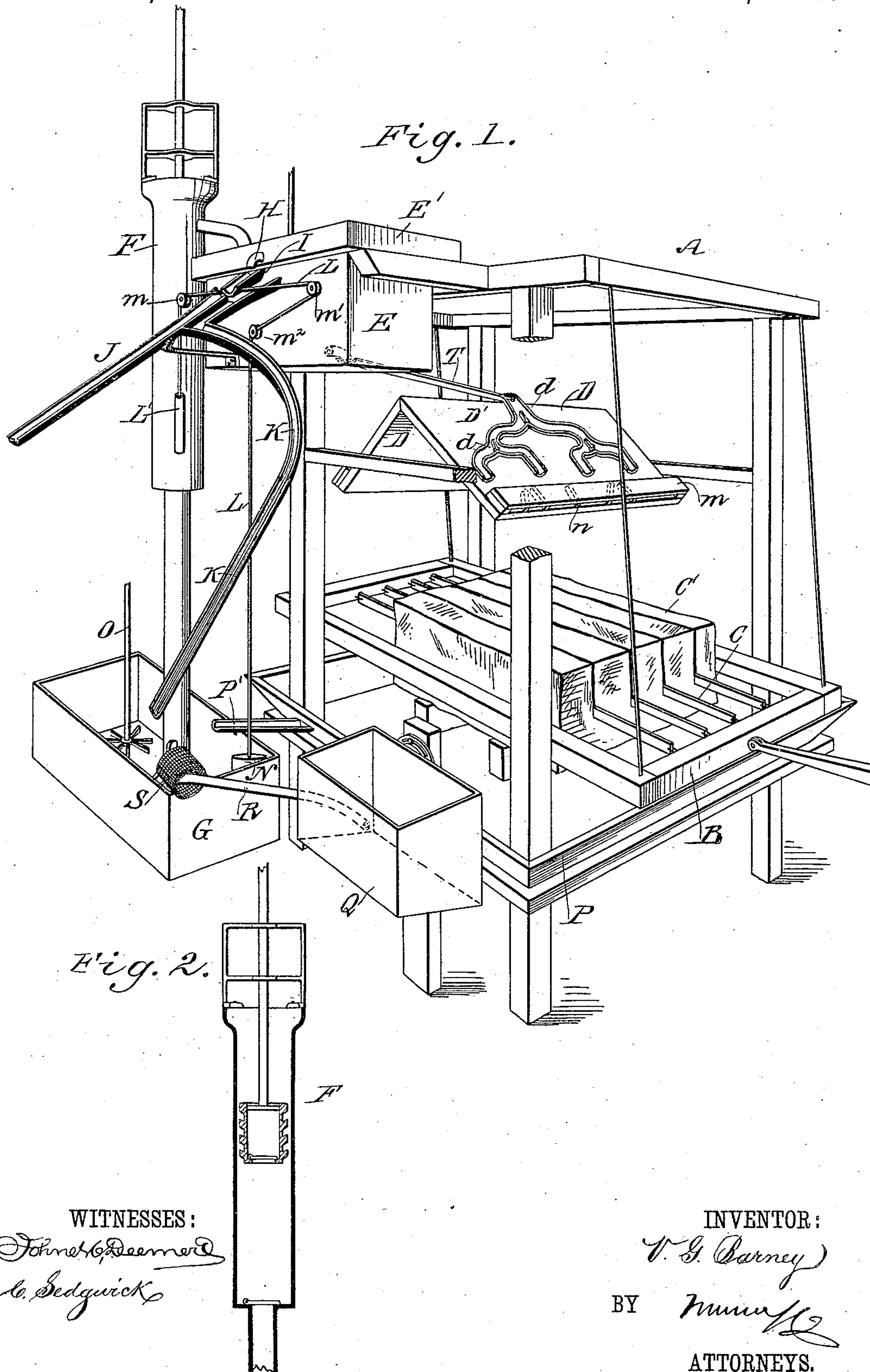


(No Model.)

