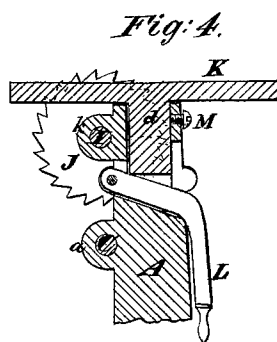
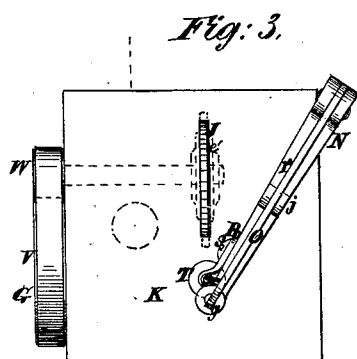
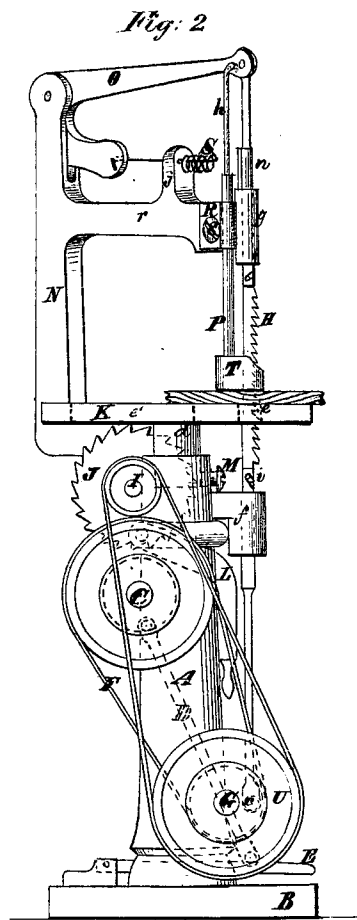
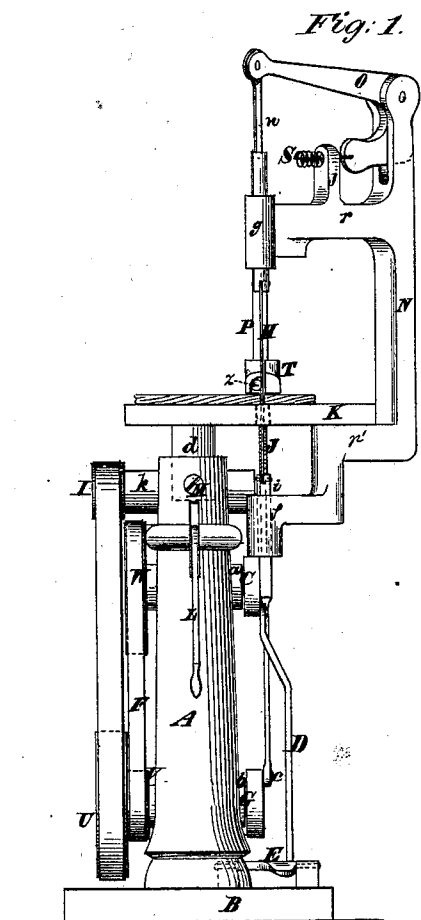


G. SANFORD.
Improvement in Sawing-Machines.
No. 126,580. Patented May 7, 1872.



Witnesses:
Fred. H. H. H.
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UNITED STATES PATENT OFFICE.

GELSTON SANFORD, OF BERGEN POINT, NEW JERSEY.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 126,580, dated May 7, 1872.

Specification of an Improved Sawing-Machine, invented by GELSTON SANFORD, of Bergen Point, in the county of Hudson, and State of New Jersey.

The first part of this invention relates to the arrangement in the same machine of a jig-saw and a circular; and consists in a novel combination and arrangement of said saws and their appurtenances, and of a table capable of being elevated or lowered to provide for using either saw, whereby a compact and portable machine, very handy for light work, is obtained. The invention further consists in the combination and arrangement on the saw-frame of a bell-crank or angle-lever and spring, whereby a very compact arrangement is made to produce a very efficient and uniform tension on the saw.

In the accompanying drawing, Figure 1 is a front view of the machine constructed according to my invention. Fig. 2 is a side view of the same; Fig. 3, a plan or top view thereof; and Fig. 4 is a vertical section of a portion of the machine, showing the mechanism for raising the table.

Similar letters of reference indicate corresponding parts in the several figures.

