

WILLIAM BOOTH.

Improvement in Comb-Sawing Machines.

No. 124,243.

Patented March 5, 1872.

Fig. 1

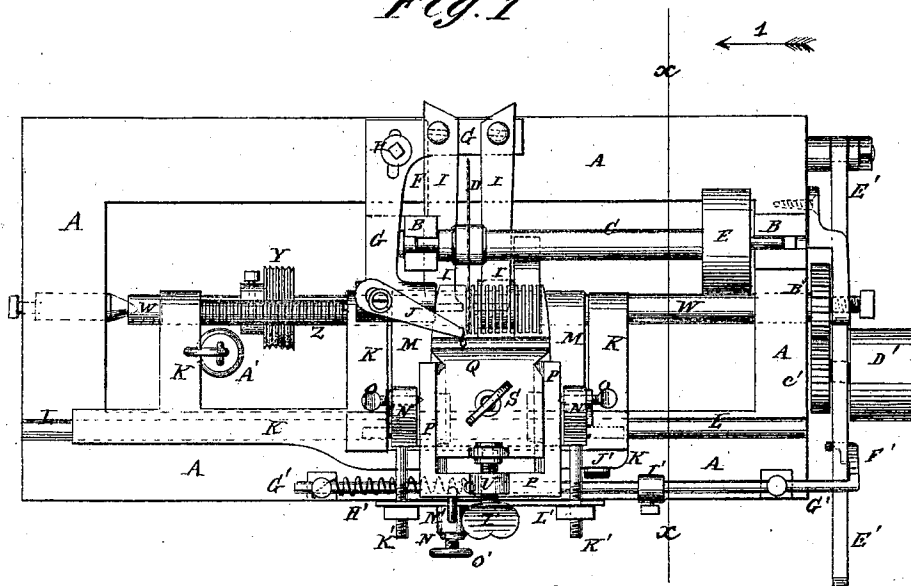


Fig. 2

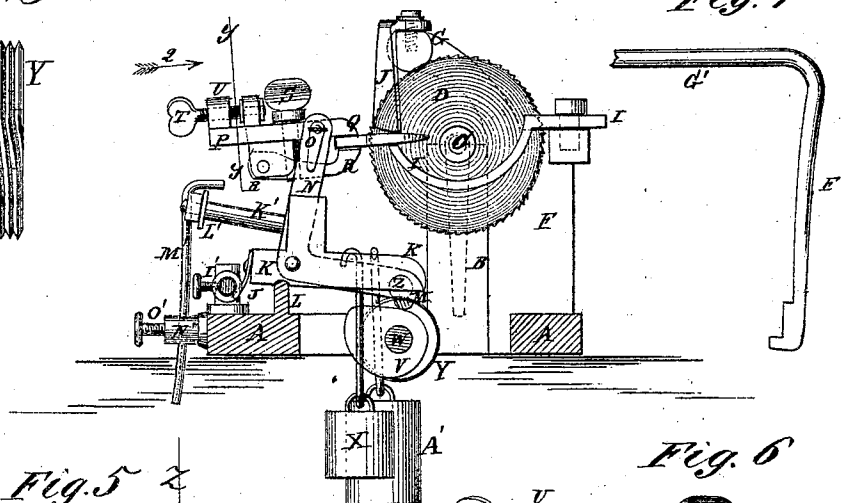


Fig. 3

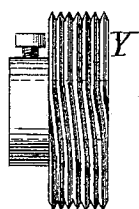


Fig. 4

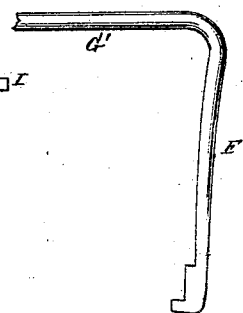


Fig. 5

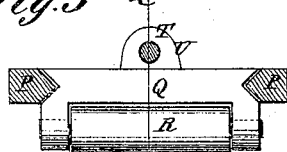
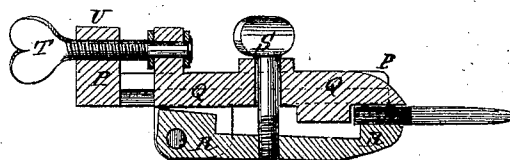


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM BOOTH, OF COLLEGE POINT, NEW YORK.

IMPROVEMENT IN COMB-SAWING MACHINES.

Specification forming part of Letters Patent No. 124,243, dated March 5, 1872.

Specification describing a new and useful Improvement in Comb-Sawing Machines, invented by WILLIAM BOOTH, of College Point, in the county of Queens and State of New York.

Figure 1 is a top view of my improved machine. Fig. 2 is a detail vertical cross-section of the same taken through the line *x x*, Fig. 1, and looking in the direction of arrow 1. Fig. 3 is a detail side view of the screw-shifting wheel. Fig. 4 is a detail side view of the trip-arm. Fig. 5 is a detail section of the holder taken through the line *y y*, Fig. 2, and looking in the direction of arrow 2. Fig. 6 is a detail section of the holder taken through the line *z z*, Fig. 5.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of comb-sawing machines, so as to make them more convenient in use, and more effective and reliable in operation; and it consists in the construction and combination of various parts of the machine, as hereinafter more fully described.

