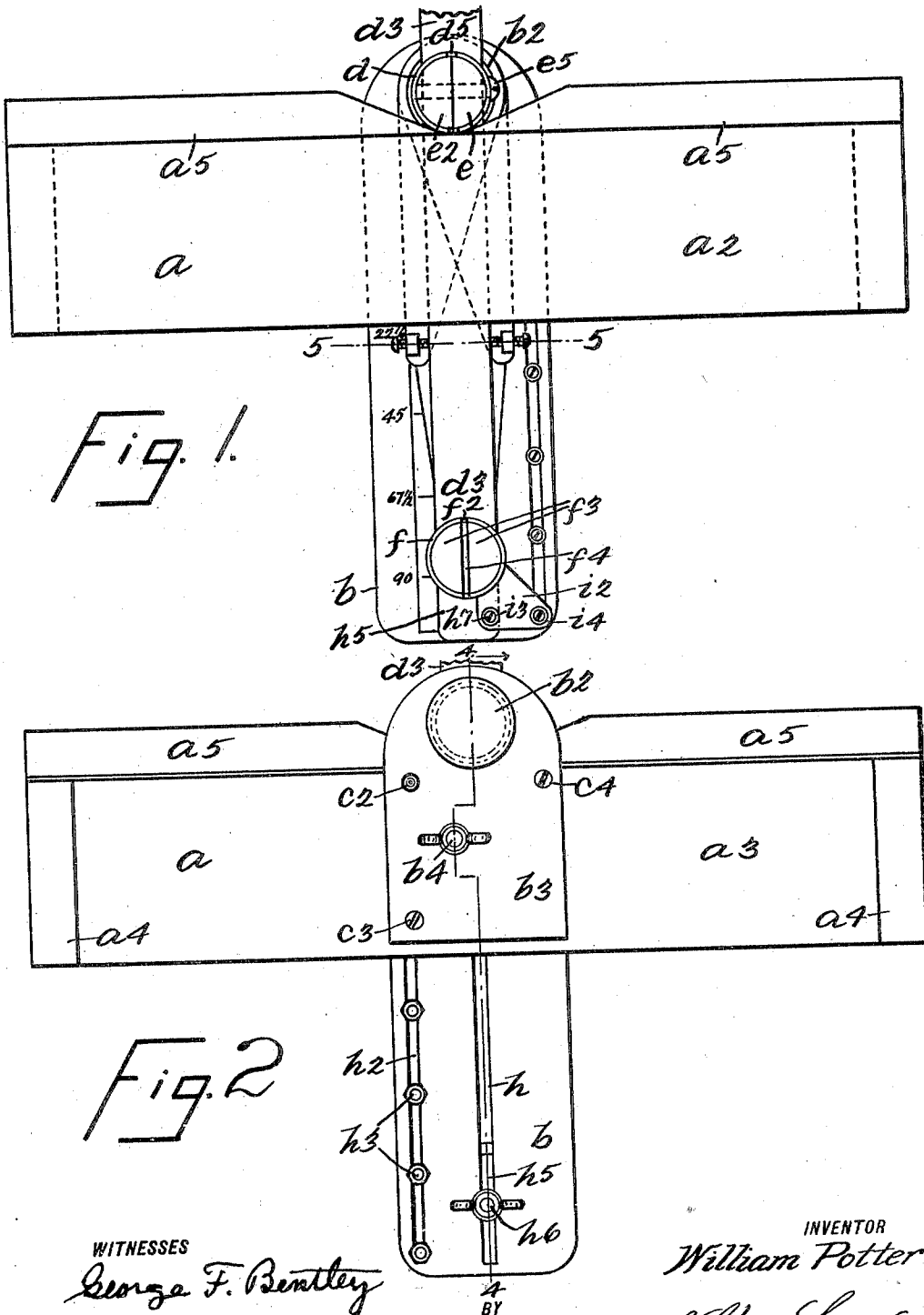


APPLICATION FILED JAN. 28, 1908.

Patented Feb. 1, 1910.

3 SHEETS—SHEET 1.

948,022.



