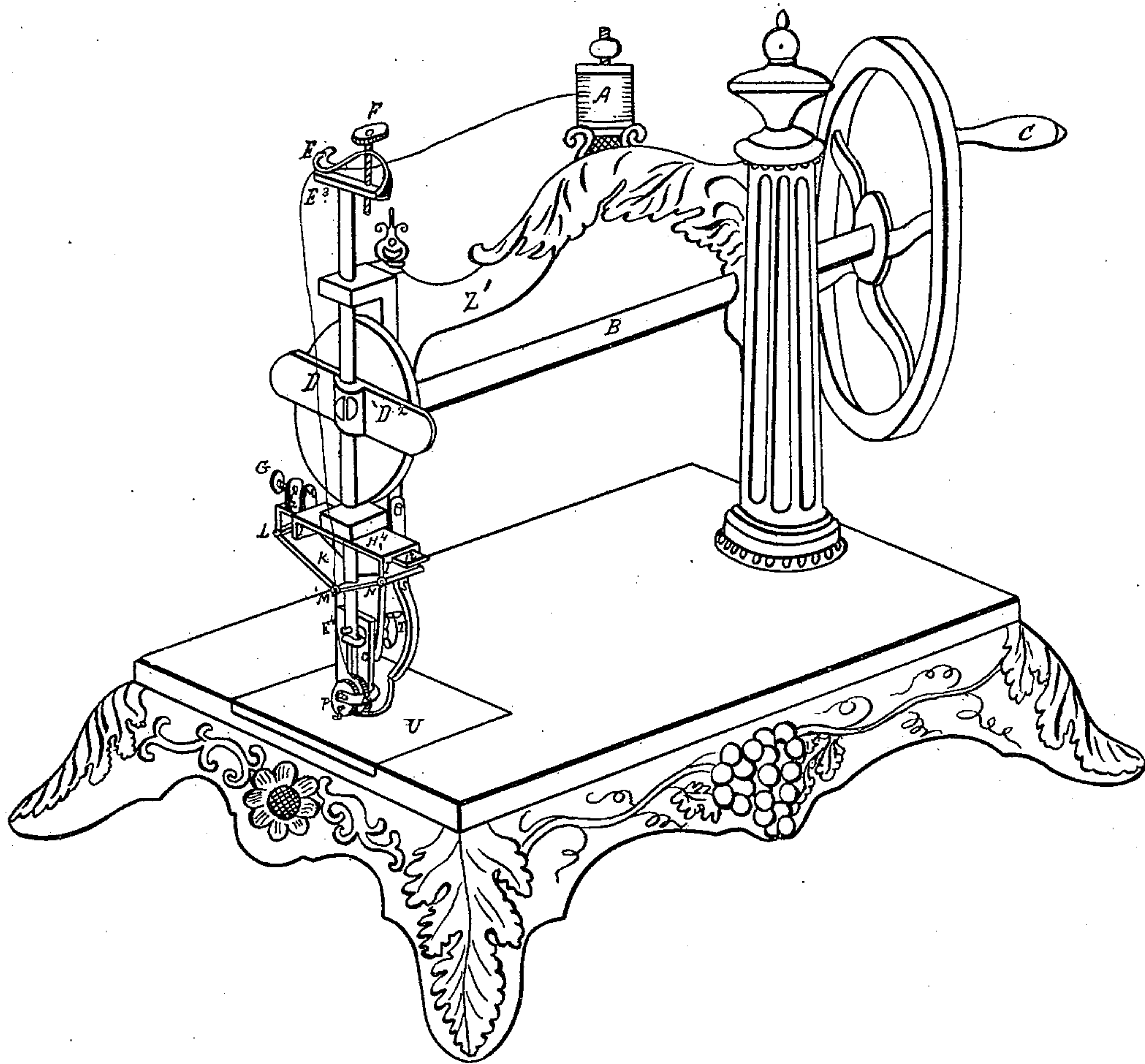


A. W. SANGSTER.  
SEWING MACHINE.

No. 19,535.

Patented Mar. 2, 1858.

Fig. 1.



Witnesses.

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*James Sangster*

Inventor.

*Amos W. Sangster*

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Fig. 3.