V. G. BARNEY.  
MACHINE FOR SAWING STONE.

No. 312,068.

Patented Feb. 10, 1885.





# UNITED STATES PATENT OFFICE.

VALENTINE G. BARNEY, OF CHARLES CITY, IOWA.

## MACHINE FOR SAWING STONE.

SPECIFICATION forming part of Letters Patent No. 312,068, dated February 10, 1885.

Application filed August 1, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, VALENTINE G. BARNEY, of Charles City, in the county of Floyd and State of Iowa, have invented certain new and useful Improvements in Machines for Sawing Stone, of which the following is a full, clear, and exact description.

The object of my invention is to provide certain new and useful improvements in machines for sawing stone, and the said improvements especially relate to certain devices for feeding the sand-and-water mixture upon the block of marble or stone, and to devices for mixing the sand and water.

The invention consists in certain new and useful improvements in the machines for sawing stone for which Letters Patent No. 123,217 were issued to me on the 30th day of January, 1872, which improvements will be fully described and set forth hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improved stone-sawing machine. Fig. 2 is a longitudinal sectional elevation of the pump.

On a frame, A, a gang-frame or sawing-frame, B, in which the saws C are held, is hung in the usual manner, and is operated by a pitman. Above the gang-frame two pitched boards, D, are secured to form a peaked sand-distributor, on each side of which a series of riffles, D', are formed, which are arranged in the form of a fork, the prongs of which are again forked. At the joint of each two forks gates d are pivoted, for conducting the sand and water upon any part of the distributing-boards through any one of the said riffles. On the edge of the board a series of riffles, n, are formed, which are inclined, as shown. The mixture of sand and water drops from the edge of the distributing-boards D upon the block of stone C'. On the frame A a tank, E, is held, which is provided along its edge with an overflow trough or gutter, E'. The sand and water is pumped by means of a suction-pump, F, from a tank, G, located at the base of the frame A, into the tank E. From the trough for the over-

flow E' a nozzle, H, projects, and below the same a nozzle or chute, I, is arranged on the side of the box or tank E, which nozzle I is made flexible, or is held on the tank by means of a flexible joint, so that it can swing laterally. Below the nozzle I two chutes, spouts, or gutters, J and K, are arranged, of which chutes the chute J leads to a place outside of the mill, and K leads down into the tank G. A cord or wire, L, is connected to the spout or nozzle I and passed over pulleys m, m', and m<sup>2</sup> on the pump-barrel F, and on the tank E has a weight, L', secured to one end, and the other end is secured to a float, N, in the tank G. The gutters, troughs, or spouts J K are suitably braced and supported from the tank E. In the tank G an agitator, O, is arranged. Below the gang-frame a collecting-trough, P, is provided, from which the sand and water which has been used is conducted through a spout, P', into the tank G. On the side of the frame A a tank, Q, is held, in which the fresh sand and water that has not yet been used is placed, and is conducted from the same through a pipe, R, into the tank G. The free end of the pipe R projects into a cylindrical screen, S, held on the top of the tank G, which screen S is either fixed or can be provided on its inner surface with riffles, against which the water and sand passing through the pipe R can act, and thus revolve the said screen. The screen S catches the dirt, mud, gravel, &c., and if it revolves an accumulation of the said dirt, gravel, &c., is prevented. I can use any ordinary suction-pump; but I prefer to use the pump shown, in which the piston does not work closely in the barrel, but is always held a minute distance from the sides of the barrel. The operation is as follows: The waste sand and water—that is, the sand and water that has been used and that drops from the block of stone C'—is collected in the tank P, and is passed from the said tank through the spout P' into the tank G, where it is mixed with the fresh sand and water from the box Q. The mixture of sand and water in the tank G is pumped from the same by means of the pump F into the overflow-tank E, and passes from the same through the chute or gutter T to the riffles D', flows through the same upon the



