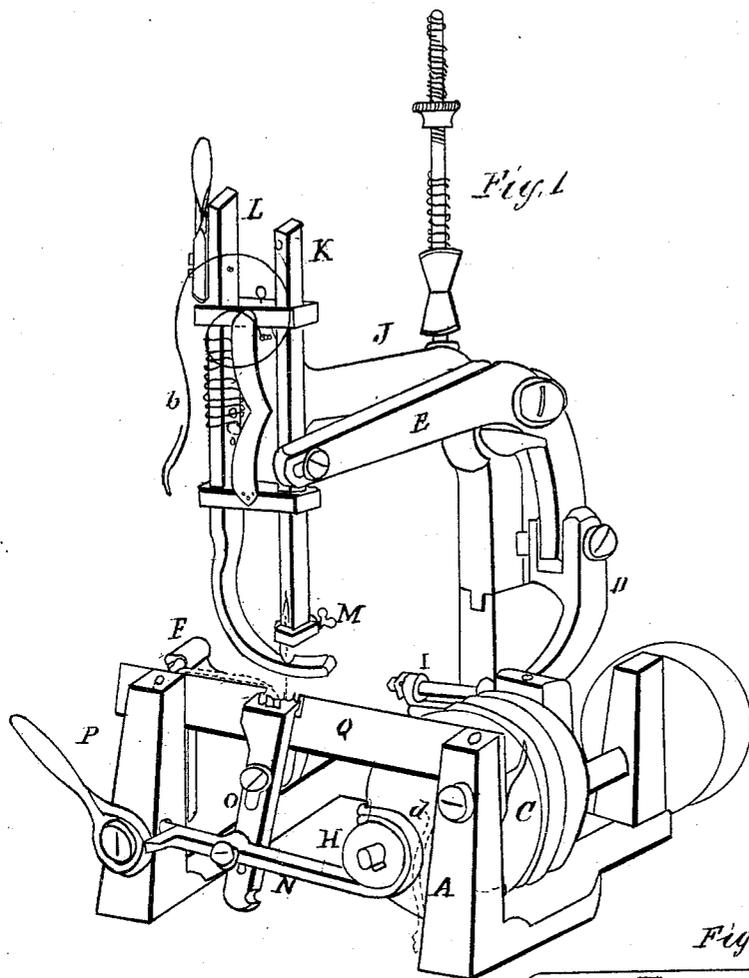


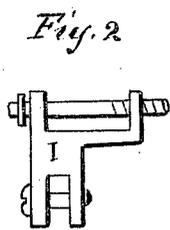
*J. D. Vanduzer.*  
*Sewing Machine.*

*N<sup>o</sup> 82183*

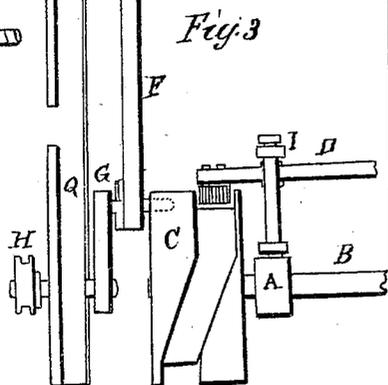
*Patented Sept. 15, 1868*



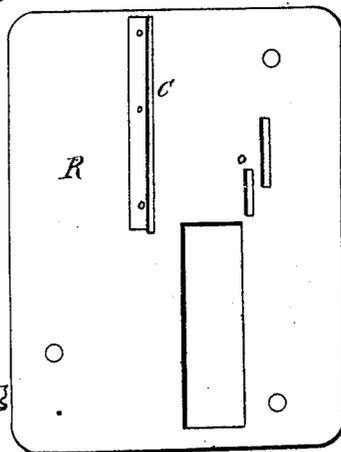
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Fig. 4*

*Witnesses*  
*Saml. Sims*  
*Charles Kalkum*

*Inventor*  
*John D. Vanduzer*

# United States Patent Office.

JOHN D. VANDUZER, OF TYRONE, NEW YORK.

*Letters Patent No. 82,183, dated September 15, 1868.*

## IMPROVEMENT IN SEWING-MACHINE.

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, JOHN D. VANDUZER, of Tyrone, in the county of Schuyler, and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

Figure 2, detached view of some of the parts.

Figure 3 is a view of a section of the machine.

Figure 4 is an under side view of the plate.

The letters of reference refer to the same parts in each figure.

The nature of my invention consists in improvements in sewing-machines that sew with two threads, one thread from the ordinary spool, and the other from a small spool within a shuttle. The parts are so arranged that the frame may be fastened upon the ordinary stand, and have all the parts accessible, without removing or turning up the frame, and all the parts are in view, so that they may be readily cleaned and oiled. Some of the parts are made adjustable, so that the distance the needle moves up or down may be increased or diminished at will, and the shuttle-way is made separate from the frame, and fastened to it with screws, so that it may be readily adjusted at pleasure.

To enable others skilled in the art to make and use my invention, I will proceed to describe its mode of construction and operation.

