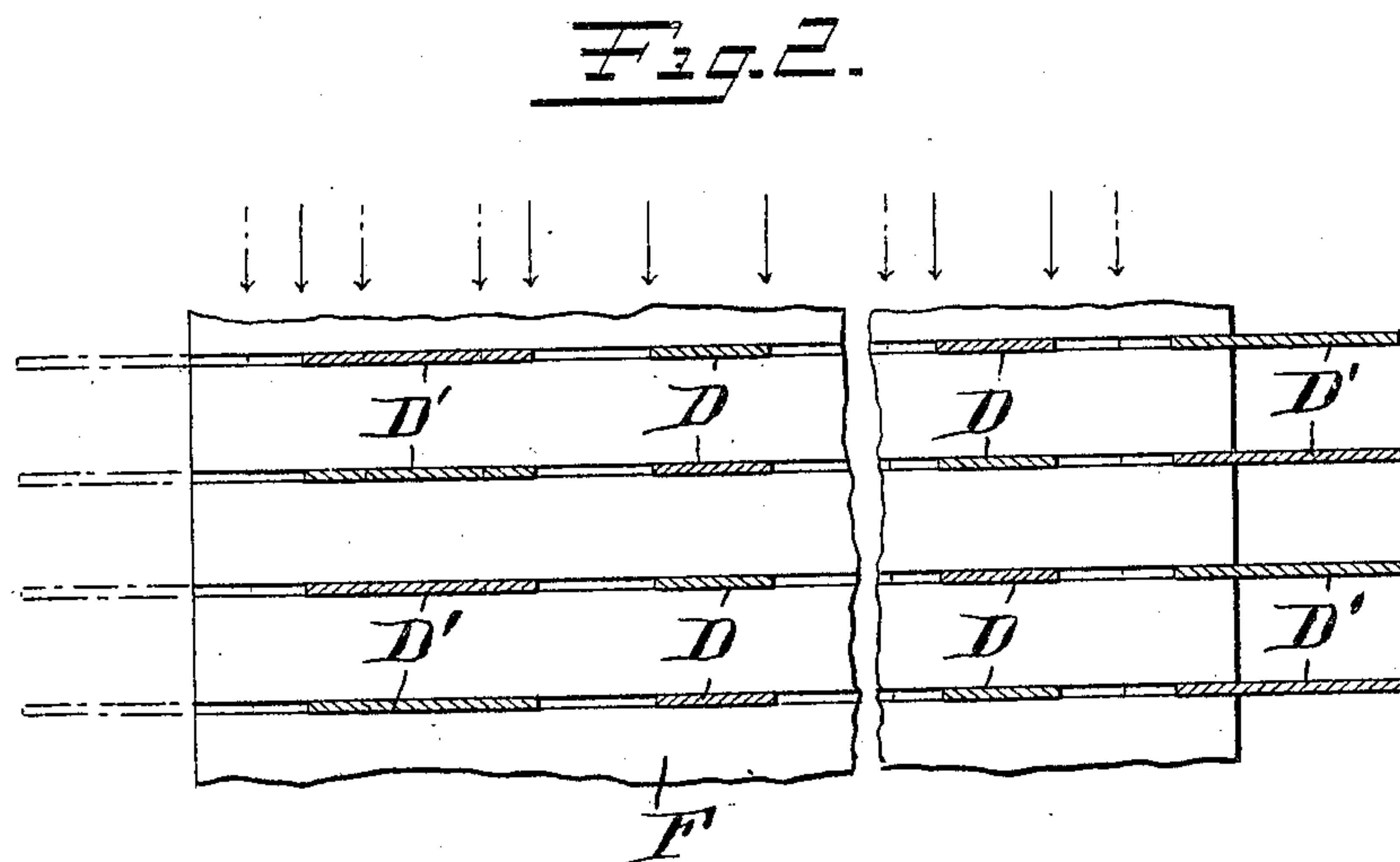
