

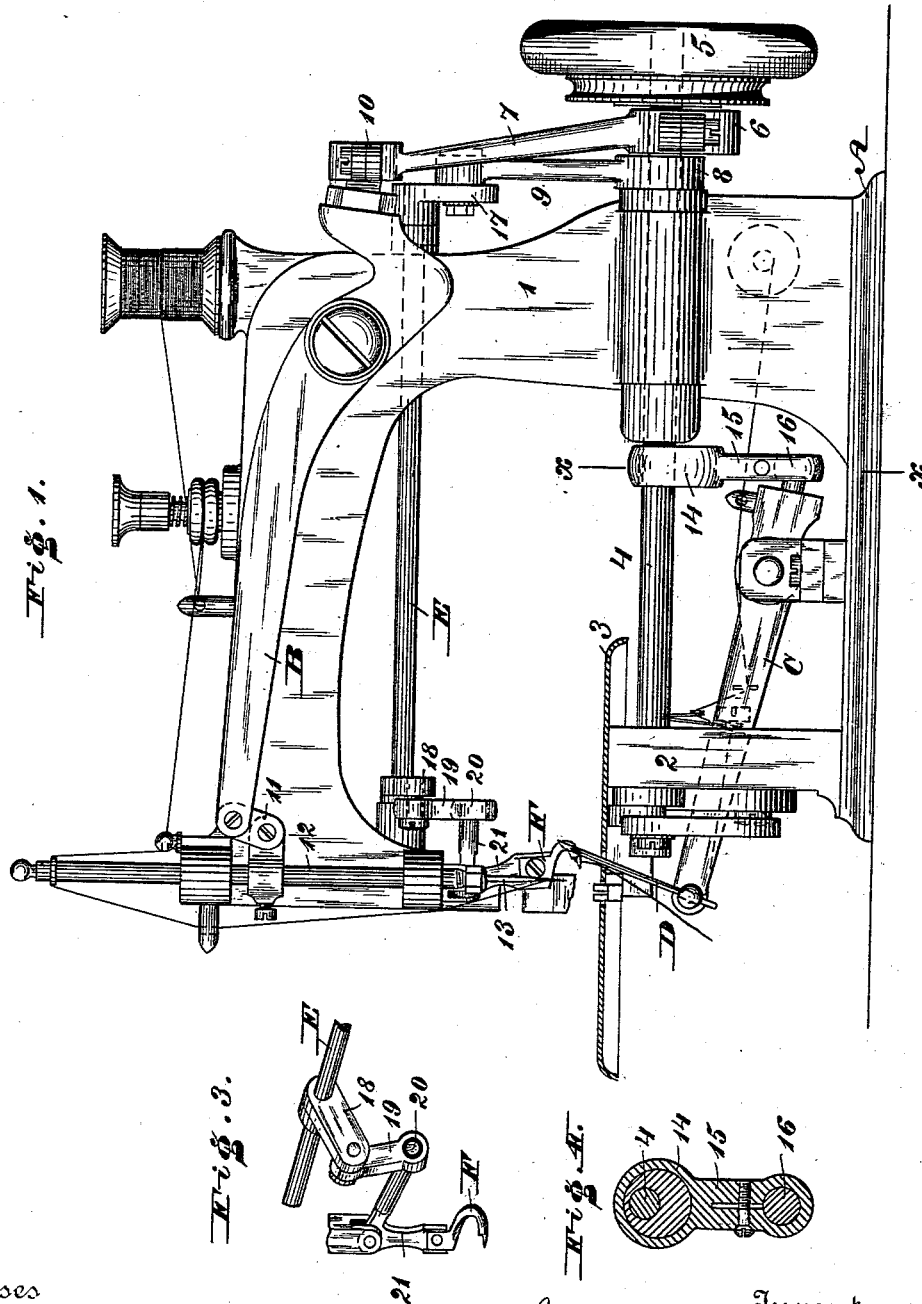
(No Model.)

2 Sheets—Sheet 1.

H. H. FEFEL.  
OVERSEAMING SEWING MACHINE.

No. 420,191.

