

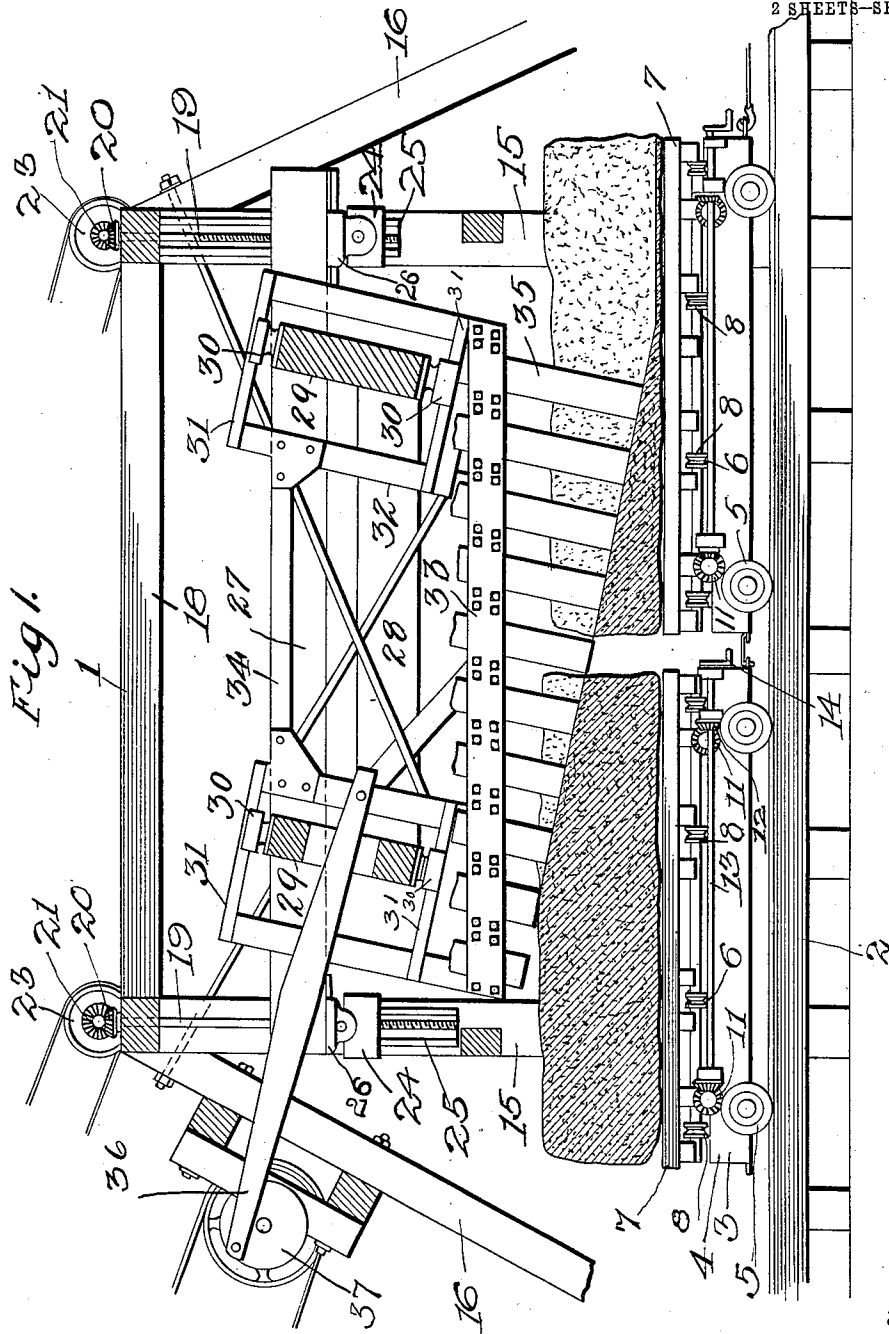
E. A. CHASE.  
STONE CUTTING MACHINE.

APPLICATION FILED DEC. 21, 1908. RENEWED SEPT. 1, 1911.

1,095,708.

Patented May 5, 1914.

