(No Model.)

R. R. ANGELL.

ECCENTRIC.

No. 272,511. Patented Feb. 20, 1883.

Fig. 1.

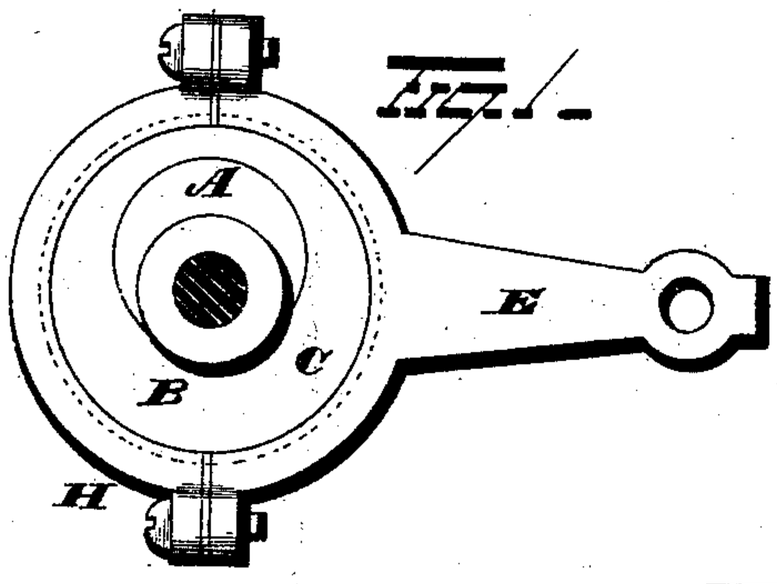


Fig. 2.

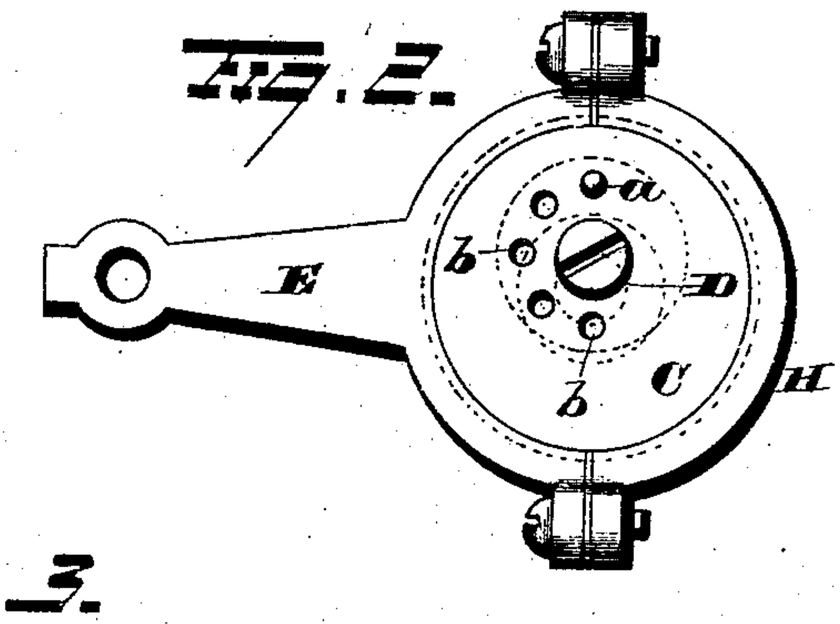


Fig. 3.

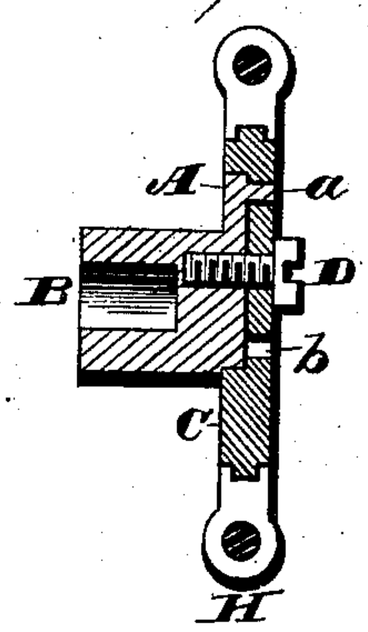
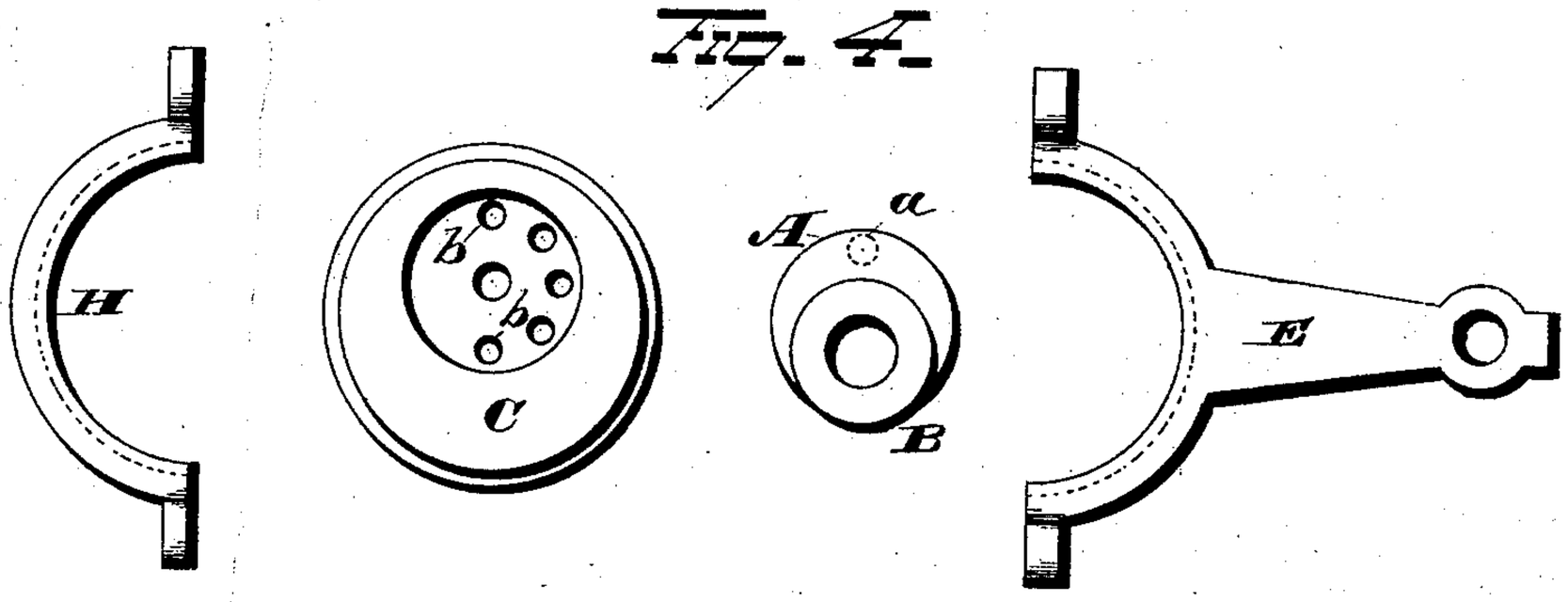


