G. F. H. Brown,

Making Combs.

No. 80,855. Patented Aug. 11, 1868.

Fig: 1

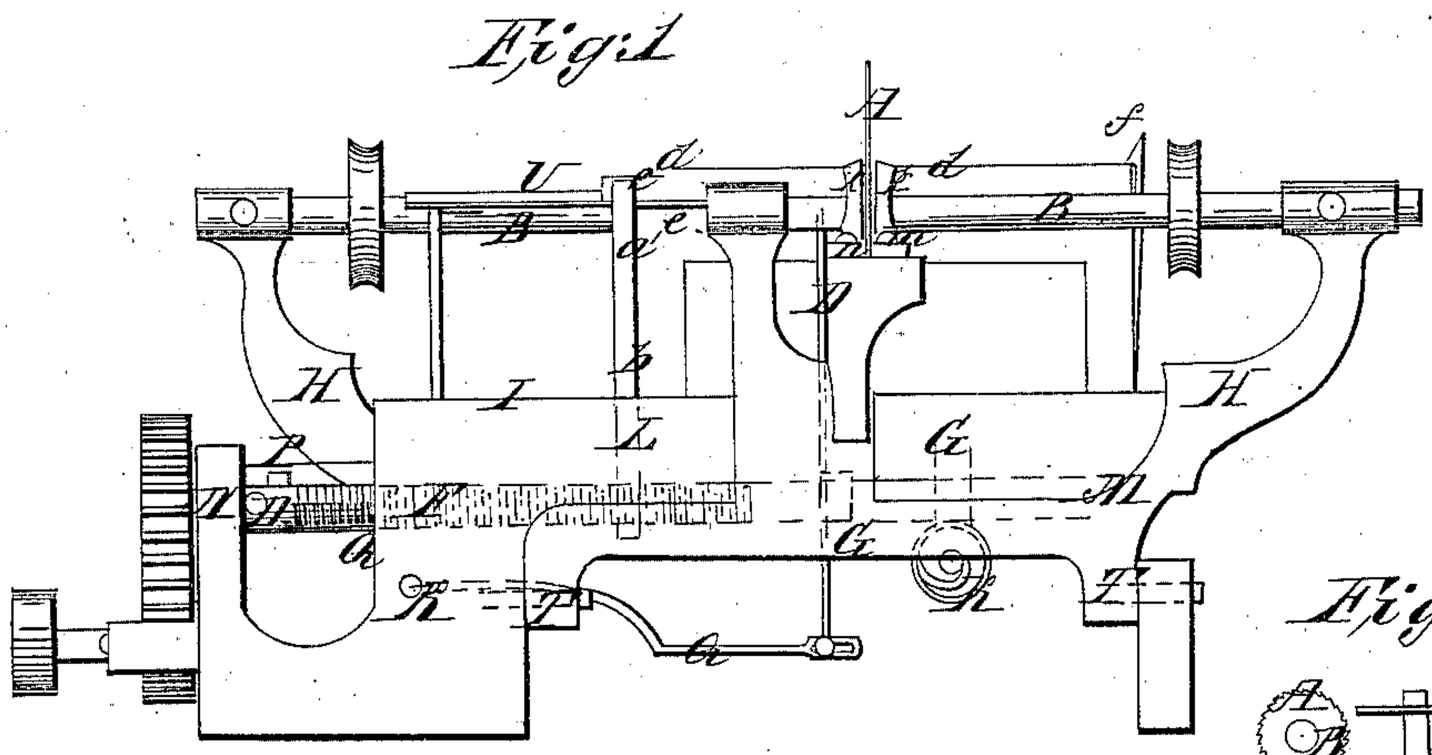


Fig: 3.

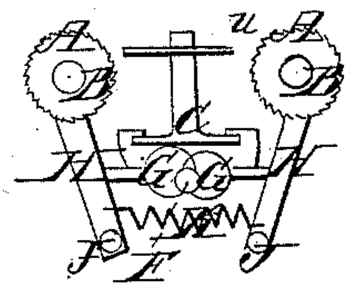


Fig: 2.

