

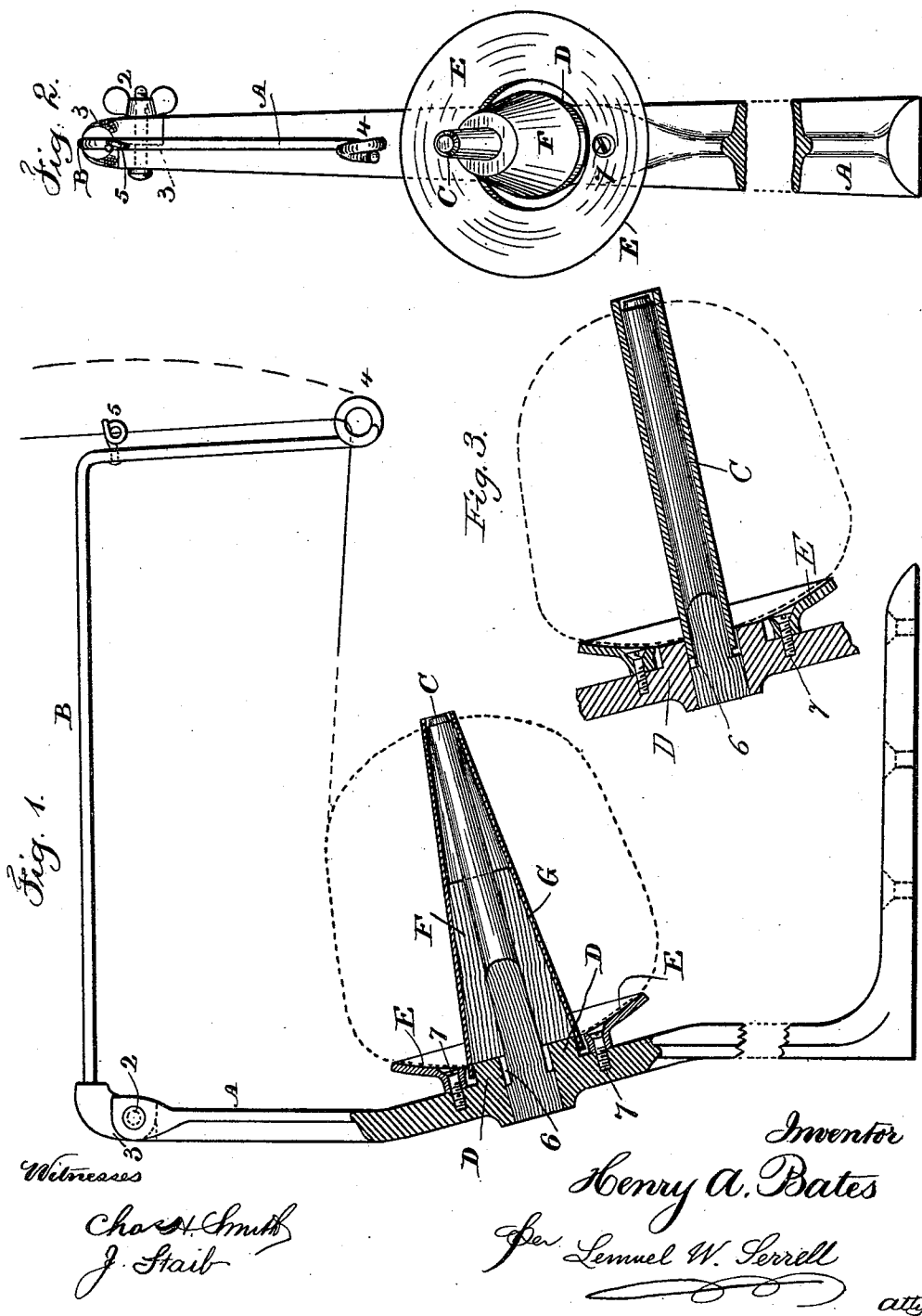
(No Model.)

H. A. BATES.

THREAD UNWINDING DEVICE FOR SEWING MACHINES.

No. 463,822.

Patented Nov. 24, 1891.



UNITED STATES PATENT OFFICE.

HENRY A. BATES, OF NEW YORK, N. Y.

THREAD-UNWINDING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 463,822, dated November 24, 1891.

Application filed January 14, 1891. Serial No. 377,712. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. BATES, a citizen of the United States, residing in the city and State of New York, have invented an Improved Thread-Unwinding Device for Sewing-Machines, of which the following is a specification.

