

2 Sheets, Sheet 1.

D. H. Merriam,

Dressing Stone.

N<sup>o</sup> 81,522.

Patented Aug. 25, 1868.

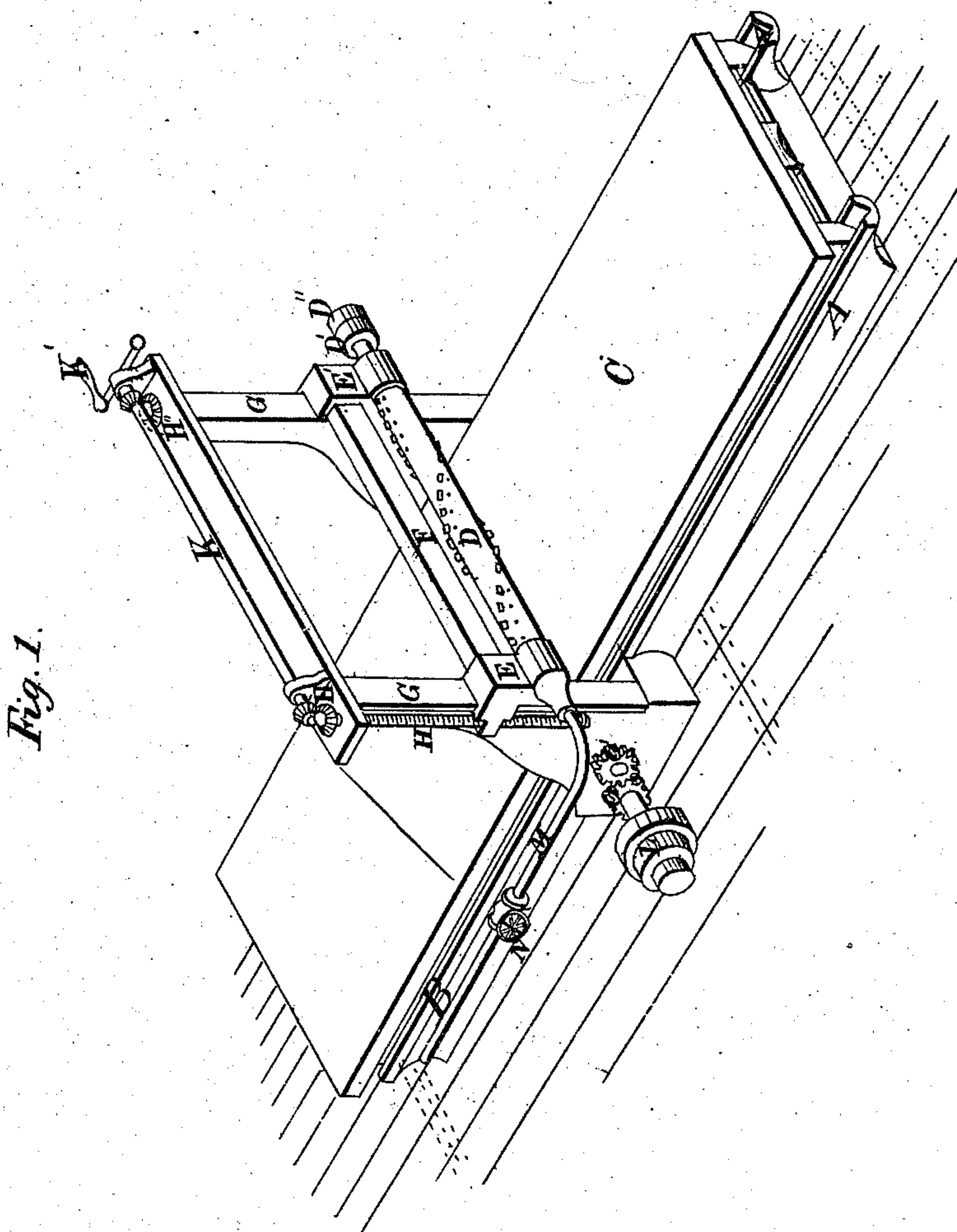


Fig. 1.

