

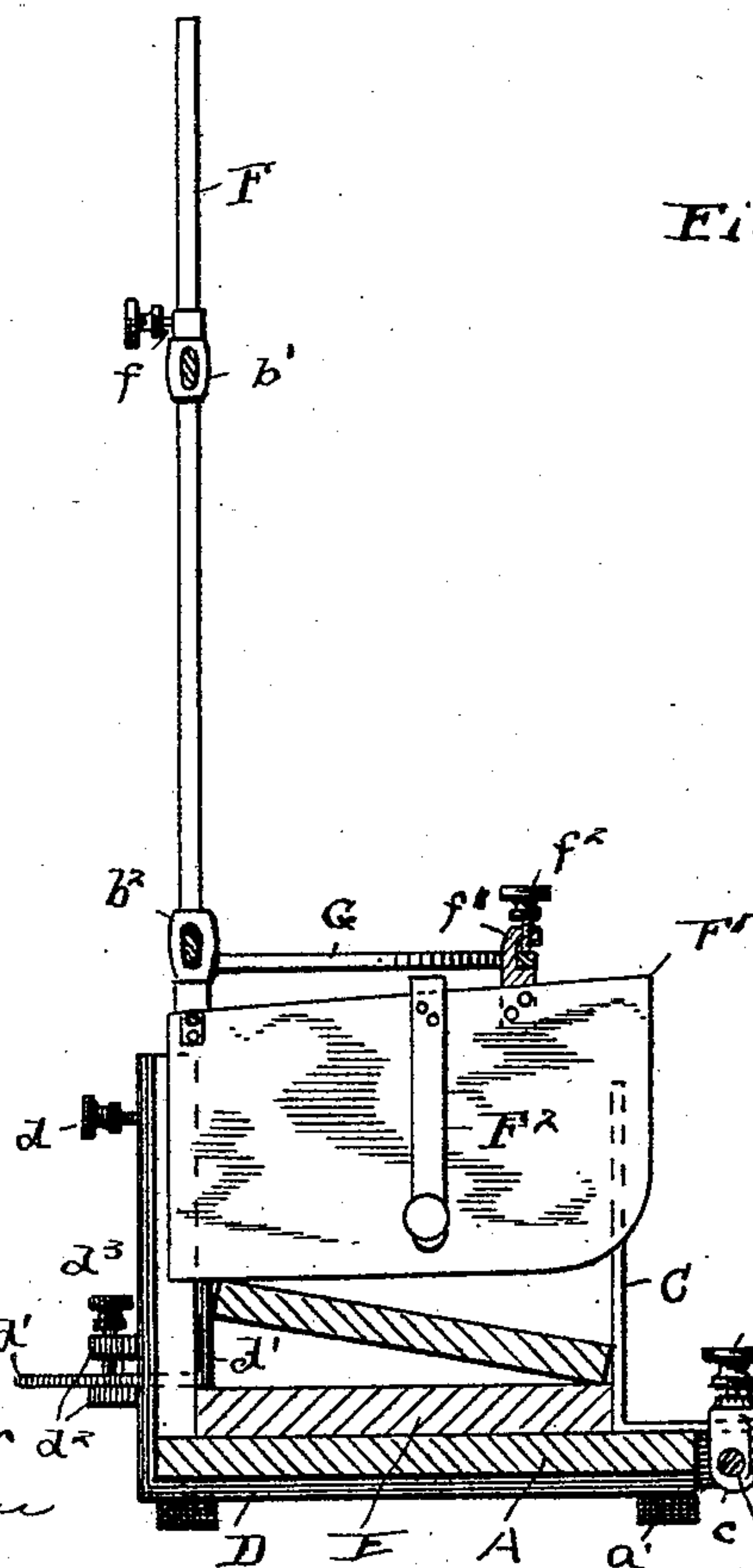
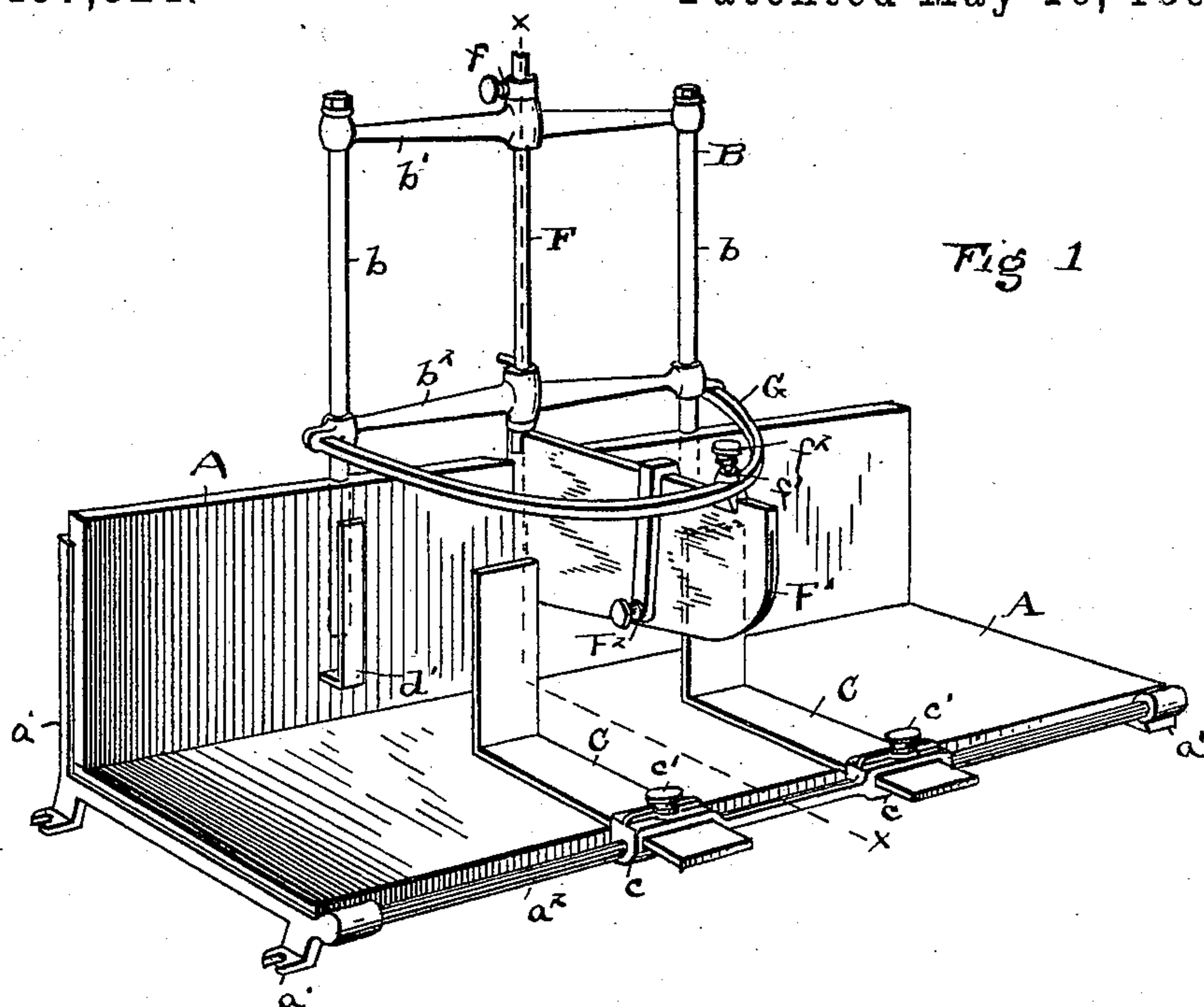
(No Model.)

