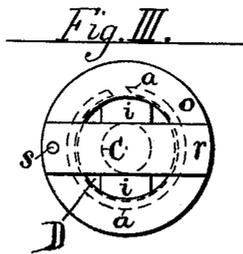
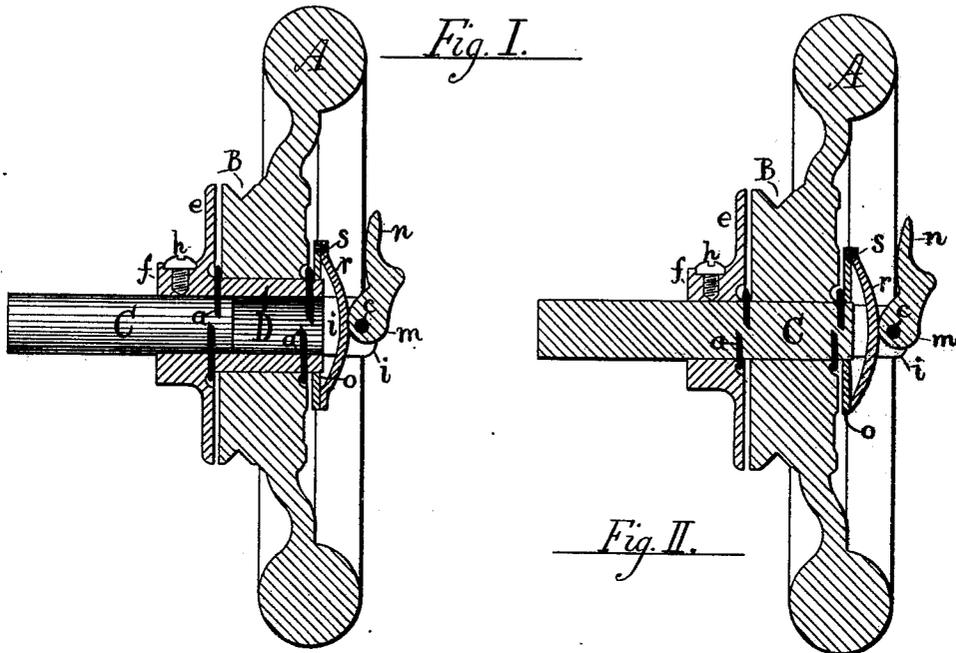


W. L. FISH.
 Clutch for Fly-Wheels of Sewing-Machines.
 No. 214,289. Patented April 15, 1879.



Attest:
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 By O. Drake, Atty.

UNITED STATES PATENT OFFICE.

WARREN L. FISH, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN CLUTCHES FOR FLY-WHEELS OF SEWING-MACHINES.

Specification forming part of Letters Patent No. 214,289, dated April 15, 1879; application filed October 7, 1878.

To all whom it may concern:

Be it known that I, WARREN L. FISH, of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Clutches for Fly-Wheels of Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved means for facilitating the winding of the bobbin of a sewing-machine, as described hereinafter, whereby the bobbin-winding attachment may be operated in either direction while the mechanism of the sewing-machine remains motionless.

The accompanying drawings illustrate the invention, Figure 1 representing a sectional view of the parts to which my invention relates. Fig. 2 is a modification of the same, and Fig. 3 is an end view.

Similar letters of reference indicate corresponding parts in each of the several figures.

In carrying out my invention, I may use a sleeve, D, adapted to receive the fly and pulley wheel A B. Said sleeve is shown in Fig. 1 as extending from a flanged collar, *ef*, forming a bearing against which to clamp the fly and pulley wheel; or the latter may turn directly on the shaft C and take its bearing against a flanged collar, *ef*, secured to the shaft, as shown in Fig. 2.

The fly and pulley wheel, being bored so as to nicely fit said sleeve or shaft without binding, is then placed thereon in position against the flanged collar *ef*, and an ordinary washer, *o*, is placed upon the sleeve or shaft in juxtaposition to the face of the fly-wheel, and secured to a spring or cross-bar, *r*, by means of a suitable pin, *s*, so as to be carried round with the sleeve, while capable of an independent movement longitudinal to the shaft. Said spring or cross-bar *r* is confined between ears *i*, formed on the end of the shaft. Outside of the cross-bar is pivoted at *c*, between the ears *i*, a small lever, *n*, the part *m* surrounding the pivot being formed

with an eccentric or cam-like edge, by means of which the spring or cross-bar may be pressed inward to clamp the fly-wheel between the flanged collar *ef* and the washer *o*.

A bent spring, *a*, of wire, is inserted between the fly-wheel and flanged collar *ef* on one side, and another similar spring is placed between the fly-wheel and the washer *o* on the other, for the purpose of separating the parts when said fly-wheel is released from pressure, so as to avoid friction as much as possible when operating the bobbin-winder. Annular grooves are formed in the hub of the fly and pulley wheel, or in the parts adjacent thereto, for the reception of said springs *a*, as indicated in the drawings.

The cross-bar *r* is preferably, though not necessarily, made of flexible material, and may be adjusted so as to bear directly against the face of the fly and pulley wheel without the intervention of the washer *o*, and I do not therefore confine myself to the latter. It serves, however, to greatly increase the frictional surfaces.

The coiled or circular springs *a* may also be dispensed with, if desired, without material disadvantage, and for the cam-lever may be substituted any other appropriate device adapted to press the washer *o* or bar *r* home against the face of the fly-wheel, and the wheel may be placed directly on the shaft, the sleeve D being dispensed with, as shown in Fig. 2 of the drawings.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sewing-machine, the combination, with the driving-shaft C, provided at its end with ears *i*, of the flanged collar *ef*, rigidly secured to said shaft, the fly and pulley wheel A B, the cross bar *r*, and cam-lever *n m*, pivoted to the ears *i* on the end of the shaft C, substantially as and for the purposes set forth.

2. The combination, with the driving-shaft C, having a collar or bearing, and with the fly and pulley wheel, of a device carried by the shaft and turning on a pin at right angles thereto, constructed to clamp said fly and pulley wheel against said collar on the shaft by a movement on the said pin, substantially as set forth.

3. The combination, with the fly and pulley

wheel and clamping device, of the spring or springs *a*, interposed between the frictional surfaces of the fly and pulley wheel and the clamping device, for the purpose set forth.

4. The combination, with the driving-shaft carrying a fixed collar, *e f*, and the fly and pulley wheel A B, of a washer, *o*, and bar *r*, susceptible of a movement longitudinal to the shaft, and means for forcing the said washer

and bar toward the fly and pulley wheel, all as set forth.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

WARREN L. FISH.

Witnesses:

OLIVER DRAKE,
P. J. INSLEE.