The thread that is made use of in sewing boots and shoes and in some other kinds of sewing-machines is generally highly polished and wound upon paper tubes known as "quills," and sometimes these quills are of nearly uniform diameter from end to end and sometimes they are conical; but in consequence of the thread being very smooth the coils or convolutions sometimes slip and drop off the ball or bobbin and become tangled. In cases where the axis of the quill is vertical the coils of thread frequently fall down to the base of the quill and are drawn up around the quill in a loop that tightens and eventually breaks, and in cases where the axis of the quill is horizontal the coils frequently slip off the end of the quill and fall down in such a manner as to loosen up the thread and get in the way of the operator or become tangled.

The object of my invention is to obviate these difficulties and to prevent the coils of polished thread slipping upon the ball or quill in either one direction or the other, thereby rendering the supply of thread uniform and preventing the thread from becoming tangled or broken.

In the drawings, Figure 1 is an elevation partially in section of the present improvement. Fig. 2 is a view endwise of the conical quill-holder, and Fig. 3 is a detached view showing a quill upon the slightly-tapering holder.

The standard A is of suitable size, and the height is to be such as to adapt the parts to the machine with which it is employed, and at the top of the standard is an arm B, preferably hinged to the top of the standard, so that it can be swung up in the direction indicated by the dotted lines, there being a pivotal screw and clamping-nut 2 forming the axis of the joint 3 of the arm, and upon this arm are the eyes 4 5, through which the thread passes to the sewing-machine, and the eye 4 is in line with the axis of the quill-holder. The quill-holder C is slightly tapering and in-

clined upwardly about fifteen degrees, and it is preferably formed of a wooden peg driven into a hole in the standard A, such wooden peg having a body portion that is smaller than the head portion within the hole in the standard A, as shown in Fig. 1, so that when a cylindrical or nearly cylindrical quill of paper is passed over the quill-holder C, the end of the quill will pass into the annular recess around the body of the quill-holder, and in this position the quill is held by the friction, and the thread upon the quill will rest against the surface or boss D upon the standard, the quill-holder being central to the said boss. Around the boss is a thread-base E, the surface of which is dishing, and this thread-base is attached by screws 7 to the standard A, and there is an annular opening between the edge of the boss and the inner edge of the thread-base, and this thread-base may be of cast or wrought metal and it may be either plain or of open-work. The conical quill-holder F is usually of wood and adapted to surround the quill-holder C when a conical quill G is made use of, and the base of this quill-holder F corresponds in size, or nearly so, to the boss D, so that when the conical quill G is thrust upon the holder F the larger end of the paper will pass in between the edge of the boss D and the inner edge of the thread-base E, in order that the thread wound upon the quill may come up against the thread-base E, or nearly so, in the manner indicated by dotted lines in Fig. 1. Under all circumstances, whether a conical quill G is made use of or a cylindrical quill to fit the holder C, they are tubular, and the upward inclination of the quill-holder is such that coils of thread, if they become loosened, will hang from the ball or quill and draw off in succession, because the upper surface of the coils of thread has a slight backward inclination, enough to prevent the polished thread from coming off more than one coil at a time, even though several coils may be loosened by the unwinding operation. By this upward inclination of the quill-holder the difficulties heretofore experienced are avoided, and in addition to this the thread passing through the two eyes 4 and 5 receives sufficient friction to prevent the weight of the thread between the eye 5 and the machine drawing the thread unduly

and causing it to hang loosely between the machine and the eye 5, and when a fresh ball of thread is to be put in place the arm B is sprung up, the quill removed, and another ball and its quill placed in position.

I claim—

1. A quill-holder having an upward inclination of about fifteen degrees to the plane of the horizon, in combination with a nearly-vertical standard having a thread-base that is perpendicular to the quill-holder, there being an annular recess for the reception of the end of the quill, and a separate thread-eye supported by the standard and in line, or nearly so, with the longitudinal axis of the quill-holder, substantially as set forth.

2. The combination, with the standard hav-

ing a cylindrical boss and an opening, of a quill-holder passing through the opening, there being an annular recess between the quill-holder and the boss, a thread-base surrounding the boss and secured to the standard, the quill-holder having an upward inclination of about fifteen degrees to the plane of the horizon, and the hinged arm and the eye supported by the same in line, or nearly so, with the longitudinal axis of the quill-holder, substantially as set forth.

Signed by me this 12th day of January, 1891.

H. A. BATES.

Witnesses:

GEO. T. PINCKNEY,

HAROLD SERRELL.