Patented Jan. 28, 1890.



Witnesses  
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A. C. Jennings.

Inventor  
Henry H. Fefel.  
By his Attorneys,  
Diedersheim & Finkner

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

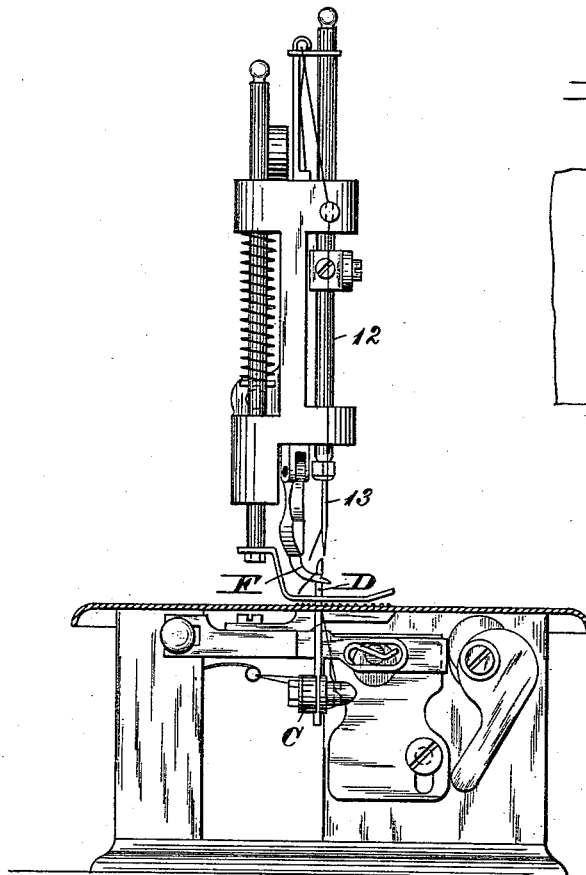


Fig. 13.

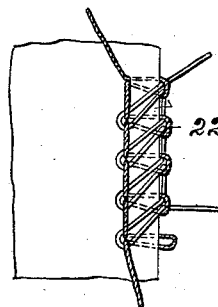


Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

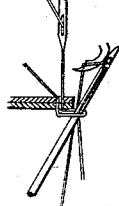
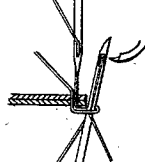
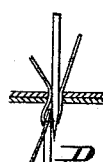
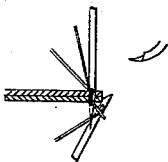
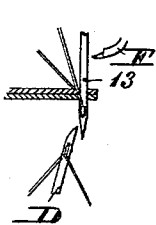


Fig. 10.



Fig. 11.



Fig. 12.



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# UNITED STATES PATENT OFFICE.

HENRY H. FEFEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO THOMAS A. PEARCE, OF SAME PLACE.

## OVERSEAMING SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 420,191, dated January 28, 1890.

Application filed October 27, 1888. Serial No. 289,286. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. FEFEL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful improvement in Overseaming-Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel mechanism whereby overseaming may be accomplished in an expeditious, rapid, and simple manner, as will be hereinafter fully set forth and claimed.

Figure 1 represents a side elevation of a machine embodying my invention. Fig. 2 represents a front end view thereof, the cloth-plate being in section. Fig. 3 represents a perspective view of the spreader or spreader-hook and connected parts detached. Fig. 4 represents a vertical section of a portion on line *xx* of Fig. 1. Figs. 5 to 12 represent the successive steps of operation of the mechanism in producing the overseaming. Fig. 13 represents a face view of a piece of fabric or goods overseamed in accordance with my invention.

Similar letters and numerals of reference denote corresponding parts in the several figures.

Referring to the drawings, A designates the bed of the machine, from which rise the goose-neck, upright, or arm 1 and support 2 for cloth-plate 3. In the upright or arm 1 and support 2 is mounted the driving-shaft 4, carrying the driving-pulley 5. Adjacent to the driving-pulley on the driving-shaft are two eccentrics, one of which is encircled by the yoke 6 of a connecting-rod 7 and the other by the yoke 8 of a connecting-rod 9. The rod 7 is attached by a ball-and-socket knuckle or universal joint 10 with the vibrating arm or bar B, which is mounted on the arm 1 and connected by means of a pivoted link 11 with the needle-bar 12, carrying the reciprocating needle 13.

