No. 863,851. PATENTED AUG. 20, 1907.

A. F. JONES.

STONE CUTTING MACHINE.

APPLICATION FILED MAY 25, 1906.

2 SHEETS—SHEET 1.

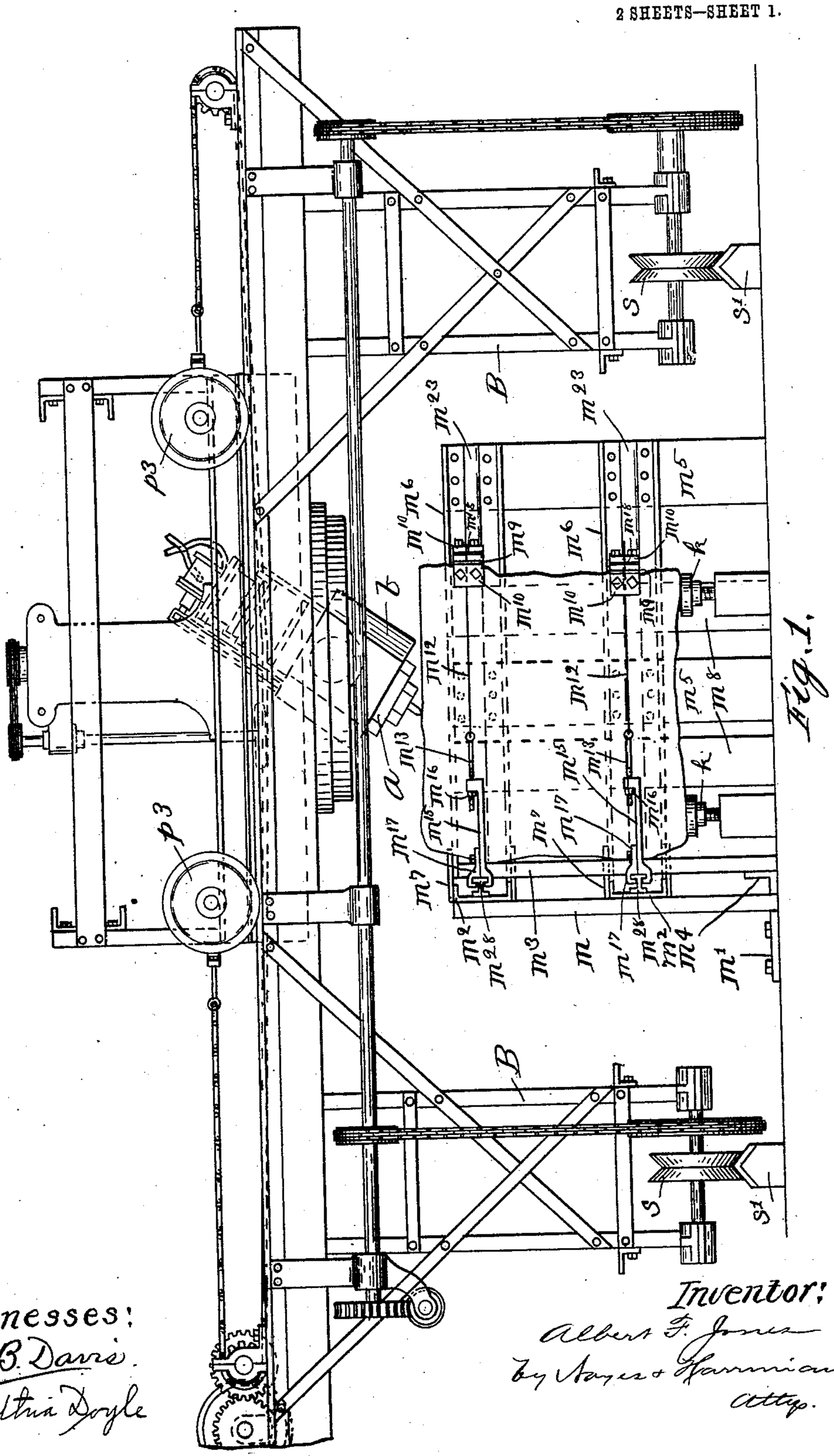

Fig. 1.

