

(No Model.)

H. W. WHITCOMB.
STONE POLISHING WHEEL.

No. 441,524.

Patented Nov. 25, 1890.

Fig. 1.

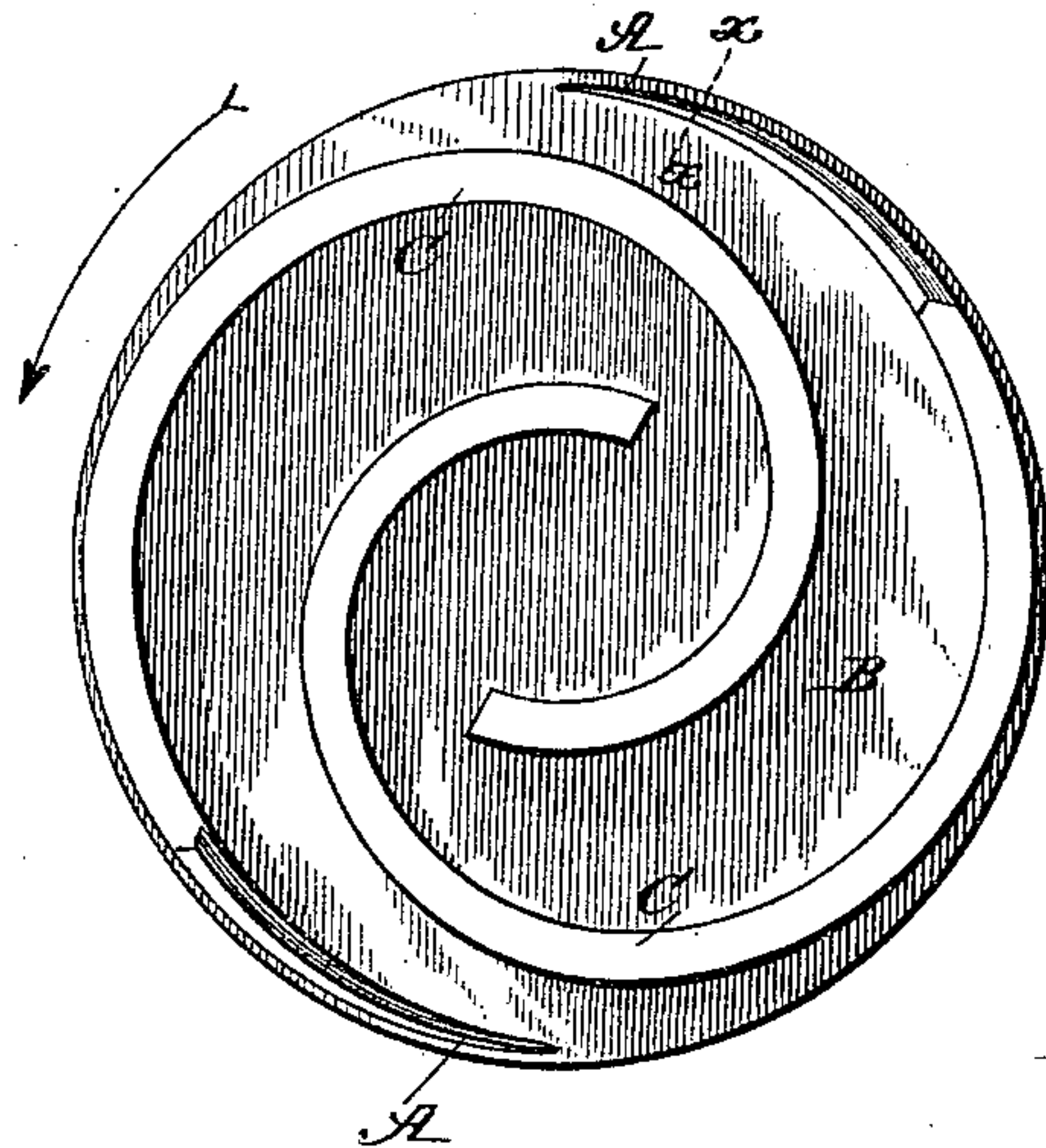


Fig. 2.

