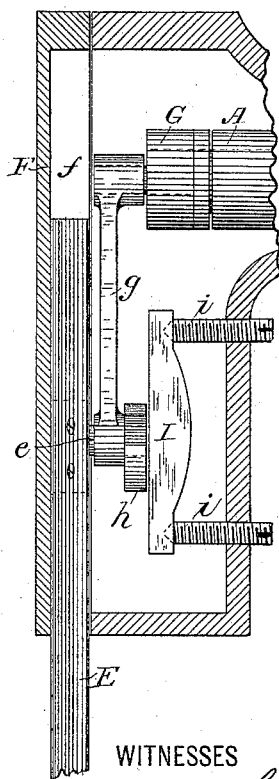
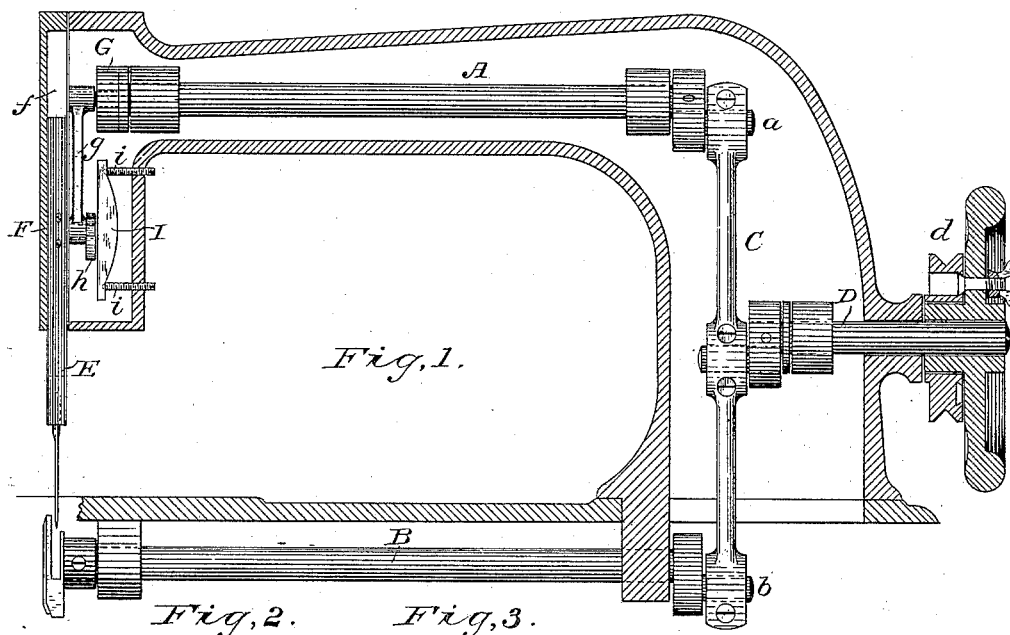


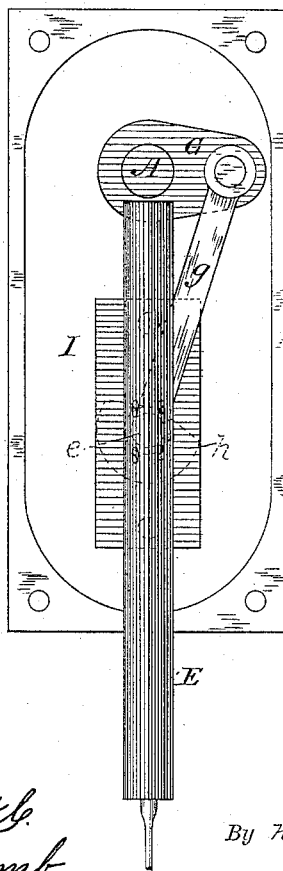
J. H. PALMER.  
SEWING MACHINE.

Patented Oct. 14, 1884.



WITNESSES

Wm A. Skinkle  
Henry A. Lamb.



*Fig, 5.*

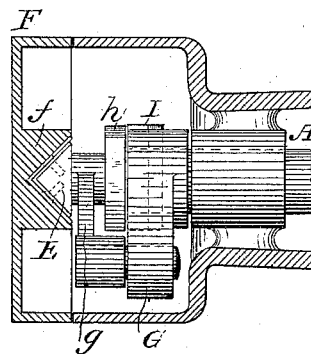
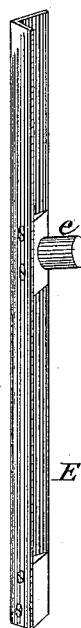


Fig. 4.

INVENTOR

*John H. Palmer.*

By His Attorneys

Attorneys  
Baldwin, Hopkins & Ryan

# UNITED STATES PATENT OFFICE.

JOHN H. PALMER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMERICAN BUTTONHOLE, OVERSEAMING AND SEWING MACHINE COMPANY, OF SAME PLACE.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,512, dated October 14, 1884.

Application filed March 8, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. PALMER, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention relates to the needle-bar and its connections and the devices for driving it.

The object of the invention is to render the machine more durable, and to so organize the parts of the machine that they may be assembled in the most simple manner.

