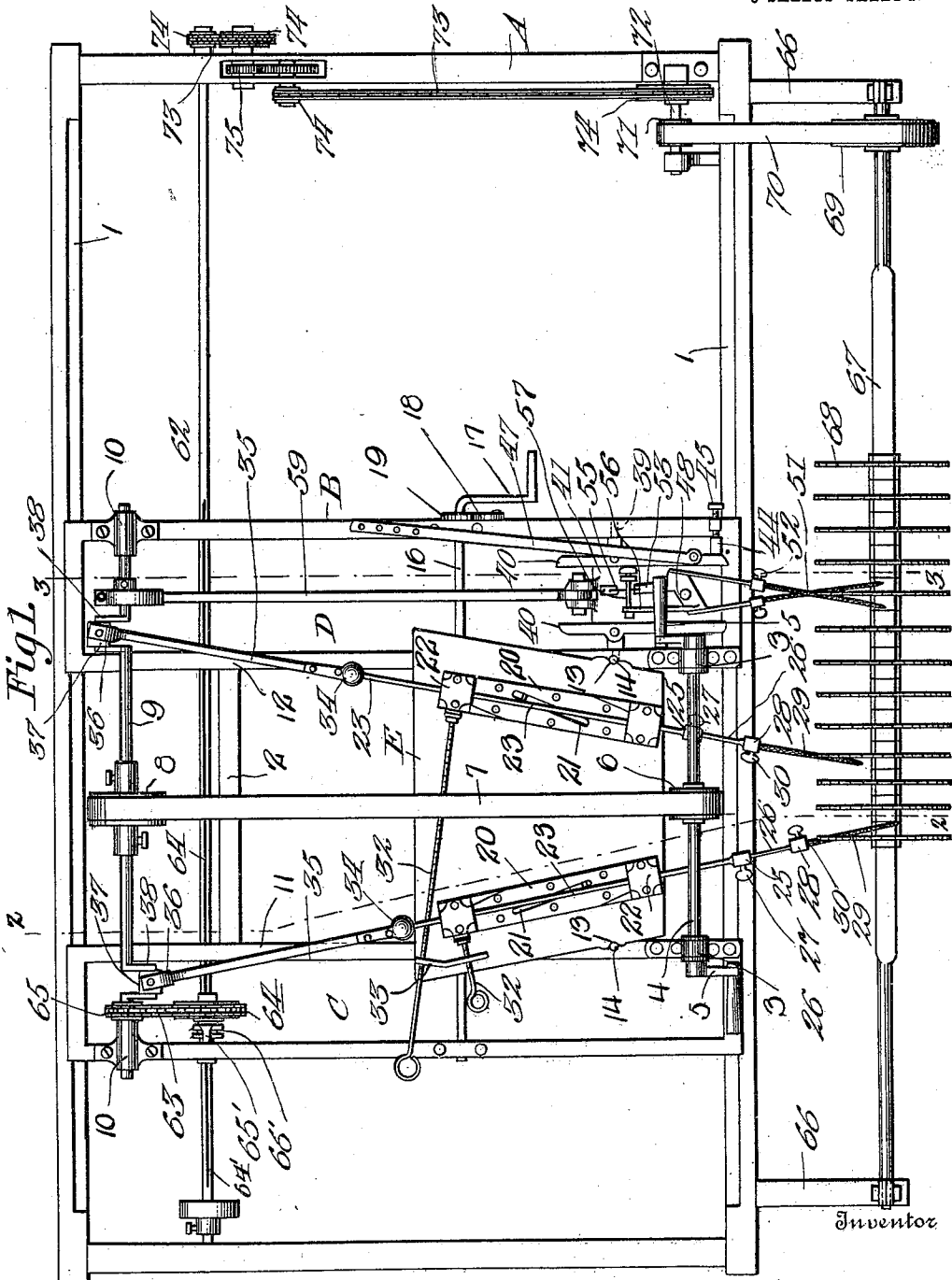


H. SEIFERT.
SAW FILING MACHINE.
APPLICATION FILED JUNE 3, 1910.

979,892.

Patented Dec. 27, 1910.

