No. 693,617. Patented Feb. 18, 1902.

M. J. O'CONNOR.

STONE RIPPING MACHINE.

(Application filed Sept. 28, 1901.)

(No Model.)

Fig. 1.

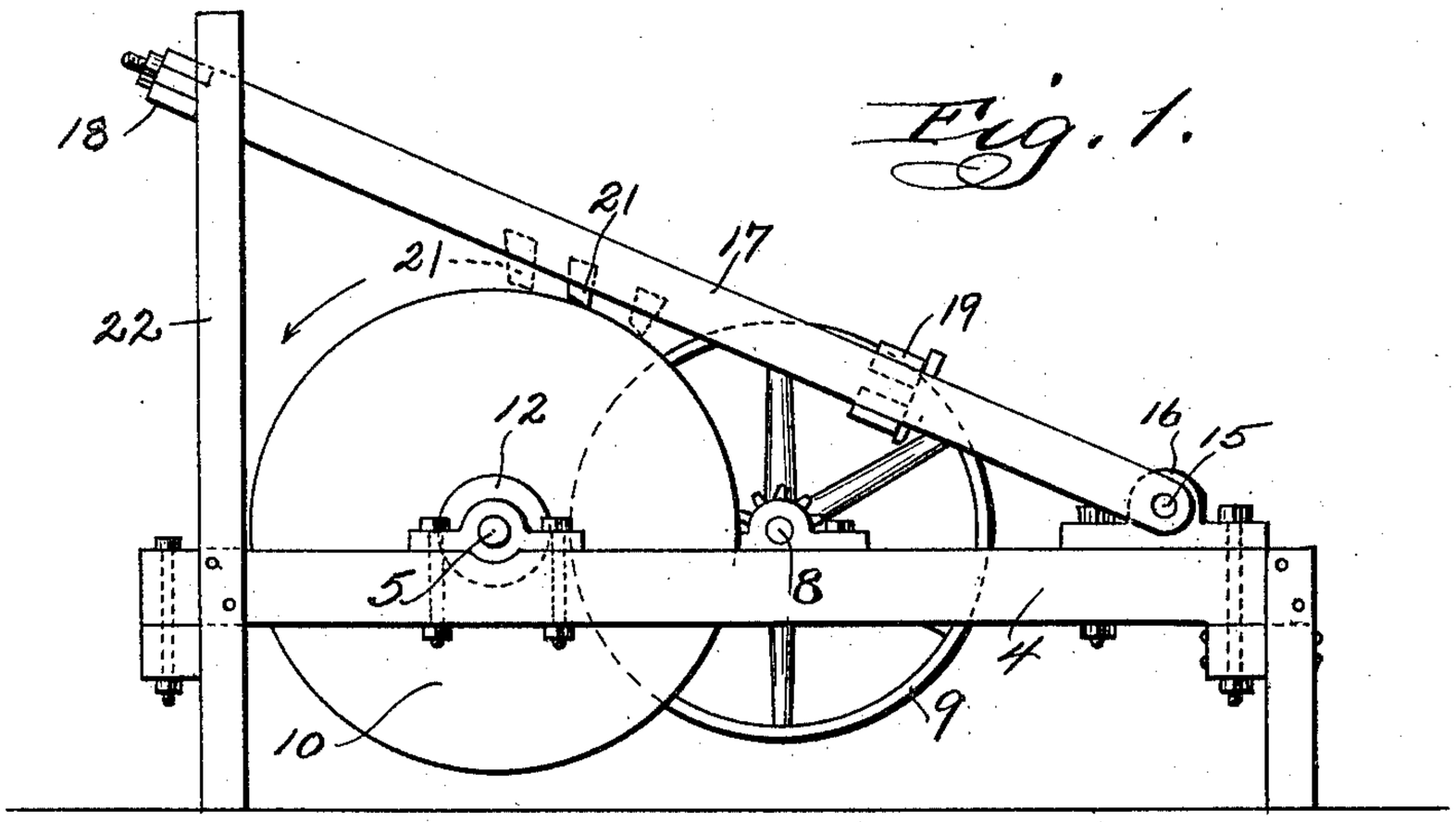


Fig. 2.

