

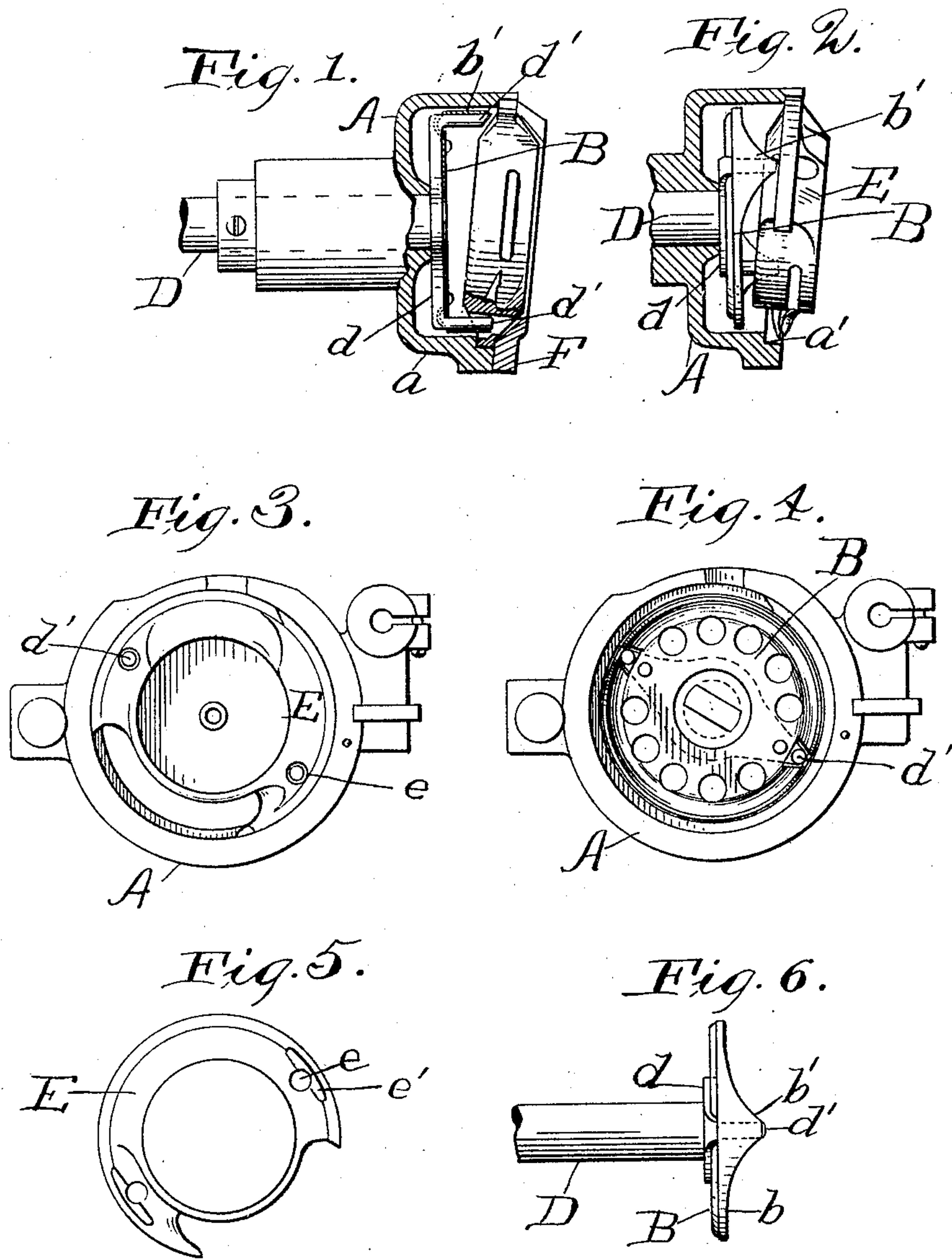
No. 799,339.

PATENTED SEPT. 12, 1905.

J. O. HUFFMAN.

LOOP TAKER DRIVER MECHANISM FOR SEWING MACHINES.

APPLICATION FILED MAR. 5, 1904.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## LOOP-TAKER DRIVER MECHANISM FOR SEWING-MACHINES.

No. 799,339.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed March 5, 1904. Serial No. 196,703.

*To all whom it may concern:*

Be it known that I, JOHN O. HUFFMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Loop-Taker Driver Mechanism, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention is an improvement in the type of loop-taker-driving mechanism which is the subject-matter of the Grothe patent, No. 690,722, of January 7, 1902.

