(Model.) 2 Sheets—Sheet 1.

P. J. CLEVER.

SEWING MACHINE.

No. 296,529. Patented Apr. 8, 1884.

Fig. 1.

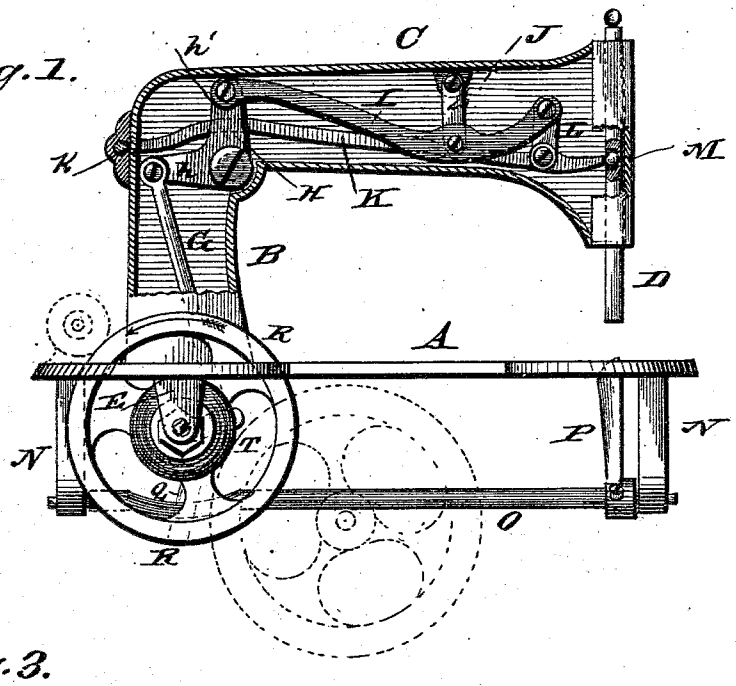
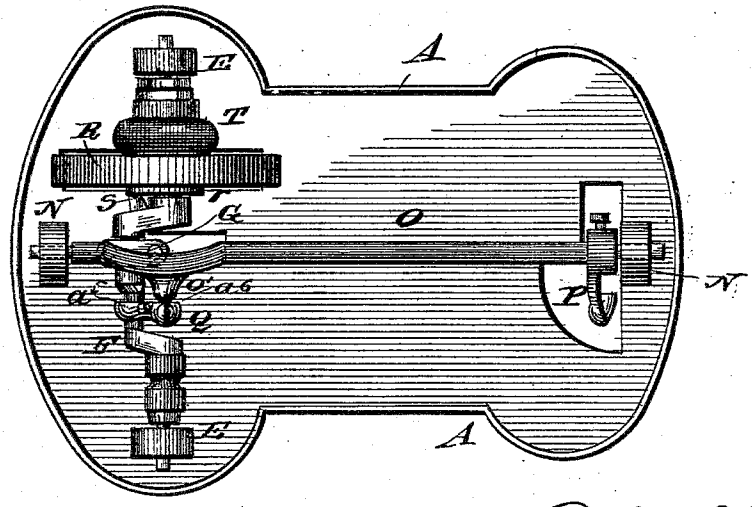


Fig. 3.



WITNESSES

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(Model.) 2 Sheets—Sheet 2.

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SEWING MACHINE.

No. 296,529. Patented Apr. 8, 1884.

Fig. 2.

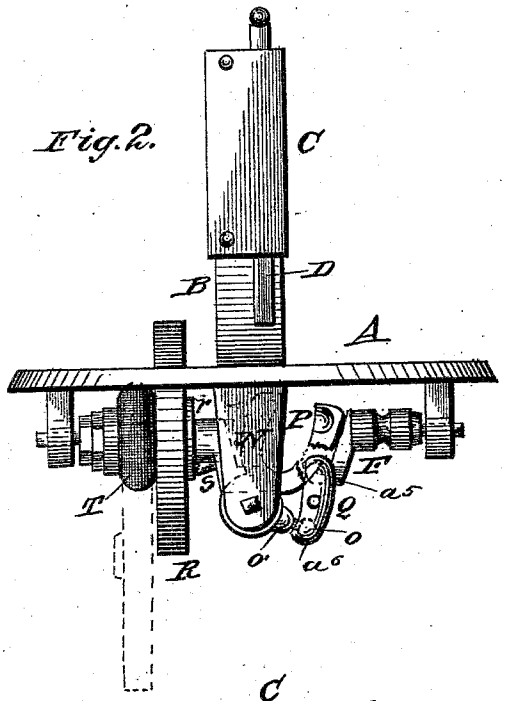


Fig. 5

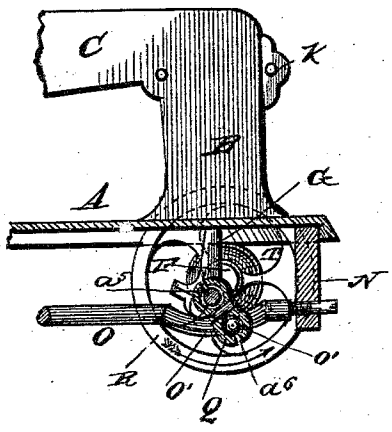


Fig. 4.

