R. W. GORMLY.

Landing-Wheel for Knitting Machine.

No. 168,983. Patented Oct. 19, 1875.

Fig 1

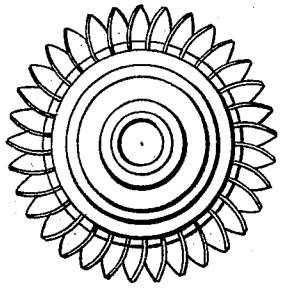


Fig 2

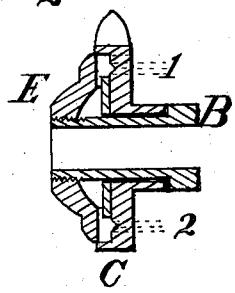


Fig 4

Fig 3

Fig 5

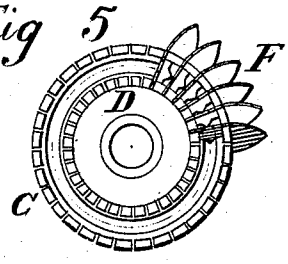


Fig 6

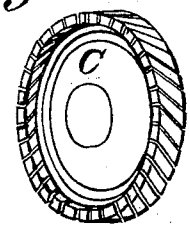
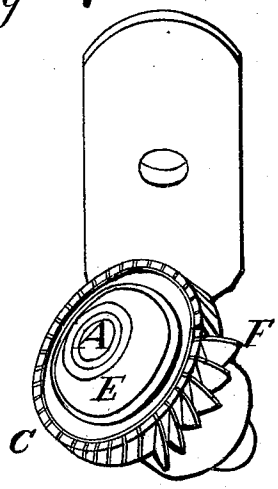


Fig 7



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UNITED STATES PATENT OFFICE.

ROBERT W. GORMLY, OF TROY, NEW YORK.

IMPROVEMENT IN LANDING-WHEELS FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. **168,983**, dated October 19, 1875; application filed April 28, 1875.

To all whom it may concern:

Be it known that I, ROBERT W. GORMLY, of the city of Troy, in the county of Rensselaer and State of New York, have invented an Improved Landing-Wheel for Knitting-Machines, of which the following is a specification:

My invention relates to certain new and useful improvements in landing or cast-off wheels for knitting-machines, the object of which is, after the loop is formed by the burr-wheel or looper in common use, to have a device which, in its operating parts, is rendered more durable in use, and more readily and firmly adjustable, than devices ordinarily employed for the same purpose, which construction and arrangement will be fully understood from the following description, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 is a plan of the landing-wheel. Fig. 2 is a vertical section of the same. Fig. 3 is a perspective of the inner slotted plate of the same. Fig. 4 is a detached view of one of the blades. Fig. 5 is a view with cap screw or nut removed, showing the upper edge of the blades in position. Fig. 6 is a perspective of the larger supporting-plate of my device. Fig. 7 is a perspective of my improved landing or cast-off wheel on the spindle at the proper angle to operate in connection with a knitting-machine.

Similar letters of reference indicate corresponding parts.

In the case here presented, A represents a top view of the spindle; B, Fig. 2, the bushing, upon which rests the shoulder of the lower plate C, the upper end of the bushing having a screw-thread to hold the cap-piece, E, Fig. 2, firmly. The circular V-channel in the lower plate C, in which the nib of the blades rests, is seen at 1 and 2, Fig 2, and in Fig. 5. D is the middle plate; F, the blade.

In landing or cast-off wheels, as ordinarily constructed, the bushing is driven into the hub of the wheel, and, after the slots are cut into the outer rim, the blades are soldered in in position. Whenever the bushing is worn out, or the blades become unserviceable, great delay is occasioned, and injury is liable to result to the wheel from withdrawing and replacing these parts. Again, in the ordinary construction untempered steel blades of soft steel, in rectangular or irregular forms, are soldered into the slotted partitions of the rim, and they are then filed down to the required shape to give the proper diameter to the wheel.

On the contrary, all the operating parts of my improved landing-wheel are separately and nicely adjusted as to form and finish, and properly tempered before being put together. The blades are cut out of sheet-steel in the required form, and are then thoroughly tempered and tumbled ready for insertion, and rendered most efficient and durable in use.

The bushing of the wheel can be readily removed when wear or breakage may require. The blades, though detachable, are firmly inserted and securely held in the V-channel and slots. The cap-piece E, Fig. 2, is screwed on the upper end of the bushing B, so as to rest firmly upon the upper edge of the blades, and just within the rim of the lower plate.

The cap-piece E may be readily unscrewed, the blades removed from their position and new ones inserted, and, in fact, all the separate parts of my device being made in similar sets, properly tempered and finished, any part may readily be removed and replaced by an unskilled workman or the ordinary mill-operative, and no unnecessary delay intervene; and by reason of these parts being constructed and arranged in such form and manner as to be easily detachable and firmly adjusted, the operating parts can be better fitted for more efficient use, and be more durable, than the ordinary landing-wheel.

I construct and arrange my improved landing or cast-off wheel substantially as follows: I make the head of the bushing B, Fig. 2, with two flattened sides, to enable it to be surely grasped and turned, and the smaller end with a screw-thread to engage with the head of the cap-piece E. The plate C has a shoulder, (seen at Fig. 2,) which rests upon the head of the bushing, and a slotted rim, extending in width just above the blades, the slots being cut at an angle of about thirty-five degrees. Upon the plate C, and around the bushing, is placed the center plate D, Fig. 3, whose outer periphery is cut with slots corresponding with those in the rim. Just within

the rim of the larger plate I cut or groove a V-channel, to correspond with the nib projections on the blades. The blades F are inserted in the slots of the outer and inner plates, and the cap-piece E is screwed down, so as to press firmly upon the upper edges of the blades, just within the rim, in which condition the landing-wheel is complete, ready to be put in the position shown in Fig. 7, to operate in connection with the knitting-machine.

My device, as above illustrated, is made of the two usual sizes, the smaller of which is designated as the landing-wheel, and the larger of which is called the cast-off wheel. The respective wheels, although having their operative parts similarly constructed and arranged, from their different sizes and positions on knitting-machines, perform different purposes or functions.

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

The combination of the bushing B and blades F with the slotted detachable plates C and D and cap-piece, constructed substantially as and for the purpose set forth.

ROBERT W. GORMLY.

Witnesses:
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