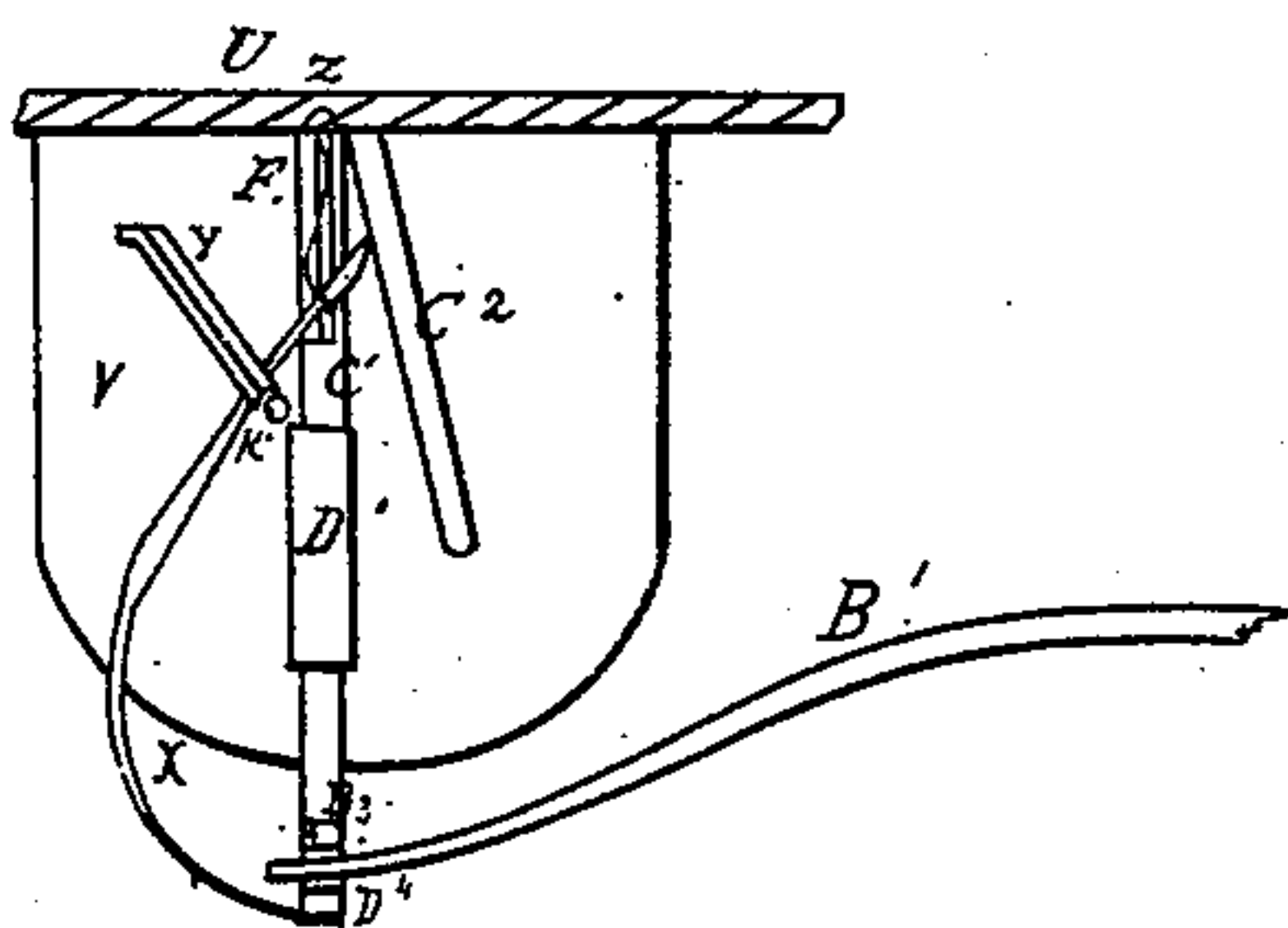


Fig. 4.

