3 Sheets—Sheet 1.

W. P. UHLINGER.

Sewing Machine.

No. 21,224. Patented Aug. 17, 1858.

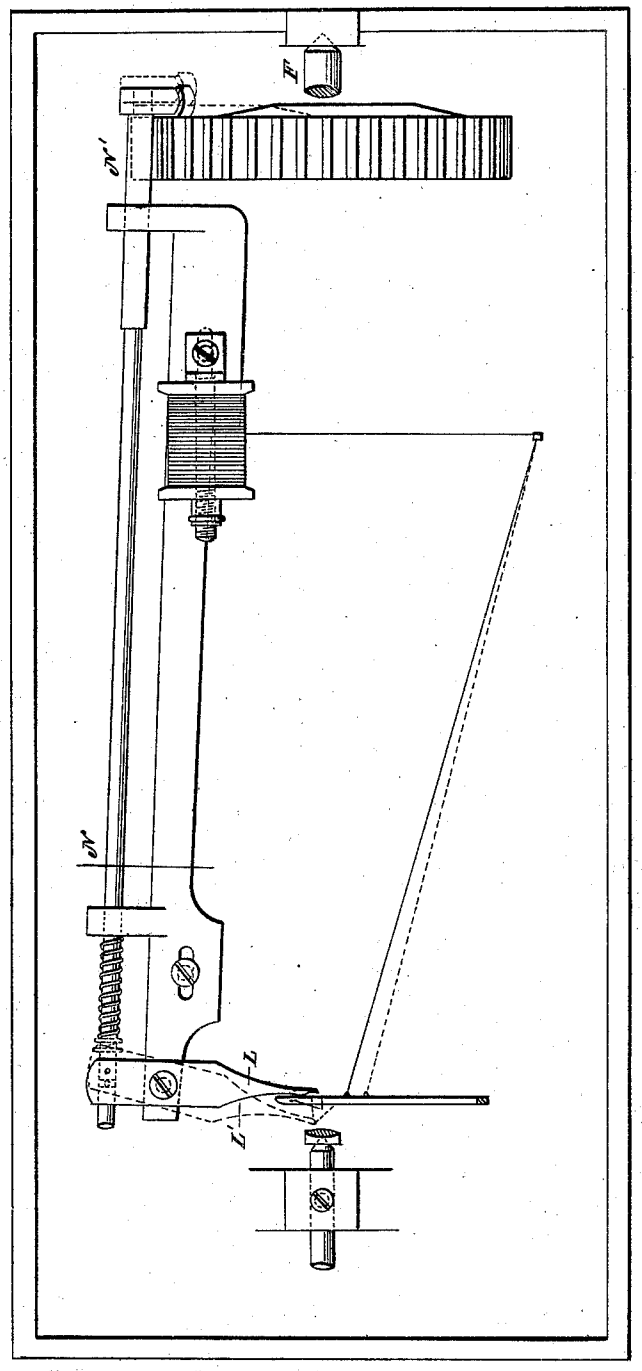

Fig: 1.

Witnesses:

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Savagummer

Inventor:

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3 Sheets—Sheet 2.

W. P. UHLINGER.

Sewing Machine.

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Fig: 3.