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Inventor:
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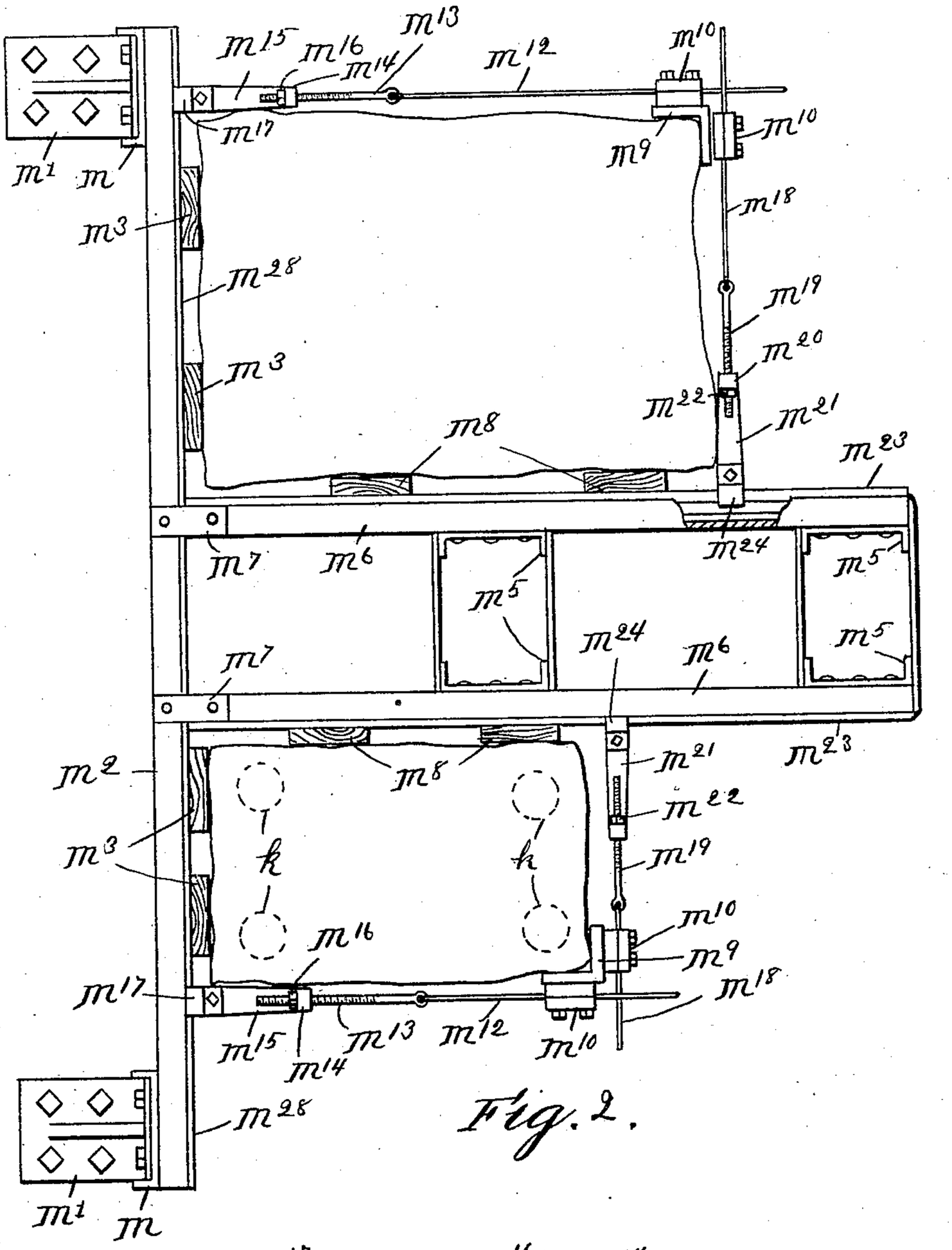

Fig. 2.

