(No Model.)

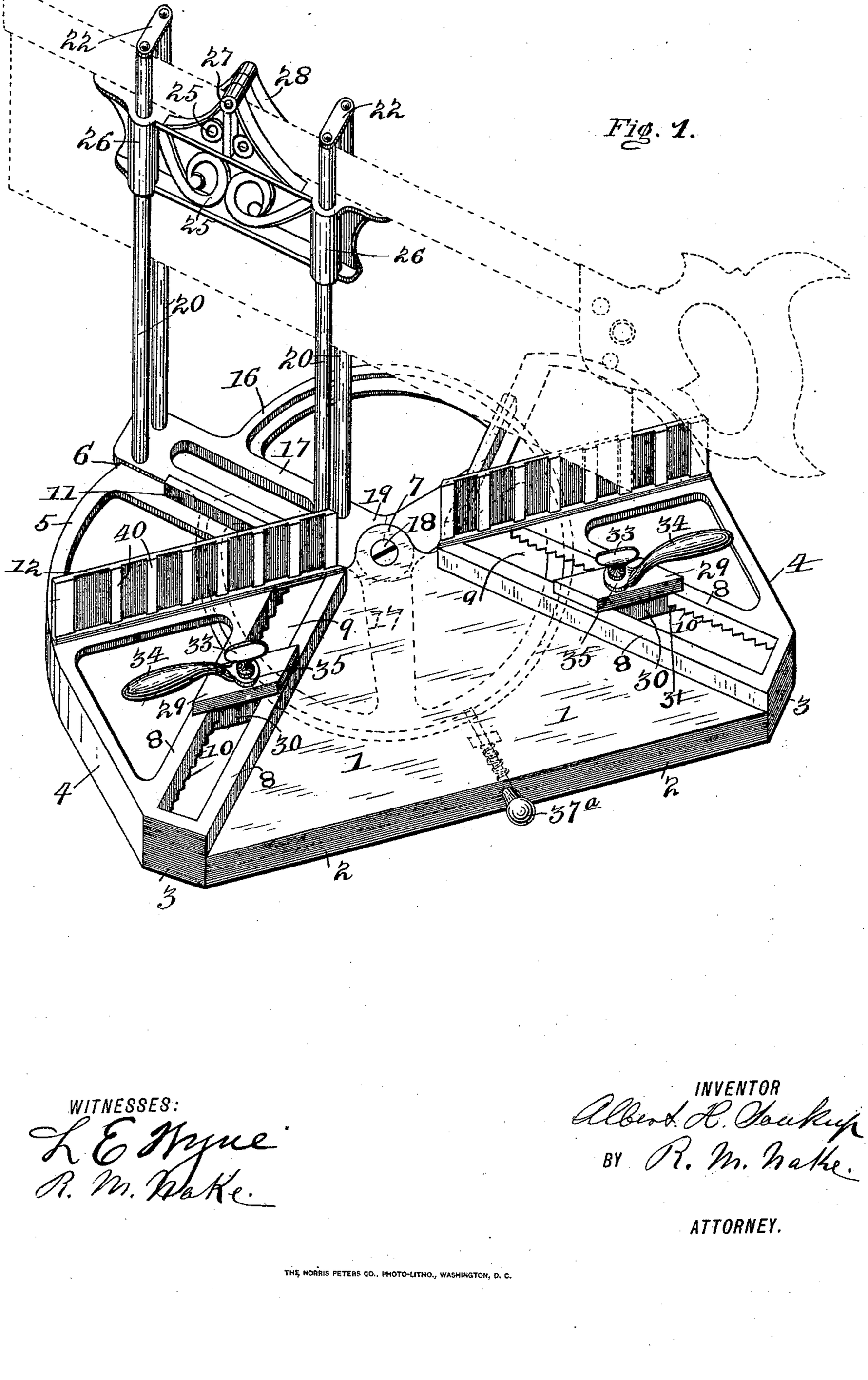
2 Sheets—Sheet 1.

A. H. SOUKUP.

MITER MACHINE.

No. 477,233. Patented June 21, 1892.