The object is to prevent the thread from getting caught by the driver or any part thereof.

The invention consists in providing the driver with inclined cast-off surfaces in advance of the driver-fingers, in locating said cast-off surfaces so that they do not interfere with the driving engagement between the fingers and the loop-taker, in forming slots in the rear side of the loop-taker to accommodate said inclined cast-off surfaces, in the forming of said cast-off surfaces as a part of the outwardly-turned flange of a disk which is attached to the driver, and also in more specific features of construction, which are shown in the drawings and hereinafter described, and set forth definitely in the claims.

In the drawings, Figure 1 is a front view of the mechanism embodying the present invention, the front end of the driver-housing and a part of the loop-taker end of the driver-disk being sectioned, as indicated by the section-lines. Fig. 2 is a similar view when the loop-taker and its driver are in a different position from that shown in Fig. 1. Fig. 3 is a front end view of the loop-taker and housing when the retaining-plate is removed. Fig. 4 is a similar view when the loop-taker is also removed from the housing. Fig. 5 is a rear view of the loop-taker, and Fig. 6 a side elevation of the driver.

Referring to the parts by letters, A represents the loop-taker housing, which is to be secured to or formed upon the under side of the bed-plate of the sewing-machine head. The driver-shaft D is rotatably mounted in this housing and projects into the bell-shaped front end *a* thereof. A cross-arm *d* is secured to the end of this shaft within said bell-shaped end, and this arm is provided with forwardly-

projecting fingers *d'* for engagement in holes in the loop-taker. The loop-taker E is mounted in an annular raceway *a'* in the front end of the housing on an axis which is slightly oblique to the axis of the driver-shaft. The loop-taker is held in this raceway by a removable plate F, and it is provided with holes *e* for the reception of the driver-fingers. In the particulars above pointed out the mechanism shown is like that which is disclosed in the Grothe patent mentioned.

B represents a disk which is secured to the inner end of the shaft D, preferably by being riveted to the cross-arm *d*. It is preferably made of thin metal, and the edge of this disk is bent forward to form a small flange *b*, which flange adjacent to the two driver-fingers extends forward almost as far as said fingers do, lying outside of said fingers, but in contact with them. In fact, they are brazed or soldered to the fingers, so as to prevent the thread from getting between the fingers and flange. These high portions *b'* of said flange have inclined edges, which extend on both sides of the fingers. These inclined edges, and more especially those which are in front of the driver-fingers, serve as inclined cast-off surfaces, which throw the thread forward toward the loop-taker and prevent it from catching upon the driver-fingers. The disk B and its flange *b* also prevent the thread from getting behind the driver-arm, where it would be tangled upon it and the shaft.

In the rear side of the loop-taker intersecting the outer edges of holes for the driver-fingers are slots *e'*, which receive the cast-off flanges without interfering with the operative contact between the driver-fingers and the loop-taker.

Having described my invention, I claim—

1. The combination of a rotatable loop-taker having holes for the reception of driver-fingers, and a driver having fingers for engagement in said holes, one of said fingers having an inclined cast-off surface in advance thereof, the loop-taker having a slot for such surface adjacent to the corresponding finger-hole.

2. The combination of a rotatable loop-taker having holes for the reception of driver-fingers, and a driver rotating upon an axis oblique to that of the loop-taker and having fingers for engagement in said holes and inclined surfaces on both sides of said fingers,

the loop-taker having slots for such surfaces adjacent said holes.

3. The combination of a rotatable loop-taker having holes for the reception of driver-fingers, with a driver rotating upon an axis slightly oblique to that of the loop-taker, and having fingers for engagement in said holes, and a disk secured to the driver having an outwardly-extended inclined-edged projection outside of and secured to said driver-fingers, the loop-taker having slots for said projections adjacent to the said finger-holes.

4. The combination of a rotatable loop-taker having holes for the reception of driver-fingers, with a driver rotating upon an axis

slightly oblique to that of the loop-taker, and having fingers for engagement in said holes, a disk secured to the front end of the driver-shaft, and having holes for the passage of said fingers, and a forwardly-bent flange on its edge, which flange adjacent to said fingers extends forward substantially as far as said fingers and has inclined surfaces on both sides of said fingers.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN O. HUFFMAN.

Witnesses:

E. B. GILCHRIST,

E. L. THURSTON.