3 SHEETS-SHEET 1.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

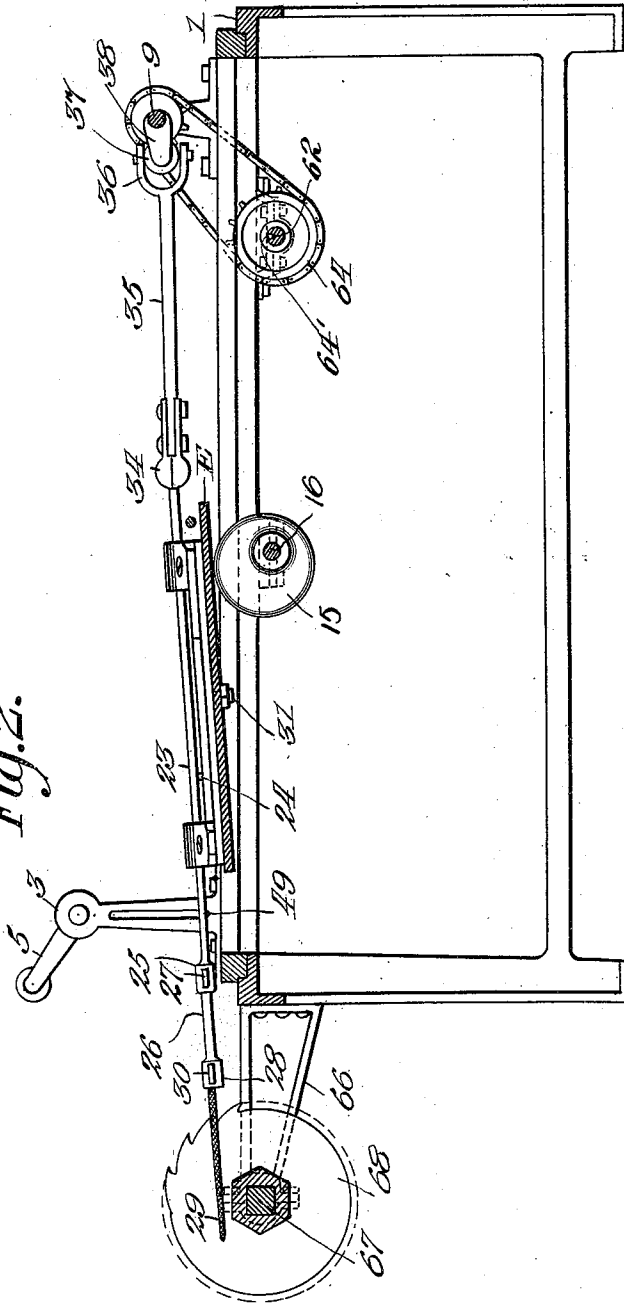
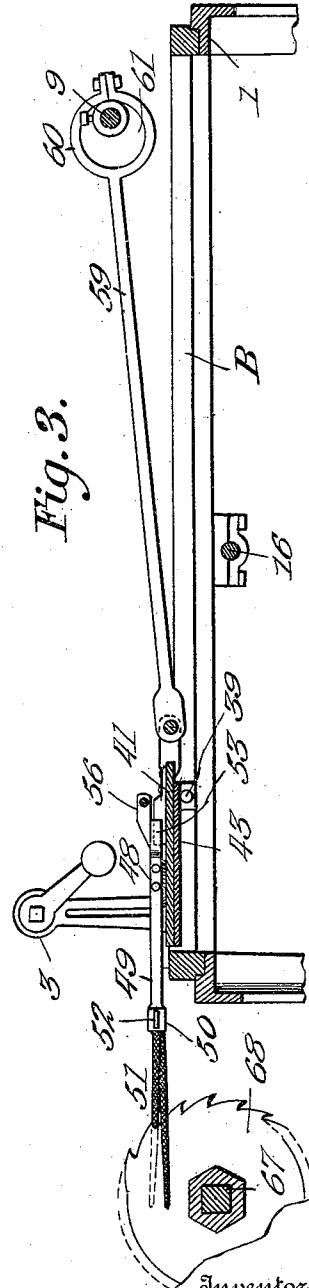


Fig. 3.



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3 SHEETS—SHEET 3.