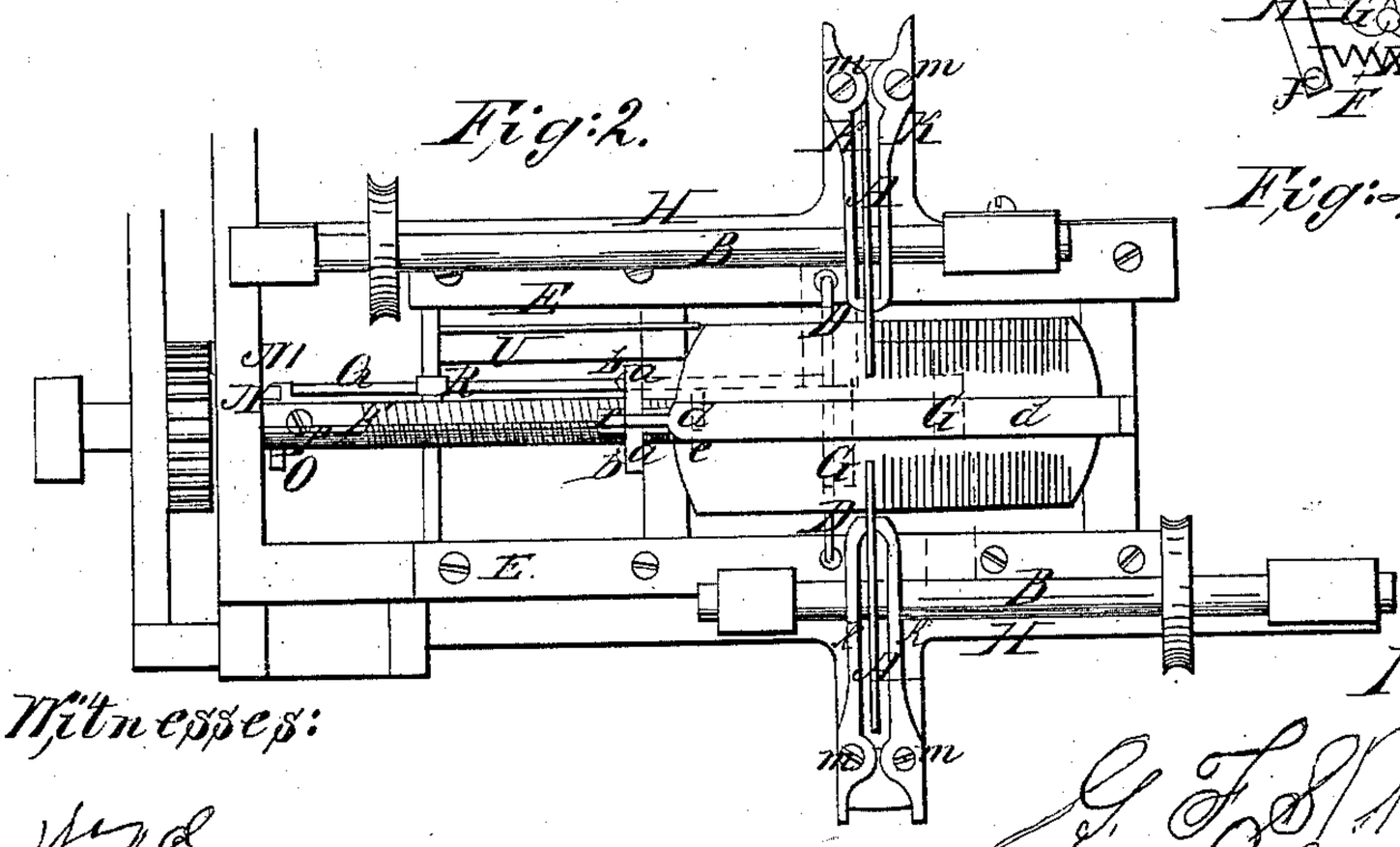
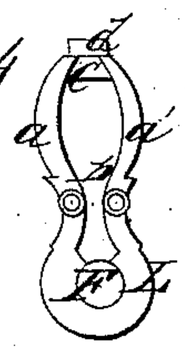


Fig: 4



Witnesses:

W. H. Dawson

E. P. Richmond

Inventor:

G. F. H. Brown.

per Sanderson & Hyde

Attys.

United States Patent Office.

GEORGE F. H. BROWN, OF LEOMINSTER, MASSACHUSETTS, ASSIGNOR TO THE UNION COMB COMPANY, OF SAME PLACE.