boards D, and drops upon the block of stone C'. The waste sand and water which has been used and been ground so finely that it cannot cut floats on the surface in the tank E, and passes  
 5 into the overflow gutter or trough E', surrounding the tank E. It then flows through the nozzle H into the nozzle or spout I, and then into the spout or chute J or K. When there is a sufficient quantity of water in the tank G, the  
 10 float N is raised, thus permitting the weight L' to pull the flexible spout I over the chute J, so that all the waste or overflow from the tank E can pass off through the chute J; but when there is not a sufficient quantity of water in  
 15 the tank G the float N falls, and by acting on the cord, wire, or chain L it pulls the nozzle I over the chute K, thus causing the overflow to pass through the said chute into the tank G until the water in the same rises sufficiently,  
 20 when the float will also rise and permit the weight L' to pull the spout I over the chute J again. By arranging the overflow-tank E above the stone and at the top of the frame A, I can easily carry off the overflow water from  
 25 the said tank.

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

1. In a stone-sawing machine, the combination, with the waste tank disposed below the  
 30 saw-frame and connected to a return waste water and sand tank, and means to elevate the waste water and sand, of the pitched boards having the forked conduit connected by a con-  
 35 duit to a supply-tank connected to said waste water and sand elevator, substantially as and for the purpose set forth.

2. In a stone-sawing machine, the waste-tank disposed below the saw-frames and connected  
 40 to a return waste-tank, and a water and sand tank connected to said return waste-tank, in combination with the pump connected to an elevated water-tank connected to a distribut-  
 45 ing-conduit arranged upon a pitched board above the saw-frame, substantially as and for the purpose set forth.

3. In a stone-sawing machine, the waste-tank disposed below the saw-frames and connected to a return waste-tank, and a water and sand  
 50 tank connected to said return waste-tank by a conduit entering a screen disposed in said return waste-tank, in combination with the pump connected to an elevated water-tank, and the

pitched board, together with the distributing-conduit connected to said elevated water-tank, substantially as and for the purpose set forth. 55

4. In a stone-sawing machine, the waste-tank disposed below the saw-frames and connected to the return waste-tank, and the pump, in combination with the water-tank arranged above  
 60 the saw-frames and connected to said pump, and having an overflow-tank provided with a nozzle, and the pitched board, together with the distributing-conduit connected to the tank above the saw-frames, substantially as and for  
 65 the purpose set forth.

5. In a stone-sawing machine, the combination, with the return waste water and sand tank and pump, of the overflow-tank super-  
 70 posed upon the elevated water-tank, and having a discharge-nozzle emptying in a flexible spout or conduit alternately discharging into a waste-conduit, and a conduit discharging into the return waste-tank, substantially as  
 75 and for the purpose set forth.

6. In a stone-sawing machine, the combination, with the return waste-tank and the pump, of the elevated water-tank having the over-  
 80 flow-tank, with its nozzle connecting with a flexible spout or conduit connected to a cord passed over pulleys, one end of said cord suspended a weight and the other end being con-  
 85 nected to a float disposed in said return waste-tank, and the waste and return conduits, said return-conduit discharging into said return waste-tank, substantially as and for the pur-  
 90 pose set forth.

7. In a stone-sawing machine, the waste-tank disposed below the saw-frames and connected to a return waste-tank, said latter tank being  
 95 connected to a water and sand tank and the pump, in combination with the elevated water-tank having the nozzle overflow-tank, the pitched boards having the riffles, the forked distributing valved conduit connected to said  
 100 elevated water-tank and arranged upon said pitched boards, the flexible conduit or spout connecting with the nozzle of said overflow-tank and alternately discharging into a waste-conduit and a return-conduit emptying into  
 105 said return waste-tank, substantially as set forth.

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Witnesses:

OSCAR F. GUNZ,  
 C. SEDGWICK.