(No Model.) 2 Sheets—Sheet 1.

S. WIER.

MACHINE FOR CLEANING CASTINGS.

No. 254,855. Patented Mar. 14, 1882.

Fig. 1.

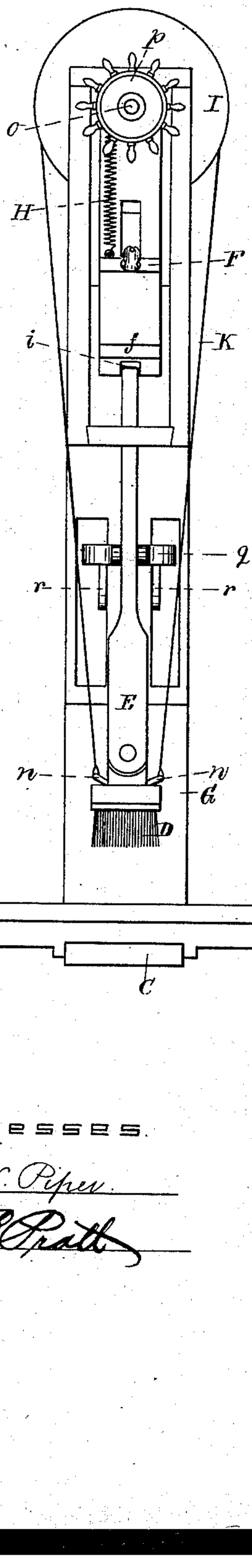
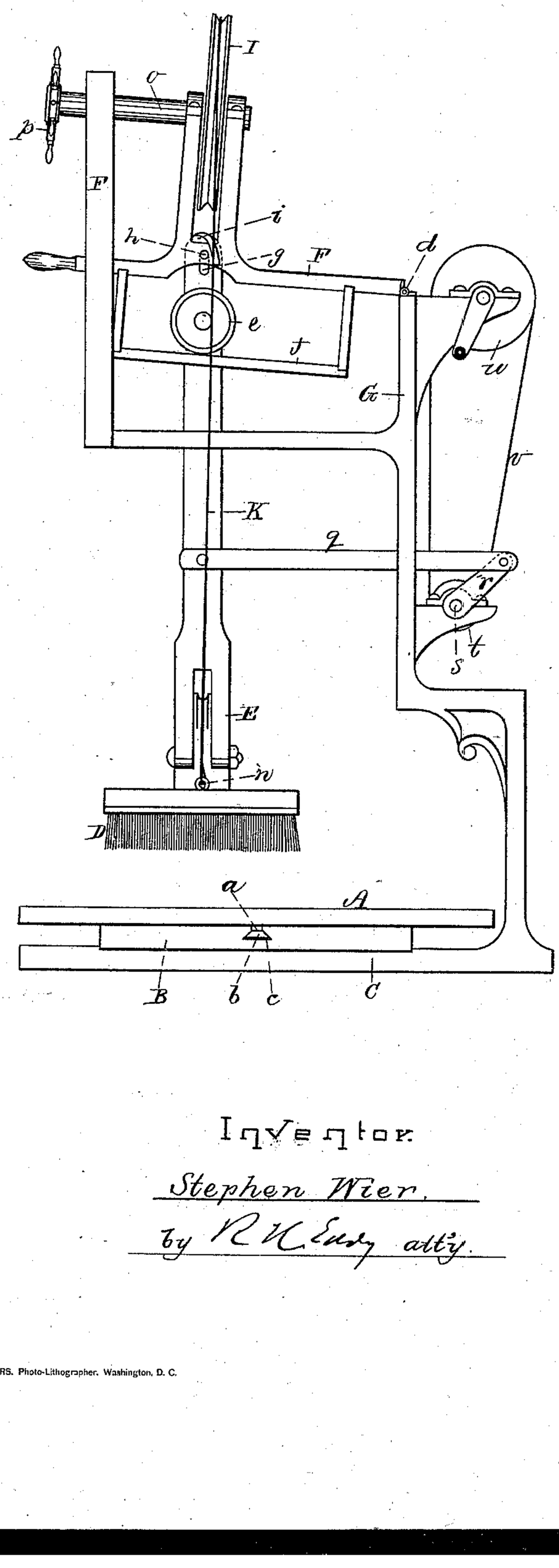


Fig. 2.



Witnesses.

S. N. Piper.

E. B. Prath

Inventor.

