

(No Model.)

W. A. POLMATEER.
SEWING MACHINE.

No. 365,486.

Patented June 28, 1887.

Fig. 1.

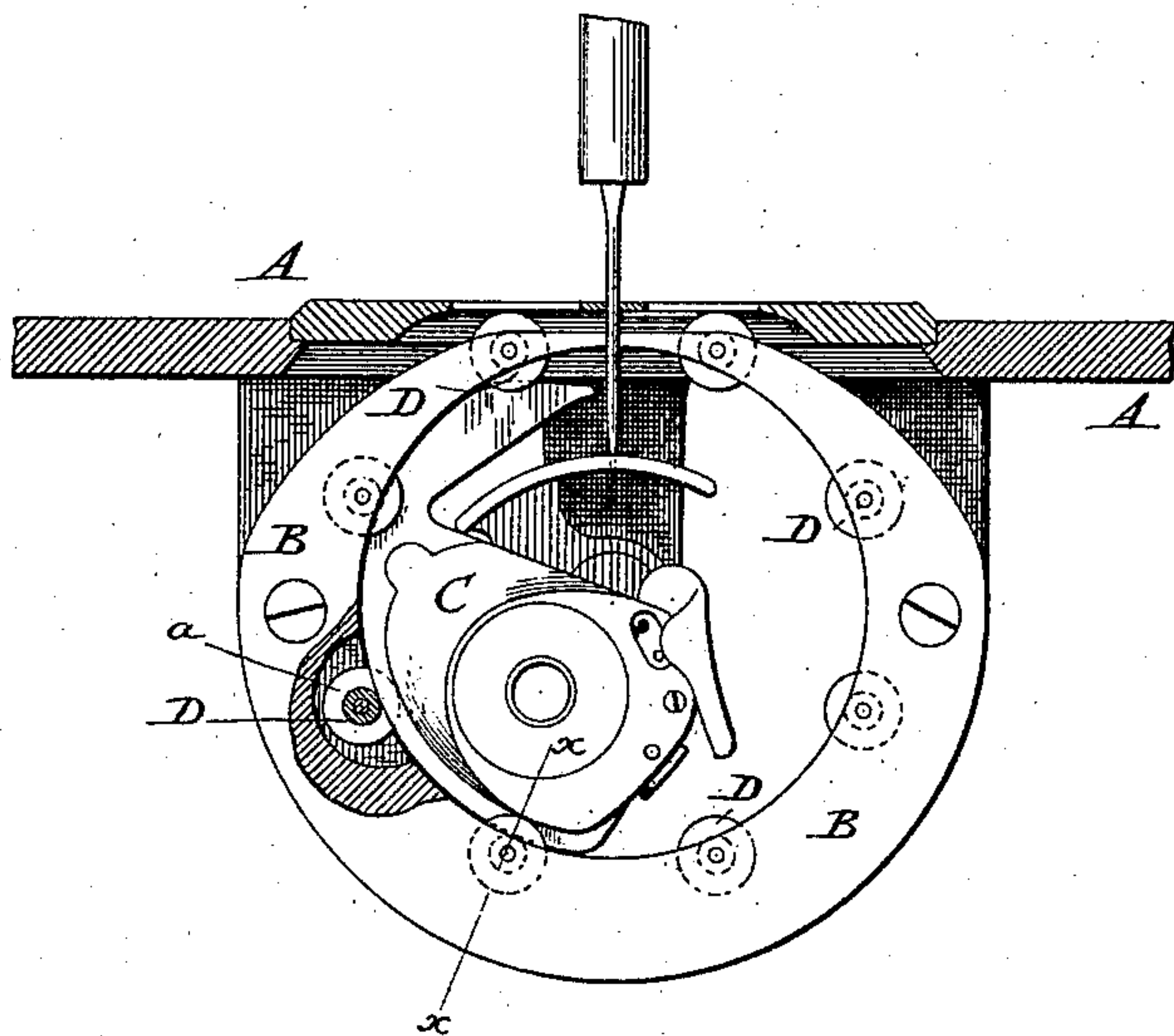
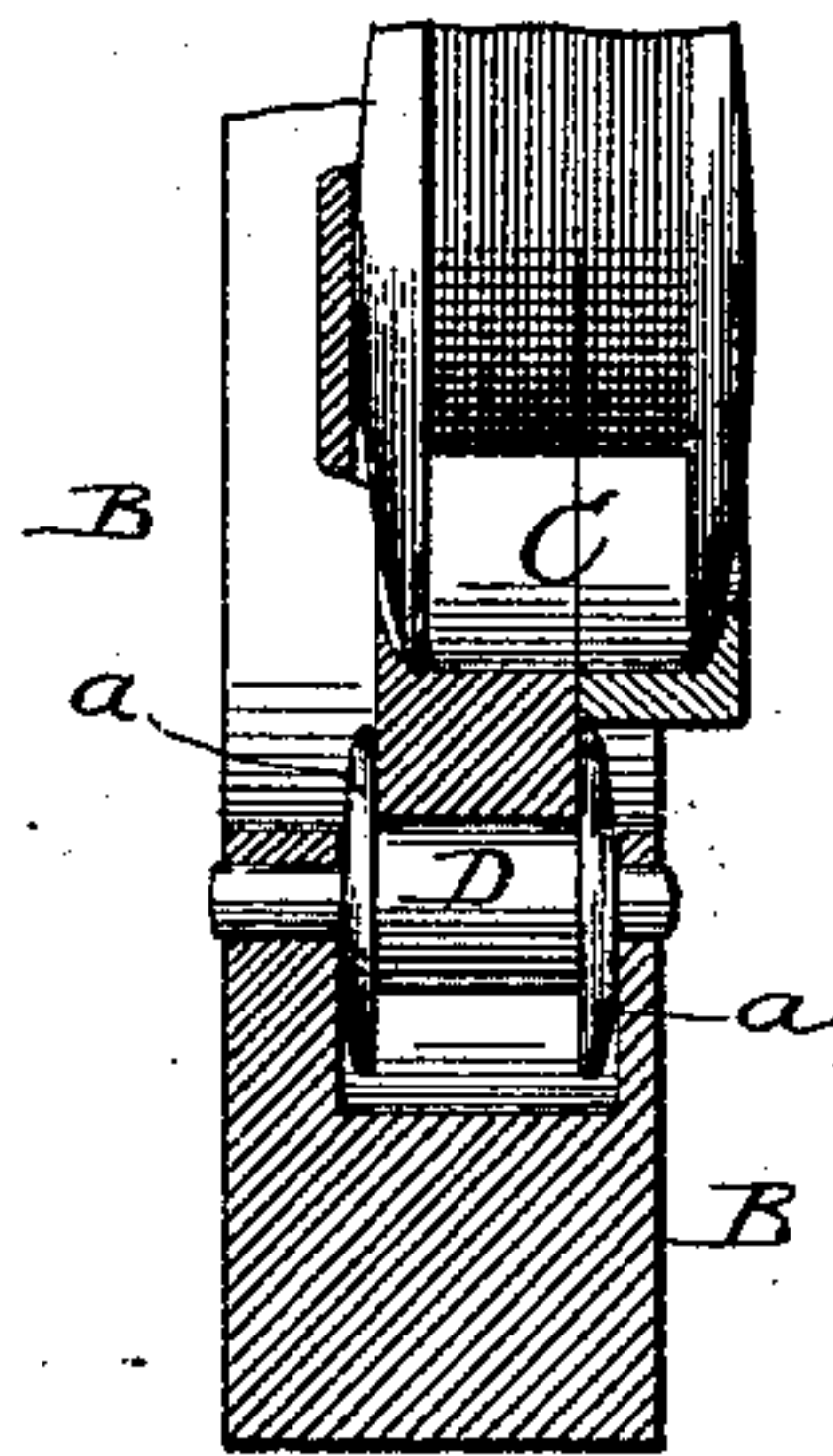


Fig. 2.
ON LINE X-X



Attest.

