

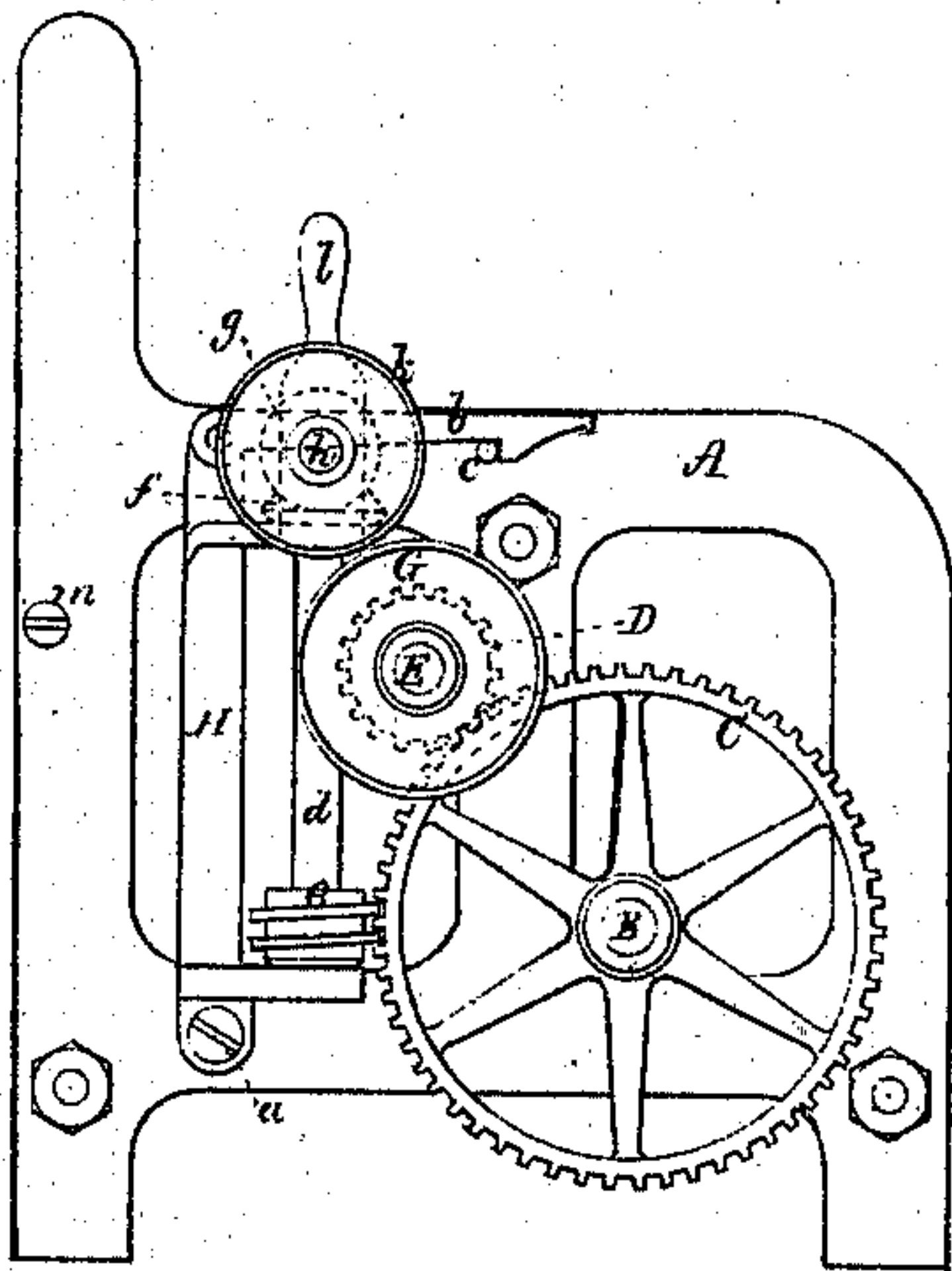
