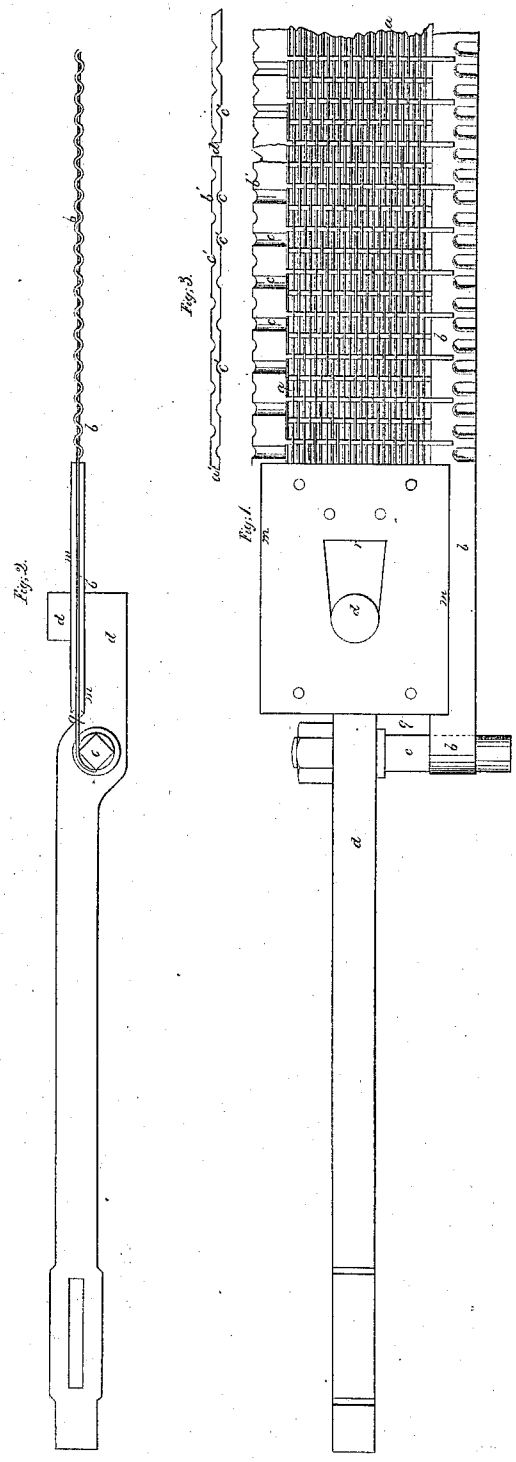
J. T. Bruen,

Saving Stone.

No. 12,813. Patented May 8, 1855.



UNITED STATES PATENT OFFICE.

JOHN T. BRUEN, OF NEW YORK, N. Y.

STONE AND MARBLE SAW.

Specification of Letters Patent No. 12,813, dated May 8, 1855.

To all whom it may concern:

Be it known that I, JOHN T. BRUEN, of the city, county, and State of New York, have invented certain Improvements in Saw-Plates for Sawing Stones, &c., in the operation of which it is important that the saw be properly supplied with sand and water, (for well known reasons,) and to facilitate the free percolation of this gritty medium under the edge of the saw-plate is the desideratum in the operation of sawing stone. This I have accomplished by means of a wove or waved body of a saw-plate. The following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a side view. Fig. 2 an edge view. Fig. 3, a representation of the modification hereinafter described wherein lead is used.

The same letters indicate like parts in all the figures.

The section of the saw plate as represented in the accompanying drawing is secured in the cross head of the saw frame by a hook (*d*) in the ordinary manner to which reciprocating motion is given by means of a crank or other machinery. The body of the saw plate (*a*) is formed of woven wire or metal strips, the cross wires of which are made to sustain a metal strip (*b*) with a corrugated edge, which is firmly secured at one end to the clamp, and at the other end is strained by a pin (*c*) socketed into the hook and held by a clamp nut as shown in the drawing. By this means the cutting edge can be readily renewed when necessary. The warp is so protected by means of the corrugated filling or cross wires as to be out of reach of wear, and the kerf formed by the edge, or the corrugated metal strip (*b*) is sufficiently wide to prevent undue friction on the sides of the saw plate.

A modification of this device is shown in Fig. 3 at (*a' a'*) representing blocks of lead, with spaces between, or a band of lead, with indentations (*c' c'*) at intervals on the sides and edge, attached to edge of the woven blade as at (*b' b'*) Fig. 3, so as to freely admit the sand, &c., and bring it down at once upon the point to be cut, by which a much greater effect is produced than by any known mode. These devices are strained by hoops and frames, and used in the ordinary way, by any of the machines now operating without any change but the saw blades.

The warp of which the body of the saw plate is composed I secure at one end in any appropriate manner, and proceed in filling the same with corrugated cross wires to any required length. I then take the two end plates (*m*) the inner surface of which is channeled crosswise like a rasp, and place one on each side of the saw plate, thus forming a clamp which when riveted or otherwise held together, will firmly hold the warp, which may be turned or twisted in the groove formed at the end of the clamp, (*q*) Fig. 2, and at (*r*) Fig. 1, to prevent the possibility of being drawn out when stretched by the hook (*d*).

I contemplate another modification of my device by corrugating the saw blade in such a manner as to admit the free passage of the grit on the sides, the sharp angles of which will be protected in the indentations by means of the preceding elevations in like manner as at Fig. 2 and at (*b*) Fig. 1, with the exception that the body of the plate itself would be corrugated on both sides of the line coinciding with the hook by which it is stretched where sufficient strength should be retained in the body of the plate, thrown in the center of the waved edge as at Fig. 2 for the purpose of resisting the strain exercised by the hook without stretching the corrugation.

I do not wish to confine myself to the precise mode of application or devices above described, which may be varied, according to circumstances and experience.

Having thus fully described my improved saw plate, for cutting stone, I do not claim the using of sand and water or other grit with a plain metal plate as new, nor the blade with grooves cut in it: but

What I do claim as my invention, and for which I desire to secure Letters Patent is—

1. The making of the body of the saw plate, of woven wire or strips of metal, or any analogous device for the purpose of admitting the free passage of the grit in the operation of sawing stone, substantially and for the purpose as herein described.

2. I also claim in combination with the above the waved cutting edge, or any analogous device, substantially, and for the purpose herein described.

3. I also claim forming the edges of the saw blade thicker than to central portion so as to admit the free passage of the grit on both its sides through the indentations as above set forth.

JOHN T. BRUEN.

Witnesses:
THOS. E. WARREN,
L. E. HOPKINS.