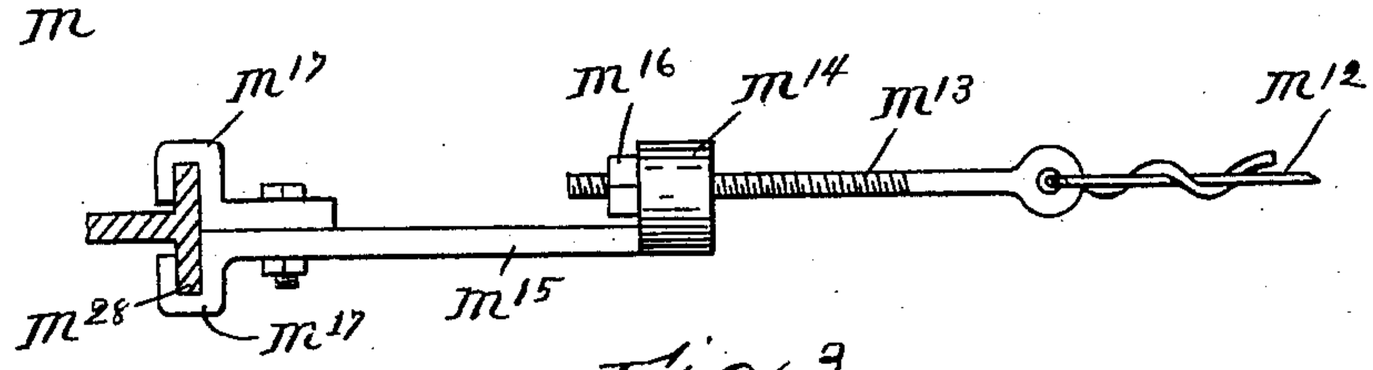

Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT F. JONES, OF SALEM, MASSACHUSETTS.

STONE-CUTTING MACHINE.

No. 863,851. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed May 25, 1906. Serial No. 318,609.

To all whom it may concern:

Be it known that I, ALBERT F. JONES, of Salem, county of Essex, State of Massachusetts, have invented an Improvement in Stone-Cutting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to stone cutting machines, and has for its object to provide improved means for holding the stone beneath a movable frame bearing the tool or tools, which are employed for cutting or otherwise operating upon the stone, said means being constructed to hold the stone so firmly, during the entire operation of the tools, as to preclude the possibility of even the slightest movement thereof. Also to provide means for holding two stones, so that while the machine is operating upon one stone, the other stone may be removed and another substituted for it.

Figure 1 shows in front elevation a stone cutting machine embodying this invention. Fig. 2 is a plan view of the means for holding the stone or stones. Fig. 3 is a detail of one of the clamping-devices for the stone-holder.

The stone-holder which supports the stone while it is being operated upon, and which is herein shown for the sake of illustrating my invention comprises essentially an upright angularly formed abutment for the stone, and clamping-devices by which the stone is held in firm engagement with said abutment, and also means for holding the stone at different elevations.

My invention, as herein shown, includes two such stone-holders connected together, which thereby form a two-compartment stone-holder, thus providing for two stones, one of which will be operated upon while the other is being removed and another substituted for it.

The abutment or rest for the stone, which is preferably angularly formed, consists of an upright side abutment, and an upright end abutment. An abutment consists of two upright channel iron posts m, supported at their lower ends by foot pieces m', or otherwise held in fixed position, and horizontal channel iron bars m^2, bolted to said upright posts m. Two horizontal bars m^2 are herein shown, yet any other number may be employed. Along the inside of each bar m^2 a flanged rail m^{28} is secured. Several vertical strips m^3 of planking are placed against the flanged rails m^{28}, which are supported at their lower ends by foot pieces m^4, or otherwise. The upright side abutment thus constructed is made long enough to serve as the side wall for both stone-holders, hence at a point substantially midway its length two upright end abutments are provided, which are disposed at right angles to said side abutment, and which are connected therewith.

The two end abutments are made alike, or substantially so, and each consists of any desired number of upright channel iron posts m^5, two being herein shown, and any desired number of horizontal channel iron bars m^6, two being herein shown, which are secured to said posts m^5. Along the inside of each horizontal bar m^6 a flanged rail m^{23} is secured, which are constructed substantially the same as the flanged rails m^{28}. The horizontal bars m^6 are connected at one end with the bars m^2, by plates m^7, or any other means may be employed for connecting the end abutments with the side abutments.

Several vertical strips m^8 of planking are placed against the flanged rails m^{23}, which are suitably supported.

