G. S. Barton,

Band Pulley.

No. 113,723. Patented Apr. 18. 1871.

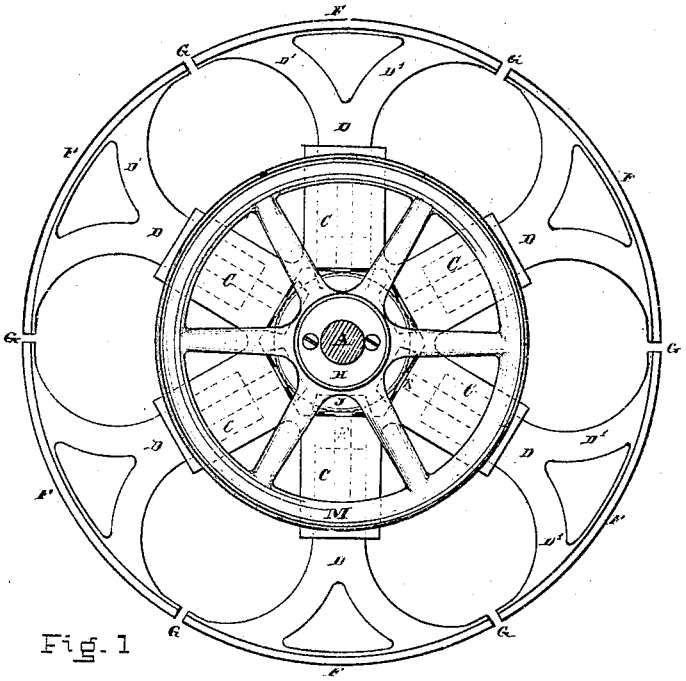

Fig. 1

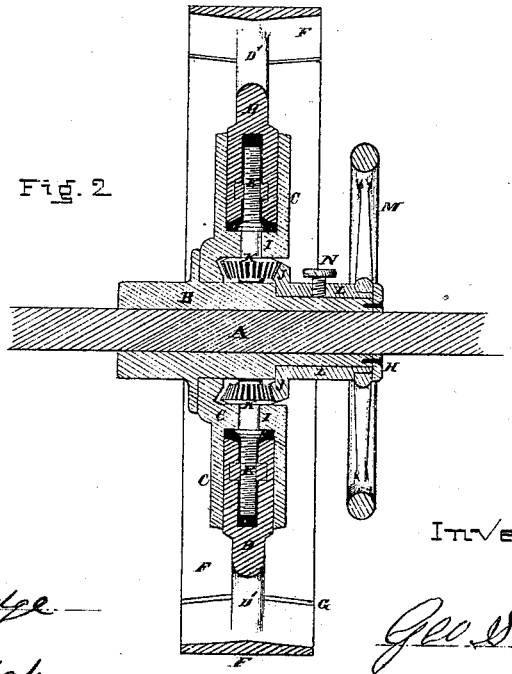

Fig. 2

Witnesses

Thos. H. Dodge

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GEORGE S. BARTON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO RICE, BARTON & FALES, MACHINE AND IRON COMPANY, OF SAME PLACE.

Letters Patent No. 113,723, dated April 18, 1871.

IMPROVEMENT IN EXPANDING PULLEYS.

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, GEORGE S. BARTON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Expanding Pulleys; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a side view of my improved expanding pulley, and

Figure 2 represents a central section of the same.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists in certain improvements in expanding pulleys, as will be hereafter explained.

In the drawing—

The parts marked A represent the shaft upon which the pulley is mounted.

B indicates the hub of the pulley, around which is arranged a series of rectangular radial boxes or sockets, C, wherein are secured the inner ends of the pulley-arms D.

The inner ends of the pulley-arms, which are of rectangular form, are closely fitted to the interior of the boxes C, so that no lateral or rotary motion can take place between the parts, while the arms D can be readily moved outward and inward radially by means of screws E, arranged within their centers for that purpose.

The rim of the pulley is formed in sections F, a single section being attached to each arm D, which latter are bifurcated at their outer extremities, and the two parts, D′, curved outward and joined to the rim in the form of braces, thus insuring the requisite degree of strength.

The sections F of the pulley-rim are separated centrally between the arms, as indicated at G.

The screw-spindles E are arranged in bearings I at the inner end of the boxes C, and are each provided with a bevel-gear, K, as shown in fig. 2, by means of which motion is transmitted to said screws.

The screws E work in nuts fixed to the interior of the arms D, or the metal of the arms may be tapped with a female thread if preferred. Suitable collars are arranged upon the screw-spindles to prevent the screws from moving longitudinally.

A sleeve, L, is arranged upon the hub B of the pulley, where it is retained by a flanged collar, H, secured to the end of the hub.

Formed upon one end of the sleeve is a bevel-gear, J, which meshes with all of the screw-spindle gears K.

A hand-wheel, M, is keyed to the outer end of the sleeve L, and a set-screw, N, is arranged in its side, all of which is fully shown.

By turning the hand-wheel M the screws E can be revolved, and the arms D moved outward or inward so as to increase or decrease the diameter, thereby expanding or contracting the size of the pulley-rim.

When the size of the pulley has been properly adjusted it can be retained in such position by turning down the set-screw N so as to clamp the sleeve L to the hub B of the pulley, although under ordinary circumstances the use of the set-screw N may not be required.

It will be observed by those skilled in the arts that my improved expanding pulley is of great practical utility for use upon paper, calico-printing, and other machinery, where it is often desirable to vary the speed of the mechanism, since its construction and mode of operation is very simple and convenient, and the parts are not liable to get out of order.

Having described my improvements in expanding pulleys,

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

1. The combination, with the hub B, boxes C, and arms D, of the screw-spindles E, bevel-gear K, and geared sleeve J L, substantially as and for the purposes set forth.

2. The combination, with the screw-spindles E, gears K, and geared sleeve J L, of the hand-wheel M and set-screw N, substantially as and for the purposes set forth.

GEO. S. BARTON.

Witnesses:

THOS. H. DODGE,

CHAS. H. BURLEIGH.