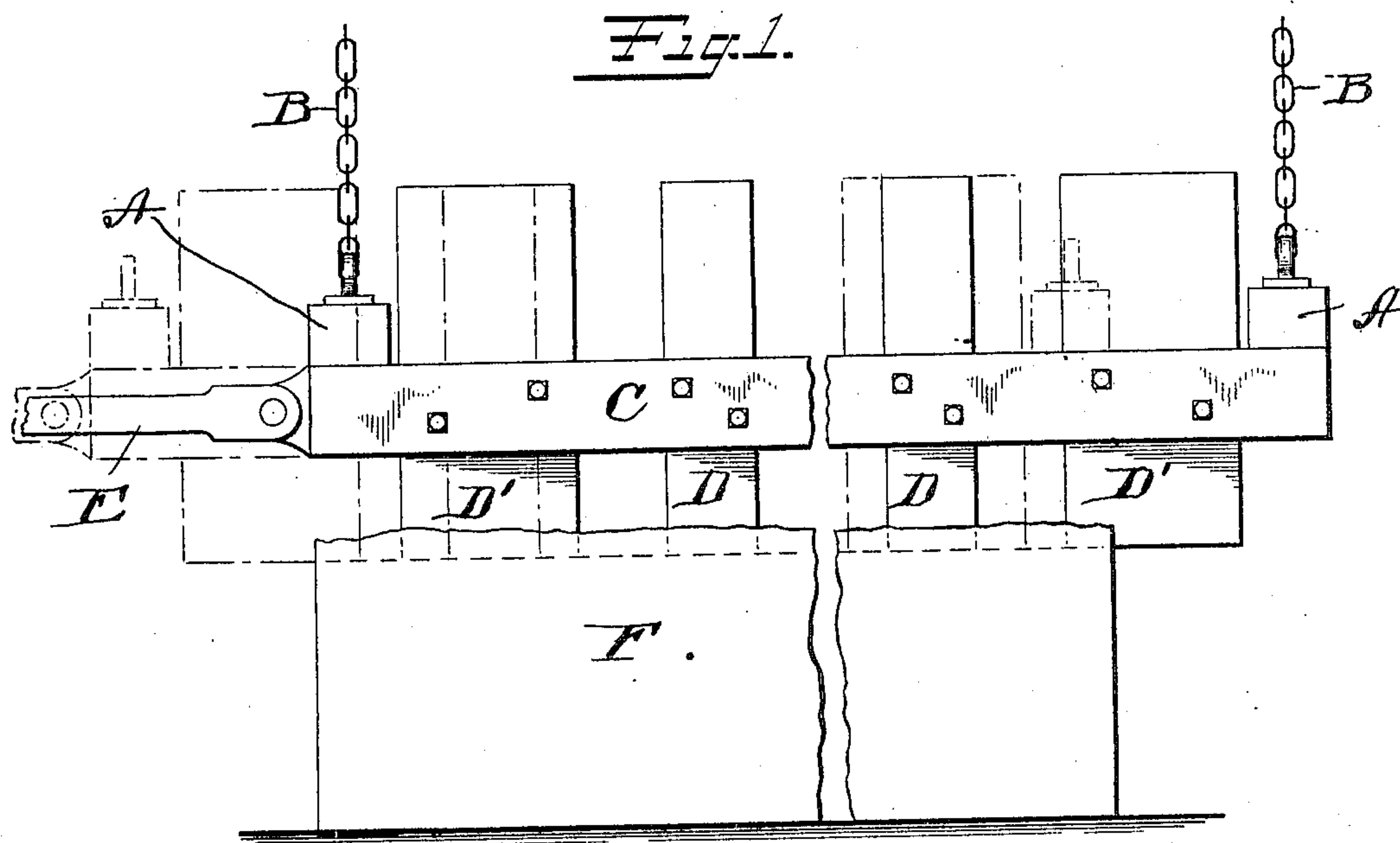


