

N. G. NELSON.
MITER BOX.
APPLICATION FILED MAY 13, 1908.

948,428.

Patented Feb. 8, 1910.

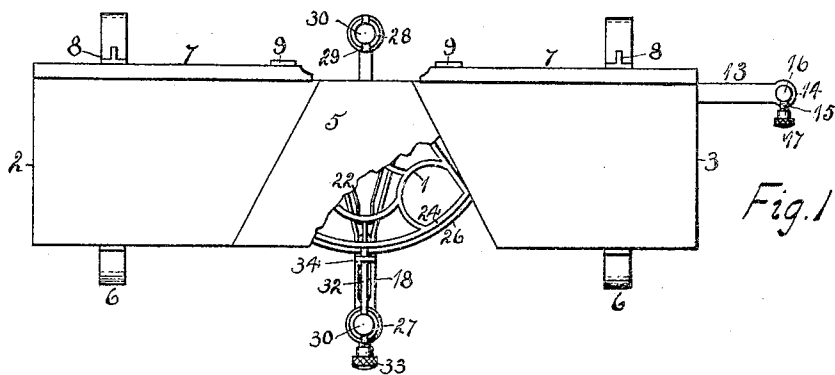


Fig. 1

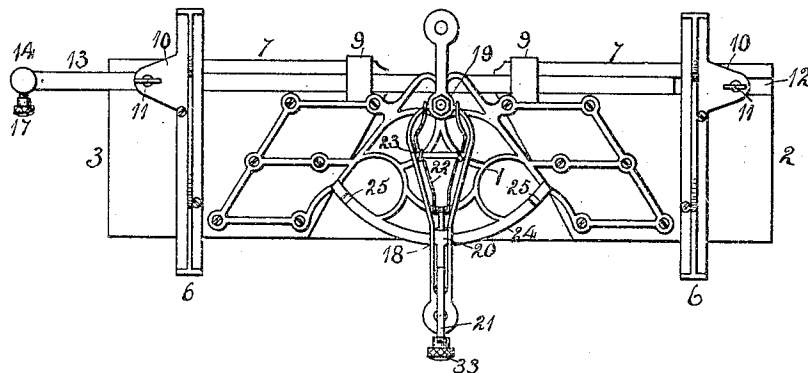


Fig. 2

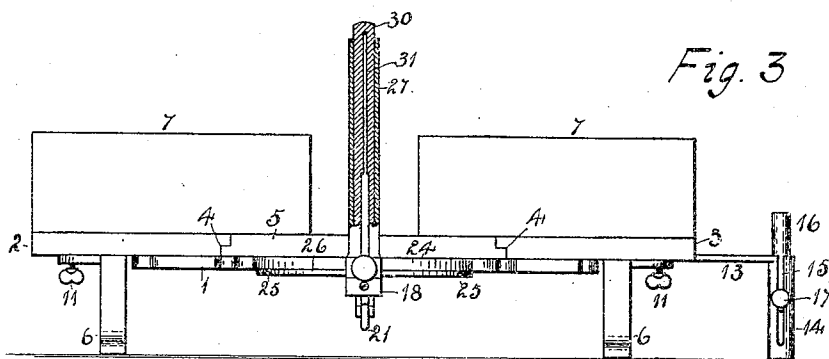


Fig. 3

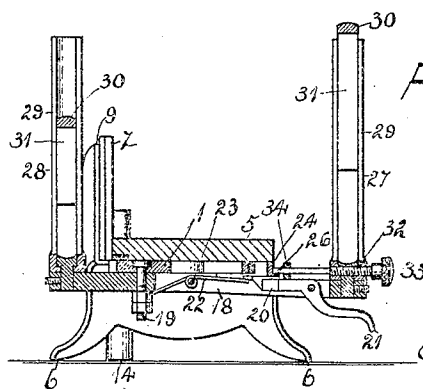


Fig. 4

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UNITED STATES PATENT OFFICE.

NELS GUSTAFAER NELSON, OF ROCKFORD, ILLINOIS.

MITER-BOX.

948,428.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed May 13, 1908. Serial No. 432,698.

To all whom it may concern:

Be it known that I, NELS G. NELSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification.

This invention relates to improvements in miter-boxes, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a miter box which shall be simple and inexpensive in construction, strong, durable and effective in operation, and so made that parts thereof may be adjusted with the greatest accuracy and firmly held in their adjusted positions so that the pieces of wood may be cut or sawed at any desired angles.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawing, in which—

Figure 1 is a top plan view of the invention, showing a portion of the removable cutting section broken away to disclose a part of the main frame of the device; Fig. 2 is a bottom plan view; Fig. 3 is a front view partly in elevation and partly in section; and Fig. 4 is a transverse vertical view taken through the middle of the device.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawing.

The reference numeral 1 designates the main frame, which is preferably made of open iron work, and has secured to its upper surface and end portions horizontally disposed platform sections 2 and 3, the adjacent ends of which are cut away at angles to one another as shown in Fig. 1 of the drawing, and each of said adjacent ends of said sections is formed with an undercut 4 to engage correspondingly shaped edges of a removable section 5 which, when in place, will rest on the middle portion of the upper surface of the main frame 1 and will serve to assist in supporting the material to be sawed. The lower portion of each of the

platform sections 2 and 3 is provided near its outer end with a pair of feet 6 transversely arranged with respect to the box, and are employed to hold the same at a suitable distance above the work bench on which the miter-box may rest.