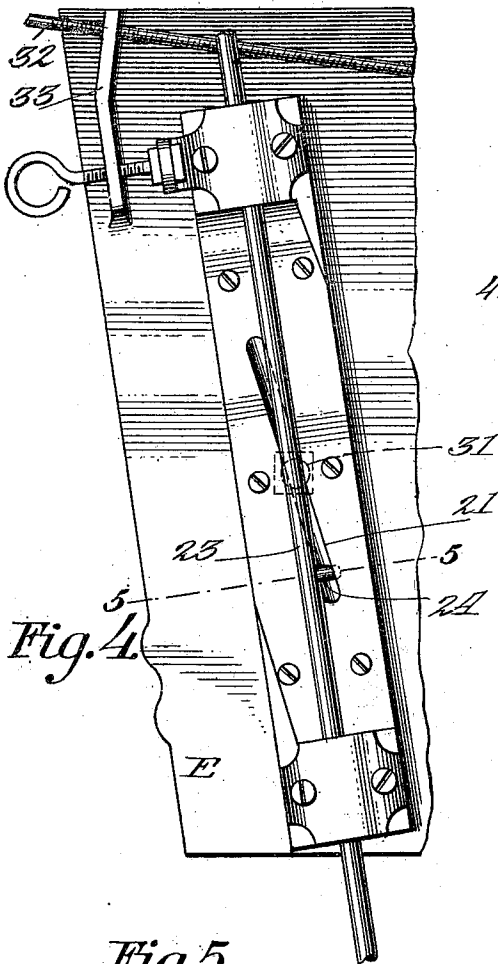


Fig. 5.

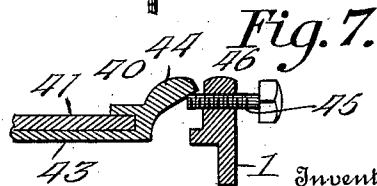
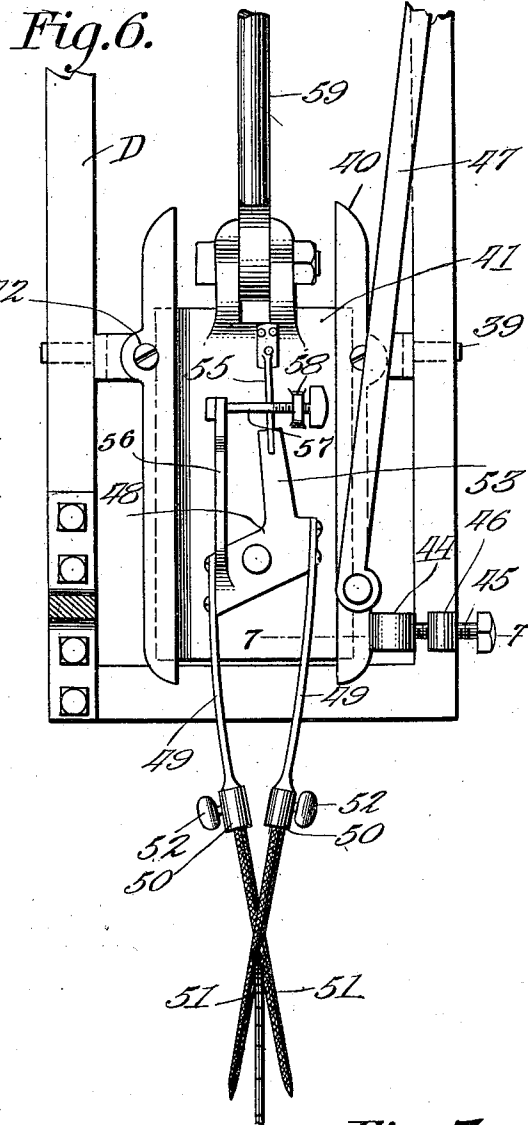
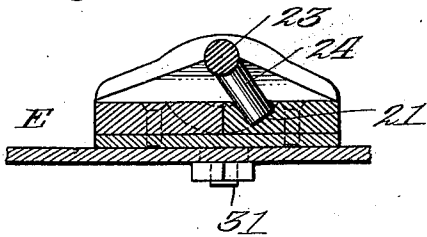


Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY SEIFERT, OF WEIMAR, TEXAS.

SAW-FILING MACHINE.

979,892.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed June 3, 1910. Serial No. 564,832.

To all whom it may concern:

Be it known that I, HENRY SEIFERT, a citizen of the United States, residing at Weimar, in the county of Colorado and State of Texas, have invented new and useful Improvements in Saw-Filing Machines, of which the following is a specification.

This invention relates to saw filing machines, and it has particular reference to a machine for filing and sharpening the saws of cotton gins, linters and the like.

One object of the invention is to produce a simple and improved machine having sets of files, whereby the saw teeth may be lengthened and subsequently pointed.

A further object of the invention is to provide simple and improved means whereby the respective files may be conveniently tilted or adjusted to proper position for operation.

Further objects of the invention are to simplify and improve the general construction and operation of a machine of the class specified.

With these and other ends in view, which will be apparent as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the detailed construction therein shown, but that changes, and modifications, within the scope of the invention, may be resorted to when desired.