Fig. 1.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

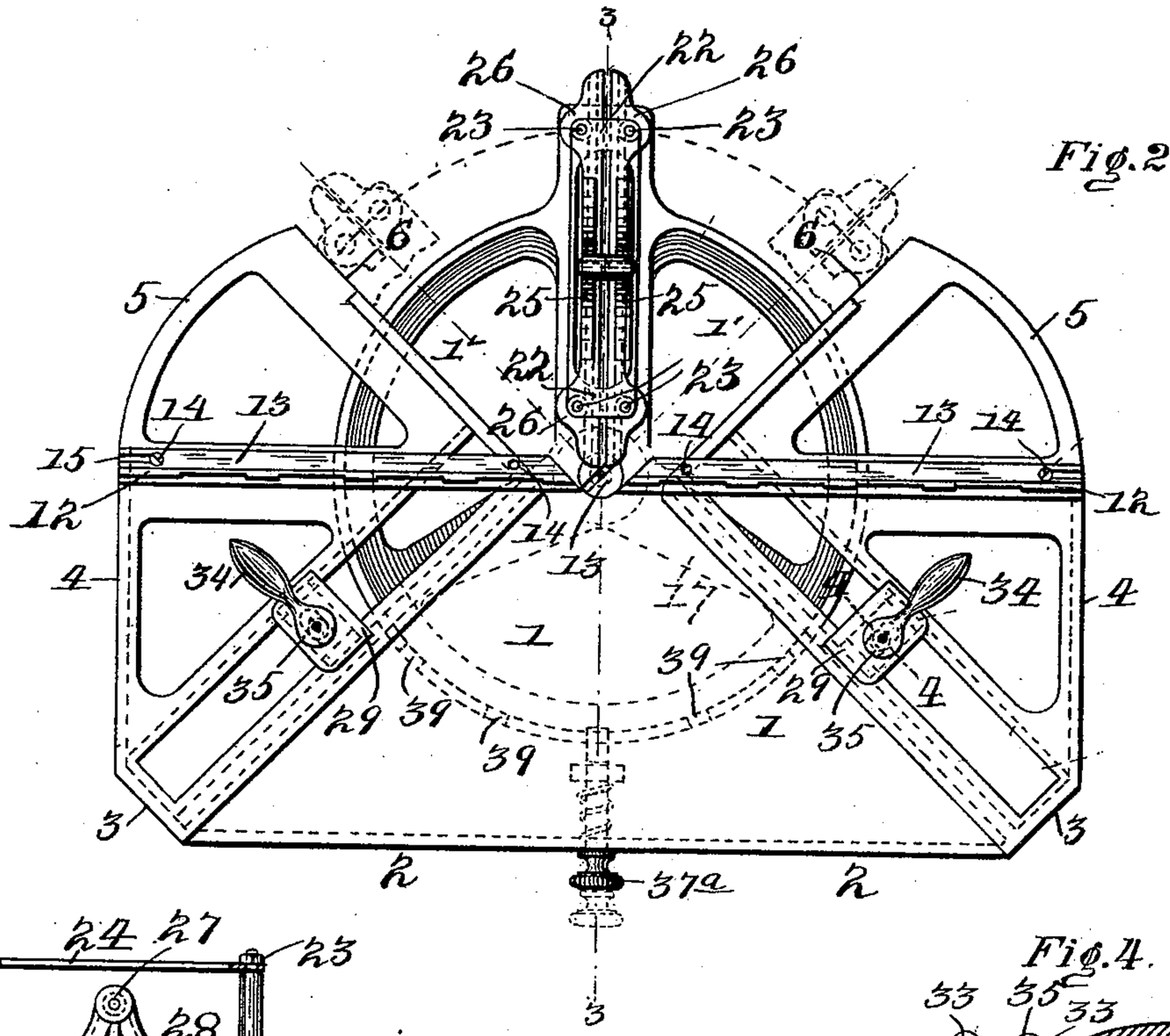


Fig. 4.

