

(No Model.)

E. W. SOUTH.

MACHINE FOR FILING GIN SAWS.

No. 254,400.

Patented Feb. 28, 1882.

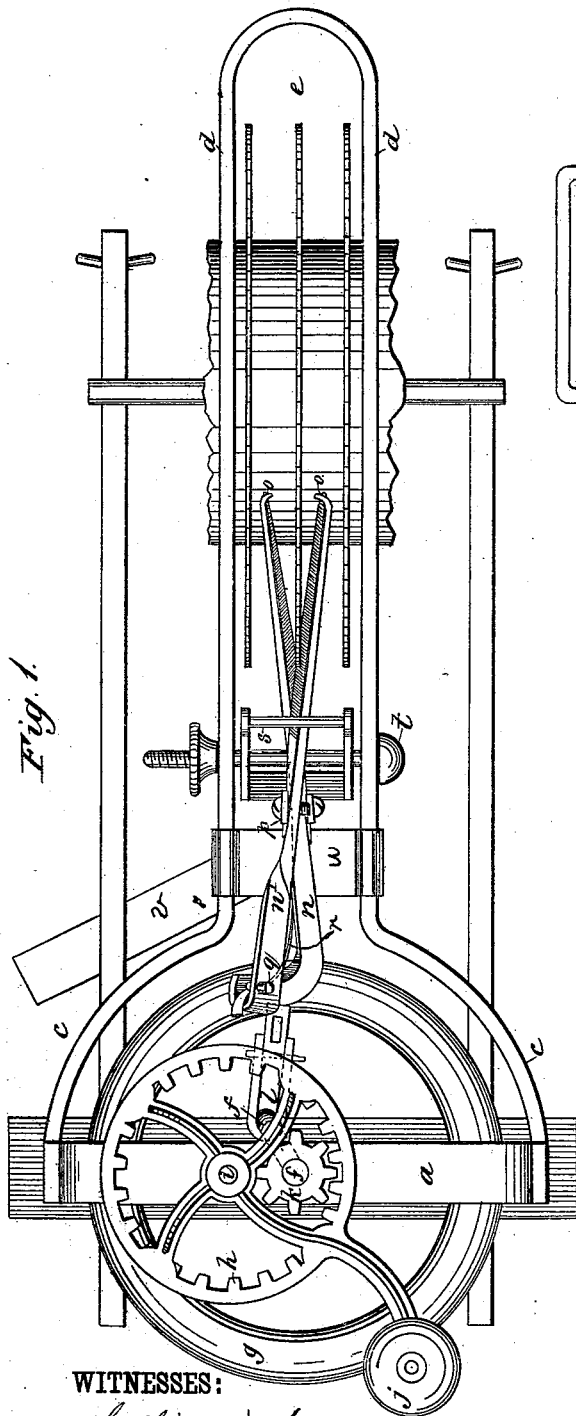


Fig. 1.

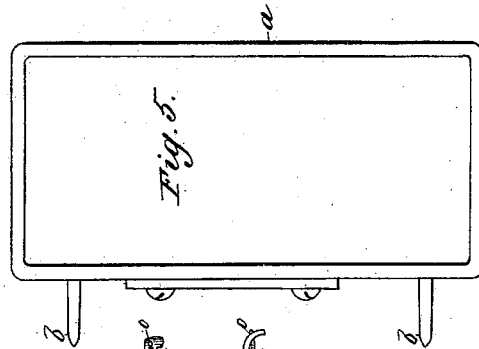


Fig. 5.

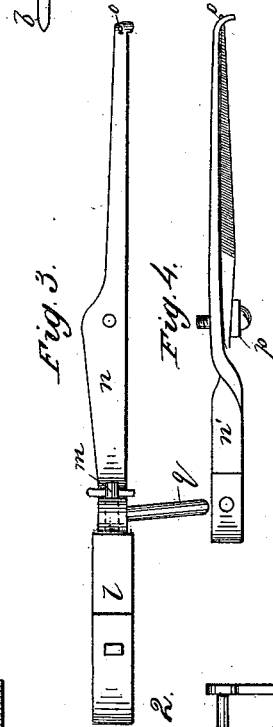
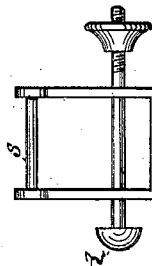


Fig. 3.

Fig. 4.

Fig. 2.



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MACHINE FOR FILING GIN-SAWS.

SPECIFICATION forming part of Letters Patent No. 254,400, dated February 28, 1882.

Application filed November 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, ELIAS WHITFIELD SOUTH, of Anderson Court-House, in the county of Anderson and State of South Carolina, have invented a new and Improved Gin-Saw-Filing Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my improved gin-saw-filing machine, and Figs. 2, 3, 4, and 5 are detail views of the same.

My invention relates to gin-saw-filing machines; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully set forth.

