

J. Fewkes.

Expansion-Pulley for Braiding-Machine.
N^o 72991

Patented Jan. 7, 1868.

Fig. 1.

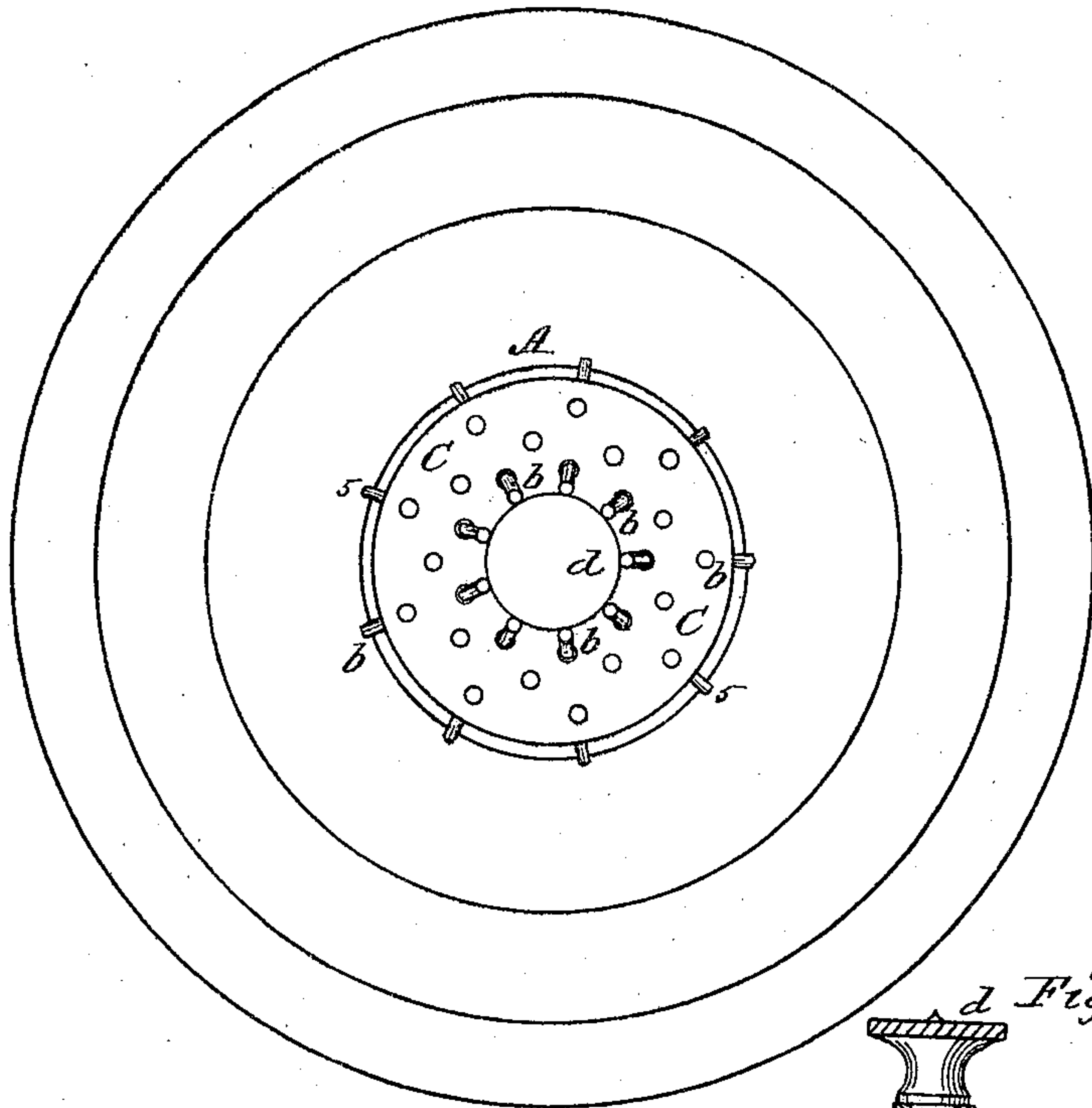


Fig. 2