The stones, which are supported upon jack screws k of any suitable description and thereby held at any desirable elevation, are held firmly against the abutment by clamping-devices. The clamping-devices are arranged in sets, and herein each stone-holder is provided with at least two sets of clamping-devices, disposed at different elevations, altough any other number may be employed, and provision made for such employment. The several sets of clamping-devices are made alike, or substantially so, hence one only will be described.

m^9 represents an angularly formed corner-engaging block, adapted to engage a corner of the stone, opposite the corner which enters the angularly formed abutment, and said corner-block has a pair of rod-engaging clamps m^{10}, disposed at right angles to each other. One of said clamps m^{10} engages one end of a horizontally disposed rod m^{12}, the other end of which rod is loosely connected to the eye of a screw m^{13} which passes through a boss m^{14} provided on one end of a plate m^{15} and is adjustably held attached thereto by a nut m^{16}. The plate m^{15} has at its opposite or outer end a pair of oppositely disposed hooks m^{17}, which engage the flanged portion of any one of the horizontal rails on the side abutment. The other clamp m^{11} on the corner block engages one end of a horizontally disposed rod m^{18}, the other end of which rod is loosely connected to the eye of a screw m^{19}, which passes through a boss m^{20}, provided on one end of a plate m^{21}, and is adjustably held attached thereto by a nut m^{22}. The plate m^{21} has at its opposite or outer end a pair of oppositely disposed hooks m^{24}, which engage the flanged portion of any one of the horizontal rails on the end abutment.

The clamps m^{10}, m^{10}, when loosened, will permit the rods m^{12}, m^{18} to be freely moved along to be lengthened or shortened so that the corner-block may be brought into engagement with the corner of stones of different sizes; then said clamps will be tightened, and then by turning the nuts m^{16}, m^{22}, said corner-block will be drawn hard against the stone, so as to firmly hold the stone in the corner of the angularly formed abutment.

The stone having been placed in one of the stone-holders, and the several sets of clamping-devices oper-

ated to securely hold it in position, the tool or tools are set to work upon the stone, and while the stone is being cut the workmen can remove a stone from the other stone-holder and substitute another therefor.

The means herein shown for holding the stone is very effective, and in practice effective means for holding the stone is very important, for the reason that if the stone should move or should be moved by the tool or tools, ever so little after work upon it has begun, the work will have to be done over again.

The tool holder *a* and tool or tools held by it and tool carrying frame *b* are all of any suitable description and the tool carrying frame is mounted on a carriage having rolls p^3 adapted to travel on horizontal tracks supported on the main frame and said main frame has upright end supports B provided with rollers *s* adapted to travel on tracks *s'*.

The tool or tool holder and means for operating the tool herein shown are the same as shown in my application #189,005, filed January 14, 1904, and the main supporting frame is the same as shown in my application #197,655, filed March 11th, 1904, but the aforesaid parts are herein shown merely for the sake of illustrating my invention.

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

1. In a stone cutting machine, a stone holder consisting of stationary angularly arranged abutments for the stone, a corner block and longitudinally adjustable connections between said block and said abutments, substantially as described.

2. In a stone cutting machine, a stone-holder consisting of two upright stationary abutments disposed at right angles to each other, and connected together, and adjustable clamping-devices connected therewith at different points which embrace the stone, substantially as described.

3. In a stone cutting machine, a stone-holder consisting of stationary angularly arranged abutments for the stone, an angularly formed corner-block and connections between said corner-block and said abutment, substantially as described.

4. In a stone cutting machine, a stone-holder consisting of stationary abutments for the stone arranged at right angles to each other and longitudinally adjustable clamping-devices connected therewith at different points, which embrace the stone, and means for holding the stone in said stone-holder at different elevations, substantially as described.

5. In a stone cutting machine, a stone-holder consisting of stationary abutments for the stone having flanged clamp-engaging rails and clamping devices which engage said rails and which embrace the stone, substantially as described.

6. In a stone cutting machine, a stone-holder consisting of stationary angularly arranged abutments for the stone having flanged rails, a corner-block and connections between said rails and the corner-block which embrace the stone, substantially as described.

7. In a stone cutting machine, a two-compartment stone holder, each compartment having two abutments arranged at right angles to each other, adjustable means connected to the abutments of each compartment which embrace the stone therein, and independent means for holding said stone at different elevations, substantially as described.

8. In a stone cutting machine, a two-compartment stone-holder consisting of stationary side abutments and intermediate end abutments and clamping-devices embracing the stones connecting said end abutments with the side abutments at remote points, substantially as described.

9. In a stone cutting machine, a two-compartment stone-holder consisting of stationary side abutments and intermediate end abutments, each abutment having flanged rails, corner-blocks for the stones, and means for connecting the corner-blocks with said rails, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ALBERT F. JONES.

Witnesses:
B. J. NOYES.
H. B. DAVIS.