

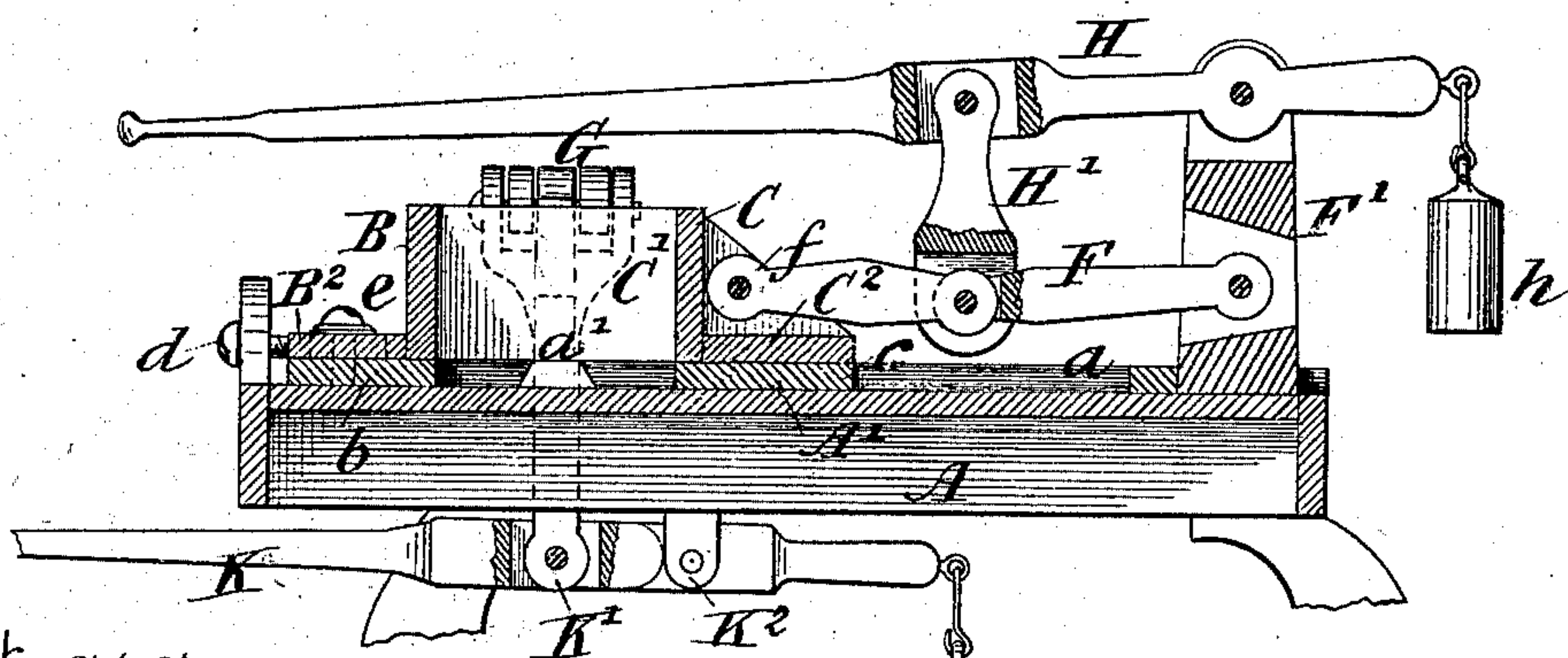