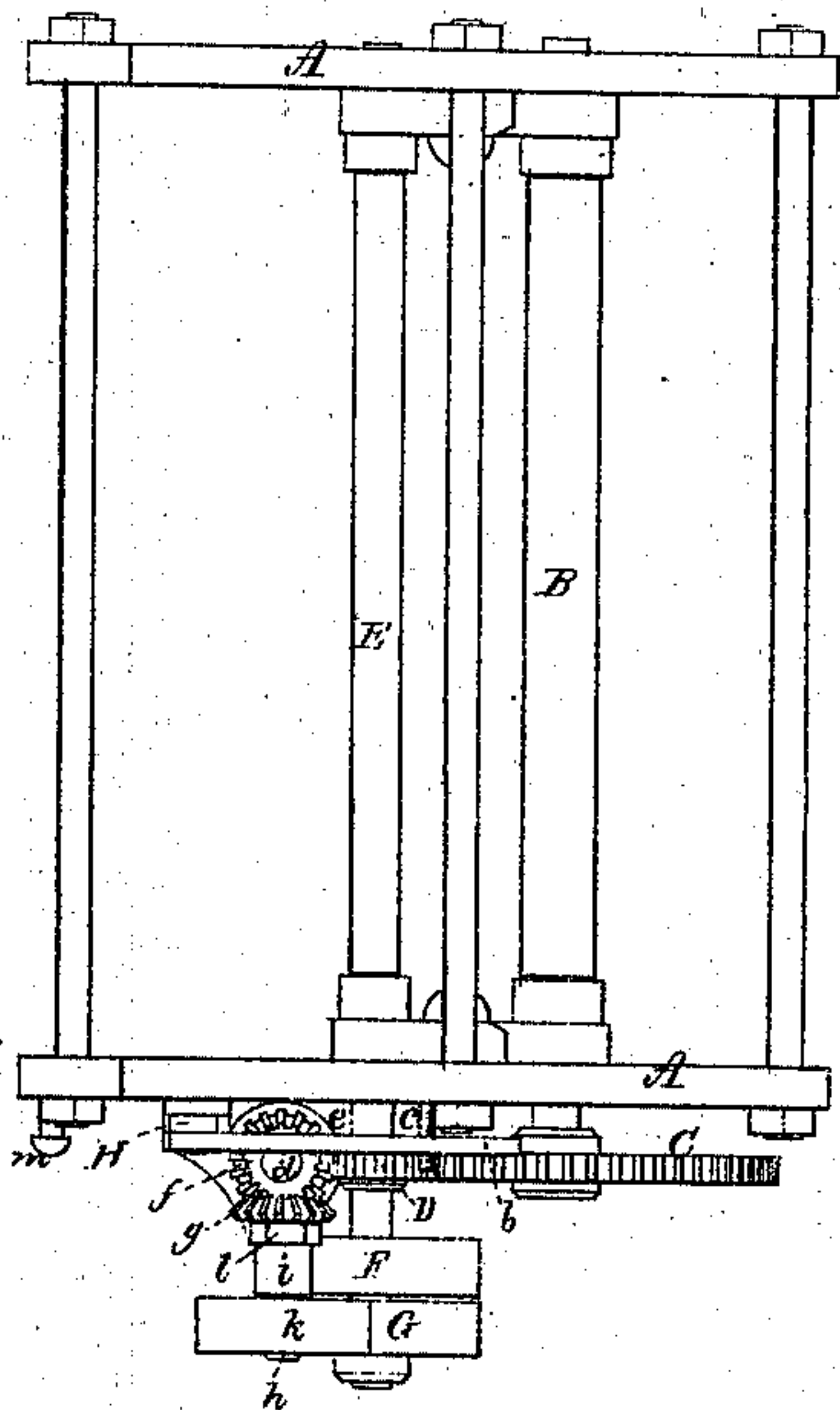
D. Hussey,