2 Sheets—Sheet 1.

F. W. LOVEALL.
MITER BOX.

No. 497,524.

Patented May 16, 1893.



ATTEST

R. D. Moser &
E. C. Latham

Frank W. Loveall

INVENTOR.

BY *H. J. Fick*
ATTORNEY

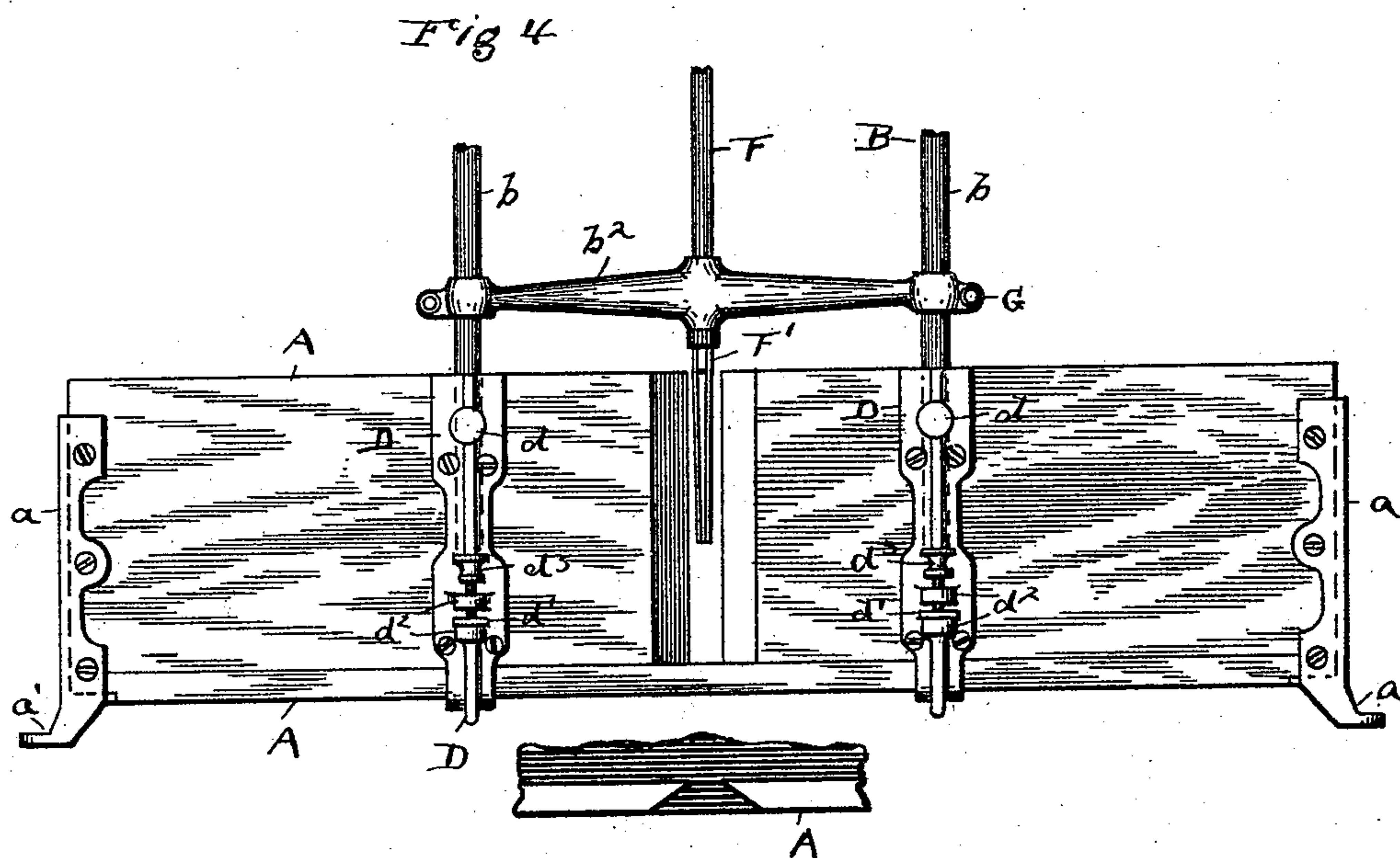
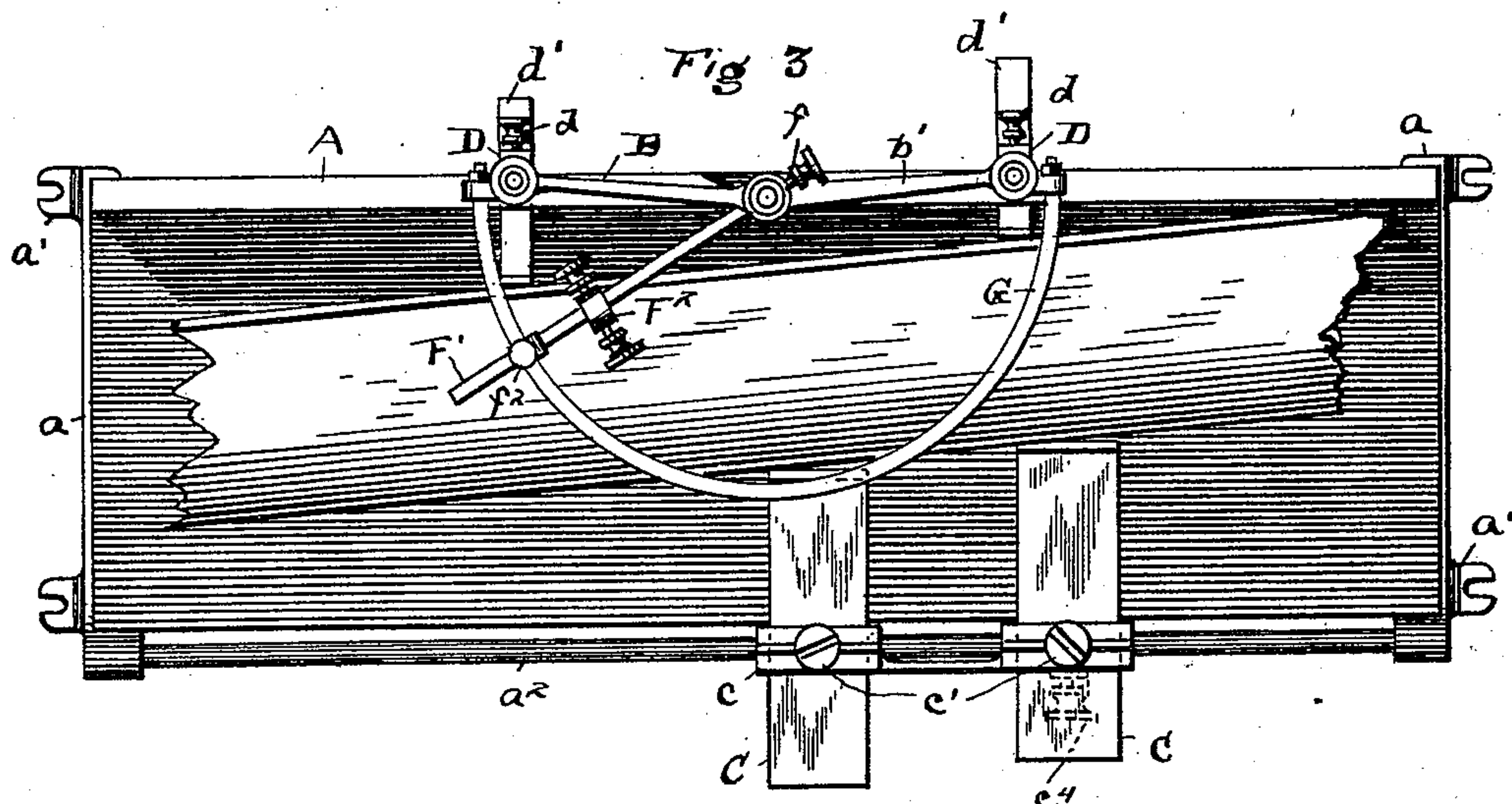
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WITNESSES.