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

RUSSELL R. ANGELL, OF JANESVILLE, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO CALEB JOSHUA BLAKELY AND LUCIUS NATHAN WILLIAMSON, BOTH OF SAME PLACE.

ECCENTRIC.

SPECIFICATION forming part of Letters Patent No. 272,511, dated February 20, 1883.

Application filed January 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL RICHARDSON ANGELL, of Janesville, in the county of Rock and State of Wisconsin, 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 the same.

My invention relates to an improvement in eccentrics, the object of the same being to provide simple and effective means for adjusting the eccentrics relative to the shaft, whereby the amount or degree of eccentricity is increased or diminished as circumstances demand; and with this end in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the inner face of the eccentric. Fig. 2 is a similar view of the outer face thereof. Fig. 3 is a vertical sectional view, and Fig. 4 shows the several parts detached.

A represents a small metallic disk adapted to be secured eccentrically to a shaft, or secured to or formed integral with a sleeve, B, into which latter one end of a shaft is adapted to be secured. This disk or eccentric A is adapted to rest in a recess or circular depression formed to one side of the geometric center of the disk C, and is provided with a lug, *a*, adapted to enter one of a series of holes, *b*, formed in the said disk C.

The disks A and C are held together by the screw D, which latter passes through the disk C a little to one side of the center of the same, and enters the disk A directly in its center and forms the axis on which it turns. The holes *b* in the disk C are formed in the arc of a circle around the screw D at suitable intervals apart, and the lug *a* is adapted to enter one of the said holes, and together with the screw D hold the two disks A and C in proper relative position.

The disk A snugly rests within the recess in the disk C, and when the screw D is loosened, so as to enable the lug *a* to be drawn from the holes in the disk C, is free to be turned thereon so as to bring the sleeve B nearer to or farther away from the geometric center of the disk C, and consequently decrease or increase the throw or movement of the eccentric-arm E and the eccentric-ring H.

Suppose that the parts composing the eccentric are adjusted to give the least amount of throw or movement, and it is desired to increase the amount of said movement. The screw D is loosened sufficiently to enable the lug *a* to be withdrawn from the hole *b* in the disk C. The sleeve B, with its disk A, is then turned in the disk C until the desired degree of eccentricity is reached. The disk A is then pressed inward, and held therein by the lug *a* and the screw D, which latter is then screwed home, and holds the parts in position until it is desired to make another adjustment.

This improvement can be used, in connection with the valve-gear of steam-engines, for converting a rotary into a reciprocating motion, and for any other of the numerous purposes for which eccentrics are generally employed.

My invention is simple in construction, is durable and effective in use, and is adapted to be applied to any and all kinds of machinery wherein an adjustable eccentric is employed.

It is evident that slight changes in the construction and relative arrangement of the several parts might be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction of parts shown and described, but consider myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

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

1. The combination, with a disk, of a second disk adjustably secured eccentrically within the first disk.

2. The combination, with a disk secured eccentrically to a sleeve or shaft, of a second disk eccentrically secured on the first disk, and means for adjustably securing the two together.

3. The combination, with a disk provided

with a lug and secured eccentrically to a sleeve or shaft, and a second disk having a circular recess or depression formed on one face thereof to one side of its geometric center, and provided with a series of holes formed in the arc of a circle which open into the said recess, of a screw for securing the two disks together, arranged eccentrically to second disk and concentrically to first disk.

4. The combination, with the sleeve B and disk A, the latter provided with a lug, *a*, of the disk C, the eccentric-ring, and eccentric-arm, all of the above parts combined and adapted to operate as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RUSSELL RICHARDSON ANGELL.

Witnesses:
ED. F. CARPENTER,
L. N. WILLIAMSON.