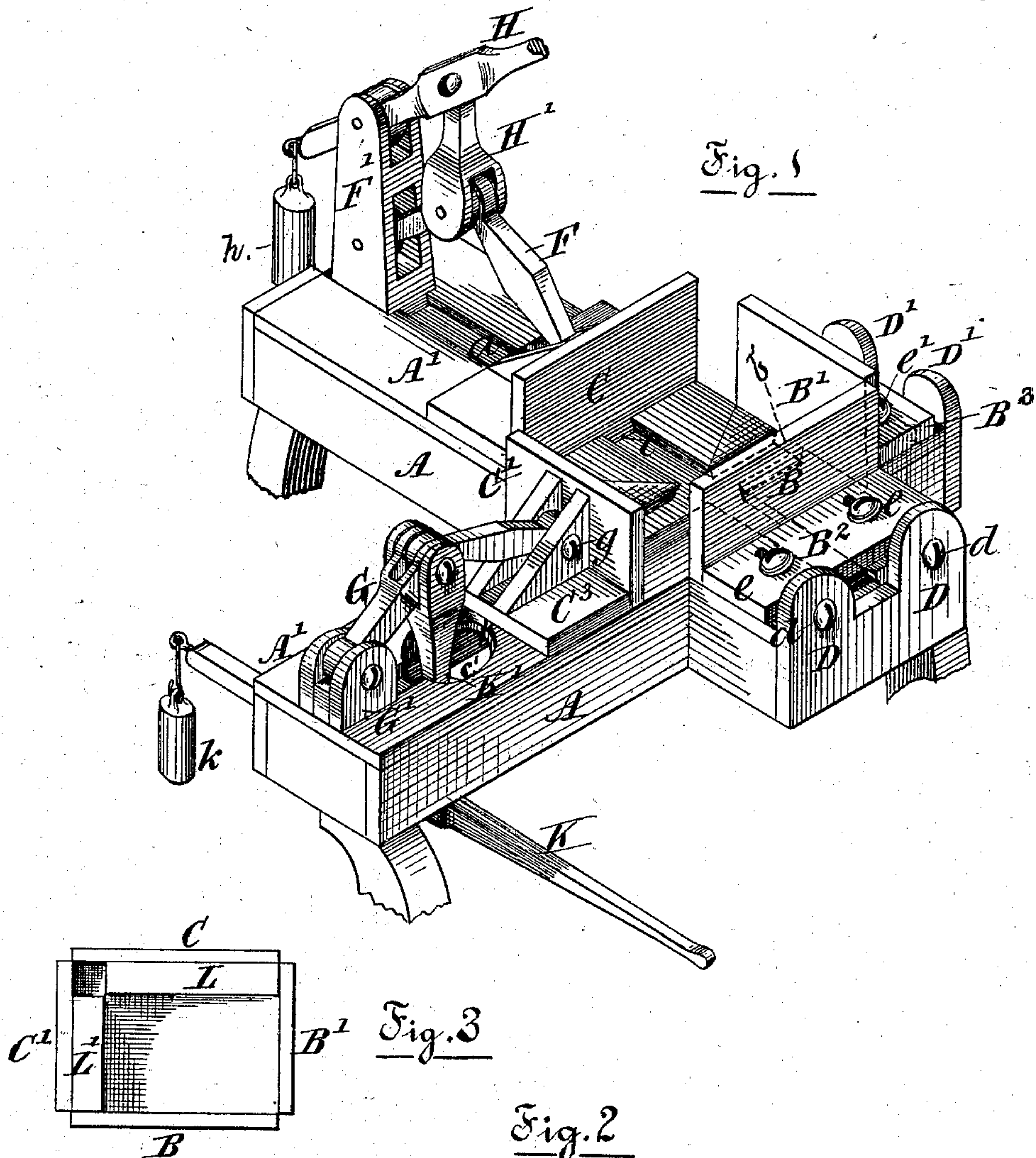
(No Model.)