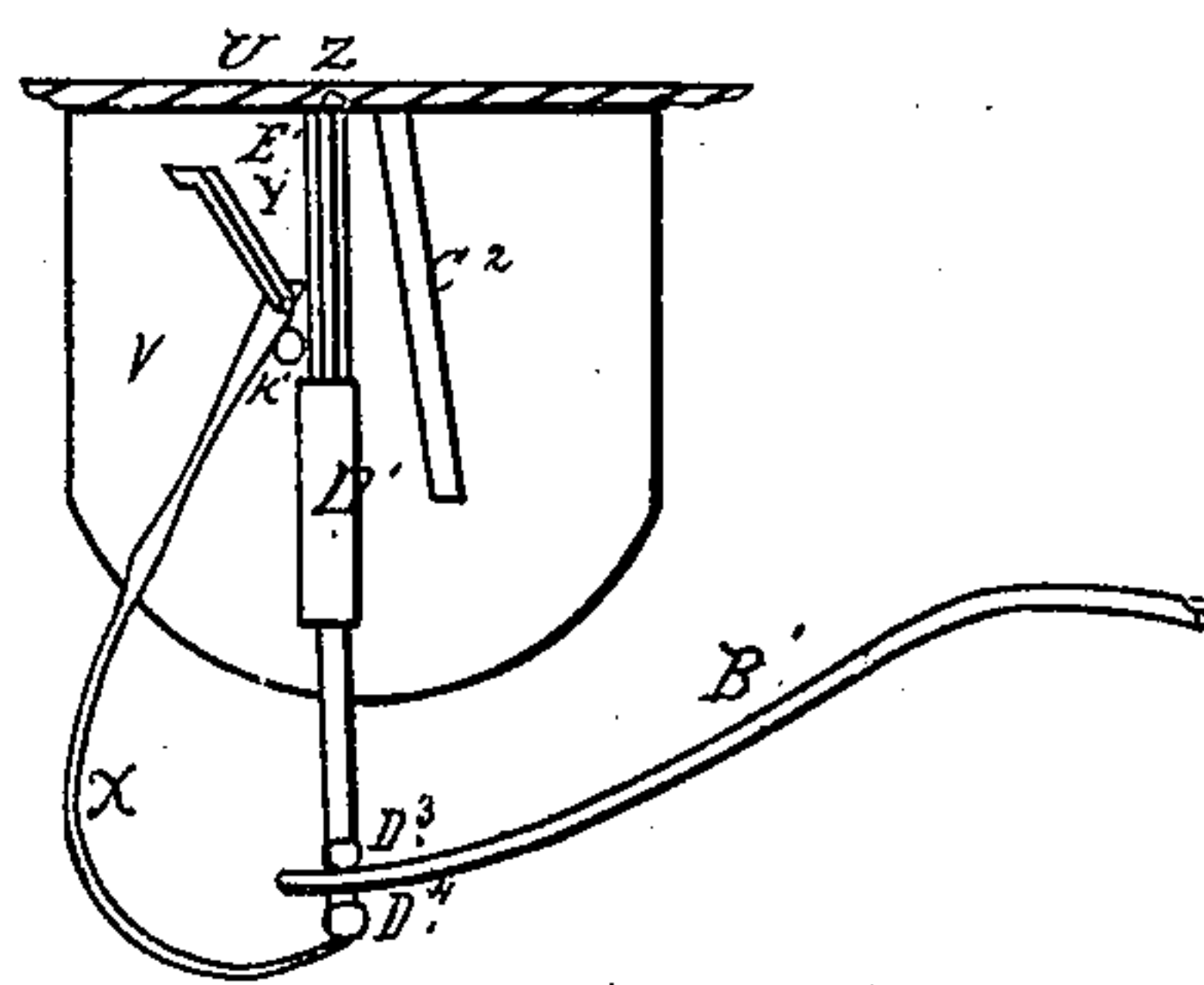


Fig. 5.

