



W. P. GAULT.  
STONE CARVING AND DRESSING MACHINE.

(Application filed Dec. 30, 1899.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 5

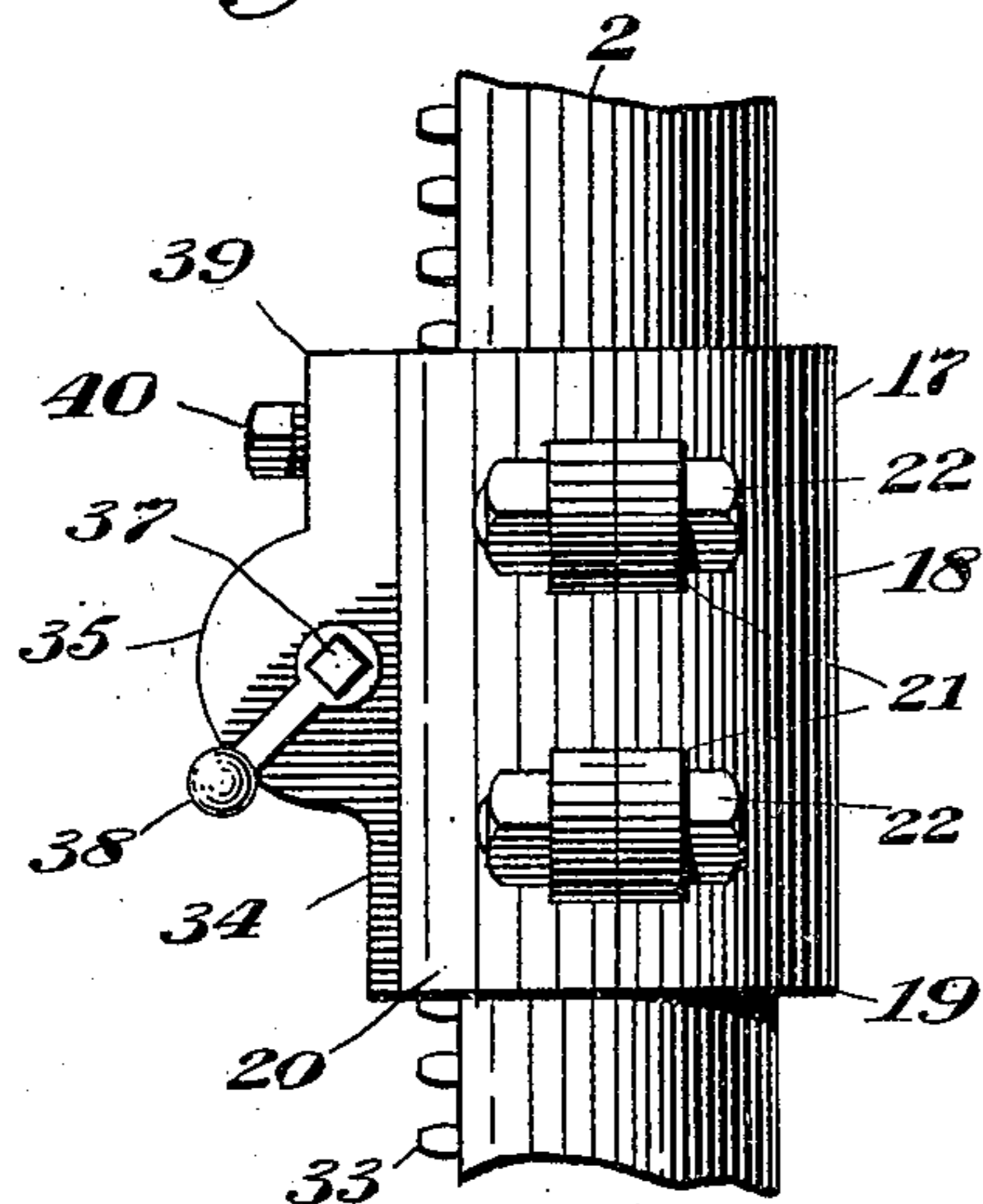


Fig. 6

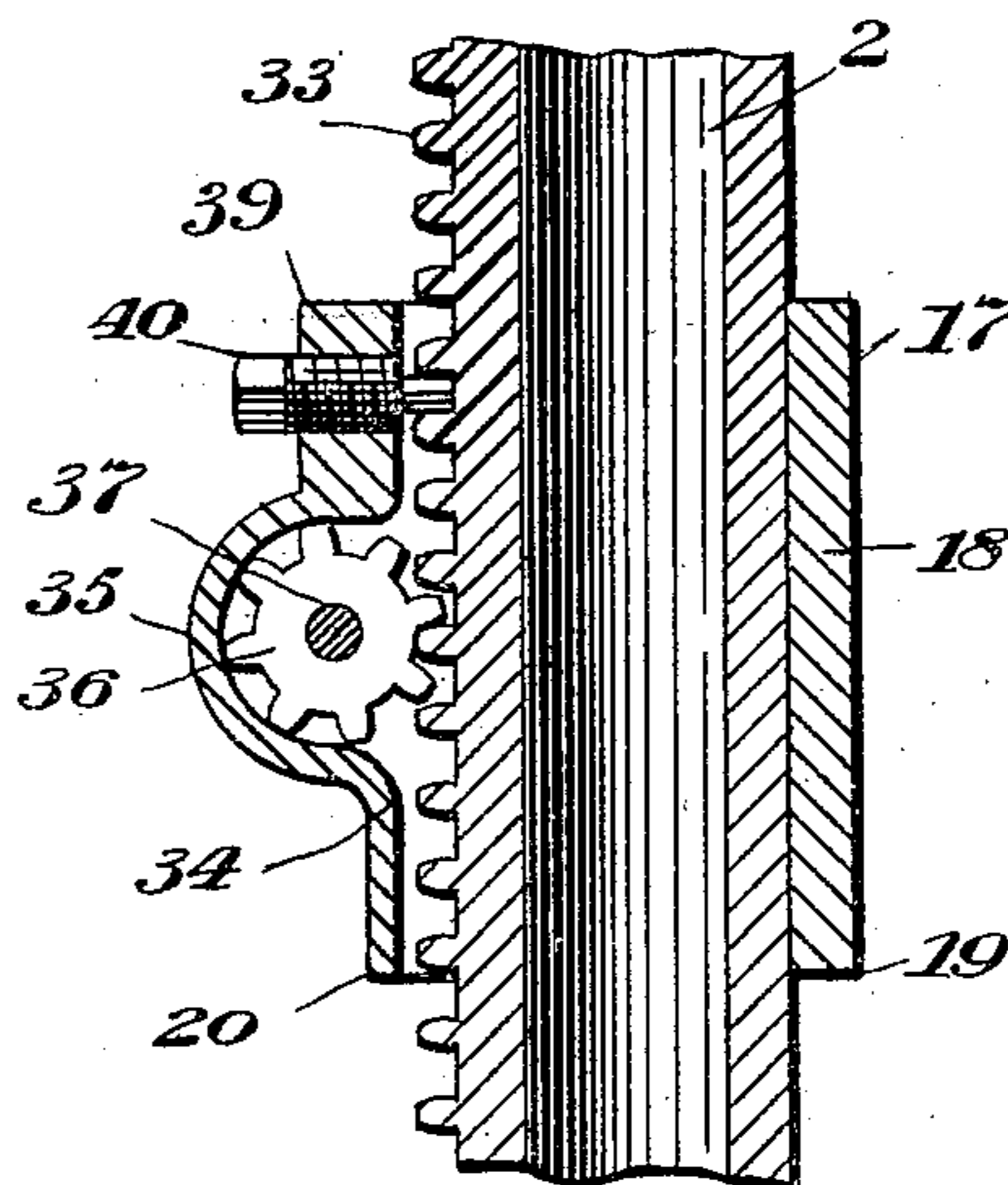


Fig. 7

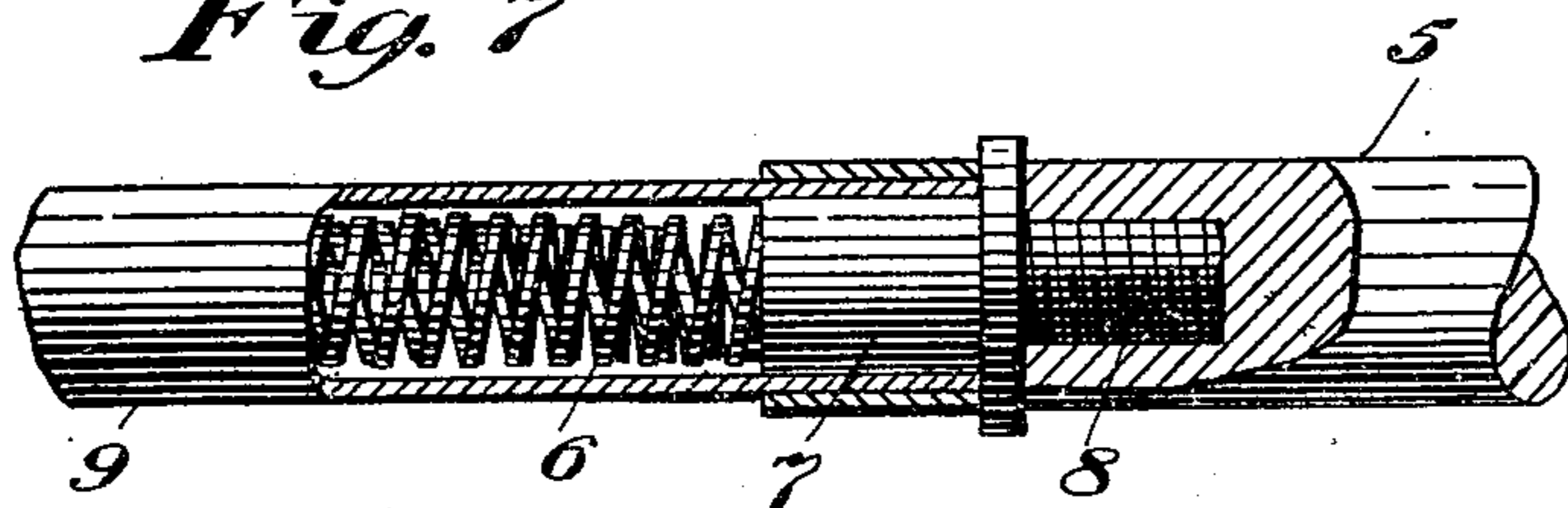