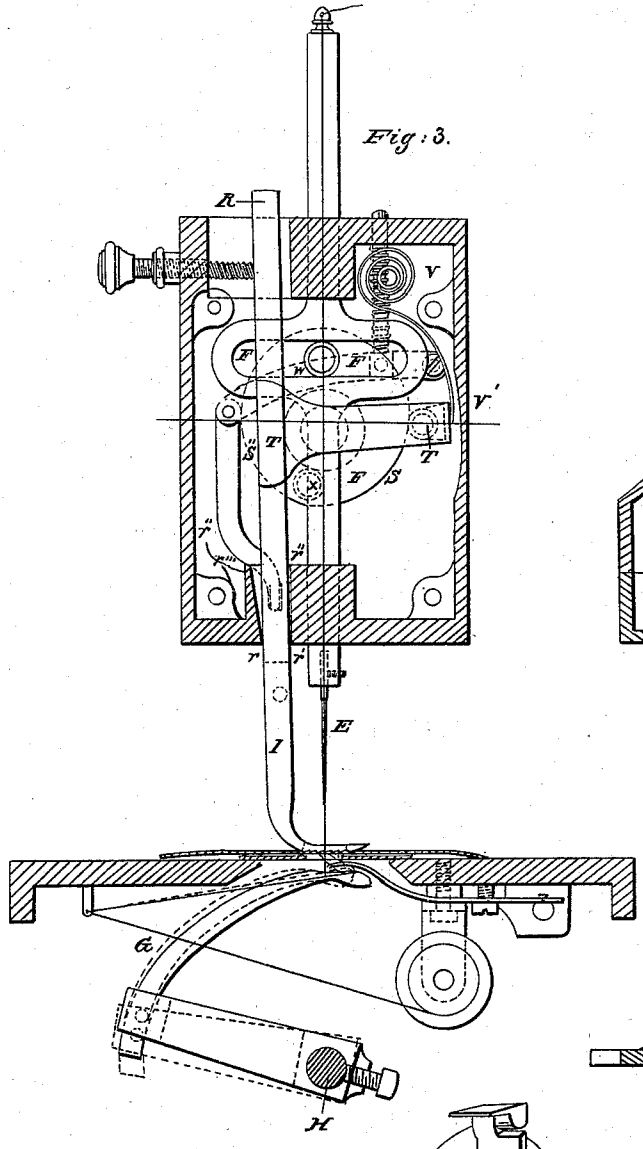


Fig: 4.

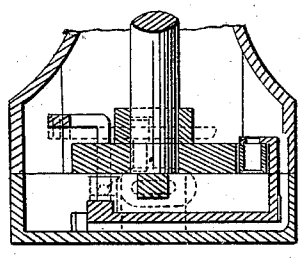


Fig: 5.

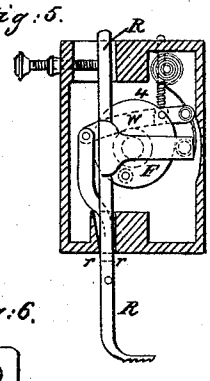


Fig: 6.

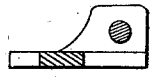
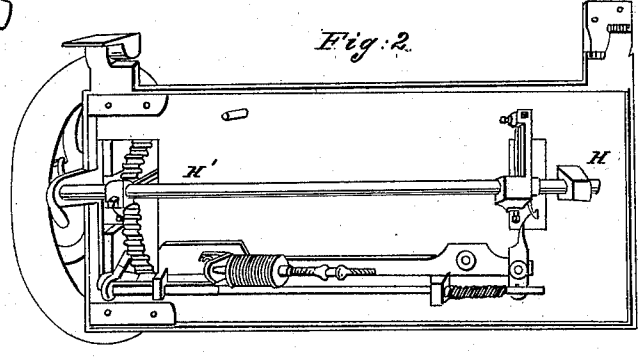


Fig: 2.



Witnesses:

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3 Sheets—Sheet 3.

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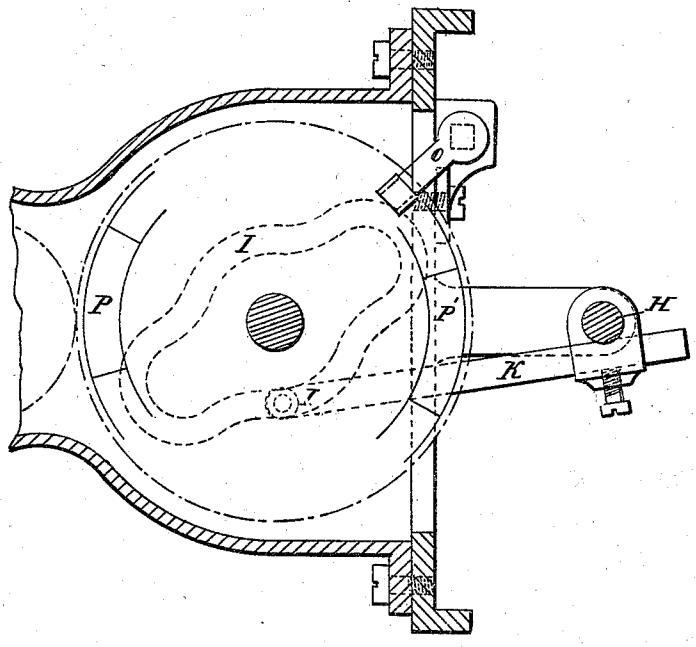
Sewing Machine.