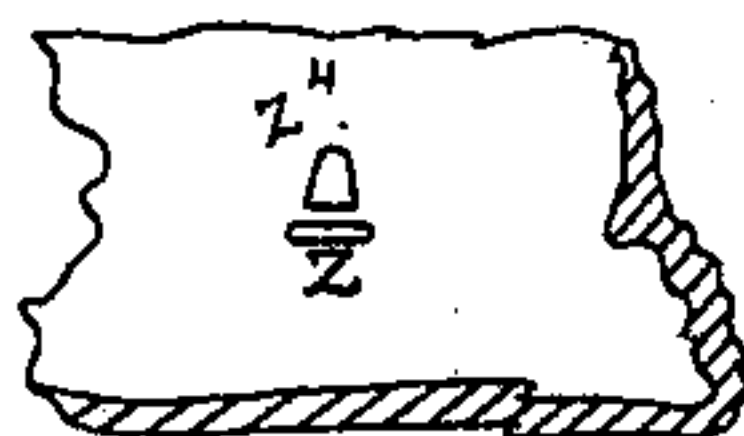
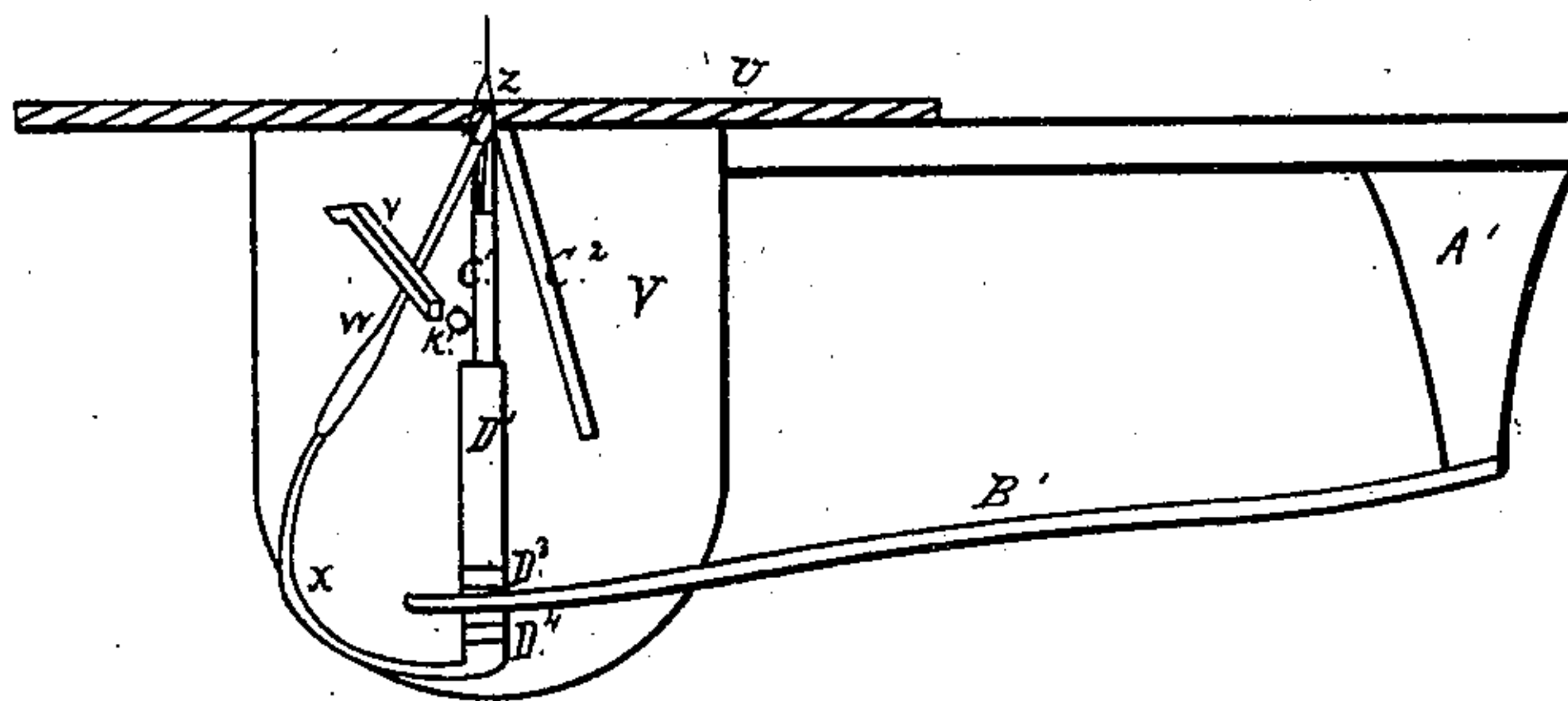


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

AMOS W. SANGSTER, OF BUFFALO, NEW YORK, ASSIGNOR TO VICTOR M. RICE, JAS. SANGSTER, AND ELIZA REMINGTON, OF SAME PLACE

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 19,535, dated March 2, 1858.

*To all whom it may concern:*

Be it known that I, AMOS W. SANGSTER, of Buffalo, in Erie county, and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I declare the following description of my method of constructing the same to be sufficiently clear and exact to enable others skilled in the art to make and use my invention, and for that purpose reference is had to the accompanying drawings.

Figure 1 in said drawings is a perspective view of the machine, showing the construction and operation of the feeding machinery, and also the manner of governing the tension or strain of the thread. Fig. 2 is a side elevation of the looper when in a position to hold the loop open, so that the needle may pass through it. Fig. 3 shows the position of the looper when it is in the act of passing into (or through) the loop. Fig. 4 represents the position of the looper just before it passes into the loop. Fig. 5 is a part of the bed-plate U, showing the two apertures—one for the needle and one for the looper.

The same letters of reference in the several figures represent similar parts in each.