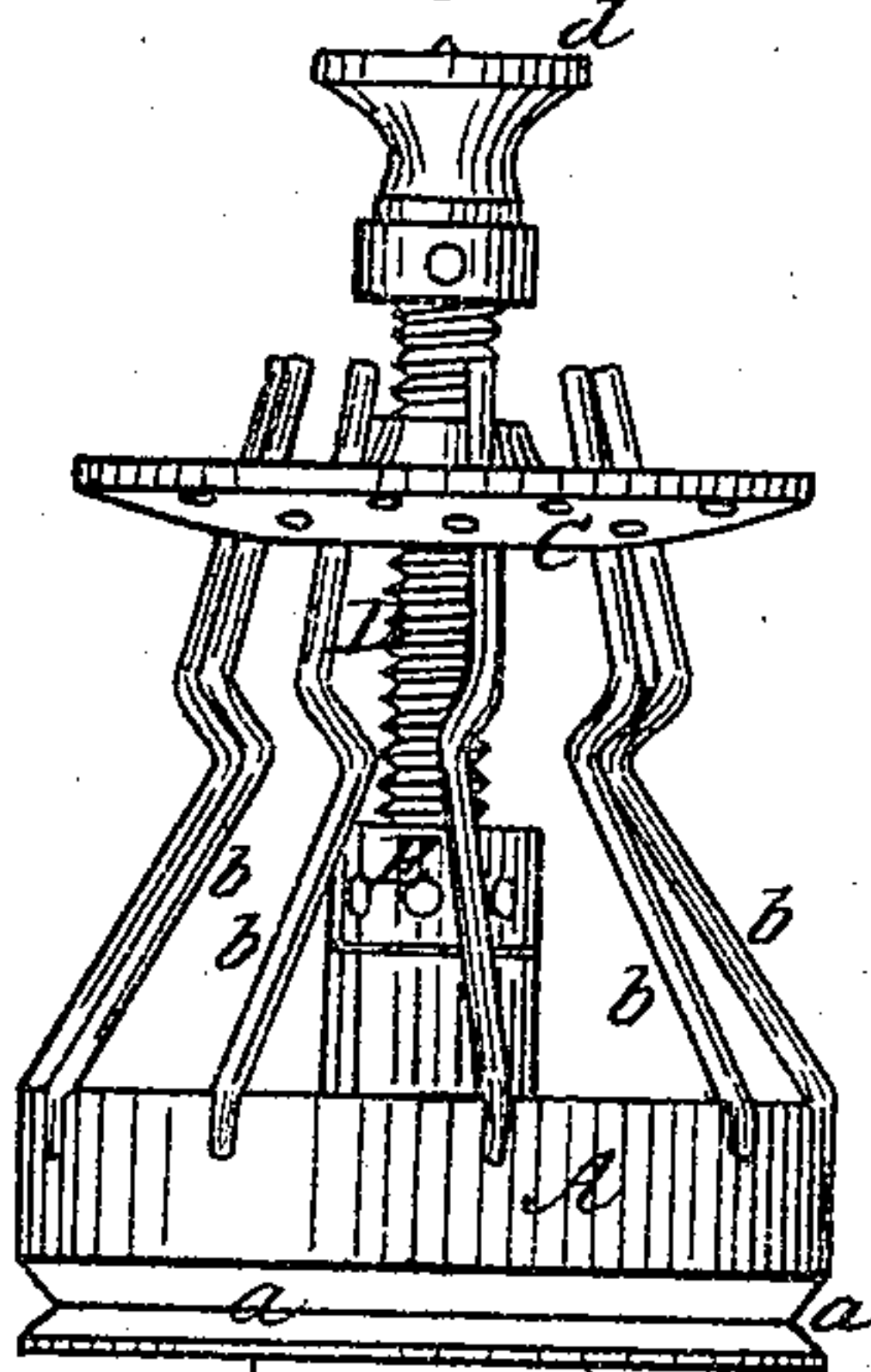
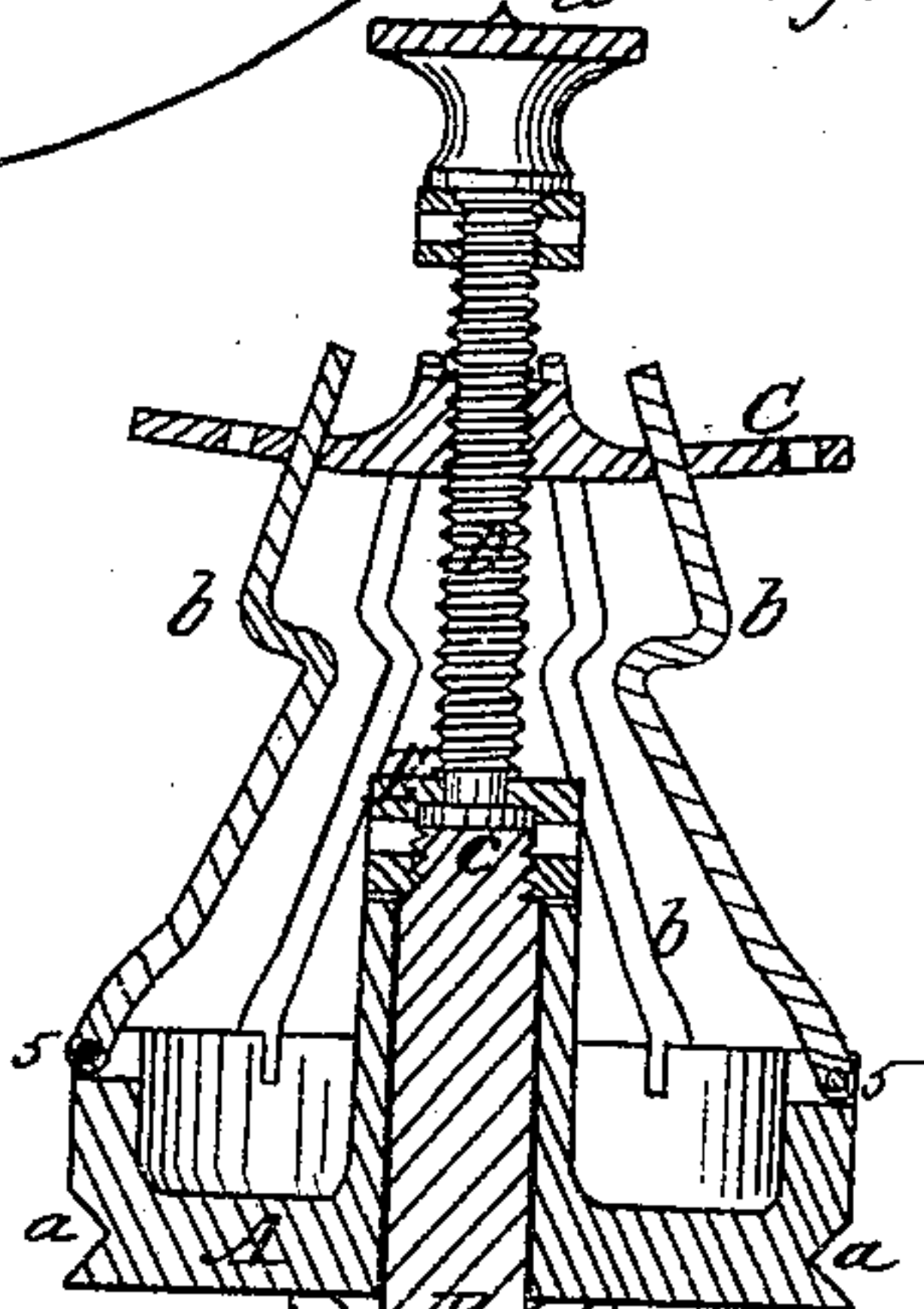


Fig. 3.



