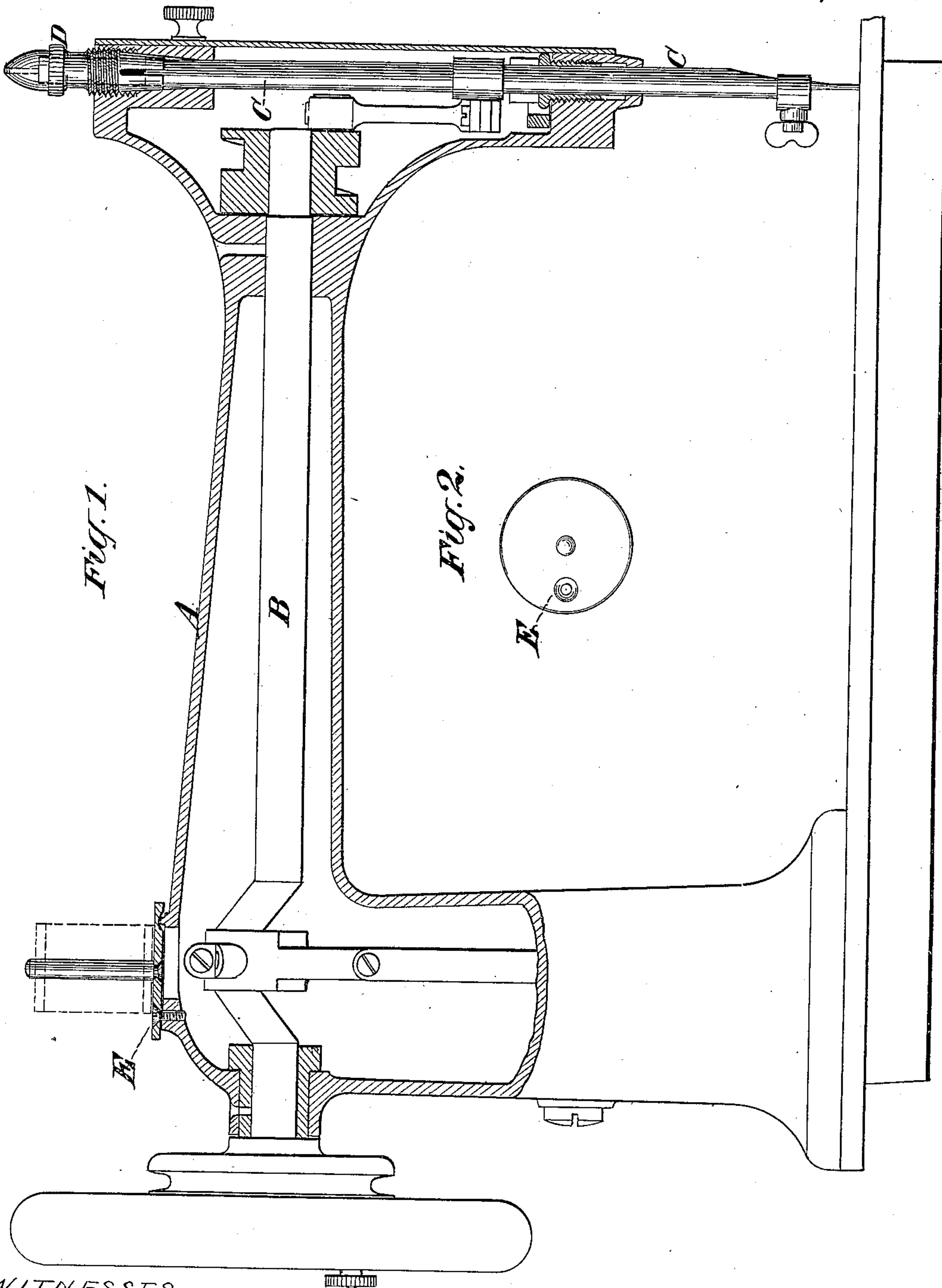


(No Model.)

W. A. MACK.
SEWING MACHINE.

No. 356,203.

Patented Jan. 18, 1887.