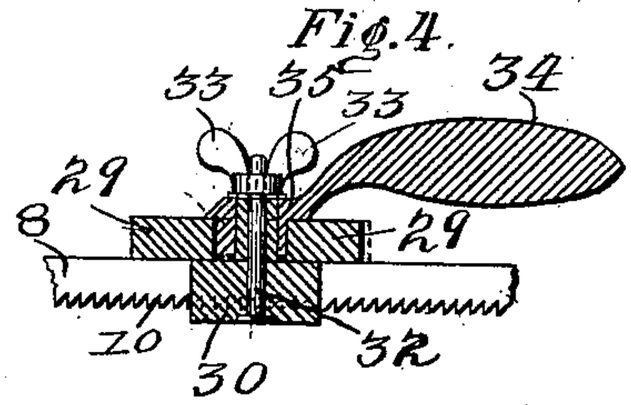
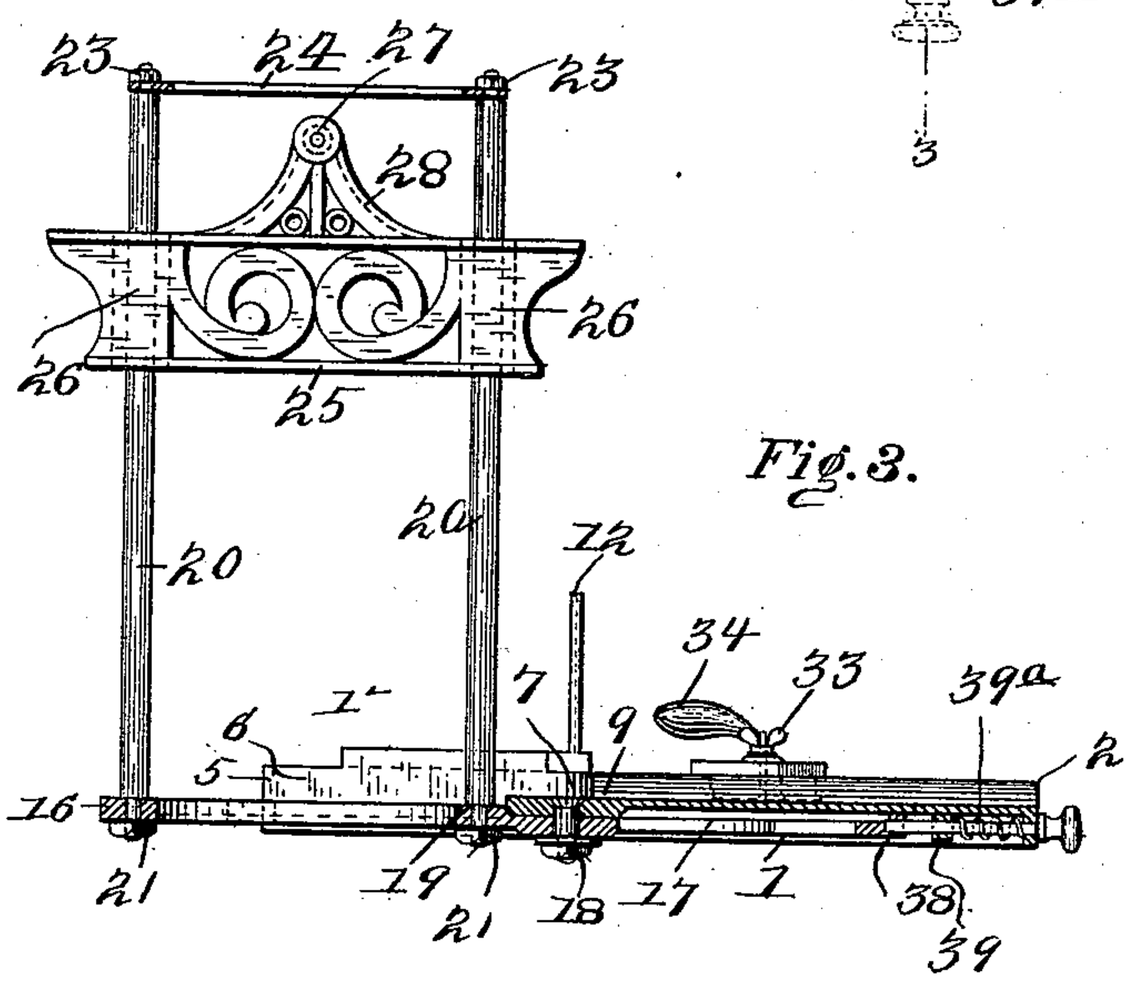


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT H. SOUKUP, OF KANSAS CITY, MISSOURI.

MITER-MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,233, dated June 21, 1892.

Application filed September 28, 1889. Serial No. 325,461. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. SOUKUP, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Machines for Cutting Miters, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines for cutting miters or for forming square or other cuts in moldings and other materials used in making picture-frames, mirror-frames, and various other classes of work.

The objects of my invention are to produce a machine which shall be simple, durable, and inexpensive in construction, and rapid and accurate in its operation, and the various adjustments of which can be rapidly and accurately effected; furthermore, to produce a mitering-machine which shall be capable of properly holding and operating upon moldings and other stock of a great variety of forms.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a mitering-machine constructed in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a transverse vertical section of the same on the line 3 3 of Fig. 2. Fig. 4 is a transverse vertical section of one of the adjustable work-holding clamps on the line 4 4 of Fig. 2.