No. 804,245.

PATENTED NOV. 14, 1905.

C. L. MIEL.
STONE SAW.

APPLICATION FILED APR. 17, 1905.



WITNESSES:

Chas. W. Baird
W. H. B. Allen

INVENTOR.

CHARLES L. MIEL

BY

Robert D. Brown & Whitehead
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES L. MIEL, OF SACRAMENTO, CALIFORNIA, ASSIGNOR TO THE UNITED STATES STONE SAW COMPANY, OF TUCSON, ARIZONA TERRITORY, A CORPORATION OF ARIZONA TERRITORY.

STONE-SAW.

No. 804,245.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed April 17, 1905. Serial No. 255,906.

To all whom it may concern:

Be it known that I, CHARLES L. MIEL, a citizen of the United States, residing at Sacramento, Sacramento county, California, have
5 invented certain new and useful Improvements in Stone-Saws, of which the following is a full, clear, and exact description.

My invention relates to improvements in stone-sawing machines, the object of the same
10 being to provide means to prevent injuring the edges of the stone at the ends of the saw cuts or grooves as the same are being formed.

With the present saws constructed in various ways, and particularly those which include a reciprocating saw-beam provided with
15 a series of saw-blades, it is customary to entirely withdraw one or more of the blades from the slot at the end of each stroke. By this practice it has been found that the edges
20 of the stone adjacent to the ends of the slot are injured by the blades when they enter the same, for unless they enter accurately, and that is practically impossible, (if the blades are of any substantial length,) the said corners
25 will be broken away or chafed off, injuring the work and resulting in substantial loss both of material and labor. It is my aim to eliminate this danger and at the same time to provide such a construction that the stroke
30 or reciprocatory movement of the saw-beam may be substantial.

In the accompanying drawings, Figure 1 is a side elevation conventionally illustrating my invention in use. Fig. 2 is a sectional view
35 of parallel groups of saw-blades as they appear in operation.

A is a frame suspended in any suitable manner—for example, by chains B B'—whereby the same may be raised or lowered at will.

40 C is a saw-beam. D D' are saw-blades carried thereby and capable of vertical adjustment. In the drawings I have shown the beam broken away in the center, since in ordinary practice more than the four blades
45 shown would be employed. It is immaterial how the adjustment of the blades is effected.

E is a pitman or other suitable device connected to the frame, so that the saw-beam may be reciprocated to and fro.

50 F represents the stone being operated upon.

The invention consists in providing a series of independent adjustable saw-blades spaced apart from each other, the two end blades D'

D' being of greater width than the intermediate blades D D, the former being of such
55 width relatively to the stroke of the saw-beam that while the said end blades D' D' may be entered well into the slot being formed in the stone they will not be entirely retracted therefrom. For example, as shown in Fig. 1 in solid
60 lines, the blade D' at the left-hand end of the saw-beam has entered entirely into the slot and beyond the edge thereof, while the blade at the right-hand end of the saw-beam has been nearly
65 but not quite withdrawn from said slot. In the same figure in dotted lines the blades are shown at the limit of their excursion in the opposite direction, the right-hand end blade D' being
70 well into the slot, while the left-hand end blade D' is nearly but not quite withdrawn therefrom. The result is that by having these end blades of substantially greater width than the intermediate blades a comparatively long
75 stroke may be given to the saw-beam without withdrawing any of the blades entirely from the slot. Since all the blades will be
80 entirely or partially entered at all times, the edges of the stone will not be injured—a feature of the greatest importance where the end faces of the stone are already shaped and
85 finished and where injury thereto would undo all said work, injuring the material and perhaps rendering the block useless, as would be the case in the event it were found necessary
90 to refinish the ends, which would result in the destruction of the proper dimensions. While this improvement is simple, it nevertheless
95 effects a substantial saving at little or no expense.

It is necessary to the invention that the
90 blades D D' be spaced apart, so that an abrading material, such as shot, may be introduced into the slot between the blades at all times. By my improvement substantial economies
95 are attained in the use of abrading materials. This results because no blade entirely clears the slot. If the contrary were true, it would permit the abrading material between the
100 withdrawn blades to be forced out.

In Fig. 2 I have illustrated four gangs of
105 saw-blades arranged in parallel. The saw-beams (not seen) would be merely duplicated in this case. The solid lines in this instance and the dotted lines respectively indicate the corresponding positions of the saw-blades in Fig. 1.

The object of the invention would be achieved if one of the end blades D' were of greater width than the intermediate blades D, because in operation one edge of the stone 5 which is being cut might be finished, and at that edge it would be most important that injury be prevented. To that end, therefore, the widened blade D' might be employed at this end of the saw, while at the other end of 10 the stone it would be immaterial if the edges adjacent to the end of the slot were chipped or battered by the entrance of the blades which had been entirely removed or retracted from the slot.

15 What I claim is—

1. In a stone-sawing machine, a reciprocating saw-beam, means for supporting and reciprocating the same, a series of blades adjustably supported by said beam, said blades

being spaced apart, the end blades being of 20 greater width than the intermediate blades.

2. In a stone-sawing machine, a saw-beam, means for supporting and reciprocating the same, a plurality of blades adjustably carried thereby, arranged in line and spaced apart, 25 the end blades being of greater width than the intermediate blades.

3. In a stone-sawing machine, a saw-beam, a series of blades or cutters, adjustably carried thereby, said cutters being spaced apart 30 and arranged in line, one of the end blades being of greater width than the intermediate blades.

CHARLES L. MIEL.

Witnesses:

R. C. MITCHELL,
L. VREELAND.