No. 21,224. Patented Aug. 17, 1858.

Fig: 7.



Witnesses:
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Saml. Gummere

Inventor:
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UNITED STATES PATENT OFFICE.

W. P. UHLINGER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **21,224**, dated August 17, 1858; antedated May 3, 1858.

To all whom it may concern:

Be it known that I, WILLIAM P. UHLINGER, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a view of the bottom of my machine; Fig. 2, a perspective view of the same. Fig. 3 is a sectional view of the end of the machine. Figs. 4, 5, 6, and 7 are views of detached parts of the machine.

My improvement relates to machines which use the double-chain stitch, and has for its object the expansion of the loop of the under thread, so as to insure its being caught by the needle as it descends.

A B C D represent the bottom or bed-plate of the machine inverted.

E, Fig. 3, represents the needle, which vibrates up and down by a shaft with a cam or crank movement, F F′, as shown in Fig. 3, in the manner commonly practiced on sewing-machines.

G is the vibrating looper, which is attached to a small vibrating shaft, H H, which is worked by a cam, I I, and arm K, attached to the extremity of the shaft H′. As the needle descends and forms the needle-loop in coming up the vibrating looper enters the needle-loop.

In order to secure the needle catching the under thread while coming down, I have added the device L to the under side of the machine, which is a vibrating finger, so attached and operated that its point catches the under thread just before the needle and carries it away from the looper, so as to allow an increased space for the needle to enter and catch the under thread. This finger L is attached at M as a pivot, and is vibrated back and forward to a sufficient extent and at the proper intervals by a rod, N N, having a projecting arm, O, at its extremity, which arm has a small friction-roller, which fits on two cam-pieces, P P, on the side of the driving or main cam-wheel. As this wheel revolves the arm O and rod N N′ are vibrated backward and forward at the proper intervals and to any desired extent, which may be determined by the form given to the cam-pieces P and P′.

The operation of this new combination is as follows: The needle descends with its thread, and as the needle ascends again a loop is formed. The vibrating looper G then enters the needle-loop just formed and holds it while the vibrating finger L carries the under thread and spreads it away from the looper, to allow the needle to descend again between the under thread and vibrating looper, in order to catch the under thread, by which operation the loop-stitch is completed.

I have also improved the feed arrangement as follows:

R R′, Fig. 3, and also Fig. 5, represents the feed-pad, which is a lever having its fulcrum at *r r′*, the bottom of the conical cavity *r r′ r″ r‴*. The lower end of this lever is roughened. This lever is vibrated backward and forward at the proper interval by the cam S S′ S″ S‴, which works on an arm, T T′, attached to the side of the lever R R′. A spring, *v*, bears against this arm T T′ and keeps it against the cam. By the joint action of the cam S S′ S″ S‴ and spring *v* the lower extremity of the feed-pad is moved backward and forward.

The feed-pad is kept down by a spring, *v*, which presses against an arm, W, which is permanently attached to the feed-pad R R′. The pressure of this spring is relieved whenever the feed-pad is moving backward by means of a projection, *x*, on the cam-wheel F F′, which elevates the lever *w*. The operation of this arrangement is as follows: The fabric is fed forward by the movement of the cam against the feed-lever, and at that time the pressure of the spring is made to bear upon the lever R R′, near the fulcrum *r r′*. When the feed is moved backward, the pressure is removed from the feed-arm, as above described, by the projection *x* elevating the spring-lever *w*.

I do not desire to claim the vertical arm described in my specification, as that has been used before; but

What I do desire to claim, and secure by Letters Patent, is—

The vibrating finger L, in combination with the needle and looper, arranged and operating substantially as above described.

W. P. UHLINGER.

Witnesses:

J. H. B. JENKINS,

SAML. R. GURNMERE.