Warping Mach

No. 112,253.

Patented Feb. 28, 1871.

Fig. 1.



Witnesses.

S. N. Piper

Lu. N. Miller

Daniel Hussey

by his attorney

R. M. Eddy

United States Patent Office.

DANIEL HUSSEY, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 112,253, dated February 28, 1871.

IMPROVEMENT IN MACHINES FOR WARPING YARN.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, DANIEL HUSSEY, of Lowell, of the county of Middlesex and State of Massachusetts, have made a new and useful invention having reference to Warpers or Machines for Warping Yarns; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, and

Figure 2, a side elevation of a portion of a warper with my addition thereto.

The object of the invention is to enable an attendant, while the warper may be in operation at a slow speed, or without having to stop it, as has heretofore been the custom, to successively remove the spools and substitute others, and effect the tying together of the ends to be joined.

By thus changing the spools one after another, or in succession, the knots formed by the tying of the yarns of the spools to the warped yarns will be distributed a few inches, more or less, apart, instead of coming all together in or about in line across the beam, as they usually do when the warper is stopped and the spools are changed.

The usual speed of the surface of a warper-cylinder or beam is about sixty yards per minute. When it is revolved by the additional mechanism the speed will generally be brought down to one and one-half yard per minute, or thereabout. This slow rate of speed will enable each spool to be removed and its yarn tied to a yarn from the beam, each knot being thus brought in the line of the warps at a distance from that previously tied. Thus the series of knots, instead of ranging square across the warp, or about so, will run obliquely of it, and the knots will be at such considerable distances apart as may be required.

In the drawing—

A denotes the warper-frame.

B, the shaft or roller, through the agency of which the warp-beam or cylinder is to be revolved, there being a spur-gear, C, fixed on the outer end of such shaft or roller.

This gear engages with a spur-pinion, D, fixed on the driving-shaft E, on which is a fast-pulley, F, and a loose-pulley, G.

The belt for driving the shaft E is to run on the pulley F, and, as is customary, is to be provided with means for shifting it from one pulley to the other, as occasion may require.

In advance of the above-mentioned gears is an arm or lever, H, which, at its lower end, is supported on a pivot, a, projecting from the frame A.

The said arm H is provided with a latch, b, to hook upon a stud, c, projecting from the frame, the latch being pivoted to the upper part of the arm.

The said arm supports, in suitable bearings, a shaft, d, carrying a worm or screw, e, to engage with the gear C when the arm is drawn into a vertical position.

On the upper end of the shaft d a bevel-gear, f, is fixed, which engages with a bevel-pinion, g, fixed on a short horizontal shaft, h, duly supported in a projection, i, from the arm, and provided with a driving-pulley, k, disposed in range with the loose pulley G.

A handle, l, is extended upward from the part i, and there is a stop, m, projecting from the frame A, such stop being for arresting the arm H when moved so as to disengage the worm or screw e from the gear C.

When the driving-belt is running on the loose-pulley, if we draw forward the arm H so as to bring the periphery of the pulley k up against such belt, the latter will put such pulley k in revolution, whereby the bevel-gears and the worm will be set in operation so as to impart a slow rate of speed to the large gear C, the latch, when the arm H is drawn up, taking upon the stud c, and thereby retaining the worm in engagement with the gear so long as may be required.

By raising the latch and moving the arm H back against the stop m the said worm will be disengaged from the gear. The driving-belt may next be shifted upon the fast-pulley, so as to impart motion to the mechanism for producing the faster speed of the warp-cylinder or beam.

I claim—

1. In combination with a warper, a mechanism, substantially as described, or its equivalent, for running the warp-cylinder at a rate of speed such as will allow an attendant to change each spool and substitute a fresh one, and tie its thread to the warp, such mechanism being the arm H, its latch b, stud c, shaft d, worm e, bevel-gears f g, and driving-pulley k, arranged with the warp-cylinder operative machinery, and to operate therewith, as explained.

2. The said additional mechanism, or combination and arrangement of the arm H, the latching devices b c, the bevel-gears f g, the worm e, and the driving-pulley k, applied together and for use in manner as described.

DANIEL HUSSEY.

Witnesses:

T. L. P. LAMSON,
GEORGE DRAPER.