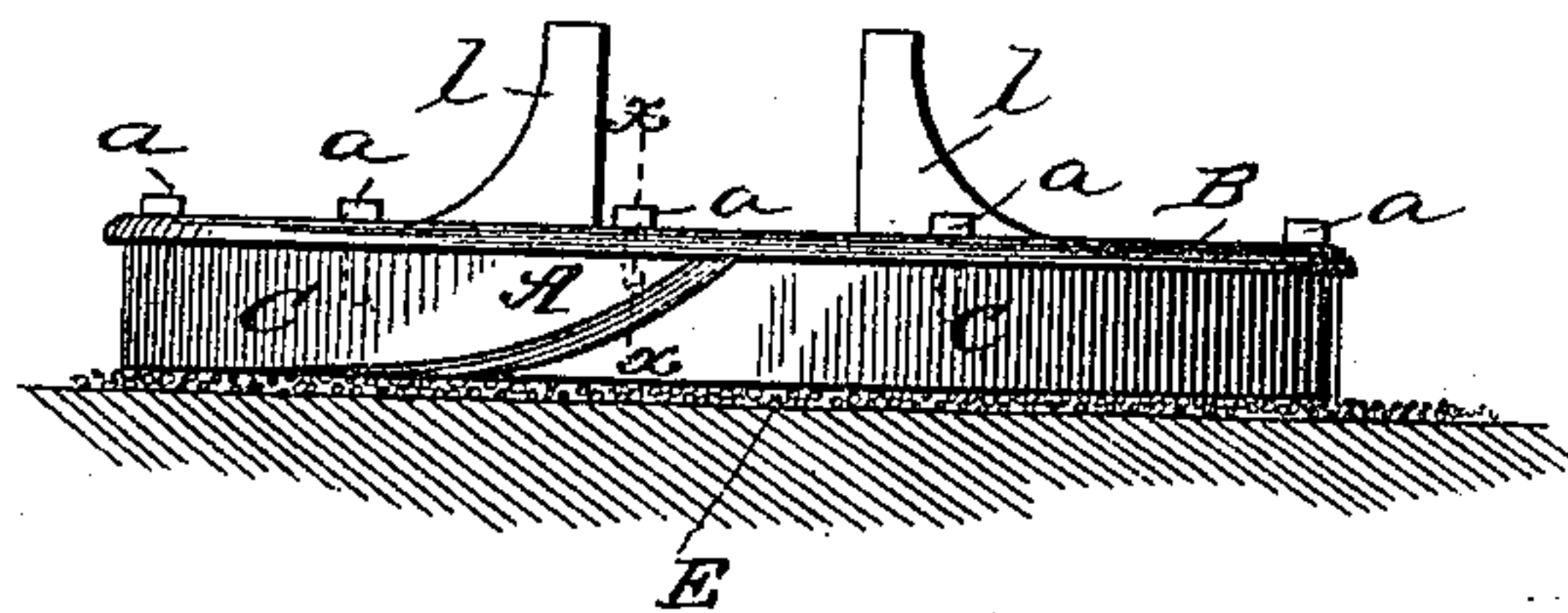
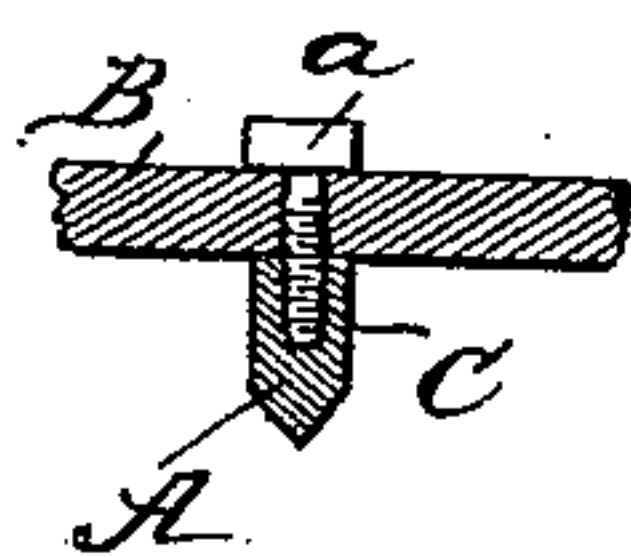


Fig. 3.



