JOSEPH BARKER.

Improvement in Sand Papering Machines.

No. 115,414. Patented May 30, 1871.

Fig. 1.

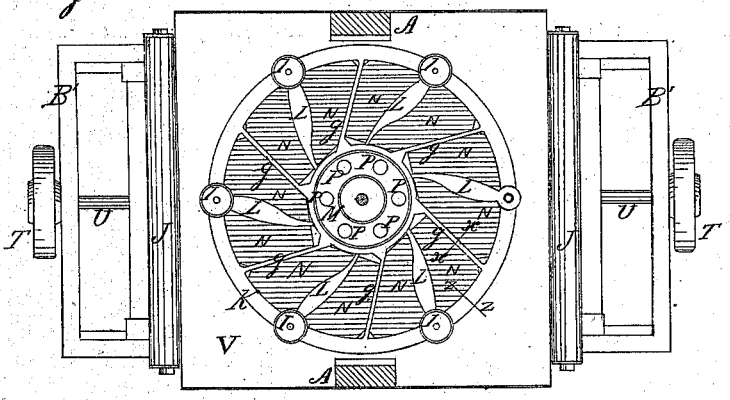
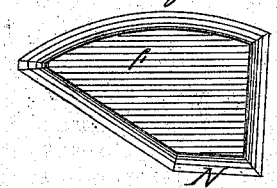


Fig. 4.



Enlarged view

Fig. 3.

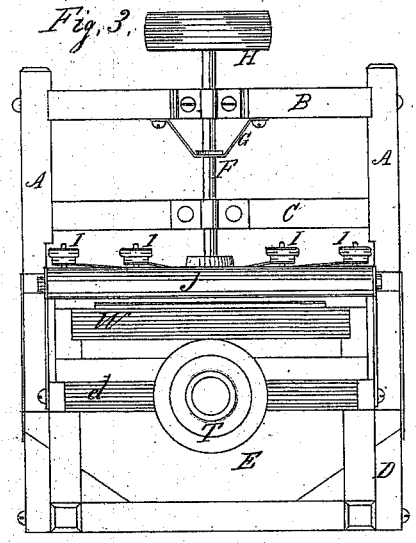
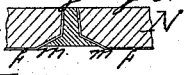


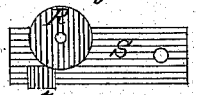
Fig. 5

Fig. 6.



Enlarged views

Fig. 7.



Enlarged view

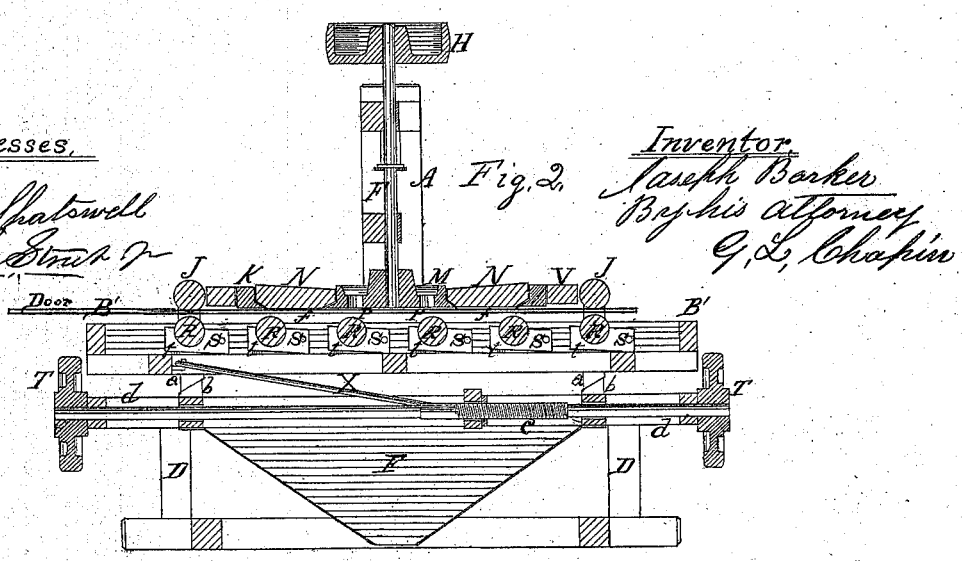


Fig. 2.

Witnesses,

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Inventor

Joseph Barker

By his attorney,

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UNITED STATES PATENT OFFICE.

JOSEPH BARKER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SAND-PAPERING MACHINES.

