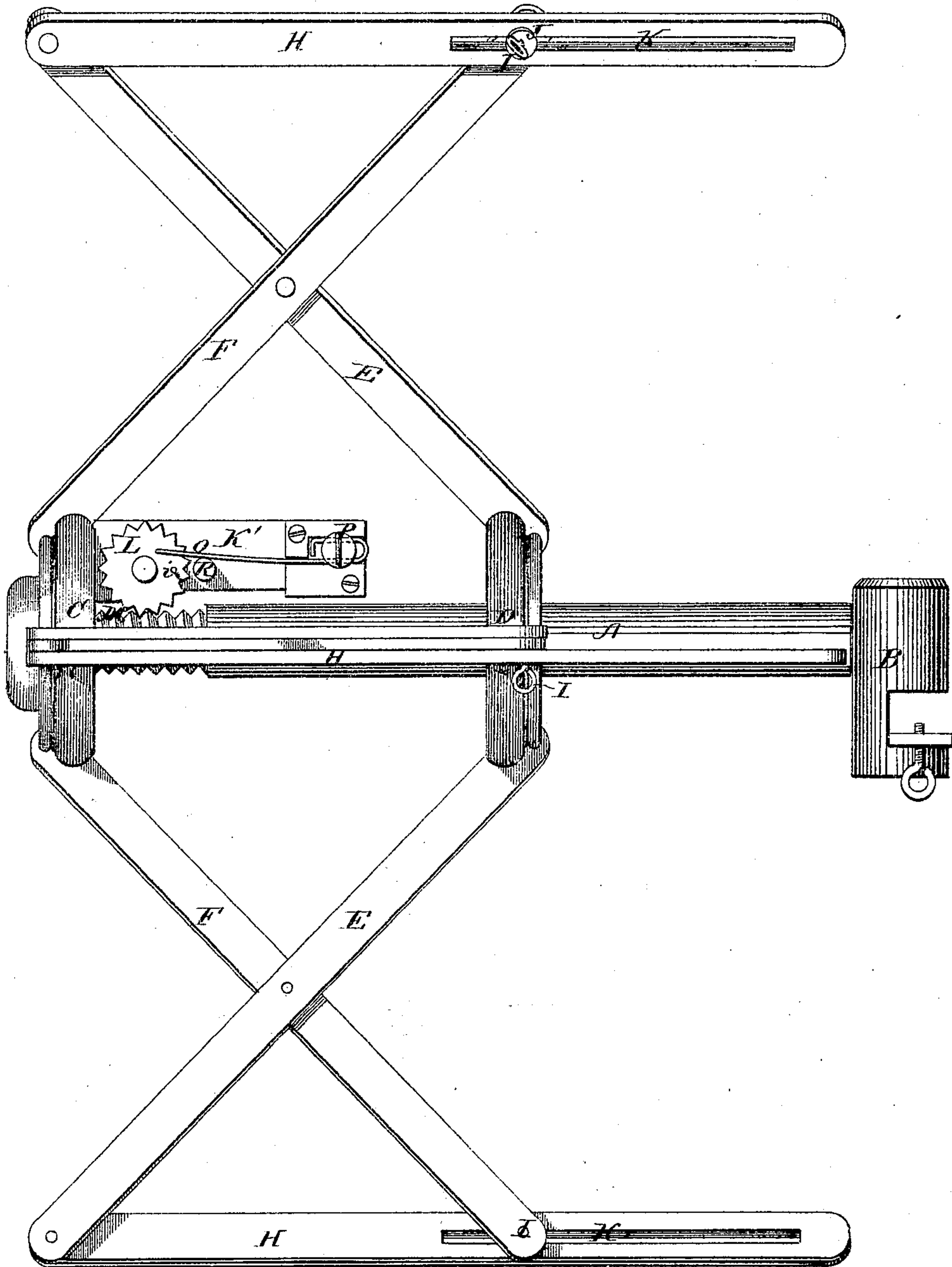


L. F. MOLTROP.

Improvement in Swifts and Reels.