Fig. 8

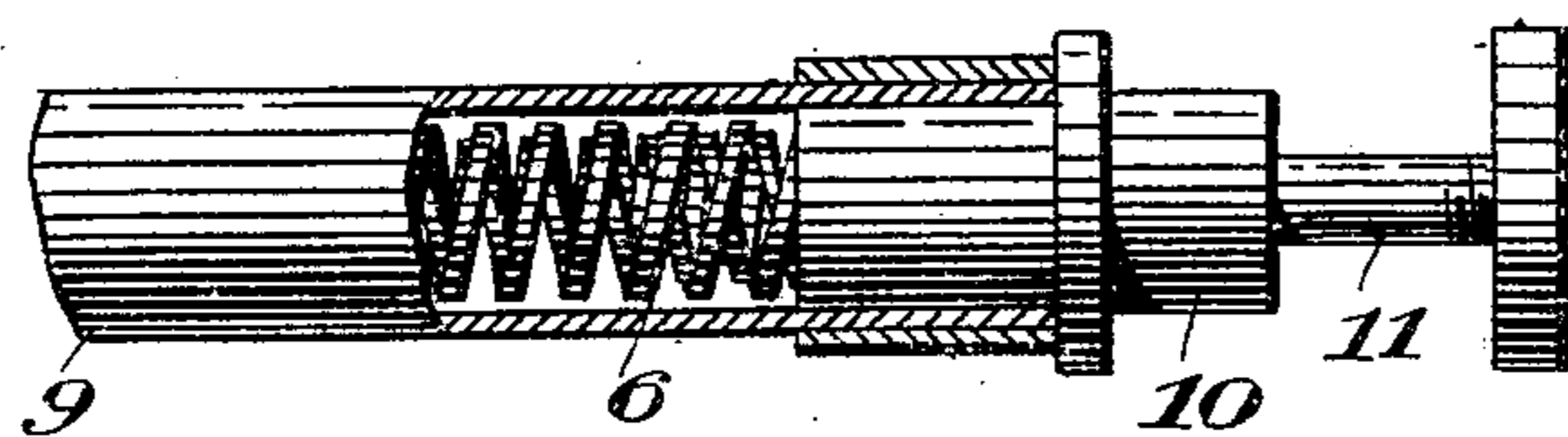


Fig. 9

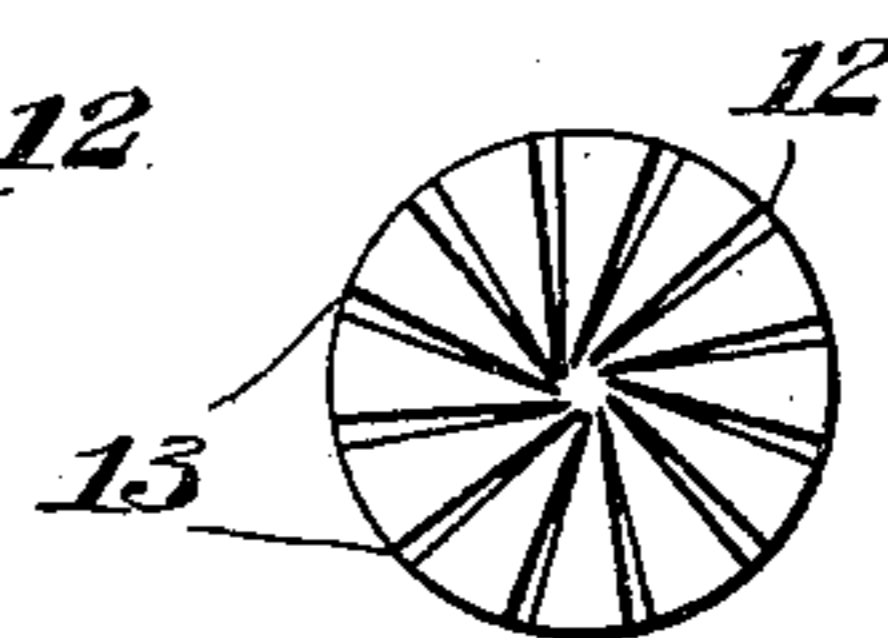