A is a column, which is secured to or formed on a base or bed-plate, B. It has formed on its upper portion a long journal-box, *a*, forming the bearing for the driving-shaft C, one end of which is connected by a crank and lever, D, with a treadle, E, and the other carries a pulley from which a belt, F, runs on a pulley, U, on a shaft, G, supported in a long journal-box, *b*, formed on the lower portion of the said column. This shaft G, through the medium of a crank, *c*, on one of its ends, effects the operation of the jig-saw H, and also serves, through a pulley, V, on one end and a belt running therefrom to a pulley, W, on the circular-saw shaft I, to drive the circular saw J. This shaft I works in a long journal-box, *k*, secured to the column A above the box *a*. The upper portion of said column is made hollow to form a socket for the reception of a shank or stem, *d*, on the under side of the table K of the machine, and below this shank has attached to it, by the fulcrum-pin, a bent lever, L, which works through a slot in the column and impinges against the bottom of the said shank. The lever is raised or depressed to

elevate the table or allow it to be lowered. The table is secured in any position by means of a set-screw, M, impinging against its shank. The table K has an opening, *e*, in it suitable for the passage of the jig-saw H, and behind the opening, directly in line with it, a slot, *e'*, for the passage of the circular saw J. The saw-frame N *r r'*, which is made in one piece, is secured to the under side of the table. It consists of an upright standard, N, with two arms, *r r'*, the lower one, *r'*, of which is bolted to the under side of the table, and has formed on its extremity the lower guide *f* for the jig-saw, and the upper one, *r*, has at its extremity the upper guide *g* for said saw. To the upper end of the standard there is pivoted a bell-crank or elbow-lever, O, to a rod, *n*, depending from the outer end of which the upper end of the saw is attached by hooking it on or in any other suitable manner. The lower end of the saw is similarly attached to a rod, *i*, connected to the crank *c* on the shaft G. The tension is produced on the saw, or the latter strained by means of a spring, S, bearing against a projection, *j*, on the arm *r* of the saw-frame, and connected with the short arm of the bell-crank or angle-lever O, in such manner that the down stroke of the jig-saw, by causing the depression of the long arm of the lever, effects the compression of said spring. The expansion of the spring effects the up stroke of the saw when permitted by the revolution of the crank *c*. The spring is represented as a spiral metallic one, but a rubber spring might be used and would perhaps be the best. The barrel P of the air-pump or blower, which blows away the sawdust brought up by the upward passage of the saw through the kerf, is adjustably secured to the arm *r* of the frame by being clamped to it by a plate, R, and a screw, *s*, which attaches said plate to the arm. To the lower end of this barrel, which consists simply of a piece of tubing, the presser-foot T is secured, so that the said barrel forms the stem of the presser. The foot has a hole, *z*, in its side, with which the outlet of the pump communicates. The plunger *h* of this pump is attached to the long arm of the lever O and is worked thereby.

To use the jig-saw the table K is sufficiently elevated by raising the lever L to prevent the circular saw from projecting through it, and

is so secured by screwing up the set-screw M. The belt which drives the circular saw may be then thrown off. The jig-saw is then used in the ordinary manner. The presser-foot can be adjusted to work of any thickness by loosening the clamping-plate, and shifting the bellows or pump-barrel to which said presser-foot is attached. The down stroke of the saw is effected by the crank *c* on the shaft G, and by drawing down the lever O the spring S is compressed, so that its expansion effects the up stroke of the saw while the crank *c* makes the upper half of its revolution. To use the circular saw J the table K is lowered to enable the saw to project through it, and its belt is thrown on and the jig-saw is detached by unhooking it from its rods *n* and *i*. The circular saw is then used in the ordinary manner.

By this construction of the machine a portable and compact arrangement of circular and jig-saw is produced which will be very handy for light work. The change from the jig-saw to the circular, and vice versa, can be made

almost instantly by the operator without moving from his position in front of the machine where he stands to operate either saw. The machine differs from other combinations or associations of circular saw and jig-saw in connection with one table, which are essentially two machines, this being literally one machine. Instead of a treadle, power may be used to drive the machine.

Claims.

1. The arrangement of the circular saw and jig-saw, the rising and falling table K, and the frame N attached to said table, substantially as herein set forth.

2. The arrangement of the bell-crank or angle-lever O and spring S in relation with each other and with the jig-saw and frame N, substantially as herein specified.

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