No. 124,147.

Patented Feb. 27, 1872.



Witnesses.  
C. F. Brown.  
A. H. Ellsworth.

Inventor.  
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By Wm. Ellsworth  
His Atty.

# UNITED STATES PATENT OFFICE.

LEONARD F. MOLTHROP, OF ROME, WISCONSIN.

## IMPROVEMENT IN SWIFTS AND REELS.

Specification forming part of Letters Patent No. 124,147, dated February 27, 1872.

*To all whom it may concern:*

Be it known that I, LEONARD F. MOLTHROP, of Rome, in the county of Jefferson and State of Wisconsin, have invented an Improved Swift and Reel; 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, and letters of reference marked thereon making a part of this specification, in which the figure represents a side elevation.

The object of this invention is to adapt the ordinary horizontal swift and reel to the formation of skeins of any desired length; and, to this end, it consists, mainly, in the combination of slotted horizontal arms constituting the winding surfaces of the instrument, with pivoted diagonal stretchers or rods connecting the same with two collars on a horizontal axle, one of said collars being fixed and the other sliding, the connection of one of each of the horizontal arms to one of the diagonal stretchers being effected through a longitudinal slot in said arm, which, in connection with the sliding collar, enables the horizontal arms to be adjusted at any desired distance from the axle.

In the drawing, A represents the axle, which is stationary, and attachable to a table, etc., by means of the clamping-block B. C represents an annular collar, journaled at the outer end of axle A; and D is a similar collar, which is adapted to slide longitudinally on the inner end of the axle. H H H represent horizontal rods, which are parallel with axle A, and are connected to the collars C D by diagonal connecting-rods or stretchers E F, which cross each other midway, as shown, and are pivoted together at the point of intersection, the rods E being pivoted to the outer ends of the rods H and to the sliding collar D, while the rods F are similarly connected to the journaled collar C, and clamped to the rods H near their inner ends by set-screws I and clamping-washers J, said screws passing through longitudinal slots K in the rods H. K' represents a horizontal standard attached to the journaled collar C, and projecting over the axle A. To this standard is journaled a spur-wheel, L, which meshes with a screw-thread, M, on the axle A, and, as the collar C is revolved, passes around said axle, and is rotated thereby, the number of ro-

tations being indicated by a pin, i, which strikes a projecting spring, O. The latter is attached to the end of the standard K' by a clamping-screw, P, which passes through a loop in the end of the spring, by means of which the same may be moved backward beyond the reach of the pin i. R is a projection on the standard K', which holds the spring O in the position shown.

By sliding the collar D along the axle A in either direction the angle of the diagonal rods E F is so changed as to increase or diminish the distance between the horizontal rods H and the axle A, thus regulating the capacity of the instrument to any desired extent, and enabling it to form skeins varying in length, which latter is indicated by graduations on the axle A. When the desired adjustment is effected the set-screws I are tightened, and the frame-work is held thereby.

It will be seen that by this arrangement the rods H are always horizontal, and, in consequence, are adapted to hold several separate skeins.

When the swift is used for doubling yarn or other purposes the spring O may be moved backward, as above stated, thus enabling the instrument to be revolved in either direction.

The spur-wheel, being connected with the collar C by the standard K, has two motions, one around the axle A and another on its own pivot.

This arrangement constitutes a simple and convenient swift and reel, in which I do not claim the indicating mechanism or the sliding collar; but

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

1. The horizontal rods H, provided with longitudinal slots K, in combination with the diagonal pivoted arms E F, journaled collar C, and sliding collar D, substantially as described.

2. The spur-wheel L, in combination with the revolving collar C, spring O, and stationary axle A having the screw-thread M, substantially as described.

LEONARD F. MOLTHROP.

Witnesses:

CHARLES J. COLLIER,  
MITTIE COLLIER.