F. CHARTER.

GIN SAW FILER.

No. 180,547. Patented Aug. 1, 1876.

Fig. 1

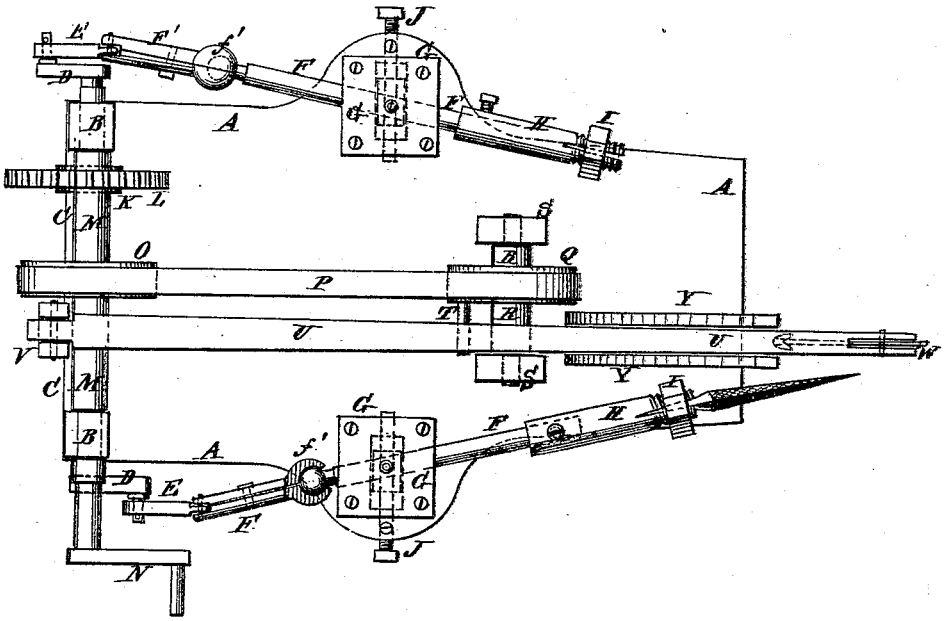
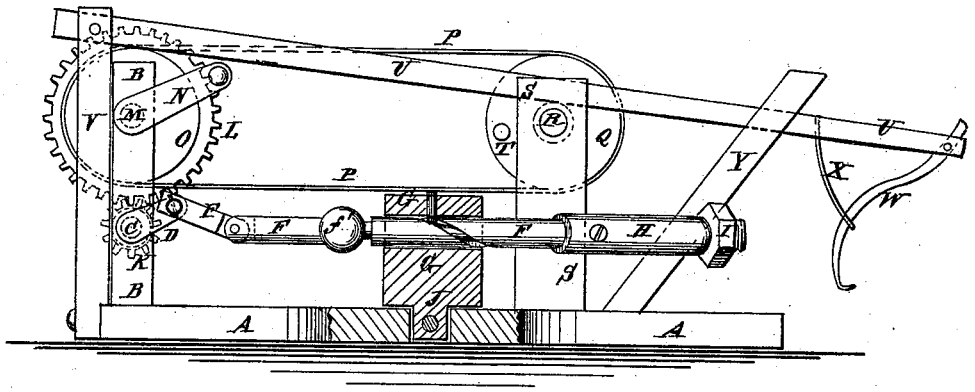


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK CHARTER, OF LITTLE ROCK, ARKANSAS.

IMPROVEMENT IN GIN-SAW FILERS.

Specification forming part of Letters Patent No. **180,547**, dated August 1, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, FRANK CHARTER, of Little Rock, in the county of Pulaski and State of Arkansas, have invented a new and useful Improvement in Machine for Filing Gin-Saws, of which the following is a specification:

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same, partly in section, to show the construction.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for filing gin-saws without removing the saw-shaft from its frame, and in such a way as not to leave angular or wiry edges upon the surface of the saw-teeth, to cut, chop, or nap the cotton fiber, and thus injure it.

The invention consists in the combination of the shafts, the gear-wheels, the cranks, the connecting-rods, the sliding rods, provided with a universal joint and a spiral groove, the adjustable bearings, provided with a pin or feather, and the file-holders, with each other and the standards and the bed-plate; and in the combination of the pulleys and band, the pin, the pivoted bar, the pawl, and the guide-loop with the shaft that drives the files, as hereinafter fully described.

A is the bed-plate or frame of the machine, to the rear part of which are attached two standards, B, in the lower part of which revolves a shaft, C.

To the ends of the shaft C are attached two cranks, D, to which are pivoted the ends of two short connecting-rods, E. The other ends of the connecting-rods E are pivoted to the ends of the rods F, which are made in two parts, connected by a ball-and-socket joint, *f'*.

The forward parts of the rods F slide in bearings G, and have spiral grooves formed in them, to receive a pin or feather attached to or formed upon the said bearings, to give the said rods a rotary motion as they slide forward and back in said bearings.

To the forward ends of the rods F are attached the file-holders, consisting of the clamps H and the nuts I, by which said clamps are made to grasp the shank of the files.

The bases of the bearings G slide in slots in the bed-plate A, and are held in place and adjusted by screws J, so that the position of the files may be adjusted, as the construction of the gin-saws to be operated upon may require, to bring the said files into proper position upon the teeth of said gin-saws.

To the shaft C is attached a small gear-wheel, K, the teeth of which mesh into the teeth of a larger gear-wheel, L, attached to the shaft M. The shaft M revolves in bearings in the upper part of the standards B, and to its end is attached the crank N, by means of which motion is given to the machine.

To the shaft M is attached a pulley, O, around which passes a band, P. The band P also passes around a pulley, Q, attached to a short shaft, R, the journals of which revolve in standards S, attached to the forward part of the bed-plate A.

To the side of the pulley Q is attached a pin, T, which, at each revolution of said pulley, strikes against and raises the bar U. The bar U rests upon the shaft R, and its rear end is pivoted to a standard, Y, attached to the rear end of the bed-plate A.

To the forward end of the bar U is pivoted a hook-pawl, W, which passes through a guide-loop, X, attached to the said bar U, and hangs in such a position as to take hold of the teeth of the gin-saw and turn it through the space of one tooth each time the bar U is raised by the pin T.

The bar U is kept from lateral movement by guides Y, attached to the bed-plate A, and between which the said bar works.

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

1. The combination of the shafts M C, the gear-wheels L K, the cranks N D, the connecting-rods E, the sliding rods F, provided with a ball-and-socket joint and a spiral groove, the adjustable bearings G J, provided with a pin or feather, and the file-holders H I, with each other and the standards B and the bed-plate A, substantially as herein shown and described.

2. The combination of the pulleys and band O Q P, the pin T, the pivoted bar U, the pawl W, and the guide-loop X with the shaft M, that drives the files, substantially as herein shown and described.

FRANK CHARTER.

Witnesses:
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