Letters Patent No. 80,855, *dated August* 11, 1868.

IMPROVEMENT IN MACHINES FOR SAWING COMBS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE F. H. BROWN, of Leominster, county of Worcester, Commonwealth of Massachusetts, have invented a new and useful Improved Comb-Sawing Machine; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the drawings—

Figure 1 is a side view,

Figure 2 a plan view, and

Figure 3 an end view of my device.

This invention consists of a new and useful arrangement for the purpose of sawing out combs, so as to make the teeth on each side at the same time.

In construction, it is formed with two circular saws, A and A′, which are set upon spindles, B and B′, and operated by belts working each of these spindles independently.

A carrier, C, is arranged between these saws, for the purpose of supporting the stock and shifting it to the action of the saws. The peculiar construction of this carrier will be hereafter described.

Pointers D and D′ are arranged so as to cut the edge of the stock into nicks, and this is done just before the saws enter at this part, the carrier transporting the stock the distance of one tooth each time, and the pointers being that distance ahead of the saws.

The motion required to be given to the carrier with the stock is a succession of movements the distance of one tooth width, with time enough between for the saws to enter and recede.

For this purpose, the carrier is constructed as follows:

It slides in ways E and E′ in the bed of the machine, and is operated by means of a horizontal shaft running through the machine, and having its bearings at each end. This shaft, F, is equidistant from each saw, and has eccentrics, G G′, &c., on it, for the purpose of throwing in and out the saw-frames H H, &c., which are hinged at their lower sides, at J, and are kept in by means of a spring, K, connecting them. The other part of the shaft F is threaded, and works the carrier C along by means of a clamp-nut, L, on the latter, this nut consisting of two levers, and arranged as hereafter shown.

On the side of one of the bearings M of the shaft is a cam, N, which works in connection with a pin, O, in the shaft at this point, to throw the shaft, and with it the carrier, the distance of the width of one tooth of the comb away from the bearing, the pin O striking against this cam as the shaft revolves. Another pin, P, operates the pointers, throwing them up when the shaft revolves, and the pin P strikes against the lever Q, and presses it down, it being pivoted at R, and having the pointers attached to the other end.

The clamp-nut L consists of two pieces, *a* and *a′*, each pinned at the centre, on the end of the carrier, at *b*, the lower ends being threaded, and meshing with the threads on the shaft F, and the upper ends being operated by means of a cam, *c*, on the end of a lever, *d*. This lever *d* performs the function of holding the stock upon the carrier, being hinged at one end, at *e*, and latched, when shut down on the stock, by means of a latch, *f*, on the other end of the carrier.

When shut down, the cam-end *c* is thrown up, and presses the upper ends of the nut-levers *a* and *a′* apart, clamping the lower ones with the threads against the screw of the shaft on each side, but when the lever *d* is unlatched, the carrier may be slid over the shaft F without the nut L being operative. A gauge, U, at one side, enables the stock to be equally adjusted upon the carrier.

The operation of this is as follows:

The carrier is slid back to the position shown in fig. 1, the stock is placed upon the carrier, and the lever latched down, clamping the nut on the shaft. The latter revolving, is thrown back by the screw on it, (the carrier acting, by reason of its superior friction, as a set-nut,) until the pin O strikes against the cam N, and,

overcoming the friction of the carrier, throws it forward a little distance, the shaft immediately working back after the pin O has passed the cam N, and during which time the saws are thrown in, cutting their splits, and the pointers are thrown up, cutting the nicks for the next cut of the saws to commence with. As soon as the saws have cut their way and are thrown out again, the pin O has again reached the cam N, and the operation is repeated.

Set-levers *k* and *k*, &c., are arranged on each side of the saws, to keep them true, and these are operated by means of their screw-pivots, *m m*, &c.

The advantages of this device are that I obtain a compact automatic machine, easily managed, and cutting both sides of the comb at once.

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

1. The combination of the shaft F, having the cams or eccentrics G and G′ on it, and the two saw-frames H and H′, with saws A and A′, for the purpose of cutting both sides of a comb at the same time, the parts being constructed and arranged substantially as shown.

2. In combination with the saws A and A′, the automatic arrangement of the pointers D and D′, substantially as and for the purpose shown.

G. F. H. BROWN.

Witnesses:

C. H. MERRIAM,

W. H. REED.