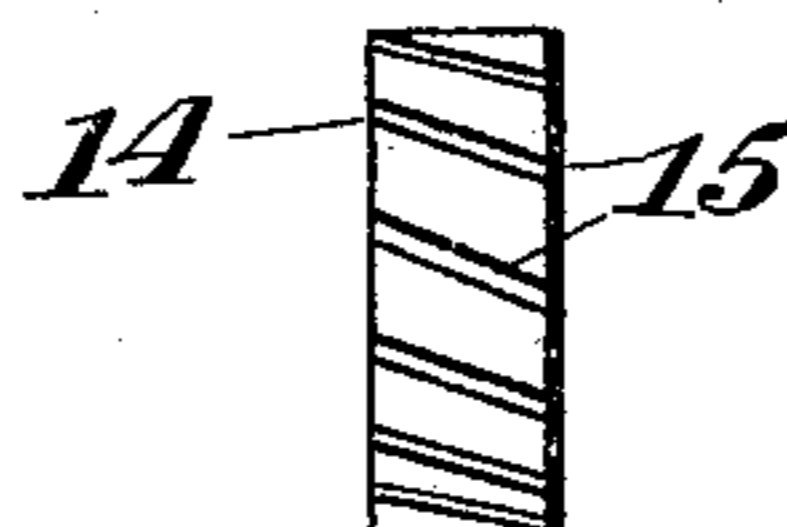


Fig. 10



Witnesses

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# UNITED STATES PATENT OFFICE.