Sidney P. Hollingsworth
W. A. Kennedy.

Inventor.

W. A. Polmateer
By his atty
P. T. Dodge

UNITED STATES PATENT OFFICE.

WILLIAM A. POLMATEER, OF JOHNSTOWN, NEW YORK, ASSIGNOR TO
WILLIAM S. NORTHRUP, OF SAME PLACE.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 365,486, dated June 28, 1887.

Application filed January 24, 1887. Serial No. 225,358. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. POLMATEER, of Johnstown, in the county of Fulton and State of New York, have invented certain
5 Improvements in Sewing-Machines, of which the following is a specification.

This invention relates to that class of machines in which oscillating shuttles are employed, and particularly to improvements on
10 the machine for which Letters Patent of the United States were granted to me on the 3d day of November, 1885, No. 329,484, wherein a series of rollers were grouped around the shuttle to engage its periphery and afford a
15 proper guidance therefor. In the original machine I employed rollers having beveled edges to enter a V-groove in the shuttle, or with V-grooves to receive the beveled edge of the shuttle. In practice it has been found
20 that when operating the machine at very high speeds, and with threads under heavy tension, as in the sewing of leather, the beveled bearing-surfaces are open to certain minor objections, which it is the object of the present in-
25 vention to overcome. To this end I now construct the shuttle, as was done prior to my original invention, with flat peripheral faces and two side faces at right angles thereto, or, in other words, of rectangular cross section,
30 and combine therewith guiding-rolls which have flat peripheral faces to bear against and support the periphery of the shuttle and flanged at the two ends to engage the side faces of the shuttle and prevent its lateral motion.
35 This construction gives much greater area than before to the supporting and wearing surfaces of the rolls and the shuttle, and presents the wearing-surfaces of the periphery and the side faces at right angles to the direc-
40 tion of the strain and pressure. I find in practice, as a result of this fact, that the shuttle may be driven at high speeds and operated with thread under heavy tension for long periods of time without lubrication and with-
45 out producing such wear as to permit lateral play of the shuttle.

Although the rollers constructed and applied as in my previous patent were highly advantageous as compared with previous con-

structions, and gave good results under ordi- 50
nary conditions, it was found that their surfaces and the surfaces of the shuttle would in time become worn so as to produce an increased friction between them and to permit
the edge of the shuttle to play laterally to a 55
limited extent. The present construction wholly overcomes these difficulties.

The use of the flanged rolls herein described is also advantageous, in that it avoids the necessity for the shuttle clamping finger *c* shown 60
in my former patent.

In the accompanying drawings, Figure 1 represents a side elevation of a shuttle and its race constructed in accordance with my present invention, the needle and cloth-plate being 65
also shown in position. Fig. 2 is a cross-section on the line *x x* of Fig. 1.

Referring to the drawings, A represents the cloth-plate; B, the stationary ring or race, having a central opening, in which the oscillating 70
shuttle C is located; and D D, the series of shuttle supporting and guiding rollers, having their pivots or journals seated in the ring B. As shown in Fig. 2, the shuttle has its outer edge of rectangular form in cross-section, 75
while the rollers are each formed with a cylindrical body to bear against the flat outer edge of the shuttle, and with two side flanges, *a*, having their inner faces perpendicular to the surface of the body and adapted to overlap 80
the side faces of the shuttle.

Having thus described my invention, what I claim is—

In a sewing-machine, the combination of an oscillating shuttle and a series of rolls 85
grouped around the peripheral path of the shuttle, having a flat periphery and flat side faces, and the rollers having circumferential grooves of corresponding form as distinguished from rolls having V-shaped grooves therein. 90

In testimony whereof I hereunto set my hand, this 24th day of December, 1886, in the presence of two attesting witnesses.

WILLIAM A. POLMATEER.

Witnesses:

WILLIAM S. NORTHRUP,
SIDNEY P. HOLLINGSWORTH.