F. M. Gibson.

Boring Machine.

No. 97,499. Patented Dec. 7, 1869.

Fig. 1.

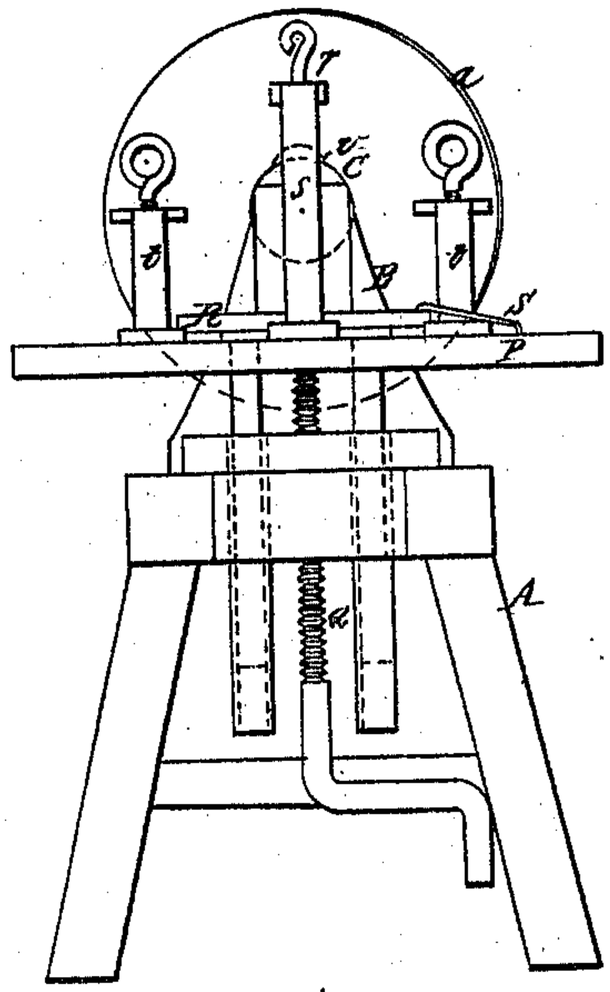
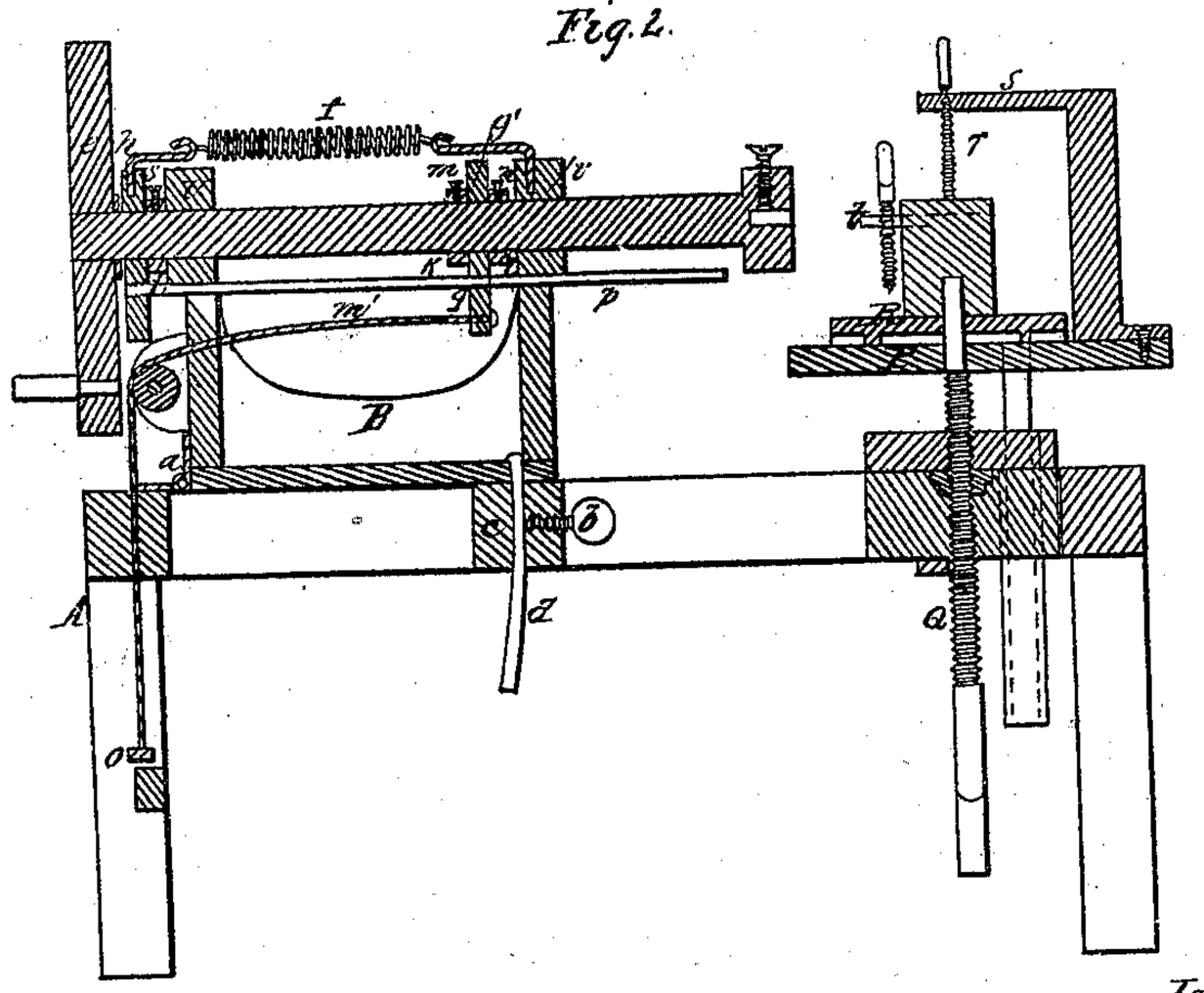