In the drawing, Figure 1 is a top plan view of a machine constructed in accordance with the invention. Fig. 2 is a vertical sectional view taken on the plane indicated by the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a detail top plan view, enlarged, of the supporting and guiding means for one of the tooth pointing files. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 4. Fig. 6 is a detail plan view, enlarged, of the tooth lengthening files, and the supporting and guiding means for the same. Fig. 7 is a sectional detail view taken on the line 7—7 in Fig. 6.

Corresponding parts in the several figures are denoted by like characters of reference.

The supporting frame A of the improved machine includes guide ways 1, 1 for the carriage B which latter includes two rectangular frames C and D which are connected together by means, including a cross bar 2. The carriage B is provided with bearings 3 for the driving shaft 4 which is equipped with cranks or handles 5, whereby it may be rotated. The shaft 4 carries a pulley 6 which is connected by a belt 7 with a pulley 8 upon a counter shaft 9 which is supported for rotation in bearings 10 rising from the carriage.

Suitably supported upon the inner side bars 11 and 12 of the frames C, D is a table E, said table being preferably connected with the bars 11, 12 by hinges or other suitable means which will enable the said table to be tilted to various positions; in the drawing, the side edges of the table have been shown provided with notches 13 engaging pins 14 rising from the frame bars 11, 12, the parts being thereby connected in such a manner as to enable the table to be tilted, as described. The rear end of the table is supported adjustably upon an eccentric 15 mounted upon a shaft 16 which is supported for rotation in suitable bearings upon the carriage B, said shaft having a crank handle 17 whereby it may be turned, a pawl and ratchet means 18, 19 being provided for the purpose of supporting the shaft and the eccentric, and consequently also the tilting table in adjusted position.

Suitably mounted upon the table E are guide plates 20 having obliquely disposed slots 21, said guide plates being also provided, adjacent to their front and rear ends, with bearings 22 in which the rods or shafts 23 are supported for sliding and oscillatory movement, each of said shafts being provided with a radially extending pin 24 engaging the guide slot 21 so that the rod or shaft, when reciprocated, will at the same time be rocked or oscillated in its bearings. Each of the shafts 23 has adjacent to its front end a socket 25 for the reception of one end of a spring 26 which may be secured in said socket by a set screw 27. Each of the springs 26 carries at its front end a socket 28 adapted to receive the tang of a

file 29 which may be secured in such socket by a set screw 30. The guide plates or members 20 are preferably connected with the table E by means of pivots 31. Adjusting screws 32 are provided, one of said screws having swivel connection with each guide member 20 adjacent to its rear end, and said adjusting screws being threaded through a flange 33 rising from the table. It will be seen that by means of these screws, the pitch of the guide members upon the table E may be conveniently adjusted.

The rear ends of the rods or shafts 23 are connected by ball and socket joints 34 with the forward ends of links or pitmen 35. The rear ends of said links or pitmen are bifurcated as will be more clearly seen at 36 in Fig. 2 of the drawing, said bifurcated ends being pivotally connected with sleeves 37 that are mounted for rotation upon cranks 38 formed upon the counter shaft 9, thus enabling a reciprocatory movement to be transmitted to the shafts or rods 23 without regard to the pitch or adjustment of said rods.

Adjustably connected with the frame D of the carriage B by means of pivots indicated at 39, is a frame including guide members 40 upon which a slide 41 is mounted for reciprocation. The guide members 40 are connected with the pivot pins 39 by means of screws 42, and said guide members are connected together by means of a cross member, a portion of which will be seen at 43 in Fig. 7. One of the guide members 40 has a laterally extending inclined lug 44 engaged by a screw 45 which is threaded through a lug 46 upon the frame D, thereby enabling the guide member together with the slide to be tilted to various positions. A tension spring 47 secured upon the frame or carriage engages the free end of one of the guides 40 to hold the lug 44 in engagement with the adjusting screw.

Pivotally mounted upon the slide 41 is a lever 48, the arms of which are provided with forwardly extending springs 49 having sockets 50 in which files 51 may be secured by means of set screws 52. The lever 48 also has a rearwardly extending arm 53 provided with a notch 54 to receive one end of a spring 55, the other end of which is suitably secured upon the slide 41 for the purpose of maintaining the files yieldably in saw engaging position. The lever 48 has a second rearwardly extending arm 56 wherein is swiveled one end of a screw 57, the other end of which is threaded through a lug 58 rising from the slide 41, thus enabling the lever to be positively adjusted in order to place the files in saw engaging position.

