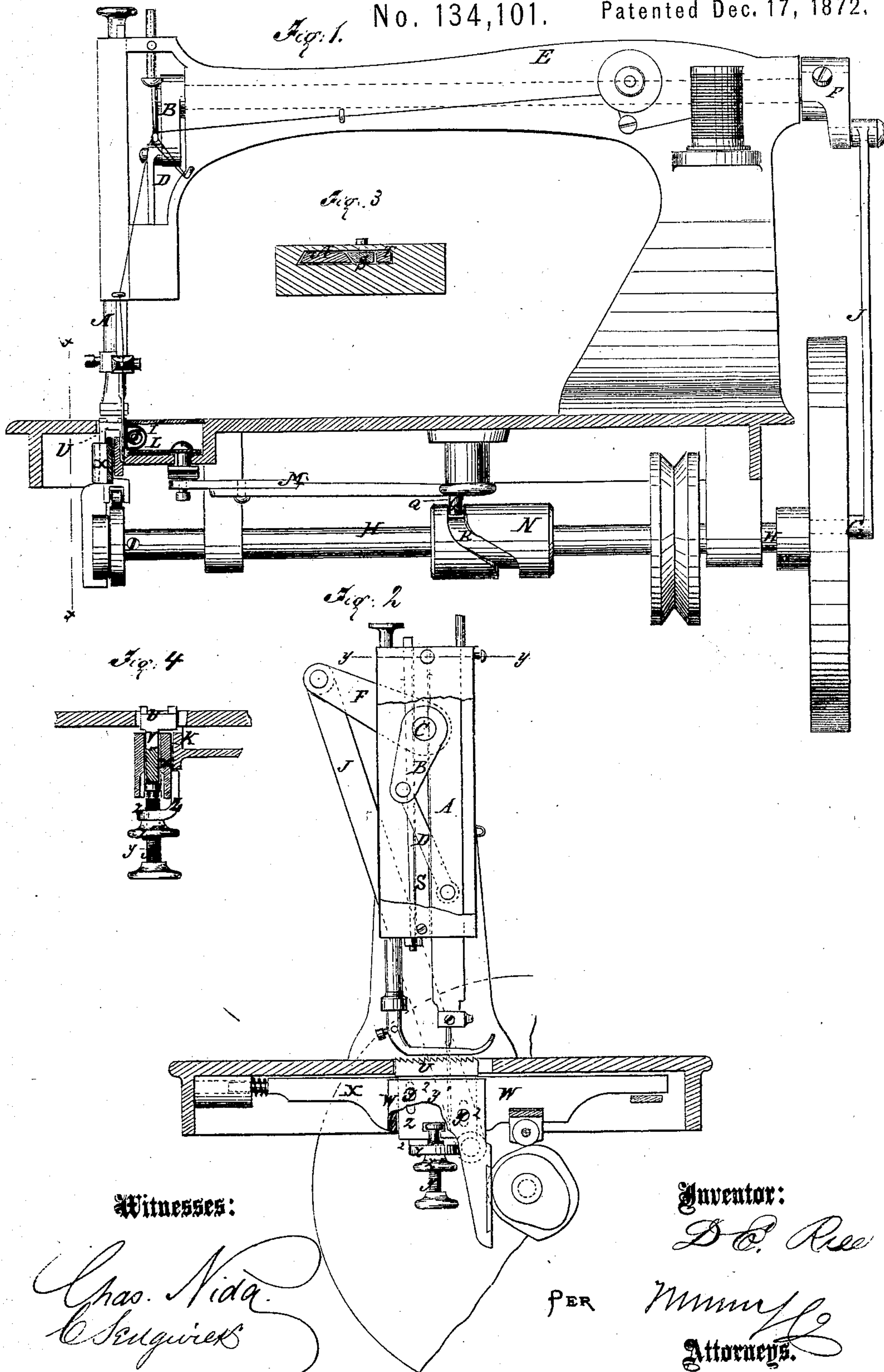


D. E. RICE.
Sewing-Machines.

No. 134,101.

Patented Dec. 17, 1872.



Witnesses:

Chas. Nida.
C. Siquier

Inventor:

D. E. Rice

PER

Munn & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL E. RICE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 134,101, dated December 17, 1872.

To all whom it may concern:

Be it known that I, DANIEL E. RICE, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Sewing-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

The invention consists in means for taking up looseness and wear on the needle-bar accurately and uniformly, and in means whereby the operator may adjust the feed-surface while in full view by mechanism placed under the table, as hereinafter fully described.

Figure 1 is a section through the table, the shuttle-race, and the feed-bar, and a side elevation of the other parts, the section being parallel with the arm which supports the needle-bar. Fig. 2 is a section of the table taken on the line *xx* of Fig. 1, and a front elevation of the other parts. Fig. 3 is a horizontal section of Fig. 2 taken on the line *yy*. Fig. 4 is a transverse section of the feed-bar and part of the feed-plate, the shuttle-race, and the table.

A is the needle-bar, which is connected to the crank B of the oscillating shaft C by the link or connecting-rod D. I is the shuttle; K, the face of the race whereon it acts; L, the shuttle-carrier; M, the arm for working said carrier; and N, the cam on the driving-shaft for working the arm, which is mounted on a pivot, O, and has an elbow, P, with a stud-pin, Q. The needle-bar A is flat, and reciprocates in and bears against angular ways, one of which is a portion of the face-plate and the other a gib, S, as shown in Fig. 3 of drawing. This gib S is tapered on the rear side to receive a corresponding and coincident face of the long key T, and is slotted transversely to enable it to move laterally on two screws, which fasten it to the face-plate so as to prevent any vertical movement. The side-beveled key T extends entirely and vertically through face-plate, and is threaded on the end to receive an adjusting-nut. By this construction the beveled side of key T has a bearing all along the

beveled face of gib S, and every movement of the key must move all parts of the gib uniformly. In this way the perpendicularity of the needle is constantly maintained and liability to fracture or misplacement prevented, while the nut will make the change required in position of gib without change being necessary in any of the adjuncts of the face-plate. In order to be able to adjust the feed-plate U up and down to vary its height, as is necessary to suit the requirements for working heavy or light goods, and to accomplish it without altering the plane of the face of the plate, which occurs when the lever on which the feed is mounted is swung up and down, as has been done heretofore, I mount the said feed-plate with a shank, V, in vertical ways W, so as to be shifted up and down on the lever or feed-bar X, which always remains in the same position; and to the lower end of this shank I attach an adjusting-screw, Y, by swiveling or otherwise connecting it, putting said screw in an arm, Z, or other device attached to lever X, to screw up and down, and providing it with a jam-nut, Z', to hold it when adjusted. The said shank V is held tightly in place by the front plate Y¹ and screws Y², the latter passing through slots in the shank, which allow the latter to rise and fall.

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

1. The means described for always maintaining a sewing-machine needle in a perpendicular position, consisting of an angular needle-bar, A, a transversely-slotted gib, S, laterally movable on screws and tapered on its rear side, and a long end-threaded key, T, passing vertically through the face-plate, and provided with adjusting-nut, as set forth.

2. The means for adjusting the feed-surface U V and enabling it to be kept in view by the person who adjusts it, consisting of the vertically-grooved feed-bar X, screw Y, nut-arm Z, and jam-nut Z', arranged as set forth.

Witnesses: DANIEL E. RICE.

JAMES P. PETIT,
CALVIN B. WALKER.