Witnesses  
William Edson  
A. Van Buren

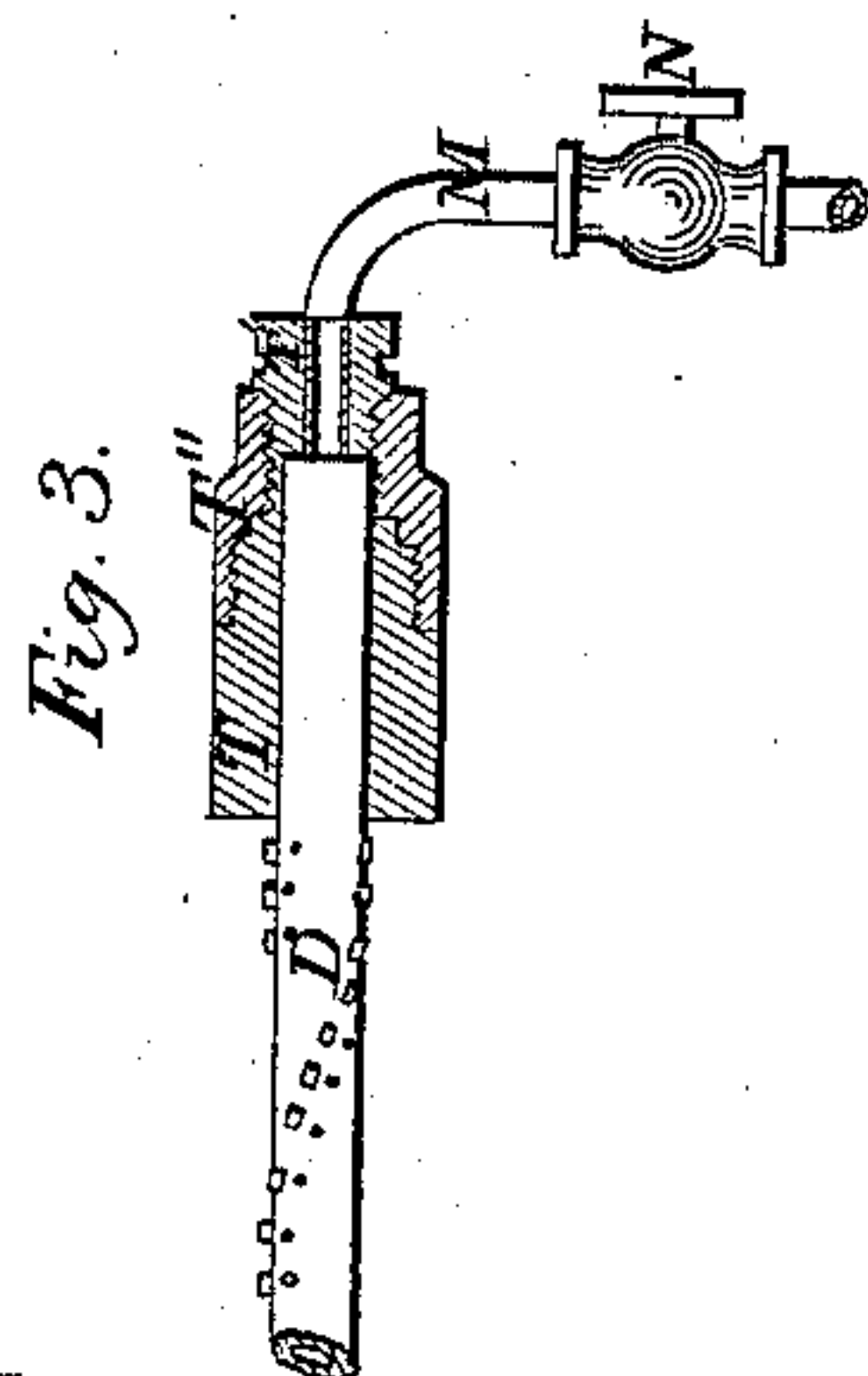