2 SHEETS—SHEET 1.



Inventor

*Eloy A. Chase*

By *Chas. E. Fairman*

Attorney

Witnesses

*Jos. T. Collins*  
*R. W. Bishop*

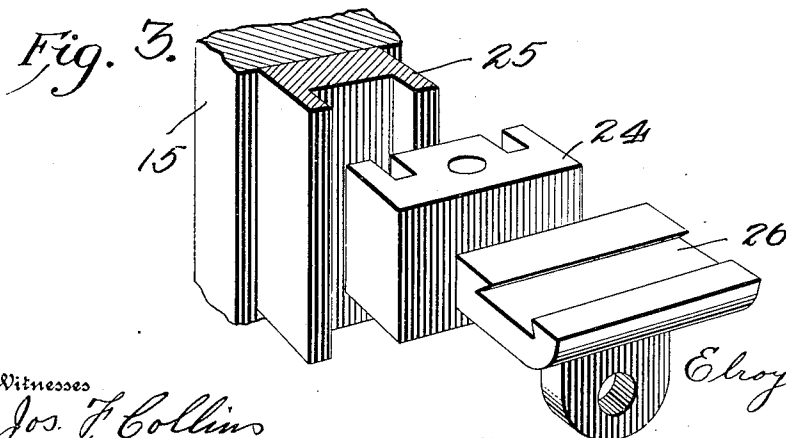
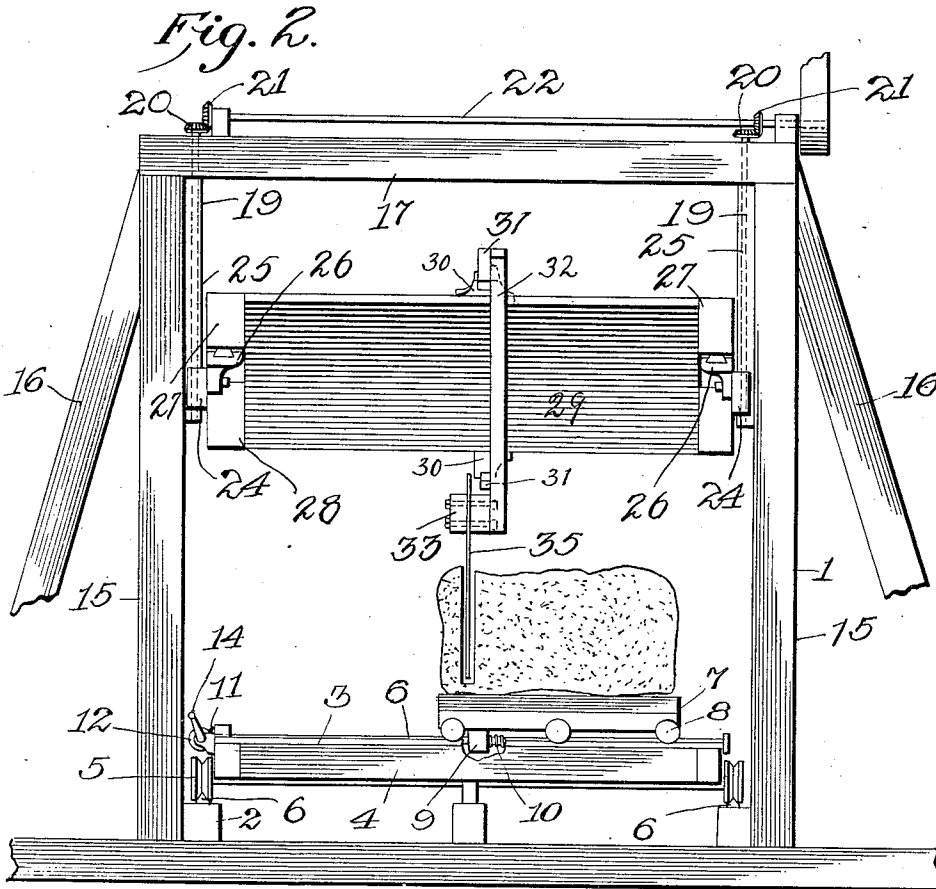
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*Eloy A. Chase*  
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 Attorney

# UNITED STATES PATENT OFFICE.

ELROY A. CHASE, OF NORTHFIELD, VERMONT, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO AMERICAN GRANITE SAW COMPANY, OF KITTEERY, MAINE, A CORPORATION  
OF MAINE.

STONE-CUTTING MACHINE.

1,095,708.

Specification of Letters Patent.

Patented May 5, 1914.

Application filed December 21, 1908, Serial No. 468,568. Renewed September 1, 1911. Serial No. 647,225.

*To all whom it may concern:*

Be it known that I, ELROY A. CHASE, a citizen of the United States of America, residing at Northfield, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Stone-Cutting Machines, of which the following is a full, clear, and exact specification.

This invention relates to improvements in stone-cutting machines and has for its primary object the provision of a machine in which a gang of reciprocating cutters may be utilized in such a manner as to produce a perfectly true and straight cut.

With this object and such other incidental objects as hereinafter appear in view, the invention consists in certain novel features of the apparatus illustrated in the accompanying drawings, all of which will be hereinafter first fully described and then particularly pointed out in the claims.

In the said drawings, Figure 1 is a view partly in elevation and partly in longitudinal section of an apparatus embodying my invention. Fig. 2 is a rear end view of the same. Fig. 3 is a perspective view of details hereinafter described.

The main frame, 1, may be of any suitable construction and is of sufficient width to extend over a track, 2, upon which trucks or cars, 3, carrying the stone, travel so as to feed the stone blocks to the cutters. The trucks or cars are preferably composed of a lower platform 4 provided with wheels or rollers, 5, by which it is moved longitudinally over the track 2. Upon the upper side of the platform 4, I provide transverse guides or rails, 6, on which an upper platform, 7, is mounted by means of rollers or wheels, 8, so as to travel laterally with respect to the main frame and the track 2. Any suitable form of power may be applied to the lower platforms to move them along the main track but the upper platforms are preferably moved across the lower platforms by means of threaded collars or nuts, 9, on the underside of the upper platforms engaging worms or screws, 10, mounted transversely on the lower platforms and having beveled pinions, 11, at one end, the said beveled pinions meshing with similar pinions, 12, on shafts, 13, which are mounted longitudinally on the side of the lower

platform or truck and provided with operating cranks or handles, 14.

