(No Model.)

L. SCHULZE.

THREAD WINDER.

No. 582,831. Patented May 18, 1897.

Fig. 1.

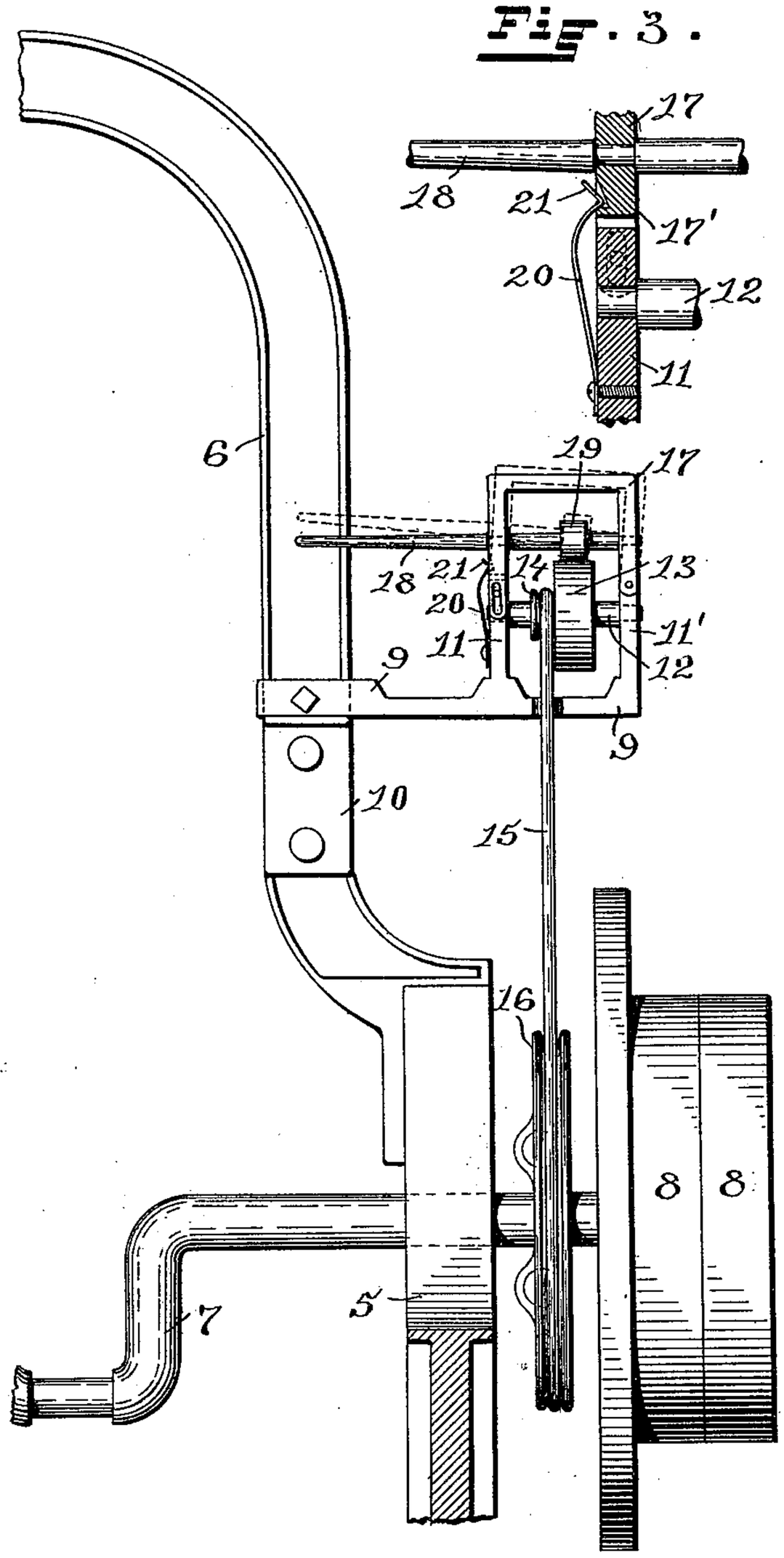
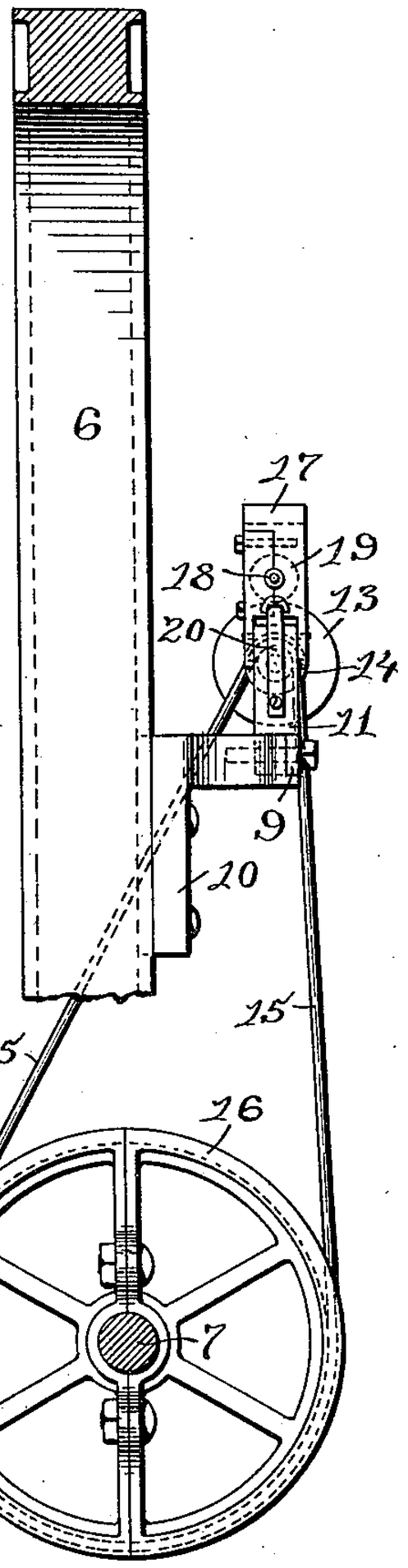