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## STONE CARVING AND DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 682,186, dated September 10, 1901.

Application filed December 30, 1899. Serial No. 742,037. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. GAULT, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Stone Carving and Dressing Machines, of which the following is a specification.

My invention relates to certain improvements in machines for carving and dressing stone.

The object of my invention is to provide a machine for that purpose which shall be of a simple, strong, and durable construction and shall be adapted for use either in dressing or surfacing stone or for cutting, carving, or ornamenting the stone in the manner heretofore commonly done by hand.

My invention consists in certain novel features of the construction, combination, and arrangement of the various parts of the improved stone-dressing machine whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation of a machine constructed according to my invention; and Fig. 2 is a sectional plan of the same, the plane of the section being indicated by line *a a* in Fig. 1. Fig. 3 is a partial front view showing the table of the machine. Fig. 4 is a vertical partial section taken in the plane indicated by line *b b* in Fig. 1. Fig. 5 is an enlarged fragmentary detail view showing in elevation the means for holding the machine-table in position on the frame, and Fig. 6 is a vertical section showing the same parts. Fig. 7 is an enlarged view, partly in section, showing the coupling between the machine and flexible or tool shaft. Fig. 8 is a view similar to Fig. 7, but showing the opposite end of said flexible shaft having a tool in place; and Fig. 9 is a face view of the tool. Fig. 10 shows in edge elevation another form of tool adapted for use on my machine.

In the views, 1 indicates a suitable bed-

plate, from which rises a standard 2, having its upper end forked or branched, as shown at 3 3, to provide bearings 4 4 for a machine-shaft 5, extending at right angles to the standard 2 and provided with a three-diameter pulley 6, by which it may be driven at different speeds from a driving-belt. (Not shown.) One end of the shaft 5 projects at one side of the machine and has a coupling by which it is connected to a flexible tool-shaft 6. The coupling is shown in detail in Fig. 7 and comprises a sleeve 7, secured to the end of the flexible tool-shaft 6 and having a threaded shank 8 to screw in a socket in the end of shaft 5. The flexible shaft 6 is inclosed in a flexible sheath or cover 9, as shown in Figs. 1, 7, and 8, and carries at its end a dressing or carving tool 12 of suitable construction. As shown, the tool 12 is held on a shank 11, protruding from a head 10, secured to the end of the shaft and turning inside the sheath 9, the end of which carries a handle 16, whereby the sheath may be held stationary and the tool 12 guided by the operator in cutting, carving, or dressing the stone. The tool 12 (shown in Figs. 1, 8, and 9) has cutting-surfaces 13 on its face; but it is evident other forms of tool may be used to suit different kinds of work to be done. In Fig. 10 is shown another form of tool 14, having peripheral cutting-surfaces 15. The work or stone to be cut or dressed is held on a table 17, projected laterally from the upright 2 beneath the projecting end of shaft 5 and capable of vertical adjustment to bring the work within easy reach of the operator when manipulating the tool on the flexible shaft 6. By this means I am enabled to raise very heavy stones and adjust them in convenient position to be carved and dressed by the operator. The table 17 is formed at its rear part with a bearing 18 to slide vertically on the upright 2, and in constructing said table I preferably form it in two similar parts or halves 19 and 20, each of which carries half of the bearing 18 and half of the projecting part of the table and is provided with a strengthening rib or flange 23. The halves 19 and 20 are secured together at one end of the table by means of bolts 22, passed through lugs 21, projecting from the halves of bearing 18, and at the opposite end by bolts 24,