The main frame is constructed of posts, 15, braces, 16, bearing against the posts, and transverse and longitudinal beams, 17, 18, connecting the posts, the several parts being firmly secured together by means of tie rods or trusses, as will be readily understood. Mounted in the transverse beams and arranged adjacent to the posts, are screw rods, 19, provided with bevel pinions, 20, on their upper ends which mesh with similar pinions, 21, rigidly secured on the shafts, 22, mounted on the upper sides of the transverse beams and carrying band pulleys, 23, at one end to which power may be applied from the driving engine. The lower ends of the screws 19 engage the boxes or nuts, 24, so that the rotation of the screw rods will cause the said nuts or boxes to move up or down and they are guided in their vertical movement by ways or guides, 25, secured to the posts and with which they engage. Pivotaly secured to the nuts 24 and projecting above the same are brackets, 26, which are formed with dovetailed ribs or cleats on their upper sides and these dovetailed ribs or cleats are engaged by slides on the undersides of longitudinal beams, 27, of an adjustable supporting frame, the remainder of said frame consisting of lower longitudinal beams, 28, and rigid transverse beams, 29, inclined slightly edgewise and secured to and connecting the said beams 27 and 28. Upon the upper and lower edges of the transverse beams 29 are secured grooved inclined brackets or lugs, 30, in which the cutter frame is mounted. This cutter frame consists of two rectangular end members mounted to slide in the grooved brackets 30 and consisting of the rails, 31, engaging the brackets and the posts, 32, connecting the rails. The posts 32 are extended below the lower slides and to the said depending extended ends, clamping bars, 33, are secured, the said clamping bars being disposed horizontally when in their normal position. The two end members of the cutter frame are connected by a beam or connecting bar, 34, and the cutters or blades, 35, are secured by and between the clamping bars 33. Movement is imparted to the cutter frame and the cutters carried thereby through the medium of a pitman, 36, pivotaly attached to

the said frame at one end and having its other end attached to a crank, 37, mounted on the main frame and driven from the engine or other motor.

5 It will be readily seen from the foregoing description, taken in connection with the accompanying drawings, that the cutters will be so disposed as to cut into the stone obliquely and consequently the large blocks  
10 may be fed through the machine continuously as each blade or cutter will cut slightly lower than the cutter preceding it so that the block will be cut through from top to bottom as it passes through the machine. The  
15 arrangement also assures a straight cut as each blade will follow the path marked out for it by the preceding cutter. The screw rods and adjustable frame, however, provide means for tilting the cutter frame to a different  
20 angle so as to work on a larger or smaller block and the ends of the adjustable frame may be set at different heights so as to accommodate small stones in which shallow cuts are to be made. Parallel kerfs may be  
25 made in the blocks by running them through the machine to make an initial kerf and then adjusting the upper platforms or cars transversely after which they may be drawn through the machine to receive a second cut  
30 parallel with the first cut.

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

1. In a stone sawing machine, the combination of a tool supporting frame, a plurality of cutters arranged edgewise in alignment in said frame, means for effecting a relative feed movement between the stone and the cutters, and means whereby the  
40 frame may be adjusted so that the line at which the cutters act can be varied relatively to the line of feed, and the machine may be thereby adapted to cut stone of different thicknesses.

45 2. The combination of a main frame, a tiltable frame supported thereon, a cutter frame slidably mounted on said tiltable frame and provided with a series of depending cutters, means for reciprocating said cut-

ter frame, and means for causing said cutter 50 frame to work in an oblique line of travel with reference to the tiltable frame when reciprocated.

3. The combination of a supporting frame, a cutter frame having depending cutters gradually increasing in length toward the rear end of the cutter frame, guides on the supporting frame for said cutter frame inclined longitudinally with respect to the supporting frame, means for reciprocating  
60 said cutter frame, and means for feeding stone longitudinally under said cutter frame.

4. The combination of a supporting frame, a cutter frame having depending rigid cutters gradually increasing in length  
65 toward the rear end of the cutter frame, guides on the supporting frame for said cutter frame inclined longitudinally with respect to the supporting frame, means for reciprocating said cutter frame, and means for  
70 feeding stone longitudinally under said cutter frame.

5. In an apparatus of the class described, means for moving the stone, a frame there-  
75 over, a supplemental frame supported in said frame, means for raising and lowering each end of said frame independently, guides on said tiltable frame inclining in the direction of movement of the saw, an obliquely slidable saw frame mounted in said guides and  
80 carrying a series of depending saw teeth, and means for reciprocating said saw frame.

6. A stone cutting machine comprising fixed uprights, a work support, a tool support tiltably mounted on said uprights, a  
85 series of tools in edge-wise alignment mounted on said tool support, and means for adjusting said tool support relative to said work support to bring the operative portions of the several tools to different angles  
90 relative to the work support.

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

ELROY A. CHASE.

Witnesses:

M. D. SMITH,  
ALEX. EADIE.