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HARRY W. WHITCOMB, OF BARRE, VERMONT.

STONE-POLISHING WHEEL.

SPECIFICATION forming part of Letters Patent No. 441,524, dated November 25, 1890.

Application filed March 26, 1890. Serial No. 345,336. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. WHITCOMB, of Barre, in the county of Washington and State of Vermont, have invented a new and useful Improvement in Stone - Polishing Wheels, of which the following is a specification.

My invention is in the nature of an improved polishing-wheel for the purpose of reducing the rough face of a slab or block of stone, slate, or similar material to a smooth surface.

It consists in the peculiar construction of a metal disk or frame-plate with detachable scroll-shaped flanges secured thereto by screws or bolts and having connections for a vertical pendent shaft, whereby the wheel is rotated in a horizontal plane on the upper face of the stone to be dressed, acting thereupon through the agency of sand or small pellets of hard cast-iron, as hereinafter fully described.

Figure 1 is an inverted plan or underneath view of the polishing-wheel. Fig. 2 is an edge view of the same shown applied to a stone which is being polished. Fig. 3 is a cross-sectional view through the line *x x* of Figs. 1 and 2.

In the drawings, B represents the frame-plate of the wheel, which is of cast-iron, and is formed with lugs *l l* upon its upper side, which constitute a socket or seat, within which is bolted the lower end of the pendent driving-shaft by which the wheel is rotated. To the lower side of this plate there are detachably fastened volute-shaped flanges or spiral scrolls C C—two in number—symmetrically arranged upon opposite sides of the center and curving toward the center. These scrolls or volute spiral flanges are secured to the frame-plate detachably by screws or bolts *a*. These spiral flanges are made of wrought-iron or steel for a special reason hereinafter described, and their outer ends are made runner shape, as shown in Fig. 2, and these front or leading ends of the flanges are beveled upon one or both sides to a knife-edge, as shown in Fig. 3, the object of which will be explained hereinafter.

In making use of this invention there is applied to the surface of the stone to be pol-

ished a quantity of sand or fine hard pellets of cast-iron, (shown at E,) through the agency of which the flanges of the wheel are made to act upon the stone to scour and dress off the irregular surfaces of the stone.

The polishing-wheel revolves in the direction of the arrow in Fig. 1, with the outer points A of the flanges in the lead, and here may be understood the function of the sharp runner-shaped ends A, for these permit the flanges to quietly enter or cut down into the sand without fliriting or throwing off and wasting the sand from centrifugal action. As the wheel revolves the curve of the flange draws toward the center, and this causes the sand also to be drawn toward the center in a degree sufficient to prevent the sand from being thrown out from under the wheel from centrifugal action, thus avoiding the wasting of sand.

The object in making the flanges C detachable is to permit them when worn down to be removed and new ones supplied, which may be fastened to the frame-plate without the necessity of supplying an entire new wheel. It is also to permit the flanges to be made of soft wrought metal, for I have found that the flanges when made of soft metal wear longer than when made of hard cast-iron. The reason for this is as follows: The soft metal allows the grains of sand to become embedded or encysted in the soft metal and move with it, scouring over the harder surface of stone, so as to wear away the latter, instead of the face of the working-wheel. Another important result is that when the flanges are made of wrought-iron or steel there is a longitudinal grain in the flanges that prevents the grains of sand from moving crosswise the flanges and holds them to the stone without allowing them to move out from centrifugal action, to the detriment of the flanges. When these flanges are made of tough wrought-iron or steel, I find that they last as long as six cast-iron wheels and do also very much more effective work, for the reason that the wear is almost entirely limited to the stone, instead of being borne equally upon the stone and wheel; and, furthermore, by making the flanges detachable they can be readily forged out of wrought-iron or steel and applied to

the cast-iron frame-plate by screws, thus saving great expense to the user, as well as making a much more effective wheel.

Having thus described my invention, what
5 I claim as new is—

A polishing-wheel for stone, consisting of a metal disk or frame-plate made of cast metal, combined with detachable spiral flanges C, of

wrought or soft metal, having sharpened runner-shaped outer ends, substantially as shown 10 and described.

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Witnesses:

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