Witnesses

N W Stearns
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JESSE FEWKES, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO SILVER LAKE MANUFACTURING COMPANY.

Letters Patent No. 72,991, dated January 7, 1868.

IMPROVEMENT IN EXPANSION-PULLEY FOR BRAIDING-MACHINE.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JESSE FEWKES, of Newton, in the county of Middlesex, and State of Massachusetts, have invented an Adjustable Reel or Expansion-Pulley, around which the finished cord of a braiding-machine, &c., is wound previous to its passing to the take-up reel; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved expansion-pulley.

Figure 2 is a side elevation of the same.

Figure 3 is a vertical section through the centre of the same.

My invention consists in an adjustable reel or pulley, the diameter of which may be increased or diminished, so as to take up the finished cord or rope at the exact speed required, thus avoiding the necessity of removing the pulley, and replacing it by another of different diameter, each time that a cord of a different size is to be braided.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the base of the pulley, which is revolved on a spindle, B, rising from the framework by means of gearing, (not shown.) *a* is a groove in the base of the pulley, in which runs a cord or belt for driving the "take-up reel." *b* is a series of bent rods, of the form seen in fig. 2, which constitute the exterior surface of the pulley, upon which the cord is wound, the lower ends of these rods being pivoted at 5 to the upper periphery of the base, A, while their upper ends pass through holes in a circular plate or disk, C, which is supported on a screw, D, the lower end of which is provided with an enlargement, *c*, (see fig. 3,) which revolves freely in a coupling, E, which is provided with a female screw, by means of which it is attached to the upper end of the spindle B, and thus, as the screw D is revolved, by taking hold of its head *d*, the plate C will be raised or lowered, according to the direction the screw is turned.

It will thus be seen that as the plate is raised, the inclined rods *b* will be moved on their pivots away from the centre of the reel, thereby increasing its diameter as required; while, on the plate C being lowered, the rods will be brought nearer the centre, and the diameter of the reel proportionably decreased. The plate C is furnished with three series of holes, as seen in fig. 1, so that if the diameter of the reel cannot be made sufficiently large by lowering the plate C to its full extent, the coupling E may be unscrewed, and the plate C lifted up, so as to allow the ends of the rods *b* to be inserted in the second or third series of holes, as the case may require, and, when the coupling is unscrewed, the whole pulley may be lifted off the spindle *b*, and another of a different size put in its place.

The diameter of the above-described pulley may thus be adjusted with a great degree of nicety by means of the screw D, so that the cord or rope, when wound around it, will be drawn off at the exact speed required, thus keeping the point, when the rope is being formed, at the desired height, and preventing it from running up or down, as is the case when the pulley draws it too fast or too slow, different sizes of cord being manufactured with more or less speed. Should the cord when forming be made with a long and loose braid, the plate C may be screwed down, thus reducing the diameter of the take-up portion of the pulley, when the braid will be made more slowly and tightly, as required. When the braid is made too rapidly, so that the braiding-point runs down, and the yarns become entangled, the plate C may be screwed up, thus increasing the diameter of the pulley, and taking up the work proportionably faster.

I do not wish to confine myself to the exact construction and use of the several devices above described, forming the various portions of my invention, in connection only with machines for making cordage, as it is evident that they may be applied to various other descriptions of machinery without departing from the spirit of my invention; for instance, to weaving, braiding, sewing-machines, &c. I therefore intend to use them, either together or separately, wherever they may be found to be applicable.

Claim.

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

The combination of the rods *b*, pivoted to the pulley A, with the plate C, constructed as described, and the screw D, for governing positively the position of said rods, substantially as described, and for the purpose set forth.

JESSE FEWKES.

Witnesses:

N. W. STEARNS,

P. E. TESCHEMACHER.