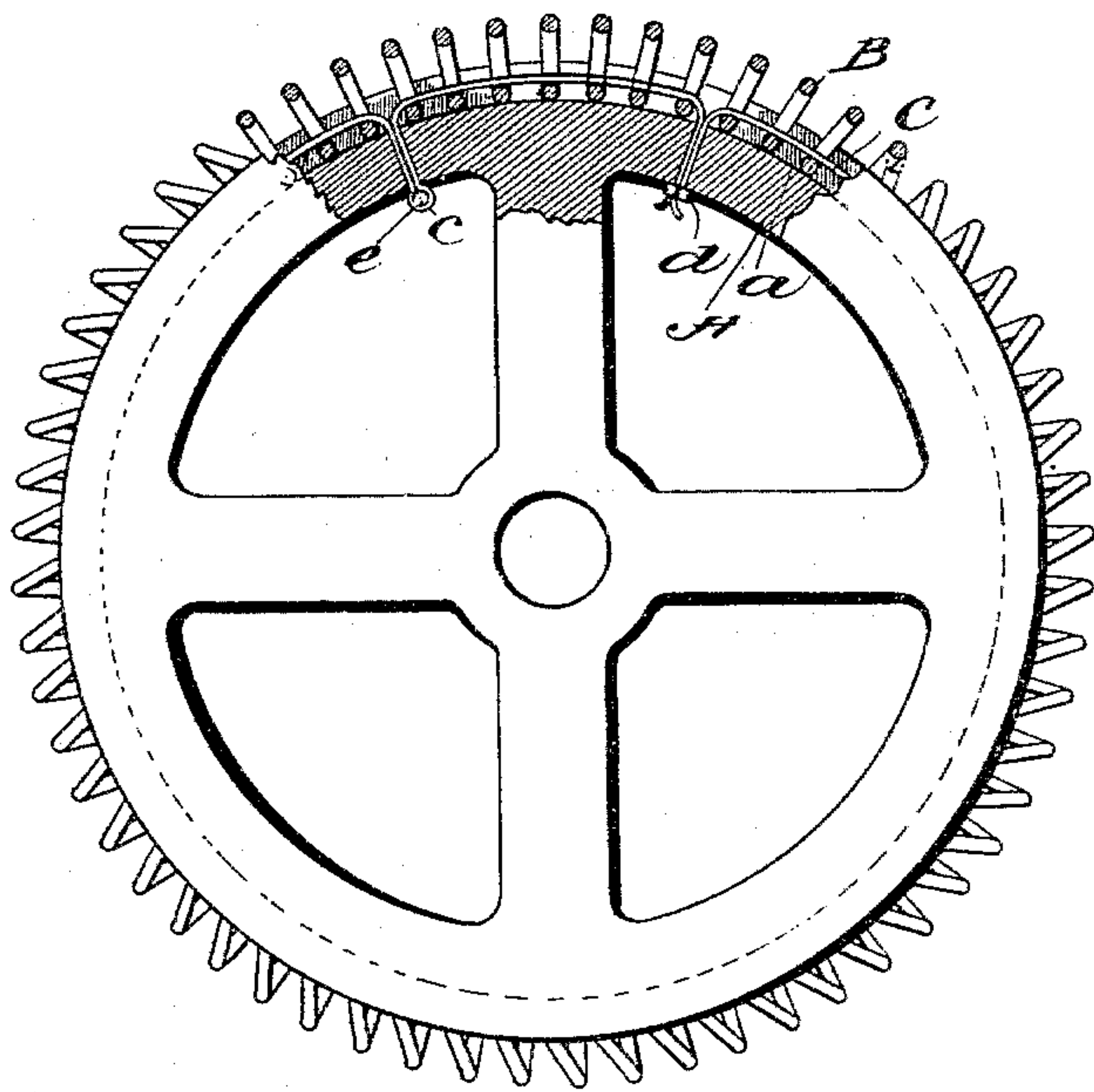


(No Model.)

C. JACKSON.
GEAR.

No. 597,907.

Patented Jan. 25, 1898.



Calvin Jackson,
Inventor

Inventor

by *Ed. Kelly!*

Attorneys

Witnesses

Providence
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UNITED STATES PATENT OFFICE.

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GEAR.

SPECIFICATION forming part of Letters Patent No. 597,907, dated January 25, 1898.

Application filed October 5, 1896. Serial No. 607,838. (No model.)

To all whom it may concern:

Be it known that I, CALVIN JACKSON, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Gears; 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 appertains to make and use the same.

This invention relates to improvements in gears; and it consists of a wheel with a grooved face in which is arranged an endless coil of wire, the coils of two wheels meshing and forming an easy and positive gear, the object of the invention being to produce noiseless gears that will mesh at any desired angle and of simple construction.

The invention is fully described in the following specification and clearly shown in the accompanying drawings, in which—

Figure 1 is a vertical elevation, partly in section, of my improved gear-wheel. Fig. 2 is a vertical cross-section of the same on line xx of Fig. 1. Fig. 3 is a vertical edge view of Fig. 1, showing a portion only of the coil. Figs. 4 and 5 show different methods of securing the coil to a blank wheel. Fig. 6 is a diagram showing the wheels meshing at different angles.

The body of the wheel A can be made of wood or metal, as desired, and can be either solid or formed with spokes, as the construction thereof is not essential.

The face of the wheel is provided with a circumferential groove a . In this groove is arranged an endless coil of wire B, which coil is sprung into the groove and secured to the wheel in any suitable manner—as, for instance, by brazing it at the points where each convolution of the coil comes in contact with the periphery of the wheel—or it can be fastened by means of a wire c , running through the coil and passing through the rim of the wheel and secured by means of a nut d , as shown in Fig. 4.

In Fig. 4 I have shown another method of securing the coil to the wheel in which the wire c instead of being secured by means of a nut is wound around a pin e and drawn up tightly.

In Fig. 5 I have shown still another method of securing the coil to the wheel. A wire m is secured to the outside of the convolutions along the inner circumference of the coil by means of a thin wire n being wound through each convolution and around said wire m . This will securely hold the coil to the said wire and the ends thereof can be fastened to the wheel in the manner shown in Fig. 4.

One wheel of a set of gears is provided with a right and the other with a left hand coil in order that they will mesh when brought together. It will be seen that when they are brought together the convolutions of the coil on one wheel will enter the spaces between the convolutions of the coil on the other wheel, and that a number of them will mesh at the same time, thus distributing the strain and securing a great amount of power. The diameter of the coil can be somewhat larger than the thickness of the wheel, allowing the coil to extend on either side thereof, and when this is the case two wheels will gear at any angle. The angle of two gear-wheels can be changed or the wheels thrown into or out of gear while in operation, as there is sufficient elasticity in the coils to overcome any strain due to such action.

A lubricant is not necessary on my improved gear, as there is very little friction on account of the pitch of the convolutions and it is practically noiseless.

Having thus fully described my invention, what I claim is—

A blank wheel having its rim provided with a peripheral groove, an endless coil of wire located in said groove, a securing-wire having loop portions projected through said rim, the ends of said securing-wire being also projected through said rim, pins designed to engage said loop portions and a collar designed to unite the ends of said wire, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CALVIN JACKSON.

Witnesses:

ED. A. KELLY,
ADAM L. OTTERBEIN.