W. J. JOHNSON.

Gin-Saw Filing Machine.

No. 197,276. Patented Nov. 20, 1877.

Fig. 1.

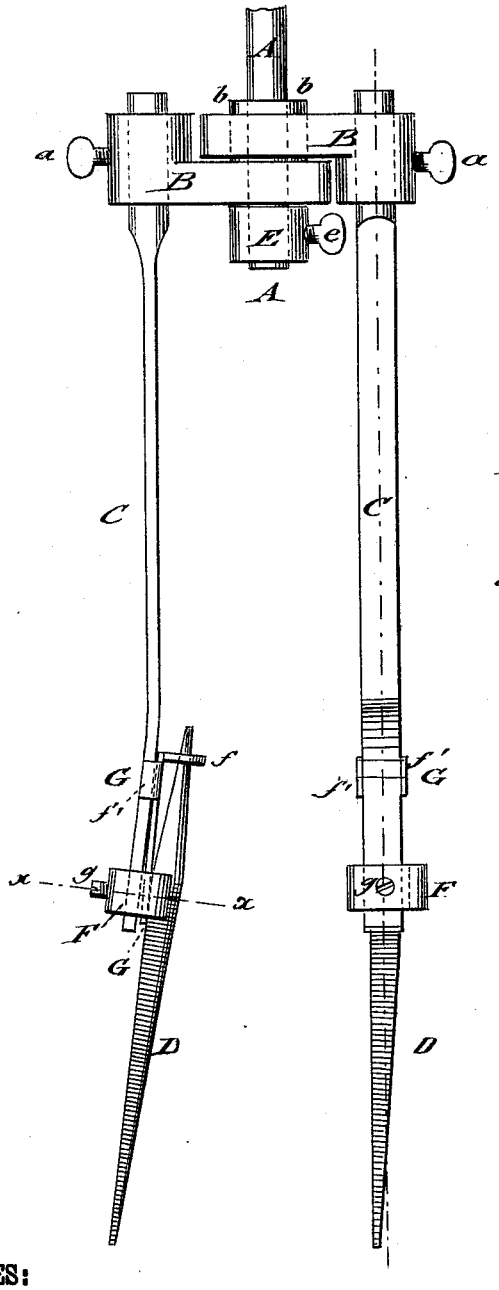


Fig. 2.

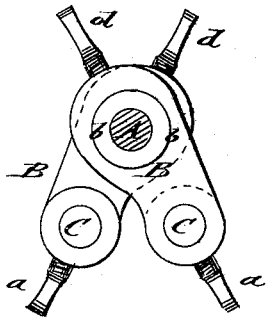
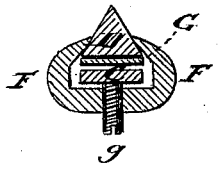


Fig. 3.



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WILEY J. JOHNSON, OF HERNANDO, MISSISSIPPI.

IMPROVEMENT IN GIN-SAW-FILING MACHINES.

Specification forming part of Letters Patent No. **197,276**, dated November 20, 1877; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, WILEY J. JOHNSON, of Hernando, in the county of De Soto and State of Mississippi, have invented a new and useful Improvement in Gin-Saw-Filing Machines, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a side elevation of my improved gin-saw-filing machine; Fig. 2, a top view; and Fig. 3, a vertical transverse section on line *x x*, Fig. 1, showing clamp-connection of file and spring-shank.

Similar letters of reference indicate corresponding parts.

This invention is intended to so improve the machines for filing gin-saws that the files may be readily adjusted to the saw-teeth at the proper distance and inclination, so as to produce the most favorable action in the downstrokes, and exert a less pressure in the upstrokes, being guided at the proper angle of inclination to the teeth.

The invention consists of the spring-shanks, secured by adjustable shifting heads to the file-stock, and resting on a collar and clamp-screw of the same. The spring-shanks are bent at the ends, and the files attached thereto by a clasp-and-tongue device.

Referring to the drawings, A represents the file-stocks, along which the heads B of the spring-shanks C of the files D are adjusted. The spring-shanks C are secured to sleeves of their respective heads B by means of set-screws *a*, the lower head B sliding, by a flanged collar or sleeve, *b*, on the file-stock, while the upper head B is fitted on the sleeve *b*, so as to turn freely thereon. Both heads are rigidly secured in position by clamp-screws *d d*—one to the file-stock, the other to the sleeve *b*.

By means of the set-screws of the heads the files may be set farther apart or closer to each other, as required, being shifted, respectively, on the file-stock and sleeve.

A collar, E, with set-screw *e*, is placed on the file-stock below the heads of the spring-shanks C, and designed to regulate the height of the files in shifting from one saw to the next, the shifting heads being loosened by the lower set-screw, and slid up the file-stock A until the machine is shifted along the frame to the proper place. The file-head is then moved down again until it rests on the set-collar, keeping thus the file always at the proper height.

The files D are attached to the spring-shanks by means of a clasp, F, and tongue G. The lower end of the spring-shank C is bent at an obtuse angle to the main part, as shown in Fig. 1, for the purpose of giving little pressure to the point of the file, but increasing the same as the file makes its downstroke, while with the upstroke the pressure is diminished, so as to produce a smoother cutting without wearing the file too fast. This inclination of the end of the spring-shank also insures the file to pass over to the next tooth on its upstroke, and exert but a light pressure, so as not to injure the point of the tooth just finished by the dragging process, that is so common and objectionable in all machines that give equal pressure.

The tongue G is made of brass or other suitable metal, with a flange, *f*, turned up at the upper end, having a hole to receive the shank end of the file. Near flange *f* are side flanges *f'*, turned down over the spring-shank at both sides of the same, for preventing the file-shank from turning to either side. The tongue extends down between the file and the spring-shank, and is firmly clamped by the clasp F, which fits over or around the spring-clamp, tongue, and file, as shown in Fig. 3, and clamps them all firmly together by means of a set-screw, *g*.

The clasp F has a little side play on the spring-shank, so that by stopping it to either side it gives the file an inclination to one side of the center line of the shank, as shown in Fig. 1, which inclination is necessary to file the front of the teeth more effectually, and also to assist the file to pass over to the next tooth when the file is on its upstroke. In this manner the files, as well as the file-heads, may be quickly and accurately adjusted to the teeth of the gin-saws, and the exact stroke of the file obtained at the most favorable inclination for the sharpening of the teeth.

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

1. The combination of the file-stock with the shifting heads of the file-shanks and suitable set-screws, the upper head turning on a sleeve of the lower head, and sliding, with the latter, on the file-stock, substantially as described.

2. The combination of the file-stock and adjustable shifting heads of the file-shanks with an adjustable collar and clamp-screw of the file-stock below the heads, substantially as specified.

3. The combination of the file-carrying spring-shank with a spring-retaining tongue-clasp, substantially as and for the purpose set forth.

4. The combination of the inclined end of the spring-shank C, tongue G, having perforated end flange and binding side flanges, laterally-shifting clasp F, and set-screw *g*, substantially as specified.

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Witnesses:
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