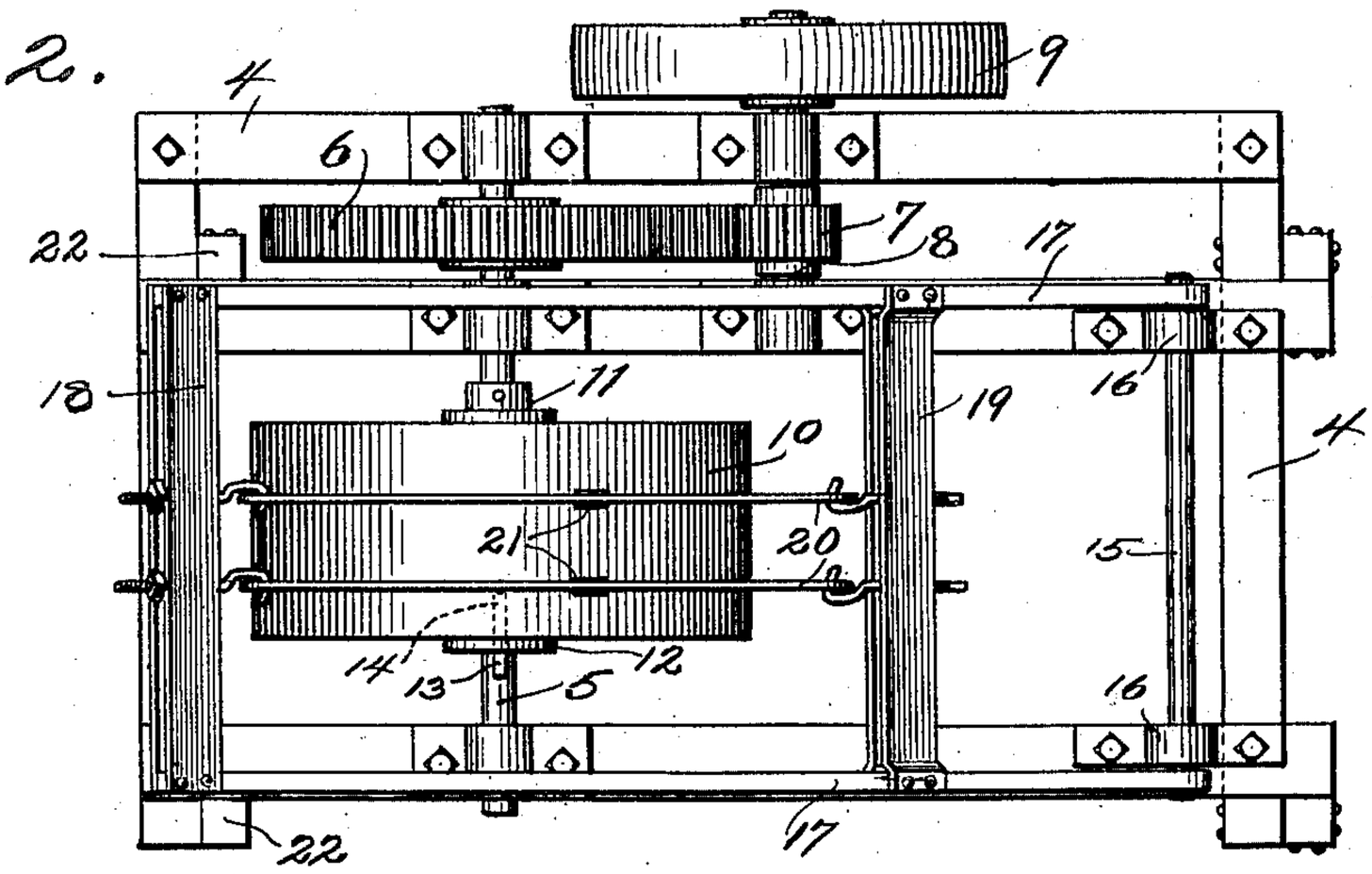
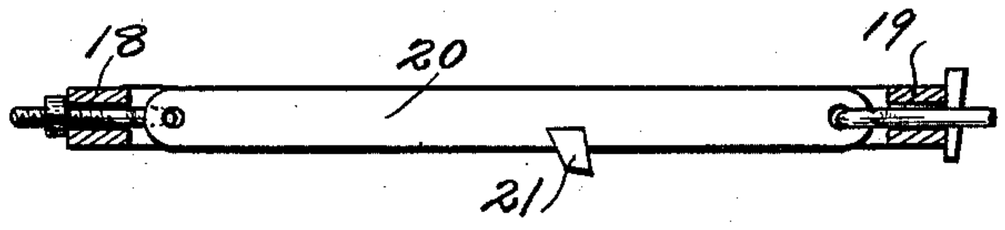


Fig. 3.