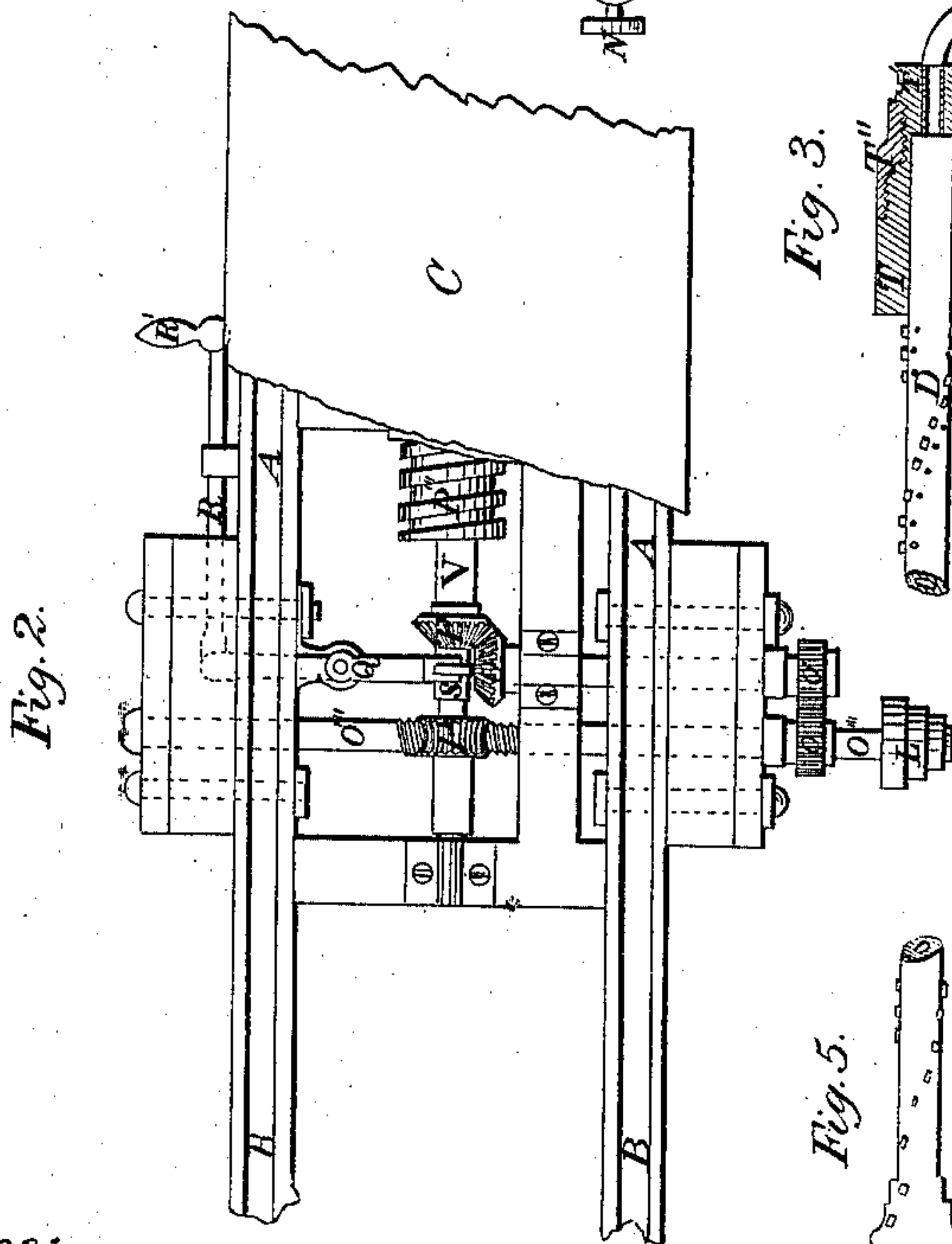
