

M. CHASE.
Sewing Machine.

No. 113,498.

Patented April 11, 1871.

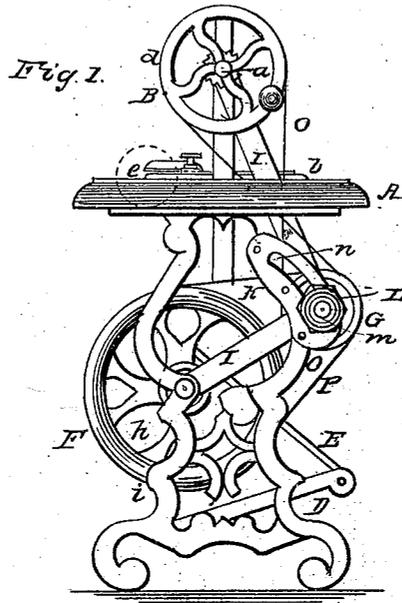
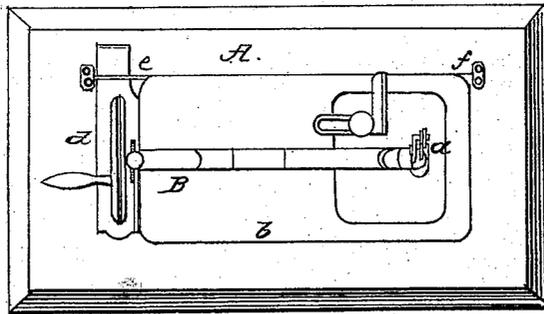


Fig. 2



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **113,498**, dated April 11, 1871.

To all persons to whom these presents may come:

Be it known that I, MILTON CHASE, of Haverhill, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Sewing-Machines; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 denotes a side elevation of a sewing-machine, its supporting-table, and driving mechanism constructed and applied in accordance with my invention. Fig. 2 is a top view of the sewing-machine and its supporting-table as pivoted together in my improved manner.

My present invention is an improvement upon that invented by me and patented July 19, 1870. In the said patented invention it was necessary that the balance or main driving wheel should be rigidly connected with the sewing-machine and to turn on the same pivotal axis, in order that the due tension of the driving-bands upon the main and secondary driving-wheels should be preserved under any change or inclination of the machine with respect to the top of the table. Under this construction, in order to support the center of gravity of the machine and maintain its cloth rest or plate in parallelism with the table when at rest, the pivotal axis of the machine must be in line or coincidence with the axis of motion of both the main and auxiliary driving-wheels, such line being through the centers of each, and consequently through the medial line of the machine. Under these circumstances, in order to allow the machine or the cloth-plate thereof to have the desired scope of movement or inclination with respect to the table, such plates had to be disposed at such horizontal elevation above the table as to greatly increase the labor of properly guiding the material while being sewed, especially when only a slight inclination of the cloth was desirable. To remedy this defect and enable my invention to be applied to any ordinary sewing-machine is the object of my improvement.

In carrying out my present invention, the balance or main driving wheel is not so connected with the sewing-machine as to swing

or move when the latter is moved out of parallelism with the table.

By introducing an intermediate transmitting-wheel between the main and auxiliary driving-wheels, and connecting the shaft or journal of such former wheel to the shafts of the main and auxiliary wheels by means of connecting-rods, and so hanging such wheel as to permit it to rise and fall in accordance with the elevation or depression of the sewing-machine, I am enabled to pivot the sewing-machine at its extreme edge of the table, and so that such edge shall be flush with the table, and thereby offer the least possible obstruction to the movement of the cloth, while the machine may be at such angle with the table as may be most convenient for the operator.

In the said drawing, A denotes the table, and B a common chain-stitch sewing-machine applied thereto in accordance with my invention. The needle of the machine is shown at *a*, the bed-plate at *b*, the driving-shaft at *c*, and its driving pulley or wheel at *d*.