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UNITED STATES PATENT OFFICE.

MICHAEL J. O'CONNOR, OF HARTFORD, CONNECTICUT.

STONE-RIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 693,617, dated February 18, 1902.

Application filed September 28, 1901. Serial No. 76,955. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. O'CONNOR, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stone-Ripping Machines, of which the following is a specification.

As grindstones and similarly-shaped blocks have hitherto been cut out a cylinder of a length equal to the thickness of several ordinary grindstones has been cut out and stones of the desired thickness formed by sawing through the cylinder by means of reciprocating gang-saws or else gotten out in the rough and turned to the required thickness. My invention is designed to produce a machine by which these stones can be cut by means of power; and it consists, substantially, of a shaft to which power is applied and with which the stone to be ripped rotates, together with a ripper-frame provided with one or more ripper-blades, the teeth of which are adapted to contact with the stone as it is rotated, to thereby channel through it. This ripper-frame, of course, must be pivotally or otherwise movably mounted, so that as the depth of the channel increases the blade can automatically descend in it until the channel is cut to the desired depth.

To illustrate my invention I annex hereto a sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which—

Figure 1 is a side elevation of the complete machine with the stone in place and the ripper frame and blades in position to begin cutting it. Fig. 2 is a plan view of the same; and Fig. 3 is a longitudinal section through the ripper-frame, showing how the blades are adjusted transversely for the different thicknesses into which the stones are to be cut.

Supported by any suitable means at the necessary distance above the ground is a heavy rectangular frame 4, preferably consisting of three longitudinal sills and the two transverse sills at the end. Journaled in suitable bearings in the longitudinal sills is the transverse shaft 5, which has secured thereon to rotate therewith the gear-wheel 6, which is driven by the gear-pinion 7, secured upon the short shaft 8, journaled in suitable bearings in two of the longitudinal sills and having the belt-wheel 9 on the outer end thereof. The shaft 5 is provided with suitable means for securing the stone 10 to be ripped thereon so as to rotate therewith, a convenient method being to pass the shaft through a central aperture in the stone and to clamp the stone between the fixed collar 11 and the movable collar 12, which may be secured in any necessary position, as by the key 13, passing through the slot 14 in the shaft. Some suitable construction by which the stone can be readily and conveniently secured upon the shaft 5 will preferably be provided; but such means forms no part of my present invention and will not be herein described.

Preferably pivoted at one end upon the frame 4, as by the rod 15, passing through the bearings 16, formed at the end of said frame, is the ripper-frame 17, which, as seen, consists of two longitudinal sills with the transverse sills 18 and 19. These transverse sills are preferably made of two metallic bars separated a slight distance, so as to leave a space through which the customary dogs holding the ripper-blades 20 may pass and be secured in any desired position of adjustment. The blade has set therein by any suitable means one or more teeth 21, which point in the proper direction, so that as the stone is rotated by the power the teeth will channel into it. These teeth, of course, are preferably slightly wider than the thickness of the bar, so that as the channeling progresses the bar sinks into the channel until the parts reach the position shown in dotted lines in Fig. 1 or as far as it may be desired to cut the stone. Guide-posts 22, to hold the ripper-frame in alinement, are preferably provided, and as the stone is driven by power applied to the pulley-wheel 9 the channeling will proceed automatically until it is finished.

While I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a stone-ripping machine, the combination with the main frame, of the shaft mounted to rotate therein and adapted to have the stone secured thereon to rotate therewith, means for rotating said shaft, a ripper-frame mounted on said main frame and adapted to move relative thereto, and a ripper-blade provided with a tooth and secured in said ripper-frame at right angles to said shaft; substantially as and for the purpose described.

2. In a stone-ripping machine, the combination with the main frame, of the shaft mounted to rotate therein and adapted to have the stone secured thereon to rotate therewith, means for rotating said shaft, a ripper-frame mounted on said main frame and adapted to move relative thereto, a plurality of ripper-blades each provided with a tooth and secured in said ripper-frame at right angles to said shaft, and means for adjusting said ripper-blades transversely of the ripper-frame and securing them in any desired position of adjustment; substantially as described.

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

MICHAEL J. O'CONNOR.

Witnesses:
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