In the accompanying drawings, Figure 1 is a longitudinal section through the bed-plate and goose-neck of a sewing-machine. Fig. 2 is an enlarged view of the needle-bar and its connections, as illustrated in the left-hand side of Fig. 1. Fig. 3 is an elevation of the same devices, looking toward the drive-pulley of the machine. Fig. 4 is a plan view of the same devices, and Fig. 5 is a perspective view of the needle-bar.

The needle-driving shaft A and the looper and feed-shaft B are mounted in suitable bearings, and are provided with cranks *a b*, the wrist-pins of which are connected by a coupling-bar or pitman, C. The cranks are preferably weighted to counterbalance the gravity of this bar. The drive-shaft D, which carries the driving-pulley *d*, carries a crank, the wrist-pin of which engages in a socket in the pitman C, midway between the cranks of the shafts A and B. The wrist-pins on the cranks of the shafts A and B are slipped loosely in the sockets in the ends of the pitman C, while the wrist-pin on the crank of the drive-shaft D slips loosely into the central socket in the pitman from the opposite side. The parts will therefore be retained in position without any securing devices whatever, except the collar, which prevents the drive-shaft D from moving endwise away from the pitman C. By this construction the shafts are driven accurately and uniformly without much vibration even at high speeds, the number of parts is reduced, and much simplicity of assemblage is obtained. The construction thus far described, however, is not claimed herein, as it forms the subject-matter of a division of this application filed

May 19, 1884, and numbered 132,102. The needle-bar E is preferably formed of angular cross-section, and works in a corresponding angularly-shaped socket formed in a thickened portion, *f*, of the face-plate or cover F of the end of the goose neck.

The particular needle-bar which I prefer to employ is that illustrated in Fig. 5, which is formed of a piece of metal bent at right angles, and is provided with a block in which the needle is socketed, and another block carrying a pin for the reception of the pitman *g* of the crank G on the needle-driving shaft A. This pitman preferably carries on its side farthest from the needle-bar a plate, *h*, the plane surface of which works against an adjusting guard-plate, I, the position of which relatively to the plate *h* and the needle-bar may be varied by adjusting-screws *i*. The pitman *g* is slipped loosely on the pin of the crank G, and on the pin *e* carried by the needle-bar, and the plate I is adjusted in such relation to the bearing-plate *h* that when the cover F is put in place over the needle-bar the parts will all be securely coupled for operation.

It will be clear that, so far as part of my invention is concerned, an angular needle-bar need not be employed, and that a circular one working in a suitable guide or socket may be used. It is also clear that instead of having a continuous bearing for one side of the needle-bar, as illustrated, a bearing at two or more points only would be necessary, and that instead of having the point *e* on the needle-bar the pin might be carried on the pitman *g* and be loosely seated in a socket in the needle-bar.

Any wear of the parts may be compensated by adjusting the plate I, as will be obvious.

With this construction a machine of the utmost simplicity and of great durability, the parts of which may be assembled with considerable facility, is produced.

No claim is made in this application to the particular drive-pulley *d* illustrated in the drawings, as that subject-matter is claimed in Letters Patent No. 301,456, granted to me July 1, 1884.

I am aware that an angular needle-bar work-

ing in a divided or two-part socket or bearing in the frame the sections of which are made adjustable to compensate for wear is old.

I am also aware that an angular needle-bar 5 working in a socket in the frame of the machine, in connection with adjustable bearing-plates for compensating wear of the needle-bar, is old, and I therefore make no claim to such subject-matter.

10 I claim as my invention—

1. The combination of a needle-bar, a bearing or guide in or against which the needle-bar works on one side, a shaft, A, a pitman for actuating the needle-bar, crank-con- 15 nections between the pitman and the shaft A and needle-bar, and an adjusting-plate which works against the crank-connection between the pitman and needle-bar to adjust the needle-bar in its bearing to compensate wear.

20 2. The combination of a needle-bar, a guide or bearing against or in which the needle-bar works on one side, the needle-actuating shaft A, the pitman connecting the crank of the shaft A and the needle-bar, and loosely con- 25 nected with the crank and the needle bar, and a guard-plate which maintains the integrity of the connections between the needle-bar and the shaft A.

3. The combination of a needle-bar, a guide

or bearing against or in which the needle-bar 30 works on one side, the needle-actuating shaft A, the pitman connecting the crank of the shaft A and the needle-bar, a bearing-plate carried at the end of the pitman, and the ad- justable plate I. 35

4. The combination of a needle bar, a guide or bearing against or in which the needle-bar works on one side, the needle-actuating shaft A, the pitman connecting the crank of the shaft A and the needle-bar, and loosely con- 40 nected with the crank and the needle-bar, and an adjustable guard-plate which maintains the integrity of the connections between the needle-bar and the shaft A.

5. A needle-bar consisting of a piece of 45 metal bent at right angles and provided with blocks for the needle-socket, and the support of the crank-pin, in combination with a correspondingly-shaped angular bearing for the needle-bar, and the needle-bar-actuating de- 50 vices.

In testimony whereof I have hereunto sub- scribed my name this 1st day of March, A. D. 1884.

JOHN H. PALMER.

Witnesses:

W. E. STEEN,

JOHN M. HUGHES.