WITNESSES
George F. Bentley
J. C. Larsen

INVENTOR
William Potter
J. Chris Larsen
ATTORNEY

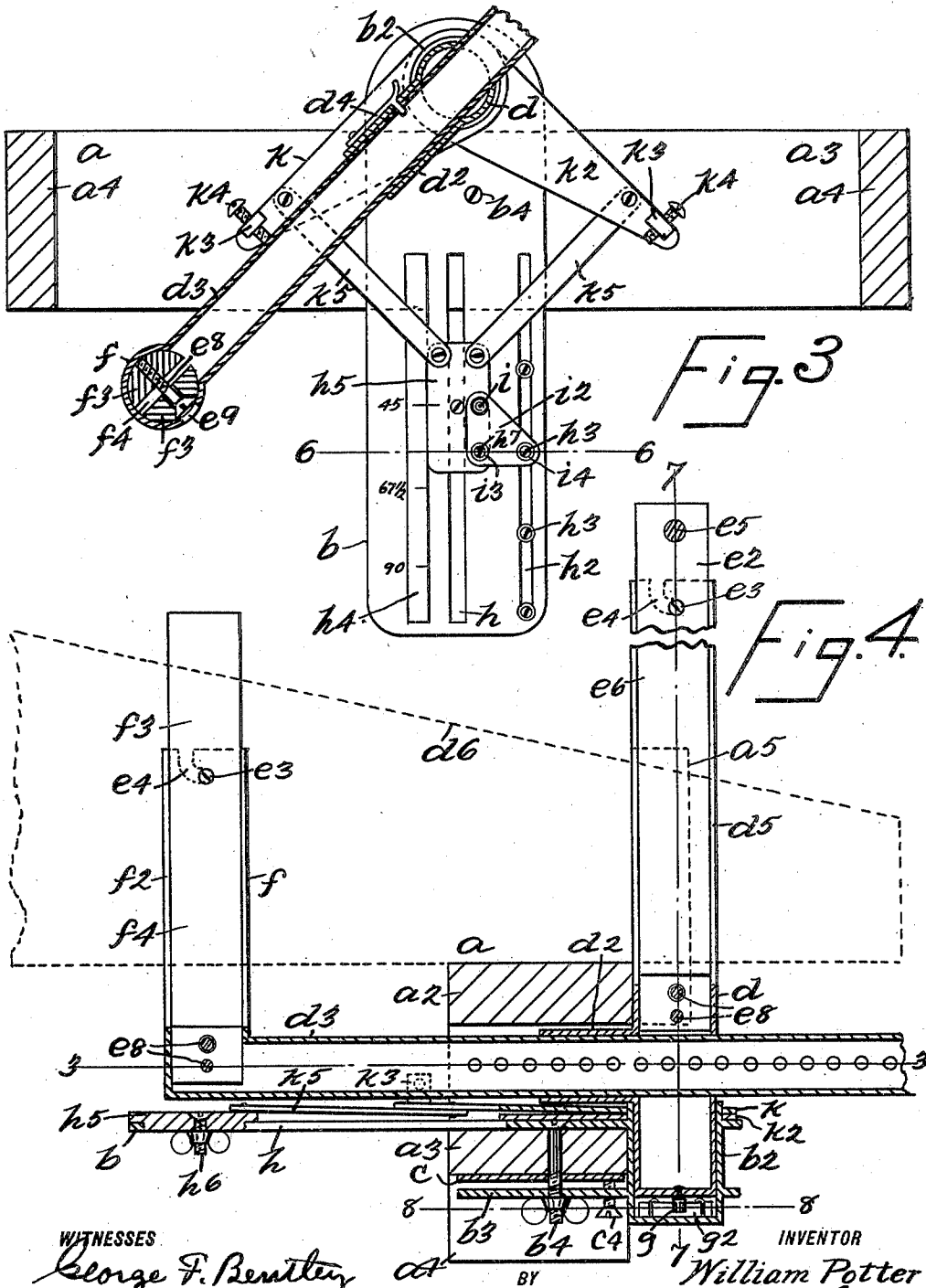
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3 SHEETS—SHEET 3.