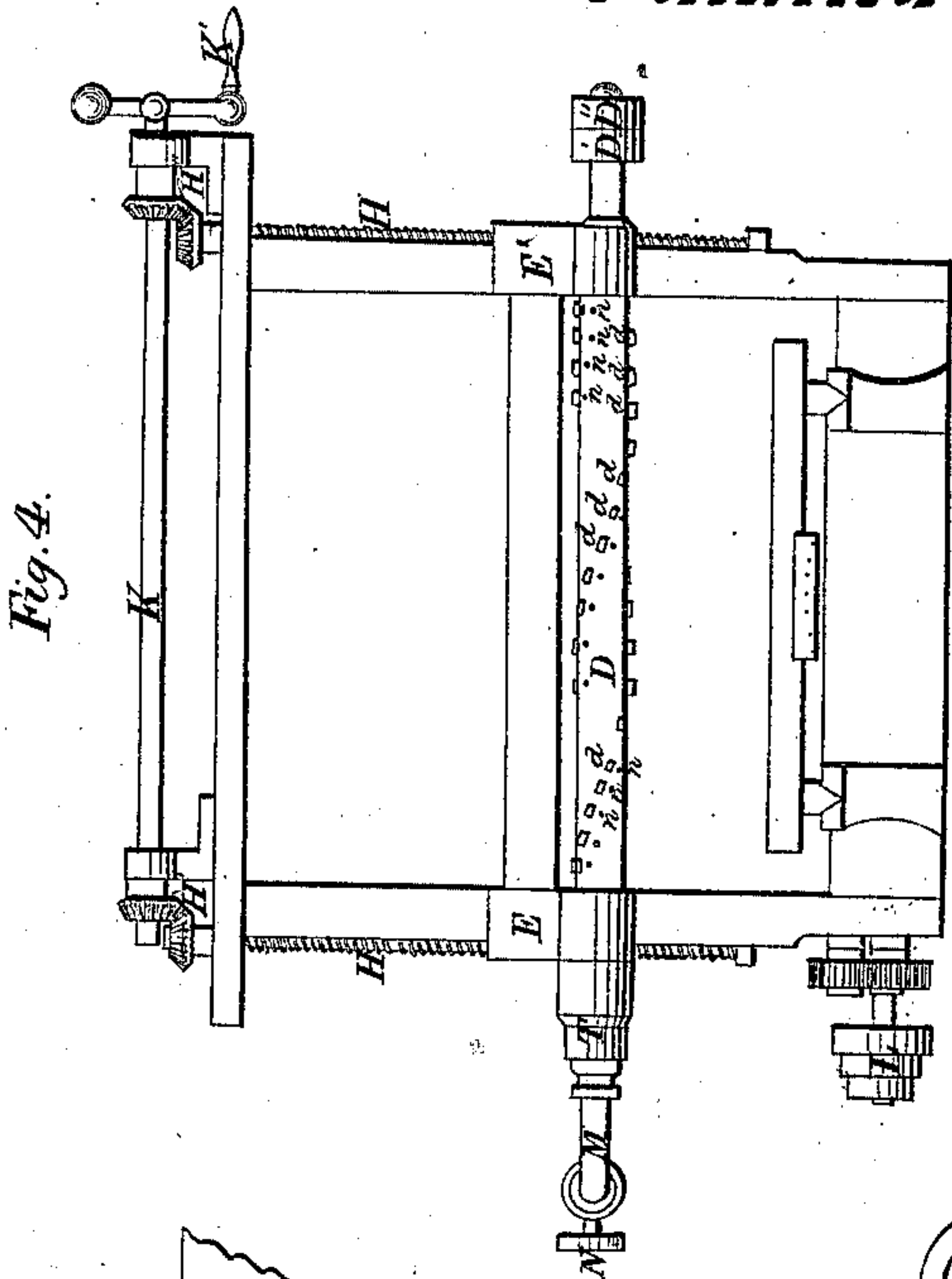
Inventor:  
D. H. Merriam