passed through the flanges 23. The projecting part of the table 17 is formed adjacent to the bearing 18 with a work-rest 25 and outside of said rest is recessed in its upper face, 5 as shown at 26, to receive a sliding work-rest 27, capable of movement toward or away from the rest 25 to lengthen or shorten the table to accommodate different stones to be cut. The sliding rest 27 has an undercut or 10 dovetailed projection 28, fitting and sliding in a dovetailed guideway 29 in the end portion of the table 17, and to permit of quickly adjusting the sliding rest I provide a screw 30, screwing in the rest 25 and collared in 15 the rest 27. The screw is central in the table and has a hand-wheel 31, by means of which it may be turned to move the rest 27 back and forth. The rests 25 and 27 have shoulders 32 at their opposite ends, by means 20 of which the work may be clamped on the table when desired, being held between said shoulders. The upright 2 is formed with a vertical rack 33, to receive which the bearing 18 of the table has a channel 34 in one side. 25 The bearing 18 is also provided at the center of the channel 34 with a casing or chamber 35, in which is held a gear-pinion 36, fixed on a shaft 37, the end of which extends outside the casing and has a squared end to receive 30 a crank-handle 38, by means of which the gear may be rotated. The teeth of the gear 36 mesh with the teeth of rack 33 on the upright and when the shaft 37 is turned serve to raise or lower the table 17, adjusting the 35 same vertically along the upright 2. At the upper end of the channel 34 the wall 39 thereof is thickened to receive a screw 40, the tip of which is adapted for engagement between the teeth of rack 33 to hold the table in place 40 when adjusted on the standard.

In operation the stone to be dressed or carved is placed on the table 17, which is adjusted by means of the screw 30 to a length to receive the stone, after which the table is 45 raised or lowered, by means of the crank-handle 35, a proper height to permit the stone to be operated on and is secured by means of the bolt 40. The shaft 5 is then set in motion, the operator grasping the handle 16, so 50 as to press the tool upon the surface of the stone and guide it along the same to dress the stone or to cut any design desired on the face thereof, the rotation of shaft 5 being communicated to the dressing or carving tool through 55 the flexible tool-shaft 6.

From the above description of my invention it will be seen that the improved stone cutting, carving, and dressing machine is of 60 an extremely simple and inexpensive construction and is especially well adapted for the use intended, since it permits of dressing and cutting stone by means other than manual

power and also permits of cutting and carving very intricate designs in the stone or of merely dressing the surface thereof, all with 65 great rapidity, ease, and accuracy. It will also be obvious from the above description that the machine is capable of considerable modification in order to adapt it for different 70 kinds of work without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts 75 herein set forth.

Having thus described my invention, I claim—

1. In a stone carving and dressing machine, the combination of a frame having an adjustable support for the stone to be carved or 80 dressed, a main shaft journaled in the frame, a flexible tool-shaft attached and secured directly to and driven from said main shaft, said flexible shaft being movable in any direction within the limit of its length, and a 85 cutting-tool carried on the flexible shaft, substantially as set forth.

2. In a machine for carving and dressing stone, the combination of a frame having a standard, a main shaft journaled above the 90 standard, a flexible tool-shaft secured to and driven from the main shaft, a tool on the flexible shaft, an adjustable table on the standard, and work-rests on the table, one of said rests being horizontally adjustable toward 95 and away from the other, substantially as set forth.

3. In a machine for carving and dressing stone, the combination of a frame having a standard forked at its upper end, a main shaft 100 journaled in the forks of the standard, a pulley on said shaft, a flexible tool-shaft, a coupling between the main shaft and tool-shaft, a head on the tool-shaft, a sleeve encircling said head and in which said head is adapted 105 to revolve, a handle on said sleeve, a tool on said head, and a table carried by the standard, substantially as set forth.

4. In a stone carving and dressing machine, a base, a vertical tubular standard having a 110 forked upper end, a horizontally-arranged drive-shaft journaled in the ends of the fork, a flexible shaft secured to and driven by said drive-shaft, a cutting-tool driven from said flexible shaft, a rack arranged along one side 115 of the standard, a pinion meshing therewith, a two-part table having a sleeve portion fitted to the standard and inclosing and providing a bearing for the pinion, and clamps for the work, substantially as set forth.

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Witnesses:

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