In the accompanying drawings, *a* represents a vertical rectangular frame, provided with pointed pins *b*, projecting from its under part, adapted to catch in a plank to hold the machine steady while the files are operated.

c c represent two curved arms, bolted at their ends to the upright arms of the rectangular frame *a*, opposite each other, and forming nearly a semicircle, and provided at their outer ends with two parallel straight arms, *d d*, with a slot, *e*, between them for the introduction of several of the saws of the saw-cylinder to be sharpened, the latter being removed from the gin-frame and supported horizontally on trestles or in other suitable manner. The outer ends of the arms *d* are curved and joined together, as shown in the drawings.

f represents a cranked shaft journaled in the parallel horizontal sides of the frame *a*, and provided with a fly-wheel, *g*, of the usual construction.

h represents an interiorly-gear wheel journaled on a short vertical shaft, *i*, projecting from the upper horizontal bar of the frame *a*, and provided with a handle, *j*, by means of which a rotary motion is imparted to the gear-wheel *h*, which meshes with a small pinion, *k*, fast on the upper end of the crank-shaft *f*, and imparts a rapid rotary motion to the latter.

l represents a short pitman journaled to the crank of the crank-shaft *f* in the usual manner. The outer end of the pitman *l* is provided with a journal, *m*, which passes through a hole in the curved inner end of the lower

file-holder, *n*, and is secured thereto by a pin or other suitable device. The lower file-holder, *n*, is curved at its outer end and provided with a hole, *o*, for the reception of the outer end of a three-cornered file, the latter lying against the holder and secured to it near its rear end by means of a cap, *p*, provided with a hole, through which a screw passes and thence through a hole in the lower file-holder. By this construction a file may readily be inserted or removed, when desired. The inner curved end of the lower file-holder, *n*, is provided with a projecting pin, *q*, which passes through opposite holes in the curved rear end of the upper file-holder, *n'*, which is constructed in a similar manner to the lower file-holder, and carries a file secured thereto in the same manner as described for the lower file-holder. It will be seen that by this construction the upper file-holder is pivoted or hinged to the lower holder at its rear curved end, and that the files cross each other.

r represents a flat or other spring, the rear end of which is inserted between the pin *q* and the bent end of the upper file-holder, *n'*, the opposite end of the spring *r* bearing against the lower file-holder, *n*, whereby the files are kept pressed together when in operation.

s represents a loose guide for the file-holders, consisting of an angular piece of metal of the form of a staple provided with a roller in its upper end and pivoted between the arms *d* by the bolt *t*, the file-holders passing through the loose guide.

u represents a strap secured to one or both of the arms *d*, and provided with a stirrup or treadle, *v*, at its lower end to hold the machine down to its work.

The operation of the machine is as follows: The saw-cylinder to be sharpened is removed from the gin and supported horizontally on trestles, or in any other suitable manner, a plank being laid across the trestles on one side of the saw-cylinder for the support of the machine on which the frame *a* rests, the pins on the under side of the latter catching in the plank and holding the machine in position, with several saws projecting through the slot between the arms. The handle is then turned and the ends of the files made to embrace a tooth of the gin-saw to be filed. The treadle-

strap is then tightened and power applied, when a rapid reciprocating and vibratory motion is imparted to the files filing the tooth on both sides, the gin-saw being held stationary during the filing of a tooth by the strap and treadle *v*. When a tooth is sufficiently filed the pressure of the foot on the treadle is lessened, when the forward and vibratory movement of the files grasping the saw turns it one tooth, the pressure on the saw-cylinder being lessened. The pressure of the foot on the treadle is then increased, holding the saw stationary, and a second tooth is filed, and so on for the remainder.

It will be seen that in my construction no special device is requisite to move the saw-cylinder a tooth after a tooth has been filed, the reciprocating and vibratory movement of the files moving the saw-cylinder one tooth, when the pressure on the saw-cylinder is lessened, thus constituting an automatic take-up.

What I claim as new is—

1. The combination, with the file-holders *n n'*, provided with a spring, *r*, pressing the files together, and pivoted to each other at their inner ends and crossing each other, and operated by mechanism, substantially as described, to impart a reciprocating and vibratory motion to the files, of the frame *a c d*, substantially as described, and for the purpose set forth.

2. The combination, with the file-holders *n n'*, provided with a spring, *r*, and pivoted to

each other at their inner ends, and operated by mechanism, substantially as described, of the frame *a c d*, pivoted guide *s*, and strap *u*, provided with a stirrup or treadle, *v*, substantially as described, and for the purpose set forth.

3. The combination, with the file-holders *n n'*, pivoted to each other at their inner ends, crossing each other, and provided with a spring, *r*, of the pitman *l*, crank-shaft *f*, and gears *h k*, whereby a reciprocating and vibratory movement is given the file-holders, substantially as described.

4. The combination of the file-holders *n n'*, constructed as set forth, spring *r*, pitman *l*, crank-shaft *f*, gears *h k*, frame *a c d*, pivoted guide *s*, and strap *u*, provided with a stirrup or treadle, substantially as described, and for the purpose set forth.

5. The combination, with the lower file-holder, *n*, curved at its inner end, and provided with the pin *g*, and also with a hole, *o*, at its curved outer end, of the upper file-holder, *n'*, pivoted to the lower file-holder at its inner end, and provided with a hole at its bent outer end, spring *r*, pressing the files together, and caps *p*, removably secured to the file-holders, substantially as described, and for the purpose described.

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Witnesses:

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