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Witnesses;  
Frank H. Parker  
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Inventor:  
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# United States Patent Office.

DAVID H. MERRIAM, OF FITCHBURG, MASSACHUSETTS.

*Letters Patent No. 81,522, dated August 25, 1868.*

## IMPROVED STONE-CUTTING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, DAVID H. MERRIAM, of Fitchburg, in the county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Stone-Cutting Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its nature, construction, and operation.

The nature of my invention consists in arranging a series of cutters upon a hollow revolving cylinder, and providing said cylinder with small perforations, opening near each cutter, and also with a stuffing-box and pipe, through which hot or cold water, or steam, may flow into the revolving-cutter cylinder, and thence, through the small perforations above mentioned, upon the stone which is being worked.

### *Drawings.*

Figure 1 is a perspective view of the entire machine.

Figure 2 is a plan, part of the table being removed to show the device for moving the table back and forth.

Figure 3 shows the cutting-cylinder in elevation, and the stuffing-box and pipe in section.

Figure 4 is an end elevation of the machine.

Figure 5 shows one form of a cutting-cylinder as it would be made for cutting an irregular surface.

The table C, and bed-piece and ways A B B, figs. 1 and 2, are made in a manner similar to the like parts of machine-shop planers for heavy iron-work. The actuating-gear is or may be also like that used in an ordinary planer; therefore these parts do not require a particular description.

In fig. 2, L is a cone-pulley, attached to the shaft O''', and actuates all of the gear which serves to move the table C back and forth. V is a shaft, located immediately under the table C, and having upon it the screw-thread P''', which meshes into a corresponding thread made in the under side of the table C. V has also upon it the loose pinion P, and the loose screw-pinion P''; also, a sleeve, S, which is free to slide back and forth on the shaft V, but is so connected with a spline that it cannot be revolved unless the shaft V, and consequently the screw P''', also revolves.

Q is a lever, moved by the rod R and handle R', which serves to slide the sleeve S against the pinion P or P'', as may be desired. The sleeve S has at either end small notches, which may serve to mesh into similar notches on P or P'', so that if it is pushed against the pinion P, then V and P''' will be revolved, and the table will be carried backward rapidly; but if S is moved up against the screw-pinion P'', V and P'' will be revolved in the opposite direction very slowly, thus advancing the table slowly, but with great power, forward.

In actual practice, I do not propose to confine myself to this mode of actuating the table, as there are many ways in which it may be done equally well.

My cutter-cylinder D, figs. 1 and 4, is attached to the head-posts G G' by the sliding blocks or boxes E E', which may be made to traverse up and down by means of the screws H H. These screws H H are operated by the crank, K', the shaft K, and pinions H' H''. The cutter D is made to revolve by the band-pulley D', the pulley D'' being an idler.

The cutter-cylinder D may be made in the form represented in figs. 1, 3, and 4, or may be made as represented in fig. 5, or, in fact, in such form as may be necessary to do the desired kind of work. The surface of this cylinder is thickly studded with cutting-points, *d d d d*, fig. 4, made of diamonds, steel, or any suitable material. Near each of these cutting-points, small perforations, *n n n n*, are made, reaching into the chamber within the cutter-cylinder D, this chamber being supplied with hot or cold water, or steam under pressure, by the pipe M and hollow stuffing-box T; so that, when the machine is in operation, jets of water or steam are thrown upon the stone being worked, thus serving to keep the cutters and the stone wet, and to clear away the chips and dust.

M, fig. 3, is a supply-pipe, being provided with an ordinary globe-valve, N, which connects with the cutter in the cutter-cylinder D by means of the stuffing-box T' T'' T.

In case hot water or steam is used, the pipe M may lead directly to the boiler; for cold water, it may connect with an elevated tank.

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

The cutter-cylinder, provided with cutters and apertures, and supplied with water or steam, for dressing stone or other material, substantially as described.

D. H. MERRIAM.

Witnesses:

WILLIAM EDSON,

A. HUN BERRY.