Secured to the rear portions of the platform sections 2 and 3 are upright back sections 7 which are held in their upright positions by means of standards 8 extended upwardly from the feet 6 and also by means of bars 9 extended upwardly from the main frame 1 near the inner ends of the sections 7 of the back. Extended horizontally from each foot 6 is a projection 10 which supports a thumb-screw 11 which is adapted to engage a slide 13 which is located in longitudinally extended grooves 12 formed in the lower surfaces of the sections 2 and 3 near their rear edges. One of the ends of the slide 13 is provided with an upright tubular portion 14 having a slot 15 in its face. Within this tubular portion is located a plunger 16 which is adjustable vertically within the tubular portion, and is held when adjusted by a thumb-screw 17 carried by the plunger and guided in the slot 15 of the tubular portion. To the rear middle portion of the main frame 1 is pivotally secured the saw carrying frame 18 which is horizontally located beneath the main frame and connected thereto by a bolt or pivot 19 which, as is shown in Figs. 2 and 4 of the drawing, is located near the rear end of the frame 18, which frame in front of said pivot is preferably of a skeleton type having two spaced apart sides connected together at their front ends. Pivotaly secured between the sides of the frame 18 near their front ends is a latch 20 which has at its front end a downturned finger 21 or hooked portion which may be readily grasped by the hand of the operator. Extended across the frame 18 and secured thereto slightly in front of the pivot 19 is a bar 23 which supports a bow-spring 22, the rear ends of which are connected to the rear portion of the frame 18 and the front end of which engages the rear part of the latch 20, so as to normally press its rear end upwardly.

The main frame 1 has on its front portion a segment 24 which is located concentric with the pivot 19 and has in its lower surface a series of notches or recesses 25 adapted to receive the rear end of the latch 20 in order to lock the frame 18 at the desired

position to the main frame 1 of the box. As shown in Figs. 2 and 3 the segment 24 is provided with a recess 25 near each of its ends and with a similar recess midway between said end recesses, and has on its outer surface a horizontally extended ledge 26 for the purpose to be presently explained. Each end of the frame 18 is provided with a vertical opening to receive reduced portions on the lower ends of the saw guide supports 27 and 28, which are tubular in form and are provided with slots 29 for the reception and operation of the saw-blade. The reduced portions of the supports 27 and 28 may be rigidly held in their respective openings of the saw carrying frame 18 by means of small set-screws located in the ends of said frame. Vertically and movably located in each of the supports 27 and 28 is a saw-guide 30, each of which is preferably hollow and tubular in form, and has a longitudinally extended slot 31, the lower portion of which is enlarged and open to permit of the movement of the teeth of the saw without contacting with the sides of the guides or their supports, and to also permit of the discharge of sawdust carried by the saw in its movements back and forth.

Extended horizontally through the lower portion of the support 27 and in screw engagement therewith is a rod 32 which extends rearwardly to near the front surface of the segment 24, and normally rests at its rear end on the upper surface of the ledge 26 of said segment. This rod has a head 33 on its outer end by means of which it may be turned, and near its inner end is extended through an aperture in a guide 34 on the upper surface of the front portion of the saw carrying frame. This rod 32 is employed for the double purpose of fixing the frame 18 to the segment 24 at any desired point between the notches 25, as well as for more securely holding the frame 18 to the main frame at said notches and, besides, to relieve the pivot-bolt 19 of the great strain it would otherwise be subjected to, for, as before stated, the inner end of the rod 32 will normally rest on the upper surface of the ledge 26, thus supporting the front part of the saw-frame.

By the employment of the removable section 5 formed with its end edges corresponding in shape to the inner ends of the sections 2 and 3 of the platform of the miter-box, it is apparent that it can be caused to fit closely in the space between the sections 2 and 3 so that its upper surface will be flush with the upper surfaces of said sections to

properly support the material to be sawed, and that by using the removable section an ordinary saw can be used in connection with the device.

It is apparent that the plunger 16 can be adjusted vertically above the platform sections so as to act as a stop to the material being cut, and that the slide 13 can be located at either end of the miter-box and held in the desired position by either of the said screws 11 therefor.

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

In a miter box, the combination with the platform sections, comprising the end sections and removable middle section, and the vertical back sections, of the feet to which said end platform sections are secured, said feet having integral therewith upstanding bars, or back-supports 8, a central iron-work member 1 which is also provided with integral upstanding bars, or back supports 9 and an integral notched quadrant and pivot-bearing for a radial arm, said end platform and back sections being united, secured together and supported relatively to each other in a single rigid member by said central iron-work member and its integral back-support bars 9, a groove extending longitudinally in the under surface of said platform sections from end to end of the frame, a slide in said groove which is supported against displacement therefrom by said feet and iron-work member, a vertically adjustable stop in one end of said slide, and arranged to project above the platform, said slide and stop being reversible to place said stop at either end of the frame or platform, a radial arm pivoted in said pivot bearing, the slotted saw guide supports mounted on said arm, a latch on said arm provided with a hooked finger portion to be engaged with either of the notches in said quadrant, and a screw clamping rod 32 mounted on said arm and provided with a head 33 projecting from the end or exposed portion of said arm, said rod arranged to bear against said quadrant to hold said arm in any desired intermediate position between the notch positions.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

NELS GUSTAFAER NELSON.

Witnesses:

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E. D. E. N. BEHEL.