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by R. H. Eddy atty.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

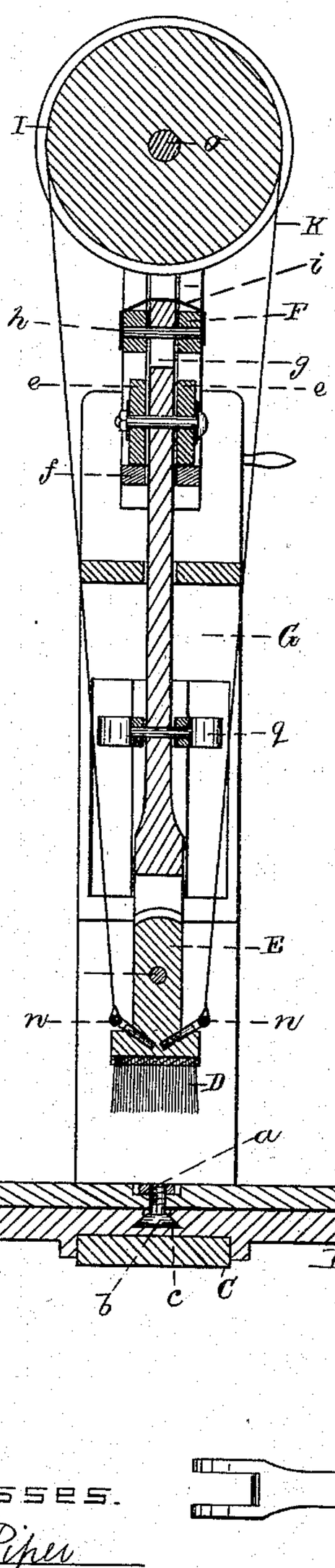


Fig. 3.

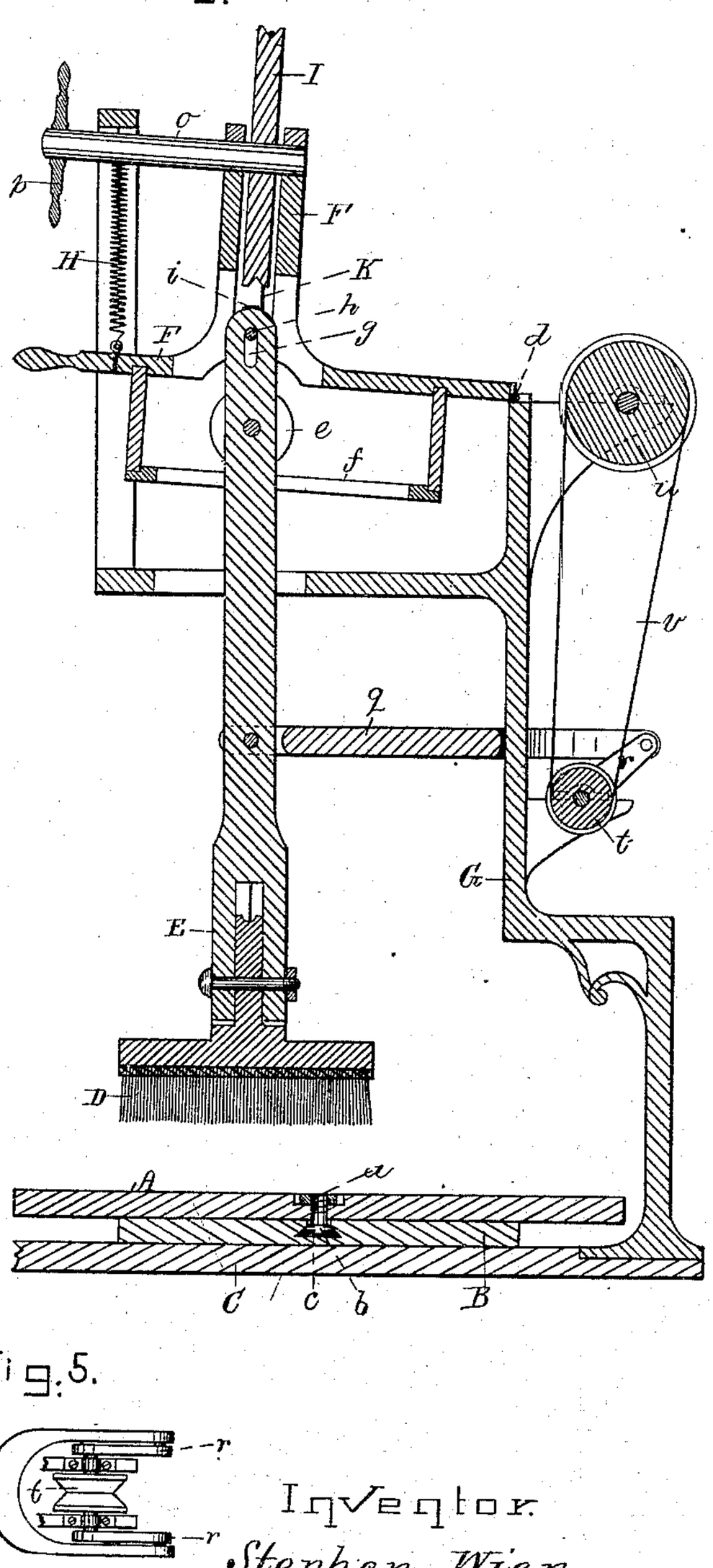
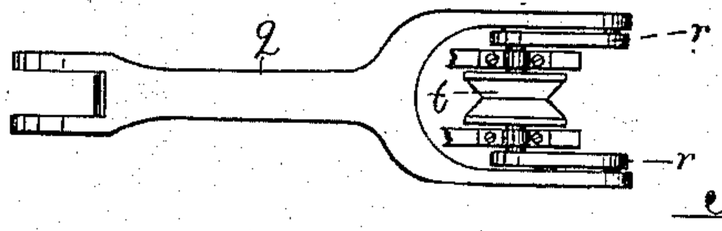


Fig. 5.