P. B. Moser.

E. C. Lathum

INVENTOR

Frank W. Loreall.

By H. E. Fisher

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UNITED STATES PATENT OFFICE.

FRANK W. LOVEALL, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO
IRA MISNER, OF SAME PLACE.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 497,524, dated May 16, 1893.

Application filed August 18, 1892. Serial No. 443,425. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. LOVEALL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Miter-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to miter boxes, and the invention consists in a miter box constructed and operating, substantially as set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the improved miter box embodying the invention claimed. Fig. 2 is a cross section thereof, on line x, x , Fig. 1. Fig. 3 is a plan view, showing the disposition and arrangement of parts to cut at an angle of, say thirty degrees or thereabout. Fig. 4 is a rear elevation with the top of the gage frame broken away.

The machine herein shown consists essentially of two parts, the base or lower portion A, on which the material which is to be cut is supported, and the gage supporting frame, B, in which the saw is guided and the parts adjusted. The base frame A has a back portion at right angles to the bottom and brackets a are shown here as connecting and supporting said parts together. At their front the end brackets a have eyes or sockets, in which the longitudinal rod a^2 is supported at its ends, and feet a' are likewise provided on these end brackets having open slots through which the box as a whole is fastened firmly down to a work bench, table, or the like. The rod a^2 extends the full length of the box, and is free throughout its length for the brackets C to be slid from one position to another therein according as they are needed at one place or another to hold the work. These brackets C are right angled or L shaped, and are adjustably held each in a bearing c , having a thumb nut c' for locking the bracket in working position. The two bearings c are rigidly connected, so that the two brackets are adjusted together on the rod a^2 but they may be disconnected and separately adjust-

able. Both brackets C are adjustable to bear against the wood or piece to be sawed and their positions are variable as occasion requires. Usually it is desirable to use a false piece of board or the like, E, to protect the miter box from the saw.