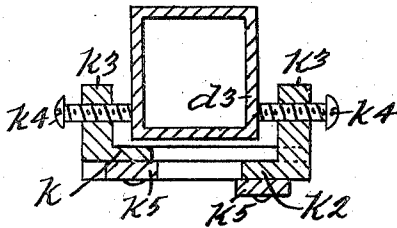


Fig. 5

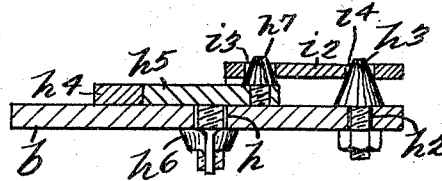


Fig. 6

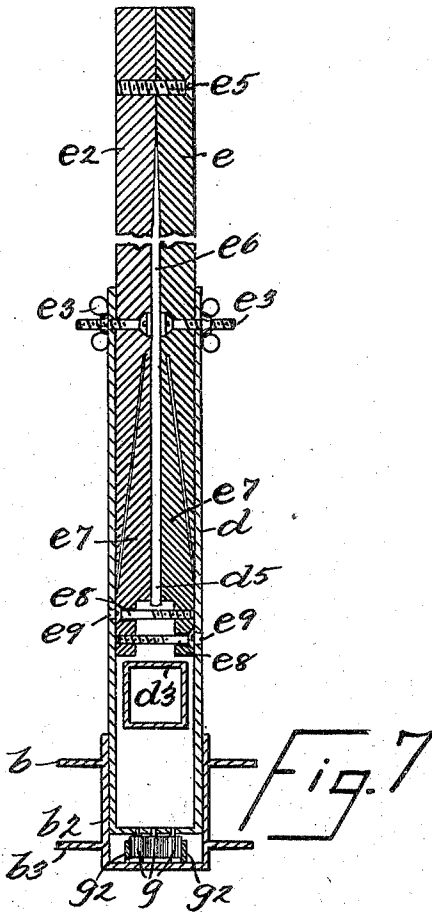


Fig. 7

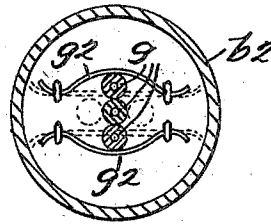


Fig. 8

WITNESSES

George F. Bentley

J. C. Rassen

INVENTOR

William Potter

J. Chris Larrick

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM POTTER, OF NEW YORK, N. Y.

MITER-BOX.

948,022.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed January 28, 1908. Serial No. 412,956.

To all whom it may concern:

Be it known that I, WILLIAM POTTER, a citizen of the United States of America, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide a miter box for the use of carpenters and others by means of which an ordinary saw may be employed to cut wood or other materials at various angles; a further object being to provide a miter box which permits of the material to be cut being placed therein from above instead of from the end as in devices of this class as heretofore constructed, and by means of which the saw, when not in use, may be left in the miter box and be entirely out of the way; a further object being to provide a miter box which may be set to cut material at any predetermined angle on either side of a line at right angles to the miter box without resetting, and a still further object being to provide a device of this class which is simple and accurate in construction and operation, and which may be readily taken apart when not in use and as readily re-assembled for use.

My invention is fully described in the following specification of which the accompanying drawings form a part, in which the separate parts thereof are indicated by suitable reference characters in each of the views, and in which:—

Figure 1 is a plan view of my invention ready for use and arranged for a square cut. Fig. 2, a bottom plan view thereof. Fig. 3, a horizontal section thereof taken on the line 3—3 of Fig. 4, the parts being arranged at an angle of 45°. Fig. 4, a vertical section on the line 4—4 of Fig. 2. Fig. 5, a partial section, somewhat enlarged, on the line 5—5 of Fig. 1. Fig. 6, an enlarged partial section on the line 6—6 of Fig. 3. Fig. 7, a vertical section on the line 7—7 of Fig. 4, and Fig. 8, a partial section on the line 8—8 of Fig. 4.