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UNITED STATES PATENT OFFICE.

STEPHEN WIER, OF CHELSEA, MASSACHUSETTS.

MACHINE FOR CLEANING CASTINGS.

SPECIFICATION forming part of Letters Patent No. 254,855, dated March 14, 1882.

Application filed January 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN WIER, of Chelsea, of the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machinery for Cleaning Castings; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section, of a machine embodying my invention, the nature of which is defined in the claims at the end of this description. Fig. 5 is hereinafter explained.

The machine is designed to cleanse a casting, or remove from it any molding-sand that may be adhering to it after its removal from the mold in which it may have been founded. To this end the machine is provided with a table or platform, which is not only capable of being revolved around in a horizontal plane, but of being moved either longitudinally or laterally in such plane, in order to carry a casting supported by it underneath a movable brush to cause such brush, while in vibration, to pass or work over any part of the surface to be cleansed.

In the drawings, the platform or movable table is shown at A, it having a center or pivot, *a*, whose head *b* is dovetailed and enters a dovetailed straight groove, *c*, made in and across a slide, B, such slide resting upon a rail, C, and being applied thereto so as to be guided rectilinearly therein in a direction at right angles to the groove *c*. From this it will be seen that the platform or table A can have motions, as above mentioned, imparted to it under the brush D, arranged, as represented, over the said platform. The brush is jointed to the lower end of a furcated vibrator E, that depends from a frame, F, which is disposed within and hinged to a standard, G, arranged with and projected over the table A in manner as represented. The joint-pin of the connection of the brush and the vibrator is shown at *d*, it going through the prongs of the vibrator and a projection from the brush, the whole being to enable the brush to be tipped laterally as occasion may require. A spring, H, attached to the frame F and the standard serves to lift the frame upward, in order to raise the brush, as occasion may require, off an article when on the table. In some cases this spring may be dispensed with, the frame F being under such circumstances raised by hand or manual power applied to it.

Friction or bearing wheels *e e*, applied to the vibrator, rest on a slotted rail, *f*, carried by the frame F, there being in the upper part of the vibrator a slot, *g*, to receive a pin, *h*, which goes through the vibrator and the frame F in manner as shown. The frame F, with the friction-roller *e*, applied to the vibrator, is to cause the brush, while being reciprocated, to move in a straight line instead of an arc of a circle. Furthermore, there is applied to the said frame F, and to the upper part of the vibrator, an elastic band or spring, *i*, to allow the vibrator to yield or move upward.

In the frame F is a wheel, I, it being arranged in the said frame in manner as represented, and there is fixed at its middle, to the upper part of the grooved periphery of such wheel, a rope, K, which extends downward, and at its ends is fixed to staples *n n*, extending, as shown, from the brush. The shaft *o* of the wheel projects through the front of the frame F, and is provided with a hand-wheel, *p*. On turning the said hand-wheel in either direction the brush may be more or less tilted or inclined laterally.

A forked connecting-rod, *q*, is jointed to the vibrator and to two cranks, *r r*, that project from a shaft, *s*, duly supported in the standard, and provided with a grooved wheel, *t*, which is arranged between the said cranks. Fig. 5 is a top view of the rod *q*, wheel *t*, cranks *r r*, and connecting-rod *q*. About the wheel *t* and a driving-wheel, *u*, arranged in the standard, an endless band, *v*, runs. On revolving the wheel *u* a rapid reciprocating vibratory motion will be imparted to the brush over the platform.

By means of the frame F the brush may be depressed to carry it into contact with a casting, when the latter may be supported on the platform, and by moving the platform around on its center, or either laterally or longitudinally, and by canting the brush more or less as the surface of the article may require for the brush to act on it, such brush, while in rapid vibration, may be caused to remove from the article any sand or extraneous matter.

The object of the spring *i* is to enable the brush in passing over the casting to yield to its variations of surface, and to keep it in close contact therewith.

What I claim as my invention is as follows, viz:

1. The machine, substantially as described, consisting of the movable table or platform, and the brush and its mechanism for vibrating it, its mechanism for depressing and raising it, and its mechanism for turning it laterally, all being adapted and to operate substantially as and for the purpose specified.

2. The combination of the spring *i*, with the brush and its carrier or vibrator, and the frame F, adapted to such vibrator, in manner essentially as set forth.

STEPHEN WIER.

Witnesses:
R. H. EDDY,
E. B. PRATT.