In the said drawings, 1 designates the base-piece or bed of my improved machine, the said base-piece or bed being preferably in the form of a single integral casting of iron or other suitable metal, but permissably of other suitable or preferred material. The front margin 2 of this base-piece or bed 1 is preferably of straight form, as shown, and is united to the side margins 4 by short oblique or truncated corner margins 3. The side margins 4 extend parallel with each other toward the rear of the bed or base-piece 1, and at their rear ends are continued in the form of inwardly and rearwardly extending segmental marginal sections 5, which converge toward each other, as shown. To the inner or rear ends of these marginal sections 5 are united two straight marginal portions 6, which converge forwardly in substantially V form, and the front ends of which are united to the body of the base-piece or bed 1 at the middle or center of the same. At this middle or central point the said base-piece or bed 1 is formed with a boss or enlargement 7, for a purpose to be hereinafter explained.

Upon the upper side of the bed or base-piece 1 are formed four guide ribs or flanges 8, which are arranged in pairs, the ribs of each pair being parallel with each other, and each pair of ribs extending from one of the oblique or truncated corner margins 3 to the middle portion of the bed or base-piece at the corresponding side of the boss 7. An elongated slot or opening 9, which extends entirely through the base-piece or bed 1, is inclosed between each pair of guide-ribs 8, the said slots 9 thus extending, like the pairs of guide-ribs, rearwardly and convergently. On their under sides the guide-ribs 8 are formed with serrations or teeth 10, for a purpose to be hereinafter explained.

11 designates two elongated stop ribs or flanges, which are preferably formed integrally with the base-piece or bed 1, and which are contiguous to the convergent rear margins 6 of said base or bed. These stop ribs or flanges 11 are united at their front ends to the inner ends of the inner or rear guide-ribs 8 and diverge rearwardly from each other, the outer ends of said stop-ribs preferably terminating a slight distance within the points of juncture of the rear ends of the segmental marginal sections 5 with the outer ends of the convergent marginal portions 6, above described.

12 designates two auxiliary stops or guards, each of which is of elongated rectangular form, and the lower edge or margin of each of which is formed with a horizontal longitudinal flange 13. These auxiliary stops or guards, when in operative position upon the bed or base-piece 1, extend oppositely from

and in longitudinal alignment with each other, and are also located at opposite sides of the boss or hub 7, and furthermore extend parallel with the front margin 2 of the base-piece or bed 1, as shown. Each of these auxiliary guards or stops 12 is detachably connected to the base or bed 1 by any suitable number of screws 14, which enter elongated slots or openings 15 in the flanges 13, and which pass thence into the bed or base-piece 1. These auxiliary guards 12 are also formed each with a number of vertical parallel ribs 40, which are designed to embrace the edge of certain forms of moldings, (such as shell-moldings,) and thus retain the same in proper position while being operated upon by the saw.

16 designates the saw-guide carrier, which carrier is of annular form, its rim being of said form and being connected to a central portion or hub by three or any suitable number of radial or spoke-like arms 17. The central hub 19 is preferably formed by the juncture of the radial arms 17 of the carrier, and said carrier is detachably connected to the base or bed 1 by a screw 18 or a bolt or an equivalent device, which passes vertically through the hub 19 and also similarly through the boss 7 of said base. Upon one of the arms 17 of this carrier are mounted four vertical guide-posts or standards 20, which are arranged in two pairs, one pair of standards being located near the outer end of the arm and the other pair being located near the inner end of said arm. The standards 20 are preferably secured to the arm by nuts 21, which are screwed upon the lower ends of the standards, and which abut against the under side of the arm, and said standards are retained in vertical parallelism by cross-bars 22, each of which is preferably detachably connected to the upper ends of each pair of standards by screws 23 or equivalent devices, the two pairs of said standards being also preferably connected together at their upper ends by a horizontal connecting bar or brace 24, as shown in Fig. 3.

25 designates the movable saw-guide, which is preferably of oblong rectangular and skeleton form, as shown, the said guide being composed of two parallel sections of this form, and said sections being provided at their ends with sleeves 26, which embrace and slide vertically upon the guide-standards 20. These two guide-sections are connected together by a cross-bolt 27, which passes transversely through the apices of two triangular extensions 28 at the upper side of each guide-section, and which bolt permits the presence of an intervening space between the two guide-sections 25 for the passage of the saw.