A is the frame. It may be made of cast iron or other metal, cast in one piece, and in the shape represented in fig. 1. It may be placed upon a stand, and held by any desirable means.

B is the main shaft. It passes through and is supported by two upright parts of the frame. At one-end is the grooved driving-pulley, at the other is the cam-wheel C.

C is a cam-wheel, with a cam-groove, made so as to impart the proper motion to the arm E. It is provided with a pivot in the left-hand side, that actuates the shuttle-propeller F, as shown in fig. 3, also the crank G, and eccentric-wheel H.

D is a connection, extending from the cam-wheel C to the arm E, as shown in figs. 1 and 3. At the end, shown in fig. 3, it is provided with a roller, that enters the groove in the cam-end. The cam-groove causes the connection to move horizontally. One end of this connection is supported by the support I, the other end by the lower end of the arm E, as shown in fig. 1.

E is an arm that actuates the needle-bar. It is pivoted to and supported by the arm J, as shown in fig. 1. The arm E is slotted, so that the position of D E may be changed, for the purpose of imparting a greater or less throw to the needle-bar.

F is the shuttle-propeller. One end is supported by a pivot in the side of the cam-wheel C, as shown in fig. 3; the other end is supported by the pivot that drives the shuttle, by lying and sliding upon the edge of the shuttle-way, as shown in the same figure. This end is held down by means of a rib or flanch, *a*, that is fastened to the under side of the plate R, as shown in fig. 4.

G is a crank. It is shown in fig. 3. It is fastened to the pivot of the cam-wheel, by which it is turned. The other end is securely fastened to a shaft that is held in line with the shaft B, so that it will turn the shaft the same as the shaft B is turned, and thus cause the eccentric H to be turned in unison with the cam-wheel C.

H is an eccentric-wheel. It is fastened to the shaft, as shown in fig. 3. Its use is to actuate the cloth-feeding mechanism, as shown in fig. 1.

I is a pendulous frame. It is shown in fig. 1. It is held by a pivot, that is fastened to one of the upright parts of the frame A, as shown in fig. 3. The lower ends extend down by the sides of the connection D, with a pin or bolt passing through them both, to hold the connection in proper position, and allow it to move without much friction.

J is an arm, that supports several parts of the machine. Its shape is represented in fig. 1. The lower end is fastened to an upright of the frame with a sliding joint, so that it may be adjusted at will. The other end is branched, and has a cross-piece across each branch, as shown in the figure. These cross-pieces have mortises through them, for the needle-bar and pressing-bar, and to it the spring, *b*, is fastened, as shown in the figure.

K is the needle-bar, of the shape shown. A screw is put through the end of the arm E into it, so that the arm will raise and lower it, and to the lower end the needle is attached.

L is a pressing-bar, of common construction.

M is a clasp, that surrounds the lower end of the needle-bar. It is provided with a thumb-screw, so that it may be made to hold the needle firmly within the groove in the lower end of the needle-bar.

N is a bar. One end is made to enter a hole in one of the uprights of the frame. At the same end is a projection, that extends outward and near the eccentric P. This bar has a hole, for a bolt or screw to pass through it into the lever O. The other end is bent, to surround the eccentric H. The spring *d* always holds it within the groove of the eccentric H, as shown in fig. 1.

O is a lever, that is used to feed the cloth along. The upper end is provided with points or teeth, that will penetrate the cloth, and thus be sure to move the cloth. This lever is held in a vertical position by a screw, that passes through a mortise and into the projection at the under side of the shuttle-way. Near the lower end is a mortise, through which the screw or bolt is fastened that is put through the bar N. The bolt is fitted so that the lever may be raised or lowered at will.

P is an eccentric, provided with a handle, as shown in fig. 1. It is held to the frame by a screw. Its use is to vary the length of stitch by turning it, thus varying the distance of motion of the bar N by means of the projection impinging against the eccentric P.

Q is the shuttle-way. A perspective view is shown in fig. 1, and a top view in fig. 3. At the lower edge are projections, for bolting it to the uprights of the frame. The holes through the projections are made so that the shuttle-way may be adjusted up or down, at either end or both. The way for the shuttle is at the side, and may be made to suit any kind or size of shuttle required. This way is made separate from the other parts of the machine, so that it may be made of any metal or composition of metal that will have the least friction or will least wear the shuttle.

R is the plate that the cloth is placed upon. It is made in any ordinary manner, and is held in position by screws being put through it into the top of the uprights of the frame. It is provided with the necessary holes and passages for needle, shuttle, and feeding-apparatus. An under side view is represented in fig. 4. At the under side is a rib or flanch, *a*, that is used to hold down the end of the shuttle-propeller. This rib should be made of any good anti-friction metal.

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

1. The arrangement of the cam-wheel C, connection D, lever E, and pendulous frame I, when constructed and operating substantially as and for the purpose set forth.
2. The eccentric H, bar N, and pivoted lever O, in combination, when constructed as described, and arranged to give motion to the cloth, substantially as herein set forth.

JOHN D. VANDUZER.

Witnesses:

JOHN L. LEWIS,

CHARLES KETCHUM.