, the action thereof on the toggles is rendered uniform in both directions of motion of the operating levers.

At a point opposite to each of the toggles *e e* is a fixed brace bar O, for the platen—the series of these bars being attached to the head strip A, base strip C, and intermediate strip B, on the side thereof opposite to that occupied by the toggles and concomitant parts; and to the platen F, are attached sliding brace bars O', which lie adjacent to said fixed bars and engage the corresponding side of the base strip and intermediate strip to which the fixed bars are attached.

The operation of my invention is as follows. As shown in the drawings the press is horizontal, but it should be remarked that it may be vertical, and when it is horizontal the head strip A and base strip C, are provided with legs, as at S, Figs. II and III for supporting the press frame. The article to be compressed such as a board with a veneer thereupon, is introduced between the base strip C, and platen F, and motion is imparted to the rod J, by means of the main lever or levers K, to straighten or bend the toggles *e e*, as the case may be, whereby the platen is adjusted in relation to the base strip. In the motion of the platen F, the vertical strain exerted thereon is sustained in one direction by the fixed brace

bars O, and in the other direction by the sliding brace bars O' and hence the platen maintains a true position throughout its motion.

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

1. In a toggle press the combination of the parallel head-strip, base strip and intermediate strip united by end strips to form the press frame the platen fitted in guide ways of the end strips at a point between the base strip and intermediate strip to toggles each pivoted at its ends to the head strip and platen and constructed with arms of unequal length, the operating levers pivoted to the intermediate strip and each connected to the joints of two adjacent toggles on opposite sides of its fulcrum by means of the rigid links, the latter acting on the toggles uniformly in both directions of motion of the operating levers
2. In a toggle press, the combination of the

parallel head strip, base strip and intermediate strip united by end strips to form the press frame, the platen fitted in guide ways of the end strips at a point between the base strip and intermediate strip, the toggles each pivoted at its ends to the head strip and platen, the fixed brace bars attached to one side of the head strip base strip and intermediate strip at a point opposite to each of the toggles, the sliding base bars attached to the platen at a point to engage one side of the base strip and intermediate strip adjacent to said cross bars respectively, the operating levers pivoted to the intermediate strips and each connected to the joints of two adjacent toggles by means of links, the reciprocating rod pivoted to the operating levers and the main lever or levers pivoted to said rod, substantially as and for the purpose described.

WILLIAM E. BROCK.

Witnesses:

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