Intermediate of the end brackets a are two other brackets D fixed to the bottom and the back of the frame. These brackets have bearings in which stand adjustably the standard rods of the gage supporting frame B, set screws d serving to hold the said frame in any adjusted elevation. This gage supporting frame has a cross brace or piece b' rigidly connecting the upper ends of the standards or rods b . Lower down is another cross piece b^2 , but this piece is free to slide on standards b , and a rod F, held centrally and free to turn in the said piece b^2 and passing through a bearing midway in cross piece b' above, serves, with the set nut f , to fix the elevation of said parts on the frame B. That is the cross piece b^2 and the rod F are adjustable up and down together on frame B, and the rod F extends through the central bearing in the cross brace b^2 and has the guide or run way F' for the saw fixed rigidly to its lower end. A forwardly projecting curved gage bar G is connected at its ends to the extremities of the cross piece b^2 , and a small bracket f' is fixed to the upper edge of the saw guide F' and has a set screw f^2 , to engage the said gage bar G and set or fix the saw guide wherever desired.

Suitable marks or indexes may be used on the gage bar G to denote the respective angles and thus facilitate adjustment.

Opposite to brackets or holders C at the front of the box are the rear brackets d' right angled or L shaped like those in front and extending through holes in the rear of base frame A and supported adjustably between links d^2 in the central brackets D and held by set nuts d^3 . Between the two opposed sets of brackets any desired position may be given to the board or material to be sawed and the same firmly held therein. Thus it appears that the material can be adjusted and held as wanted and the saw be set to run at any desired angle thereto.

If found necessary a clamp F², as shown in Fig. 1, may be used on the saw guide to hold

the sides of the guides from springing unduly apart and to form a more perfect guide than would otherwise occur.

The connected bearings *c* are locked on the rod *a*² by means of a set screw *c*⁴.

It will be seen that the foregoing construction is an exceedingly convenient one by reason of its many adjustments, and it also is very convenient for taking apart and packing away in a tool chest. To do this loosen set screws *d* and release frame B to lift out of its bearings or sockets in brackets D. Other parts also are removable, and the whole may be regarded and described a "knock down" miter box.

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

1. A miter-box having a substantially L shaped frame and adjustable brackets supported at the front of the frame, and other adjustable brackets in the rear upright portion of the frame, extending toward the front, substantially as set forth.

2. A miter box having a rod along its front edge, adjustable bearings on said rod, and right-angled holders or brackets in said bearing and adjustable therein, substantially as described.

3. The base of the box, substantially as described, having a rod along its front edge and connected bearings on said rod, and adjustable brackets or holders in said bearings, substantially as described.

4. In a miter-box, the base frame and the upright rods *b* rigid with said frame, in combination with a saw guide frame the saw guide fixed thereto and adjustable up and down upon the said upright rods, said saw guide having a horizontal movement and capable of being secured in any adjustment on the curved arm substantially as set forth.

5. The base frame, the gage frame having

uprights connected across their top, and a saw guide frame having a central sliding rod F, the segment G rigid with cross arm *b*² and the saw guide adjustable on said segment, substantially as set forth.

6. The base frame having a base part and a back part at right angles to one another, guide posts rigid with said base frame, and a saw guide frame provided with a segment extending forward over the box and adjustable up and down upon said guide posts, and a saw guide pivoted upon said saw guide frame at its rear end and adjustable upon the said segment at its front end, substantially as set forth.

7. The base frame having a vertical back portion, a gage frame consisting of two guide posts rigidly connected at their top and vertically adjustable in the back of said base frame and the saw guide frame vertically adjustable on said gage frame, the saw guide pivoted at its rear upon said frame and adjustable at its front upon said segment, substantially as set forth.

8. The base frame, the gage frame supported upon the said base frame and having vertical guide posts rigidly connected across their top, in combination with a vertically adjustable saw guide frame supported on said gage frame and having a central rod with the saw guide attached to the lower end thereof and said rod adjustable in the cross connection at the top between the said guide posts, and a forwardly extending segment upon which the saw guide is adjustable to different angles with respect to the box, substantially as set forth.

Witness my hand to the foregoing specification this 4th day of August, 1892.

FRANK W. LOVEALL.

Witnesses:

R. B. MOSER,
H. T. FISHER.