29 designates two adjustable clamping-stops, each of which fits above one of the pairs of guide-ribs 8, before described, and each of which is preferably of rectangular form, as shown. A block 30 works in each of the slots 9, between each pair of ribs 8, and is formed with two oppositely-disposed flanges 31, each of which is serrated on its upper side to match the serrations 10 on the under sides of the ribs 8. A bolt 32 is passed vertically upward through the middle of each block 30, said bolt also passing similarly upward through the middle of the clamp-plate 29, and the upper end of each of these bolts is externally screw-threaded to receive a set-nut or clamping-nut 33.

34 designates a handle the inner end of which carries a hub or boss 35, which surrounds the upper part of the bolt 32, and which is interposed between the upper side of the clamp-plate 29 and the under side of the set-nut 33, and it will be seen that by turning the nuts 33 in one direction the plates 29 and blocks 30 can be separated, permitting the serrations of the blocks to be disengaged from the serrations 10 of the ribs 8. The clamps can now be moved toward or away from the front of the base 1, as required, and by subsequently turning the nuts 33 in the opposite direction the blocks will be drawn upward toward the clamp-plates and the serrations of the blocks will be engaged with the serrations of the ribs 8, the clamps being thus retained in their desired positions. The annular carrier 16 extends forwardly beneath the base or bed 1, the margins 2, 3, 4, 5, and 6 being pendent at the under side of the base, so as to form flanges which permit the carrier to so extend beneath the bed or base, and this carrier is provided with any desired number of openings or sockets 38, which are designed to receive the inner end of a stop-pin 37^a. This pin extends horizontally through the front margin 2 of the base 1, and also through a bearing-lug 39, formed on the under side of the base 1. A spiral spring 39^a surrounds the pin or bolt 37^a and tends to throw said pin or bolt rearwardly into one or the other of the openings or sockets 38, and thus causing said pin or bolt to retain the carrier 16 in its required position of adjustment.

The general operation of the above-described machine is as follows: The strip of molding is laid against the front sides of the auxiliary guards 12, and the carrier is adjusted to cause the saw to cut across the molding either at an angle or in a direct transverse line, the clamps 29 being moved upward against the outer side of the molding, so as to press the same firmly against the auxiliary guards. By removing the auxiliary guards 12 (which is accomplished by withdrawing the screws 14) the molding can be laid against the stops 11 and the carrier adjusted as before.

From the above description it will be seen that I have produced a mitering-machine which is simple, durable, and inexpensive in construction and rapid and accurate in its operation and by means of which a great variety of work may be properly performed.

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

1. An improved mitering-machine comprising a base or bed provided with two rearwardly-converging slots or openings having each a pair of marginal ribs serrated on their under sides and a pair of adjustable clamps composed each of a block working in the slot and having serrated flanges to engage the serrations of the ribs, a top plate, a bolt extending through said top plate, a set-nut screwed upon the upper end of the bolt, and a handle having a hub surrounding the upper part of the bolt to engage the upper side of the top plate, substantially as set forth.

2. An improved mitering-machine comprising a bed or base having a pair of rearwardly-convergent slots, ribs located in pairs at the margins of said slots, adjusting-clamps working in said slots and upon said ribs, and a pair of rearwardly-divergent stop-ribs located upon the upper side of the base and extending from the inner ends of the guide-ribs, substantially as set forth.

3. An improved mitering-machine comprising a base or bed, an annular saw-guide carrier centered beneath said bed and having marginal sockets, and a spring-pressed pin extending through the front margin of the bed and engaging said sockets at its inner end, substantially as set forth.

4. An improved mitering-machine comprising a suitable base having a pair of rearwardly-convergent slots, marginal guide-ribs for said slots, adjusting-clamps working in said slots and upon said ribs, and a pair of auxiliary guards detachably connected to the upper side of the base and having vertical ribs, substantially as set forth.

5. An improved mitering-machine comprising a base or bed, an annular saw-guide carrier centrally pivoted beneath said bed and having spoke-like arms, a number of guide-standards projecting vertically from one of said arms and arranged in pairs, and a saw-guide composed of two parallel sections having sleeves surrounding and working vertically upon said standards, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT H. SOUKUP.

Witnesses:
L. E. WYNE,
R. M. NAKE.