Fig. 2.



Witnesses
L. A. Piper
J. R. Brown

Inventor
Frederick M. Gibson,
by his attorney
R. H. Eddy

United States Patent Office.

FREDERICK M. GIBSON, OF CHELSEA, MASSACHUSETTS.

Letters Patent No. 97,499, *dated December* 7, 1869.

IMPROVEMENT IN BORING-MACHINE.

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, FREDERICK M. GIBSON, of Chelsea, in the county of Suffolk, and State of Massachusetts, have invented an Improved Machine for Boring Wheel-Hubs and for Tenoning Spokes; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and

Figure 2, a longitudinal section of such machine.

In such drawings—

A denotes a frame, provided with a puppet, B, which supports, in suitable bearings, *v v*, a rotary arbor or mandrel, C.

This mandrel is to be so applied to the puppet as to be capable of being revolved transversely, and of being moved endwise therein.

The puppet, at its rear end, is hinged, as shown at *a*, to the frame A, in order to enable the said puppet to be raised into an inclined position with respect to the top of the frame A, the puppet being held in any such inclined position by a set-screw, *b*, which screws through a cross-bar, *c*, of the frame A, and against a curved arm, *d*, projected downward from the puppet.

On the rear end of the mandrel is a driving-wheel, *e*.

A helical spring, *f*, fastened at its front end to the advanced post of the puppet, is at its other end secured to a collar, *g*.

This collar encompasses the mandrel between two shoulders, *h i*, thereof, the whole being so as to enable the mandrel to freely revolve within the collar, and the spring to advance the mandrel lengthwise.

There is another such collar on the mandrel, it being shown at *g'*, as arranged between two rings, *k l*, which circumscribe the mandrel, and are held thereto by set-screws, shown at *m n*, the same being so as to enable the collar *g'* and the rings to be adjusted lengthwise on the mandrel, in order to determine the extent of its advance, as occasion may require.

From the collar *g'*, a line, *m'*, goes to and over a wheel, *n'*, arranged in the rear part of the puppet.

A stirrup, *o*, applied to the lower end of the line *m*, enables a person, by means of his foot, to effect the retraction of the mandrel, as occasion may require.

In order to prevent the spring *f* and the two collars, *g g'*, from revolving with the mandrel, a rod, *p*, fastened to the rear collar, is extended through the puppet and the arm *q* of the front collar, such rod being free to slide through the puppet and the said arm.

A boring-tool or cutter of any proper kind, according to the work to be performed, whether such be the boring of a wheel, hub, or a felloe, or the tenoning of a spoke, is to be extended from or applied to the advanced end of the mandrel.

Furthermore, there is supported in the frame A, a table or platform, P, provided with an elevating-screw, Q.

This platform carries a rotary disk, R, having several circles of divisions on its upper surface, each being furnished with a series of holes, at equal distances apart, they being to receive a spring-catch, S, which serves to hold the disk in any desirable position in which it may be set.

A wheel-hub when to be bored is to be placed concentrically on the upper surface of the disk, and may be held down thereon by a screw, *r*, screwed through a standard, *s*, erected on the table.

Other standards, *t*, provided with clamp-screws, may also be applied to the platform, such being for holding a wheel-felloe in place while being bored.

By raising the puppet to any desirable inclination, and fastening it in place, the boring-tool may be made to enter the hub, so as to bore into it obliquely.

I claim—

1. The combination of the slide-rod *p*, with the puppet B and with the collar *g*, and the spring *f* applied to the puppet, and the mandrel C, substantially in manner, and so as to operate therewith, as specified.

2. The combination and arrangement of the auxiliary collar *g'* and its adjustable rings *k l*, and their clamp-screws *m n*, with the stirrup *o* and line *m'*, the puppet B, the mandrel C, and the spring *f*, applied to such puppet and mandrel, as specified.

3. The combination and arrangement of the slide-rod *p*, the puppet B, the two collars, *g g'*, the spring *f*, and the line *m'*, the whole being to operate together substantially as explained.

4. In combination with the frame A, the puppet B, and mandrel C, mechanism, substantially as specified, whereby the puppet may be adjusted to and sustained in an inclined position on its frame, as and for the purpose of inclining the mandrel, and enabling it to operate while at any such inclination, so as to bore obliquely into a hub or article when placed on the supporting-disk.

FREDERICK M. GIBSON.

Witnesses:

R. H. EDDY,

SAMUEL N. PIPER.