A is the frame of the machine, to which are attached two uprights, B, in bearings in the upper ends of which revolve the journals of the shaft or mandrel C, to which the saw D is attached, and which is driven by a belt passed around the pulley E, attached to the said shaft or mandrel C. To the frame A is attached an upright, F, to the upper end of which is attached a bracket, G, by a bolt, H, which passes through a slot in the foot or plate of the said bracket G, so that the said bracket may be adjusted, as required. To the lower arm of the bracket G are attached the lower guards I, and to its upper arm is attached the upper guard J. The guards I J keep the comb in proper position as it is fed forward to and back from the saw D. K is a frame, in the under side of the rear part of which is formed a groove to receive and slide upon a tongue, L, formed upon or attached to the rear part of the frame A. M is a platform, which is pivoted at or near its rear edge to cross-bars or arms of the frame K. To the platform M at or near its pivoting points are attached the lower ends of two uprights, N, through the upper ends of which pass the screw-centers O, upon the points of which is pivoted the frame or

clamp-holder P, the inner sides of the side bars or arms of which are made V-shape to enter V-shaped grooves in the side edges of the upper jaw or plate Q of the clamp. To lugs formed upon the rear part of the side edges of the jaw or plate Q is pivoted the rear part of the side edges of the lower jaw R. The lower jaw R is drawn up to the upper jaw Q to clamp the comb to be sawn by the screw S, which passes through the jaw Q, and enters the jaw R, as shown in Figs. 2 and 6. The clamp Q R is moved forward and back in the holder P to adjust it by the screw T, which is swiveled to the clamp Q R, and passes through a screw-nut, *v*, rigidly attached to or formed solidly upon the holder P, as shown in Figs. 1, 2, and 6. By this construction, as the forward part of the platform M moves up the comb is withdrawn from the saw D, and as it is moved down the comb is fed forward to the saw. The platform M rests upon the cam V attached to the shaft W, and is held down upon the said cam so as to move up and down as the cam revolves, by a weight, X, suspended from the said platform, as shown in Fig. 2. The shaft W revolves in bearings in the frame A, and to it is attached a wheel, Y, which has threads cut upon its face. The threads of the wheel Y are made circular, or at right angles with the axis of said wheel, except upon one side, where they are made with an offset pitch or incline, as shown in Fig. 3. The threads of the screw or shift-wheel Y mesh into the threads of a stationary screw, Z, attached to the forward part of the frame K, and which is held down upon the screw-wheel Y by a weight, A', suspended from said frame, as shown in Figs. 1 and 2. By this construction, at each revolution of the shaft W, to which the cam V and screw-wheel Y are attached, the frame K and all its attachments will be moved laterally for a distance equal to the space occupied by one thread, which should be a space equal to the breadth of the saw-kerf and of one tooth of the comb. The cam V and shift-wheel Y should be so arranged that the shift may occur while the comb is withdrawn from the saw D. To one end of the shaft W is attached a gear-wheel, B', into the teeth of which mesh the teeth of the gear-wheel C', which is attached to the journal of the drive-pulley D', which is pivoted to a lever, E', one end of which is pivoted

ed to the frame A. The free end of the lever E' is supported by notches in the arm F', formed upon or attached to the bar or rod G'. By this construction, when the lever E' is in the upper notch of the arm F', the gear-wheels B' C' will be in gear, and when said lever is in the lower notch of said arm the said gear-wheels will be out of gear with each other. The arm F' is held against the lever E' by a spring, H', one end of which is attached to the rod G', and its other end to the frame A. To the rod G' is adjustably attached a collar, I', against which strikes an arm, J', attached to the frame K, to move the rod G' and arm F' outward, and thus throw the machine out of gear automatically by allowing the lever E' to drop to the lower notch of the arm F' when the frame K reaches a certain point in its lateral movement. To the rear sides of the uprights N are attached rearwardly-projecting arms K', to the outer ends of which are attached a bar, L', the upper edge of which is curved to correspond with the curve of the comb being sawn. M' is a rod, having a hook formed upon its upper end. The rod M' passes down through a holder, N', attached to the frame A, where it is adjustably secured in place by a set-screw, O', so that by adjusting the rod M' at any desired point the drop of the platform M, and consequently the depth of the saw-cut in the comb, may be limited, as desired.

In the ordinary comb-sawing machine the shift screw-thread is cut upon the cam V, and consequently when the descent of the platform M is limited by the stop-rod M' the platform

will be held up from the cam V for a part of its revolution, leaving the frame K and all its attachments free to slip upon the frame A. This difficulty is wholly removed by my improvement, which, by connecting the shift with the frame K, always holds said frame and its attachments securely against slipping or lateral movement, except when moved by the shifting device.

I have been using the machine patented to William Noyes, June 7, 1849, for the past eleven years, and desire to disclaim each and every device therein shown and described as any part of my invention.

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

1. The circular shift-wheel Y, constructed as herein shown and described, in combination with the driving-shaft W and stationary screw Z, attached to the frame K, that carries the pivoted platform M, clamp-holder P, and comb-clamp Q R, substantially as and for the purpose herein set forth and described.

2. The combination of the clamp-holder P, clamp Q R, clamping-screw S, and swiveled adjusting-screw T with each other, said parts being constructed and operating substantially as herein shown and described, and for the purposes set forth.

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