In the drawings forming part of this specification I have shown a base or support a which as shown in Fig. 4, is composed of two horizontal members a^2 and a^3 connected by means of vertical end members a^4 , and at the back of the member a^2 I have provided two

longitudinally arranged members a^5 which extend above the member a^2 as indicated in dotted lines in Fig. 4.

Mounted on a member a^3 and above the same is a plate b which is secured to a tubular member b^2 to which is also secured a plate b^3 beneath the member a^3 and the plates b and b^3 are connected together by means of a bolt and thumb screw b^4 which passes through the member a^3 of the support a .

Resting against the bottom of the member a^3 is a plate c which is in permanent connection with the plate b^3 by means of a pin c^2 , and passing through the plate b^3 are two adjusting screws c^3 and c^4 which bear against the plate c^3 as clearly indicated in Fig. 4.

Rotatably mounted in the tubular member b^2 is a vertically arranged tube d to which is secured a horizontally arranged tube d^2 which is rectangular in cross section, and slidably mounted in the rectangular tube d^2 is a similarly shaped tube d^3 which is adapted to be adjusted therein and held by means of a spring catch or other device d^4 as shown in Fig. 3.

Mounted in the vertical tube d are two blocks preferably composed of wood e and e^2 which are held in the tube d by means of bolts and thumb screws e^3 operating in bayonet joints e^4 , and it can be readily seen that by this construction the blocks e and e^2 can be readily removed and as shown in Fig. 7, these blocks are held together at their tops by means of a screw e^5 and said blocks are so formed as to leave a vertical slot e^6 therebetween which registers with a similar slot d^5 in the tube d and through which a saw indicated in dotted lines at d^6 is adapted to be passed.

By reference to Fig. 7 it will be seen that the blocks e and e^2 are each provided with a slanting saw cut thereby forming spring tongue members e^7 which are held together by means of oppositely arranged screws e^8 , the slots in the heads of which register with openings e^9 in the tube d , and by means of this construction it will be seen that when the blocks e and e^2 are worn away by the manipulation of a saw therebetween the rotation of the screws e^8 through the openings e^9 will regulate the size of the slot e^6 and thereby keep the saw in vertical position and away from the edges of the slot d^5 at all times.

Secured to the outer end of the adjustable tube d^3 is a vertically arranged tube f which

is slotted vertically as shown at f^2 similarly to the tube d and mounted in the tube f are blocks f^3 which are similar to the blocks e and e^2 previously described with the exception that they are not united at their tops thereby permitting the slot f^4 which registers with the slot f^2 in the tube f to extend the full length of the blocks f^3 and this permits the insertion of the saw d^6 between the said blocks and the position of the saw d^6 is determined with reference to the support a , by the position of the swinging arm or tube d^3 .

Secured to the bottom of the vertical tube d are three rollers g which are arranged in line with each other centrally of the tube d and is clearly shown in Fig. 8. The rollers g pass between two spring plates g^2 which are loosely mounted in the bottom of the tubular member b^2 and by means of this construction it will be seen that the tube d and swinging arm d^3 mounted therein are forced outwardly from the right angle position in either direction by means of the springs g^2 , when the rollers g are slightly off the center and the tendency thereof is always to force the arm d^3 into a position in line with the support a .

By reference to Fig. 3, it will be seen that the plate b is slotted centrally and longitudinally thereof as shown at h and the said plate is also provided with a supplemented slot h^2 at one side thereof, and in which are adjustably mounted a plurality of screws h^3 which are provided with tapered heads as clearly shown in Fig. 6, and the plate b is also provided with a guide h^4 upon which a scale is adapted to be arranged and with which a slide h^5 operating in the slot h is adapted to operate, and the slide h^5 is adapted to be adjusted in any position by means of a thumb screw or similar device h^6 at any point on the plate b .