Specification forming part of Letters Patent No. 115,414, dated May 30, 1871.

To all whom this may concern:

Be it known that I, JOSEPH BARKER, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Sand-Papering Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing and letters marked thereon, in which—

Figure 1 is a plan view of my improved sand-papering machine; Fig. 2, a longitudinal section thereof; Fig. 3, an end elevation; and Figs. 4, 5, 6, and 7 are parts and sections appertaining thereto.

The present invention relates to a new and improved machine for sand-papering flat surfaces; and its nature consists, first, in a sand-papering wheel which has an open center, and is provided with a series of blocks for holding the paper, so arranged that tangent furrows are formed between them; secondly, the object of making the center open, or partly so, is to prevent that part of the wheel or sand-paper thereon from coming in contact with the surface to be smoothed, as is the case with the ordinary sand-papering disks now in use, as such disks do not cut but little, if any, in their central parts, and consequently clog up with dust, which prevents the surface of the disk near the periphery from coming in contact with the surface to be smoothed; thirdly, the object of putting the blocks in the wheel in sections is for convenience of adjusting and removing the sand-paper, and for forming a series of tangent furrows, to allow a current of air to pass from the center of the wheel to the periphery and carry the dust out with it; fourthly, the nature further consists in such mechanism as is necessary to operate the said wheel and carry the stuff to be smoothed under it, whether it be thick or thin.

D *d* represent a substantial bed or frame-work, which supports the mechanism of the machine, said frame being made of wood or iron, as most convenient. To the frame D *d* are attached two standards, A, for supporting the cross-beams B C, which hold the vertical shaft F of the sand-papering wheel K in proper position. This wheel K consists of a center, M, made partially open by means of vertical holes P, of a series of tangent arms, *g g*, &c., and a rim. The lower parts of the tangent arms are provided with beveled flanges, as is also the inside of the lower part of the rim, as shown at *m n*, Figs. 5 and 6, so as to form a suitable support for the sand-papering blocks N. The said blocks are so formed as to fit the openings between the arms *g*, center M, and rim *k*, and to pass a little below them, as shown at Fig. 2. The wheel K is then rotated in a lathe or otherwise, while the under sides of the blocks are turned so that their lower faces shall conform to a parallelogram; but they yet project below the wheel, (proper,) leaving a recessed center, as clearly shown. The sand-paper is then placed on the blocks N, and clamped down firmly on the flanges *m n* by means of bars or levers L, the inner ends of which are fastened to the rim of center M and the outer ends to the rim *k* by means of set-screws I I, &c., the central parts of the bars bearing on the central parts of the blocks. The sand-paper, not being fastened to the blocks N, can be readily removed by loosening the set-screws I, and its not coming in contact with the paper on the adjoining block leaves furrows for the dust to pass out, causing the sand-paper to wear much longer than when the dust is allowed to grind into it, or when no furrows are made, or when the wheel is covered with a continuous piece of paper, as is customary at the present time. The means for carrying the stuff to be finished under the wheel K consist of upper rollers J and lower rollers R, the feeding being done by hand; but it may be done by power, when desired. The lower rollers R have bearings in blocks S, which, at their lower ends, are pivoted to a table, B′, and at their other ends bear on a yielding substance, as shown in Figs. 2 and 7, the rubber being shown at *t*. By this means stuff not having a uniform thickness can be put through the machine.

In order that different thicknesses of stuff, doors, blinds, shutters, &c., may be put through the machine and brought properly to the sand-paper *f*, a sliding table, B′, is arranged to bear on inclines *a b*, so that when wheels T are turned they will operate a screw, *c*, Fig. 2, and draw on a rod, X, which will move the table endwise, and consequently raise or lower it on the incline *a b*, as the case may require. The

turning of either wheel T will perform the above-described function, two wheels being used simply for convenience of the operator. A hopper, E, at the bottom of machine, is used to convey dust to a convenient place out of the way.

Having thus fully described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The wheel K, formed with a recess or depression in the central part of its under side, to obviate a dead-point in said wheel when it is used for finishing flat surfaces, as described.

2. The wheel K, provided with a recess on its under side to obviate a dead-point, and with a series of sectional blocks, N, to hold the sand-paper *f* in place when said wheel is used for finishing flat surfaces, substantially as described.

3. The wheel R, provided with openings P and furrows between the sectional blocks N, and under arms *g*, for allowing air to carry out the dust, as specified.

JOSEPH BARKER.

Witnesses:

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