C. W. WOODFORD.

BOX PRESSING CLAMP.

No. 255,069.

Patented Mar. 14, 1882.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES W. WOODFORD, OF ESSEX, NEW YORK.

## BOX-PRESSING CLAMP.

SPECIFICATION forming part of Letters Patent No. 255,069, dated March 14, 1882.

Application filed December 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES WELLINGTON WOODFORD, of Essex, in the county of Essex and State of New York, have invented certain  
5 new and useful Improvements in Box-Squeezing-Up Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the class of machines  
10 used for the construction and putting together of boxes known as "lock-corner" boxes, and has for its object the forcing together of the sides and ends of such boxes, so as to interlock each other at the corners, by which the  
15 nailing together of the sides and ends is entirely dispensed with. Several means have heretofore been employed for this purpose—such, for instance, as a system of cams, the use of screws, &c.—but in all these devices  
20 nearly as much time is lost in the backward movement and adjustment of the acting jaws of the machine as is actually consumed in doing the work.

By my invention means are provided by  
25 which the sides and ends of the box can be squeezed together either simultaneously or independently, at the will of the operator, the greatest amount of leverage or power being secured while acting upon the work, and a quick  
30 return of the jaws, which then remain open. It may be thus described. In the top plate of a frame suitably constructed and carried are formed dovetail grooves, crossing each other  
35 at right angles. In these dovetails are set and move respectively fixed and movable jaws, forming the four sides of the receptacle for the box, the former or fixed jaws being adjustably secured in position and the latter or movable jaws operated by means of toggles pivoted to  
40 them and to fixed standards at the ends of the frame and worked by independent levers. These jaws are restored to their normal and open position as soon as liberated by counter-balances suitably arranged. For full comprehension, however, of the invention, reference  
45 must be had to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine, showing the movable jaws drawn back.  
50 Fig. 2 is a longitudinal sectional elevation

taken through the long arm of the frame, showing the jaws pushed forward; and Fig. 3, plan of jaws arranged to form boxes of differing sizes.

Similar letters of reference indicate like  
55 parts.

A is the frame of the machine, made as shown, with a long and a short arm crossing each other at right angles, and suitably carried.

A' is the top plate, in which are formed dove-  
60 tail grooves *a a'*, also crossing each other at right angles.

B B' and C C' are respectively the two fixed and two movable jaws, forming the mold or receptacle for the box, each of these being pro-  
65 vided with a base-plate, B<sup>2</sup> B<sup>3</sup> C<sup>2</sup> C<sup>3</sup>.

*b b' c c'* are dovetail projections on the under side of these jaws and plates, fitting loosely in the grooves *a a'* of the top plate—*b* and *c* in the groove *a* and *b' c'* in the groove *a'*.  
70

D D are standards or uprights formed at the end of the frame behind the fixed plate B, in these being formed threaded bearings for the adjusting-screws *d d*, which are secured in the plate B<sup>2</sup>, and serve either to draw the jaw B  
75 back or move it forward. Similar set-screws working in like standards, D' D', and, secured in plate B<sup>3</sup>, serve to adjust position of jaw B'. Set-screws *e e e' e'* pass through slots in the base-plates above mentioned and secure them  
80 in the positions desired.

F' and G' are standards placed where shown at the ends of the frame, to which are pivoted toggles F and G, secured at their other ends by pivots *f* and *g*, respectively, to the movable  
85 jaws C C'. The point of the toggle F is connected by a link, H', with a lever, H, pivoted, as shown, to the standard F, projecting beyond the same, and carrying on its end a counter-balance-weight, *h*.  
90

K' is a link connecting the point of the toggle G with the lever K, pivoted to a projection, K<sup>2</sup>, from the frame, and carrying on its end a counter-balance, *k*.

The operation of my invention will easily be  
95 understood from the drawings and the foregoing, and may be thus briefly alluded to. By depressing the inner ends of the levers H and K the jaws C and C', coming in contact with the sides of the box to be squeezed up, are rap-  
100



idly moved forward till the opposite sides of the box come in contact with the jaws B B', when a direct and strong pressure is exerted upon them, and the sides and ends, interlocking each other at the corners, are forced into each other, the box being thus formed. So soon as these levers are let go the counter-balances draw up the toggles F and G and cause the jaws C and C' to move rapidly backward, thus releasing the squeezed-up box.

To enable the machine to make boxes of differing sizes, blocks, as shown at L L', Fig. 3, may be secured to the plates C C', to diminish the area of the receptacle.

As the dovetails *b b' c c'* are of somewhat less size than the grooves *a a'*, a certain amount of play is allowed, so as to compensate for unequal thickness of the wood. This is also assisted by the way in which the operating parts are secured together and to the jaws.

The levers H K, instead of being straight, as shown in the drawings, may be bent to suit varying circumstances, their connection with the toggles be made somewhat differently, and the counter-balance *k* be hung at the end of a line secured to the toggle-point, and passing over a sheave overhead.

What I claim is as follows:

1. In a box-squeezing-up machine, the movable jaws, substantially at right angles to each other, operated independently through toggles by separate levers, and drawn back by counterbalance-weights, substantially as herein set forth.

2. In a box-squeezing-up machine, the movable jaws carried on dovetails resting loosely in dovetail grooves substantially at right angles to each other formed in the frame, combined with fixed abutments, as and for the purposes set forth.

3. In a box-squeezing-up machine having movable followers, the fixed plates B B', secured in position substantially at right angles to each other by adjusting-screws attached to same and working in bearings D D', substantially as herein described.

4. The combination, in a box-squeezing-up machine, of movable jaws, arranged at right angles to each other and operated independently through toggle-levers, and adjustably-secured jaws, as herein shown and described.

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Witnesses:

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