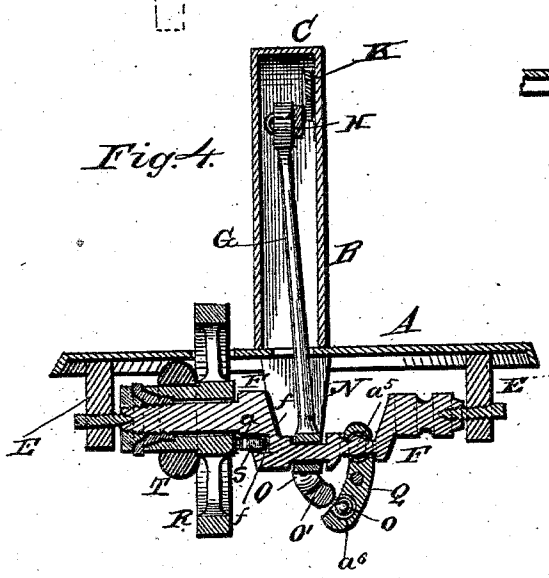
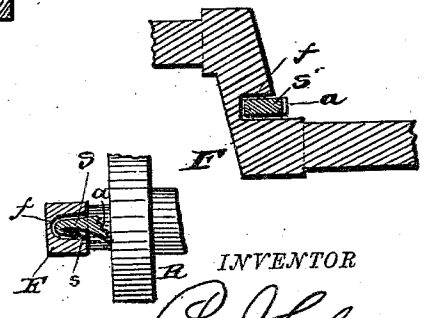


Fig. 6.



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UNITED STATES PATENT OFFICE

PETER J. CLEVER, OF BRUNSWICK, MISSOURI.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 296,529, dated April 8, 1884.

Application filed January 13, 1883. (Model.)

To all whom it may concern:

Be it known that I, PETER J. CLEVER, a citizen of the United States, residing at Brunswick, in the county of Chariton and State of Missouri, have invented certain new and useful Improvements in Sewing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to sewing-machines; and it consists in certain improvements in the construction and operation of the same.

In the drawings, Figure 1 is a side elevation of so much of a sewing-machine as is necessary to illustrate my invention, parts being broken away to better show the construction. Fig. 2 is an end elevation of the same. Fig. 3 is a bottom view thereof. Fig. 4 is a vertical transverse sectional view taken through the crank-shaft. Fig. 5 is a detail side elevation, partly in section. Fig. 6 is a detail sectional view, illustrating the chuck on the crank-shaft.

Referring to the drawings, A designates the work-table of a sewing-machine, from which extends a standard, B, carrying the overhanging arm C, in the end of which the needle-bar D reciprocates vertically.

From the table A, at the sides of standard B, depend brackets E E, having bearings for a transverse crank-shaft, F, to the crank of which is connected an upright driving-arm, G, extending through the standard B, and pivoted to one arm, *h*, of a bell-crank lever, H, which is fulcrumed at the vertex of the angle formed by the standard B and arm C. By this arrangement, as the shaft F revolves the bell-crank lever H is caused to rock on its fulcrum, and reciprocate a lever-rod, I, extending horizontally in arm C and pivotally connected to the arm *h'* of the lever H. Lever-bar I reciprocates upon a depending pivoted link, J, and is connected to the front end of a longitudinal arm, K, by means of a pivoted link, L, and thus this end of arm K is caused to move vertically and operate the needle-bar D, with which it is connected by a universal joint, M, which is preferably of the common ball-and-socket form, as shown. This arm K has a hinged or pivoted bearing, *k*, at its rear end.

Depending from table A, on the plane of arm C, are brackets N N, which provide bearings for a longitudinal shaft, O, which has simply a rocking motion, and carries at its front end the shuttle-carrier P, which may be of any suitable construction; but this shuttle mechanism is preferably of the construction illustrated in my former patent, No. 96,866, November 6, 1869. This rock-shaft O is operated by means of an arm, Q, having a universal connection with the crank of shaft F, as shown at a^5, and is also provided at its lower end with a socket, a^6, adapted to receive a ball, *o*, on the end of a lateral arm, *o'*, on shaft O. Thus as the shaft F rotates, the arm Q causes the operation of the shaft O, and at the same time has the necessary lateral movement, caused by the motion of shaft O on its universal bearings.

R is a fly-wheel, which is arranged loosely on shaft F, and engages at the end of its hub *r* with the ratchet-face of a pin or clutch, S, seated in a recess, *f*, in shaft F, when said wheel turns in one direction, as indicated by the arrow, Fig. 1. When the wheel turns in this direction, its engagement with said chuck locks it to the shaft, and consequently the shaft turns with the wheel; but when the wheel is turned in the direction indicated by the arrow, Fig. 5, the end of the hub *r* will pass over the teeth on the face of the chuck, and the shaft F will remain stationary. By this arrangement motion may be transmitted from wheel R by means of any suitable mechanism to wind a bobbin without operating the needle mechanism. The pin S is provided with a spring, *s*, to return it to its normal position. The fly-wheel R is driven by means of the main drive-wheel of the machine, (shown in dotted lines, Figs. 1 and 2,) which engages with an elastic collar, T, secured on the hub *r* of wheel R, and causes the operation of the same by friction. The collar T is preferably formed of rubber, and will retain its position on the hub *r* by its own tension.

The operation and advantages of my inven-

tion will be readily understood. It is very simple and efficient, and has a noiseless, positive, and uniform movement.

I claim as my invention—

1. The combination of the crank-shaft, means for rotating the same, the reciprocating drive-arm connected to the crank-shaft and to the bell-crank lever, the bell-crank lever, the horizontal lever-bar supported by a pivoted link and connected to the bell-crank lever, the horizontal hinged arm linked to said lever-bar, and the needle-bar connected with the free end of the arm, substantially as set forth.

2. In a sewing-machine, the combination of the crank-shaft, the needle-bar, the intermediate connecting mechanism embodying a drive-rod, bell-crank lever, horizontal lever-bar, suspending-link, hinged arm, and connecting-link, the rock-shaft carrying the shuttle, and the operating-arm connected to the crank-shaft and to the rock-shaft by a universal joint, substantially as set forth.

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

PETER J. CLEVER.

Witnesses:
OTTO AMERLAN,
JOHN M. SPENCER.