A presser-foot and feeding device of any well-known construction are employed for evident purposes.

The driving-shaft 4 carries an eccentric which is encircled by the yoke 14 of a rod 15,

whose lower end is connected by a ball-and-socket knuckle or universal joint 16 with a lever C, the outer end of which carries a looper or looping-needle D, which is so disposed thereon as to move in oblique directions through the cloth-plate 3. For the needle 13 and looping-needle D a suitable take-up is provided for well-known purposes.

Mounted on the arm 1 is a rock-shaft E, which is parallel with shaft 4 and operated at one end by a crank 17 and a pitman or rod 9, the latter having the yoke 8, which encircles an eccentric on said driving-shaft 4. The outer end of the rock-shaft carries a crank 18, to which is pivoted an arm 19, whose lower end is connected by a ball-and-socket knuckle or universal joint 20 with an elbow-lever 21, the latter being mounted on the adjacent portion of the arm 1 and having secured to its lower limb a hook F, which I denominate a "spreader" or "spreading-hook," the same having its point so disposed that at a proper time it takes a loop or thread from the looper D and conveys it to the path of the descending needle 13 for forming an overseam.

The operation is as follows: Power is applied to the driving-pulley 5, whereby motion is communicated to the shafts 4 and E and the parts connected therewith. The needle 13 rises and falls. The looper or looping-needle D also rises and falls, due to the action of the lever C and connected mechanism. The elbow-lever 21 is also operated, due to the arm 19, crank 18, and rock-shaft E, whereby the spreader F engages with the thread on the looper D and takes the same in the form of an elongated loop from said looper to the path of the descending needle 13. The fabric is placed on the cloth-plate. The needle 13 descends and passes through the fabric near the edges thereof. The looper D rises and passes between the thread and the needle, forming a loop on the under side of fabric adjacent to the edge thereof. The looper continues its ascent, taking its own thread with it through the throat of the cloth-plate, and the needle 13 rises. The spreader now advances to the looper and engages with the thread at the top of the same and carries it forward in the form of a spread or widened loop beneath the nee-

dle 13 in order to be in the path thereof. The needle 13 then descends and enters the loop on the spreader, after which the looper recedes, tightening the loop, and the spreader returns to its normal position, it being seen that an overseaming is thus formed on the edge of the fabric, as seen at 22, Fig. 13. In Fig. 5 the needle 13 is illustrated as passing through the fabric and the looper rising to take the needle-thread. In Fig. 6 the looper is shown as passing through the needle-loop, and Fig. 7 is a view taken at right angles thereto. In Fig. 8 the spreader is shown as approaching the looper to take the loop therefrom. In Fig. 9 the spreader is in the act of taking the looper-thread, and Fig. 10 is a top plan view thereof. In Fig. 11 the spreader has carried the looper-thread to the path of the descending needle; and, finally, in Fig. 12 the descending needle is passing through the looper-thread, the spreader is receding, and the looper descending, the steps described in successive order producing the overseam.

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

1. In a machine for overseaming, the com-

bination of the needle, the looper, the lever carrying said looper, the link connected with said lever, the eccentric for operating upon said link, the spreader, the elbow-lever carrying said spreader, the rock-shaft connected with said elbow-lever, the link connected with said rock-shaft, and the eccentric for operating upon the link to rock the shaft, all combined and operating in the manner and for the purpose described.

2. The combination of the upright 1 and standard 2, a driving-shaft having eccentrics thereon and journaled in said upright and standard, the vibrating bar B, with needle-bar and needle, an oscillating shaft with pivoted spreader connected therewith, said bar and shaft having yoke-connections with said driving-shaft eccentrics, and a pivoted lever below the cloth-plate having a yoke connected with an eccentric on the driving-shaft, said pivoted lever carrying a looper-needle, substantially as described.

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