Pivotally connected with the rear end of the slide 41 is one end of a pitman 59, the other end of which has a ring or band 60

engaging an eccentric 61 mounted upon the counter shaft 9 for the purpose of imparting reciprocatory motion to the slide 41 and to the elements carried thereby.

Supported for rotation upon the frame A is a shaft 62 which is connected with the counter shaft 9 by a chain or link belt 63 engaging sprockets 64, 65 upon the shafts 62 and 9, respectively. The sprocket wheel 64 is connected for rotation with the shaft 62 by a key or spline 64', said sprocket wheel being also suitably connected with the carriage B for slidable movement with the latter by a finger 65' engaging a groove 66' in the hub of the sprocket wheel. Brackets 66 projecting forwardly from the frame A serve to support the shaft or mandrel 67 carrying the saws 68 that are to be filed.

The saw carrying mandrel has a band wheel 69 connected by a belt 70 with a pulley 71 upon a shaft 72 which is suitably supported for rotation adjacent to one corner of the frame, suitable means including chains and sprockets 73, 74, and intermeshing gears 75 being employed to transmit motion between the shafts 62 and 72. It follows that when the shaft 62 is rotated by power transmitted from the counter shaft 9 or in any other manner, rotary motion will be transmitted to the saw carrying shaft or mandrel, and it may be stated that it is intended to so time the said motion that the files actuated from the counter shaft 9 shall be permitted to reciprocate at least twice, while the saw carrying shaft moves sufficiently to cause the files to jump from one tooth to the next of the saw or saws that are being operated upon. It will furthermore be understood that owing to this gradual rotation of the saw carrying shaft, the proper shape will be imparted to the saw teeth. It is obvious that the relative speed of rotation of the saw carrying shaft may be changed or varied to any extent within the scope of the invention.

In the operation of this device, motion may be transmitted from any suitable source of power direct to the shaft 62 in which event the shaft 4 and the means for transmitting motion between said shaft and the counter shaft 9 may be dispensed with. Usually, however, it is preferred to operate the machine by hand, the operator standing in front of the saw carrying shaft in a position where he may readily rotate the shaft 4 by the cranks attached thereto and where he may conveniently watch the operation of the files and attend to the work generally.

The operation and advantages of this improved saw filing machine will be readily understood from the foregoing description, taken in connection with the drawing hereto appended, by those skilled in the art to which the invention appertains. It will be

understood that the saw engaging files, being resiliently supported, will be held in saw tooth engaging position without special attention on the part of the operator beyond the initial setting or adjusting of the files to the desired pitch. When the machine is in operation and saw carrying shaft is rotated, the files will jump automatically from one tooth to the next, and the operation may be continued until all the teeth of one saw have been filed, after which the operation is interrupted merely to shift the position of the carriage until the next saw or saws in succession are engaged by the files. The means for tilting the file carrying tables as well as the file carrying guide members in order to adjust the files at the proper pitch are simple and will be easily understood.

The entire construction of the machine is simple and inexpensive, no specially skilled labor is required for its practical operation, and the machine will be found to be in every respect thoroughly efficient for the purposes for which it is provided.

Having thus described the invention, what I claim is:

1. In a machine of the character described, a frame, a carriage movably supported thereon, a table tiltably supported upon the carriage, a shaft extending transversely below the table and having an eccentric supporting the free end of said table, obliquely slotted guide members supported pivotally upon the table and having bearings, file car-

rying rods supported in the bearings and having radially extending pins engaging the slots in the guide members, a flange rising from the table, adjusting rods threaded through the flange and having swivel connection with the guide members, a counter shaft having cranks provided with sleeves, bifurcated links pivotally engaging said sleeves, and ball and socket joints connecting said links with the file carrying rods.

2. A bed frame, a carriage movable thereon, and including a rectangular frame, suitably connected guide members pivotally connected with the rectangular frame, means for adjusting the guide members and supporting the same at various adjustments, a slide guided for reciprocation in the guide members, a lever fulcrumed upon the slide, resilient file carrying members connected with the arms of the lever, an auxiliary arm extending rearwardly from the lever and having a notch, a spring secured upon the slide and engaging the notch, a second auxiliary arm extending from the lever, and a suitably supported adjusting screw engaging said second auxiliary arm.

In testimony whereof I affix my signature in presence of witnesses.

HENRY SEIFERT.

Witnesses:

JULIUS SCHULZ,
RUDOLF GOLD,
JOE SEIFERT.