

Oct. 24, 1933.

C. C. WILSON

1,931,916

SEWING MACHINE

Filed Oct. 6, 1931

Fig. 1.

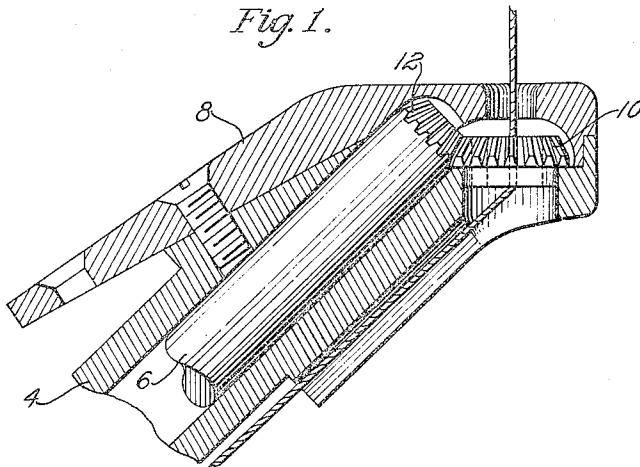
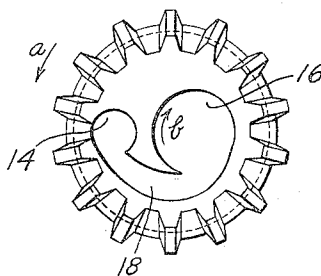


Fig. 2.



Witness
F. A. Wright

Inventor
Clarence C. Wilson
by Van Eversen Fish
Waldreth Henry Atlys

UNITED STATES PATENT OFFICE

1,931,916

SEWING MACHINE

Clarence C. Wilson, Auburn, Maine, assignor
to United Shoe Machinery Corporation, Paterson,
N. J., a corporation of New Jersey

Application October 6, 1931. Serial No. 567,208

3 Claims. (Cl. 112—34)

The present invention relates to sole sewing machines of the McKay type in which the shoe is supported on a rotatable horn located within the shoe and constructed to carry a rotary whirl which places thread in the hook of the needle after the needle has passed through the sole and through the needle hole in the tip of the horn and entered the needle hole in the whirl.

In threading the horn, the practice has been to pass the thread upwardly through the eccentric thread eye formed in the whirl, and thence upwardly through the needle hole in the tip of the horn. The thread eye in the whirl is necessarily small because of the limited size of the whirl and consequently causes considerable delay and inconvenience in the threading operation. The object of the present invention is to eliminate this delay and inconvenience and, to that end, the whirl, hereinafter described as embodying the preferred form of the invention, is provided with a thread passage extending from the needle hole formed therein to the eccentric thread eye, thus permitting the threading of the whirl by passing the thread through the needle hole and then transferring it sideways to the thread eye through said passage. In the illustrated embodiment of the invention the thread passage in the whirl is arranged to effect the automatic transfer of the thread from the needle hole into the thread eye during the rotation of the whirl. In its broader aspects, however, the invention includes a thread passage extending from the needle hole to the thread eye whereby the operator may manually transfer the thread to the thread eye after passing it upwardly through the needle hole in the whirl. Also in its broader aspects the invention contemplates, in a whirl, any arrangement of thread passage or slot extending from the thread eye through which the thread may be passed sideways into the thread eye in threading the whirl.

A horn embodying the present invention is illustrated in the accompanying drawing in which Figure 1 is a view in vertical section of the tip of the horn; and Figure 2 is a plan view of the whirl.

The horn illustrated in the drawing is of usual construction and comprises the body portion 4 in the upper portion of which a driving shaft 6 is mounted in the usual manner, and a cap piece 8 secured to the upper surface of the body portion 4. The whirl is indicated at 10 and in the construction shown consists of a disc journaled in the body portion 4 in the usual manner and having bevelled gear teeth formed in

its periphery for engagement with a bevel gear 12 at the end of the driving shaft 6. The whirl is provided with the usual eccentric thread eye 14 and needle hole 16.

In accordance with the feature of the invention, the thread eye and needle hole are connected by a thread passage 18 so formed that the outer wall of the passage together with the periphery of the hole, forms a spiral surface extending from a point near the center of the whirl to the periphery of the eccentric thread eye 14.

The threading operation is as follows: The thread is passed upwardly through the needle hole 16, the work is mounted on the horn and the machine is thrown into operation thereby rotating the whirl in the direction of the arrow *a*, Figure 2, and transferring the thread, relatively to the whirl, in the direction of the arrow *b*, Figure 2, about the periphery of the needle hole 16, thence along the outer wall of the thread passage 18, and finally, at the end of a complete revolution of the whirl, positioning the thread within the eccentric thread eye 14. The thread is held against the periphery of the needle hole by the strain exerted thereon in mounting a shoe upon the horn, thus insuring the entrance of the thread into the thread passage 18 in the whirl as said passage comes into position to receive the thread.

The nature and scope of the invention having been indicated, and an embodiment of the invention having been specifically described, what is claimed is:

1. In a work supporting horn for sewing machines of the McKay type, a rotary whirl journaled therein provided with a needle hole and provided also with an eccentric thread eye and with a thread passage extending from the needle hole to the thread eye.

2. In a work supporting horn for sewing machines of the McKay type, a rotary whirl journaled therein provided with a needle hole, provided also with an eccentric thread eye and with a thread passage extending from the needle hole to the thread eye and arranged to effect the transfer of the thread from the needle hole into the thread eye during the rotation of the whirl.

3. In a work supporting horn for sewing machines of the McKay type, a rotary whirl journaled therein provided with a needle hole, and provided also with an eccentric thread eye and with a thread passage extending from the thread eye through which the thread is passed sideways into the thread eye in threading the whirl.

CLARENCE C. WILSON.