In Fig. 1, B is the main shaft. C is a crank, (and wheels,) which, when turned, gives the up-and-down or vibrating motion to the needle-bar. A is the spool, containing the thread, which moves upon a rod placed upon the frame-work Z'. E is a spring which regulates the strain or tension of the thread. F is a set-screw for the purpose of increasing or diminishing the pressure of the spring E upon the thread. When sewing, the thread is drawn between the spring E and the piece E'. D<sup>2</sup> is a set-screw which fastens the needle-bar in the vibrating plate D. S is a bar which terminates in an elastic foot-piece which presses upon the cloth or fabric to be sewed. H<sup>4</sup> is a stationary bar or plate, which is fastened firmly to the frame Z'. I<sup>2</sup> is a sliding bar, which passes through the ends I I of the stationary plate H<sup>4</sup>. K is a bar which is jointed at the point L to the sliding bar I<sup>2</sup>, and jointed (or hinged) at the point M' to a bar which is fastened by a movable joint to the stationary plate H<sup>4</sup> at the point I. P is the feeding-

of a permanent axle (or rod) which passes through the centers of each and forms or terminates in pivots on their outer sides. This double wheel moves or revolves in the frame R. The holes in the said frame R are made in the form of a slot, as shown at the point Q, in which the ends of the axle of said double wheel works, and receives two motions—one a vibrating horizontal motion, the second a revolving motion. The horizontal motion is produced only when the wheel is advancing in a proper direction to carry the cloth forward. The wheel at the same time remains stationary on its center or axis. The revolving motion is given to the wheel only at the time it moves backward to renew its hold upon the cloth. R is a frame-piece which in its forward motion prevents the double wheel P from revolving by means of its front edge, which is sharp and catches into the teeth or notches on the outer edge of said wheel. In its backward movement it recedes from said wheel and allows it to roll or revolve. The frame R is fastened to the bar O. This bar O is attached to the piece N, and can be lowered or raised (up or down,) the piece N, by means of the set-screw or crank T on said bar N, and a slot in the piece O, thus adapting or adjusting the wheel P to any thickness of material. The bar N is firmly attached to the movable frame I<sup>2</sup>. The feed or forward motion is given to the material to be sewed as follows: When the needle-bar ascends, the stationary nut (on the lower end of the needle-bar) E<sup>4</sup> presses upward against the jointed frame-work at the point M', thus throwing the joint M' in (or nearly in) a straight line with the joints L and I. This, of course, throws the point L of the movable frame-work outward from the needle-bar, also carries with it the bar I<sup>2</sup> and the set-screw G, which is attached to the said bar I<sup>2</sup>, also the bars N and O, and frame-piece R. The frame-piece R is made in the form of a sharp knife-edge on the inner side, and as it advances forward its edge catches into the notches in the double wheel P and carries said double wheel forward horizontally, (without allowing it to revolve,) and the cloth with it, far enough to measure the length of a stitch. The downward motion of the needle-bar carries the



frame R back again, (either by an attachment of a spring on the needle-bar or on the stationary frame Z',) and draws the sharp edge of the frame R out of the notches in the double wheel, thus allowing said wheel to roll backward (instead of rubbing over the cloth) far enough to take another stitch forward. The length of the stitch is regulated by the set-screw G, which butts against the piece M when the machine is operating.

In Fig. 2, W is the looper. Y is a guard which keeps the looper close to the guide-plate V. C<sup>2</sup> is a square bar, which is attached to the plate V. X is an elastic spring, which holds the point of the looper close against the bar C<sup>2</sup>. C' is a plunger which works up and down in a groove on the plate V. D' is a case or tube which holds the plunger C' in its place on the plate V. D<sup>3</sup> and D<sup>4</sup> are two projecting pins on the lower part of the plunger C'. K' is a pin projecting upward from the plate V. This pin catches or forces the point of the looper out from the needle when the plunger is forced down, as will be readily seen by reference to Fig. 4. The spring X is attached to the lower part of the plunger. The looper is forced upward against the bed-plate U by the spring B', which presses against the pin D<sup>3</sup>. A' is a stay which holds said spring in its place. The point of the looper presses into the hole in the bed-plate at Z. There are two apertures in the bed-plate U, which are shown in Fig. 5. The point of the looper works into

the one marked Z, and the needle passes through the one marked Z<sup>1</sup>.

The stitch is taken as follows: The point of the needle, when descending, presses or pushes the plunger downward and throws the looper in the position shown in Fig. 4. Just after the needle commences to ascend, the looper is thrown through the loop and into the position shown in Fig. 3, and, as the needle continues to descend, the looper rises with it until its point passes into the slot Z on the under side of the plate U and assumes the position of Fig. 2, when the loop is drawn up and spread, as shown in Fig. 2, ready for the needle to pass through it and form another stitch or loop.

I do not claim imparting a feeding or forward motion to the cloth or (other material) while being sewed by means of a wheel which moves the cloth while revolving, as that has been done before; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The specific mechanism herein described, consisting of the frame-work, slide, and toggle-joint, designated by the letters H<sup>1</sup>, I<sup>2</sup>, I, L, L, K, M, M', N, O, and R, arranged and operating in the manner and for the purpose specified.

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Witnesses:

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