Fig. 3.

Fig. 2.



WITNESSES:

M. F. Bligh.

Chas. H. Luther Jr.

INVENTOR:

Leopold Schulze,

by Joseph H. Miller & Co.,

Attys.

UNITED STATES PATENT OFFICE.

LEOPOLD SCHULZE, OF JOHNSTON, RHODE ISLAND.

THREAD-WINDER.

SPECIFICATION forming part of Letters Patent No. 582,831, dated May 18, 1897.

Application filed November 12, 1896. Serial No. 611,826. (No model.)

To all whom it may concern:

Be it known that I, LEOPOLD SCHULZE, of Johnston, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Looms; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in looms, and is particularly adapted for worsted-looms.

The invention consists in the peculiar and novel construction of a spindle and the mechanism for driving the same, as will be more fully set forth hereinafter.

The object of the invention is to save the lengths of yarn remaining on the cops or bobbins or drawn from the sheds by providing a convenient means of winding these ends on a cop or bobbin.

Figure 1 is a view, partly in section, of part of the end frame and one side of the harness-arch of a loom, showing the crank-shaft and the improved winding device supported on the arch and connected with the crank-shaft. Fig. 2 is a view, partly in section, of one side the harness-arch, the winding device, and the connections with the crank-shaft at right angles to the view shown in Fig. 1. Fig. 3 is an enlarged view, partly in section, showing the latch by which the spindle is supported in the operative and non-operative positions.

In the drawings, 5 indicates part of the end frame, 6 part of the harness-arch, 7 part of the crank-shaft, and 8 8 the driving-pulleys, of a loom. The support 9 is secured to the harness-arch 6, or, as is shown in the drawings, to the bracket 10, which is secured to the arch 6. The support 9 has the uprights 11 11′, in which the shaft 12 is journaled. To this shaft are secured the driving-pulley 13 and the band-pulley 14. The band 15 connects the band-pulley 14 with the band-pulley 16, preferably a split pulley connected with the crank-shaft 7.

The frame 17, which forms the support for the spindle 18, on which the driving-wheel or whirl 19 is secured, is hinged to the upright 11′ and is connected with the upright 11 by extending the two sides of the frame, as shown in Fig. 2, so that this end can be raised sufficiently to lift the whirl 19 off from the driving-wheel 13 to stop the operation of the spindle. The spring 20 is secured to the upright 11 and is provided at its upper end with the angular bent end 21 and serves to hold the frame 17 in the lowered or raised position. In the lowered position the end of the spring enters a notch in the frame, as shown in Fig. 3, and in the raised position the bent end 21 supports the lower part 17′ of the frame 17.

I will now more fully describe the operation of the winding device in connection with the operation of the loom.

In a cloth-loom, particularly one in which a wide fabric is woven, the shuttles are usually removed before the whole of the thread is used or laid into the fabric. When the filling breaks or the filling does not extend entirely across the fabric, it is drawn out. These ends make waste because they are usually thrown on the floor. In weaving cloth or fabrics of the more expensive materials the waste so made forms a large item during the year, not only on account of the large cost of the fiber, but on account of the loss of all the shrinkage and the care and labor that have been expended to bring the fiber into the condition for weaving.

The operative overseeing a loom may tie the yarn left on a cop or bobbin or other waste lengths of yarn end to end and wind the same on a cop or bobbin placed on the spindle 18, which will be rotated as long as the whirl 19 is in contact with the driving-wheel 13, and when so wound the cop or bobbin may be used in the shuttle or otherwise, so as to prevent waste.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a bobbin-winding attachment for looms, the combination with the frame of the loom and the crank-shaft, of the frame 9 and uprights 11 11′ forming the support of the friction driving-wheel, the friction-wheel 13 and band-wheel 14 secured to the shaft 12 journaled in the fixed part of the frame, the frame 17 hinged at one side to the standard 11′, the

spindle 18 and the friction-whirl 19 journaled in the hinged frame 17, the band-wheel 16 and the band 15 for transmitting power to the winding attachment, and the spring 20 secured to the fixed part of the frame and provided with an angular bent end 21, whereby the hinged frame and spindle are held in the raised or lowered position and waste yarn may be wound by the operative while overseeing the operation of the loom, as described.

In witness whereof I have hereunto set my hand.

LEOPOLD SCHULZE.

Witnesses:
JOSEPH A. MILLER, JR.,
M. F. BLIGH.