WITNESSES

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WILLIAM A. MACK, OF NORWALK, OHIO.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 355,203, dated January 18, 1887.

Original application filed April 25, 1885, Serial No. 163,395. Divided and this application filed July 8, 1885. Serial No. 170,951.
(No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MACK, a citizen of the United States, residing in the city of Norwalk, county of Huron, and State of Ohio, have invented certain new and useful Improvements in Sewing-Machines, of which the following, taken in connection with the drawings, is a specification.

My invention hereinafter set forth, which forms a part of improvements described in applications, Serial No. 163,395, filed April 25, 1885, of which this is a division, and Serial No. 176,878, filed September 12, 1885, Serial No. 176,879, filed September 12, 1885, and Serial No. 176,880, filed September 12, 1885, and for which separate applications are now pending, relates to sewing-machines and parts thereof; and it consists, first, in the combination, with the needle-bar, of an adjustable device serving as a cap, whereby the upper part or end of the needle-bar is covered and within which it vibrates, which cap is also adapted to serve as a compensating sleeve for preventing undue looseness of the bearing-surfaces thereof; and, second, in the combination, with the arm of the machine, of the adjustable cap adapted to serve as a spool-holder and as an adjustable cover for the engaging surfaces at the union of the driving-shaft and the eccentrics, whereby adjustment and oiling of the parts may be accomplished more readily and with less difficulty than when otherwise constructed.

Referring to the drawings, Figure 1 represents a vertical longitudinal section of the head of a sewing-machine, showing the needle-bar in position, together with its cap and an adjustable cover and spool-holder, the upper driving-shaft, and other immediate connecting parts. Fig. 2 represents a top view of the adjustable cap and spool-pin.

In the drawings, A represents the arm of a sewing-machine in section, and B is the upper driving-shaft for imparting motion to the needle-bar and feeding mechanism, and C is the needle-bar, and D an adjustable cap covering the top of the latter, serving also as a sleeve and bearing-support for the upper part of said needle-bar.

E is a device hinged to the top surface of

the arm just over the point of union of the vertical rods and lever with the driving-shaft or with the eccentric or cam thereon. This device is provided with a spindle vertically arranged thereon, which serves to hold and support the upper spool and allow it to rotate and deliver thread, as may be required, while the machine is in operation. This cover is held in the particular instance by a screw, by means of which the cover is allowed to swing, so as to expose the bearings located directly beneath at the union of the levers, &c., with the shaft before referred to.

The cap which supports the upper end of the needle-bar is threaded upon a portion of its exterior, by which means it is held adjustably in position at or near the top of the face part of the arm of the machine, which is likewise threaded to receive it. The cap is bored nearly through its length to form the bearing for that part of the needle-bar which is intended to reciprocate within it, (although a very small hole for the escape of air may pass entirely through,) and, to compensate for the wear that occurs to the engaging parts, the threaded parts, either of the cap or sleeve, or the threaded opening by which the latter is held in position, are made tapering. In most cases, however, a very slight taper only is necessary; but this may be varied according to circumstances. The sleeve may be slit to allow the necessary compression to properly embrace the needle-bar when screwed into position for that purpose. In addition to the advantages for adjustment of the bearing-surfaces, this cap and sleeve serve as a protection to the eye and face of the operator in bending over it while in operation, as the vertical reciprocation of the upper end of the bar is entirely covered.

The several devices herein set forth as my improvements are adapted for application to sewing-machines of various kinds. The other parts common to sewing-machines I need not here refer to, for the reason that for the most part they are common and well known to those skilled in the art.

Having thus set forth my invention, what I claim as new, and desire to secure by Let-

ters Patent of the United States of America,
is—

In a sewing-machine, the combination, with
the needle-bar thereof, of the sleeve or cap
5 having a slit in the lower portion thereof, and
having a tapering screw-threaded connection
with the machine-head, as described, whereby

the device serves as a compensating bearing
for the needle-bar and as a cover to inclose the
top of the same, as set forth.

WILLIAM A. MACK.

Witnesses:

ALVIN B. GRIFFIN,
D. E. COLE.