

J. C. BUTTERFIELD.

Eccentrics.

No. 142,898.

Patented September 16, 1873.

Fig. 1.

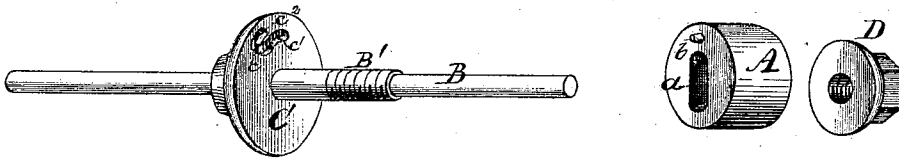
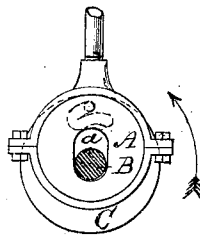
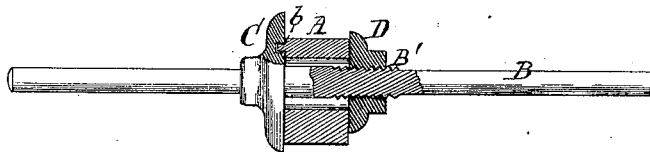


Fig. 2.



Witnesses.
A. Ruppert.
H. C. Quinn.

John C. Butterfield
Inventor.
per. C. S. L. L. L.
his Atty

UNITED STATES PATENT OFFICE.

JOHN C. BUTTERFIELD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ECCENTRICS.

Specification forming part of Letters Patent No. **142,898**, dated September 16, 1873; application filed September 9, 1873.

To all whom it may concern:

Be it known that I, JOHN C. BUTTERFIELD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Eccentrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to that class of eccentrics in which the aperture through which the shaft passes is elongated to permit of an adjustment of the eccentric, for the purpose of regulating its throw, as may be required. My improvement, intended to positively prevent accidental disarrangement of the eccentric after it has once been adjusted, consists in the employment of locking devices composed of a wrist pin or stud fixed in the face of the eccentric, and a series of grooves or holes formed in the adjacent face of the enlarged shoulder or disk of the shaft, against which the eccentric is forced by a confining-nut. The holes or termini of the grooves, which all start from the same point or focus, are varying distances from the axis of the disk, so that the eccentric, locked by its wrist-pin to one of the said holes or grooves, may readily have its throw adjusted by locking it to another hole or groove.

Figure 1 represents in perspective the various parts composing my improved adjustable eccentric, ranged in succession to better show their construction. Fig. 2 is a longitudinal section of the parts properly connected.

The same letters of reference are used in both figures in the designation of identical parts.

The eccentric A has an elongated aperture, *a*, snugly fitting the shaft B transversely. The shaft carries a fixed disk, C, which supports the eccentric laterally upon one side; against its other side bears a confining-nut, D, screwed

on the threaded part B' of the shaft. The face of the fixed disk C adjacent to the eccentric is provided, in the example illustrated, with two tangential grooves, *c*¹ and *c*², which start from the common point or focus *c*, but terminate at points varying in distance from the axis of the disk, so that the throw of the eccentric will be changed by passing its fixed wrist-pin *b* from the end of one groove to that of the other. This change is very readily effected by giving a slight turn to the confining-nut just sufficient to loosen the eccentric, when the adjustment can be made by first shifting the eccentric to carry its pin to the focus of the grooves, and then running it to the end of the one which will give the required throw to the eccentric. By using a series of these grooves any required adjustment may be provided for. Care must be taken to give a direction to the grooves opposite to that in which the shaft is to turn, and the confining-nut must have either a right-handed or a left-handed thread, according as the shaft turns from right to left, or from left to right.

A series of round holes might be used in lieu of the connected grooves; but they are not so convenient, because in that case it would be necessary to draw the eccentric away from the disk until its pin is entirely withdrawn every time an adjustment is to be effected.

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

The eccentric A *a*, having a fixed wrist-pin, *b*, in combination with the fixed disk C, provided with a series of connected grooves, *c* *c*¹ *c*², or their equivalents, and confining-nut D, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of September, 1873.

JOHN C. BUTTERFIELD.

Witnesses:

B. EDW. J. EILS,
H. E. QUINN.