The machine, or the plate *b* thereof, is pivoted at its inner edge to the top of the table, as shown at *e f*, and so that when the machine is in its normal position the cloth-plate is flush, or about so, with the top of the table, while it permits such plate to be raised and set at any desired inclination therewith.

D is the pedal, which has a connecting-rod or pitman, E, jointed to it and the wrist or crank of the driving fly-wheel F, which is affixed to a stationary journal, *h*, projecting from one of the standards or supports *i* of the table, as seen in Fig. 1, the said wheel having no motion except upon its own axis.

For the purpose of enabling a machine to be pivoted to the table in my improved manner, and permit it to be moved and set at any desirable inclination or position with respect to the top of the table, I have introduced an intermediate wheel, G, whose pivot or journal is formed upon one end of an arm, *m*, extending horizontally through the side of the machine.

The journal or axle of the said wheel is connected by means of pitmen *l l* to the journals of the main and auxiliary driving-wheels F *d*, as shown in Fig. 1, and so as to retain the three wheels at their relative distances apart

under any change of inclination of the machine.

K is a plate attached to a standard or support, *o*, of the table, the same having a curved slot, *n*, made through it, as seen in Fig. 1, to receive the aforementioned arm *m*, on whose inner end the journal of the intermediate wheel is formed, such arm extending through the slot *n* and having a clamp-nut, *L*, on the outer end, which serves to clamp such arm in position, and thereby not only hold the machine either upright or inclined, as the case may be, but aid in supporting the journal of the intermediate wheel; or, if preferable, the intermediate wheel may be arranged upon the pivotal axis of the machine, as shown in dotted lines in Figs. 1 and 2.

By the above-described arrangement of the intermediate wheel, and its connection with the main and auxiliary wheel by means of the pitmen, as set forth, the equable tension of the driving-bands *O P* will be maintained whatever may be the angle of elevation of the machine with respect to the table or the position of the wheels with respect to each other.

I am aware that it is not new to hinge a sewing-machine at its rear end to the table in order to enable the former to be turned up to rethread the lower needle or to more conveniently get at the working parts. Nor is it new to provide a machine so hinged to its table with means whereby the unshipping of the driving-belt is rendered unnecessary to enable the machine to be so turned, as such is shown in the application of George W. Wood, filed March 8, 1862, and also in the patent of J. T. Bruen, granted January 22, 1861. All contained in the said application of Wood or the patent of Bruen I totally disclaim. The object of my invention is entirely different, as well as the means employed to attain such object.

My improvement is applicable to any sewing-machine having a driving-wheel disposed

above its table and a fly driving-wheel below the same. In fact, it may be readily adapted to any of the machines now in use that are driven by a belt by simply adding an intermediate wheel thereto, as described, and connecting the pivot or journal of the same by connecting-rods or pitmen to the journals of both of the said wheels and providing them with proper endless bands.

From the above it will be seen that my improvement does not consist in so applying a sewing-machine to its table as to enable the machine to be turned on its rear end in order to gain ready access to the parts disposed beneath the table; nor in so pivoting the machine to the table as to permit it to be moved and set at an inclination relative to the table-top for the purpose set forth, irrespective of the means employed to effect such, my present invention remedying a defect incident to that as made by me and patented, as aforesaid, in which it was necessary that the plate of the machine be elevated at some distance above the plane of the table.

What I claim as my present invention is—

1. A sewing-machine and its table arranged and pivoted together in the manner as hereinabove described and shown, and provided with a train of driving-wheels, *d G E*, arranged and connected by pitmen, as specified, the same enabling the sewing-machine to be moved and set at any desired angle relative to the table-top, for the purpose set forth.

2. In combination with a sewing-machine and its table, pivoted together as set forth, and provided with a train of wheels connected by bands and pitmen, as described, a means or mechanism for clamping the machine at any desirable inclination to the table, as and for the purpose set forth.

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Witnesses:

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