Rotatably secured at i to the plate or slide h^5 is a plate i^2 which is provided with openings i^3 and i^4 and the taper-headed bolts or screws h^3 are adapted to enter the opening i^4 while a similar taper-headed bolt or screw h^7 secured in the slide h^5 is adapted to enter the opening i^3 and this serves as a supplemental adjusting device for the slide h^5 and saves time in the adjusting thereof as well as obviating the necessity for the close attention required when setting to the scale arranged on the guide h^4 , and as the taper-headed bolts h^3 may be adjusted in the slot h^2 and secured therein a plurality of fixed positions of the slide h^3 are thereby produced.

Rotatably mounted on the tubular member b^2 and on the plate b are two arms k and k^2 which are provided with supports k^3 at their outer ends through which pass set screws k^4 and the arms k and k^2 are connected with the slide h^5 by means of link members k^5 and it

will be seen that the movement of the slide h^5 operates the arms k and k^2 correspondingly, and, as clearly shown in Fig. 3, the positions of the arms k and k^2 determine the limit of movement of the swinging arm d^3 and this position of the arm d^3 on either side of the square position is adjustable by means of the set screws k^4 and it will be seen that when it is desired to cut material at a certain angle at either side of the square position all that is necessary is to manually move the swinging arm d^3 over the center, and the said arm is then forced into and held in the desired position by means of the springs g^2 and rollers g as previously described.

In practice I prefer to make the blocks e and e^2 about 24 inches in length whereas the blocks f^3 are preferably much shorter, and the reason for joining the blocks e and e^2 at their tops is that they may serve as a holding device for the saw d^6 when not in use after the same has been forcibly raised into its uppermost position and the material to be cut can then be placed into the miter box from above instead of from the end as in miter boxes now constructed, and it will be seen that the swinging arm d^3 may be longitudinally adjusted and may also be adjusted at any angle to the support a which may be desired, and by means of the construction shown and described my apparatus may be entirely taken apart in a few moments in order to store the same in a tool chest and may be as readily re-assembled when desired, and various changes in and modifications of the construction herein shown and described may be made within the scope of this invention without departing from the spirit thereof or sacrificing its advantages.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A miter box, comprising in combination a support for the work, a laterally swinging saw guide and means comprising springs for retaining the guide at right angles to the work when so placed but tending when the saw guide is displaced therefrom to urge it farther in the same direction.

2. A miter box comprising the combination of a support for the work, a laterally-swinging saw guide carried thereby, devices adjustable independently of such guide for limiting the lateral swing of said guide to determine the angle cut and means tending to throw such guide in either direction from a position at right angles to the work toward such limiting devices.

3. A miter box comprising the combination of a support for the work, a laterally swinging saw guide carried thereby, laterally swinging arms, independent of said guide, for limiting the swing thereof to determine the angle cut and adjusting devices on said arms to exactly gage the said angle.

4. A miter box comprising the combination of a support for the work, a laterally swinging saw guide carried thereby, laterally swinging arms, independent of said guide, 5 for limiting the swing of said guide to determine the angle cut, means for locking said arms at any angle and means comprising springs for forcing said guide against either one of said arms.

10 5. A miter box, comprising a support for the work, a laterally swinging saw guide carried thereby and saw receiving uprights carried by said saw guide, said uprights being slotted and said slots being tapered to 15 ward their tops, thereby serving to hold the saw in a raised position.

20 6. A miter box, comprising a support for the work, a tube vertically and rotatably mounted therein, a swinging saw guide longitudinally adjustable in said tube, devices adjustable independently of said saw guide for limiting the lateral swing thereof and means comprising springs tending to throw

said saw guide either direction from a position at right angles to the work toward said 25 limiting devices.

7. A miter box, comprising a support for the work, a laterally swinging saw guide carried thereby, a laterally swinging arm on each side of said guide, a plate movable 30 in said support, links connecting said arms with said plate, means for locking said plate in desired positions to adjust said arms and limit the swing of said guide and thereby determine the angle cut, and means com- 35 prising springs tending to throw said guide either direction from a position at right angles to the work toward said limiting arms.

In testimony that I claim the foregoing as my invention I have signed my name in 40 presence of the subscribing witnesses this 27th day of January, 1908.

WILLIAM POTTER.

Witnesses:

GEORGE F. BENTLEY,
J. C. LARSEN.