(No Model.)

W. B. FRISBIE.

DEVICE FOR CONVERTING MOTION.

No. 251,107. Patented Dec. 20, 1881.

Fig. 1.

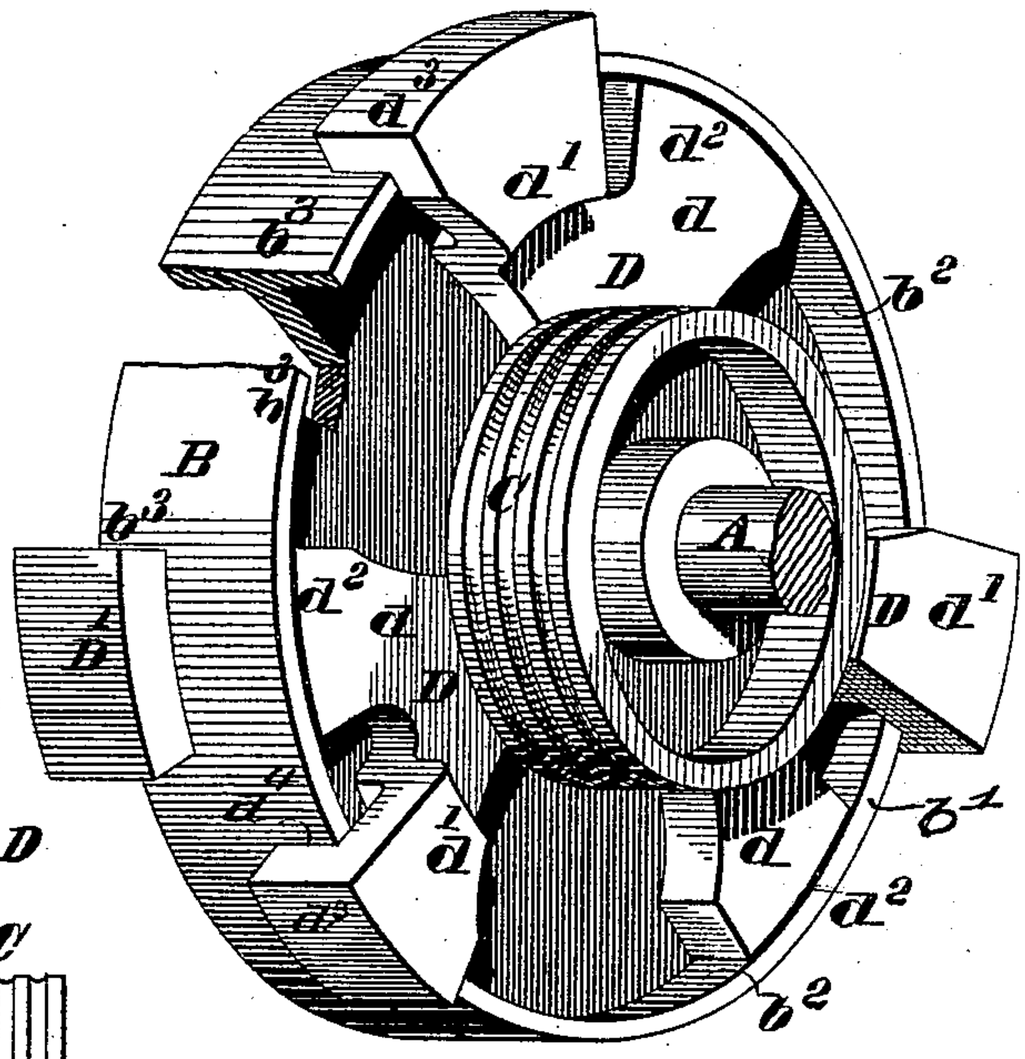


Fig. 2.

Fig. 3.

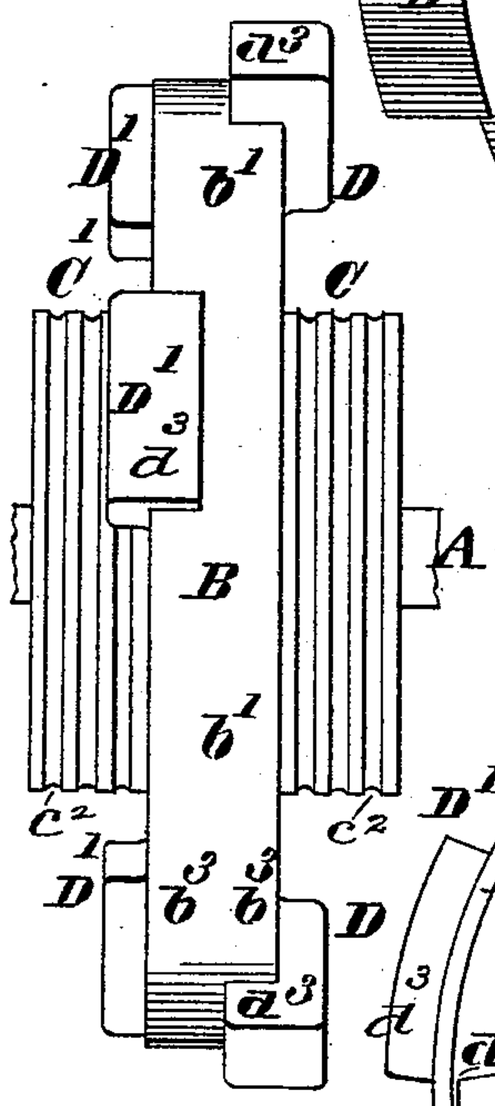
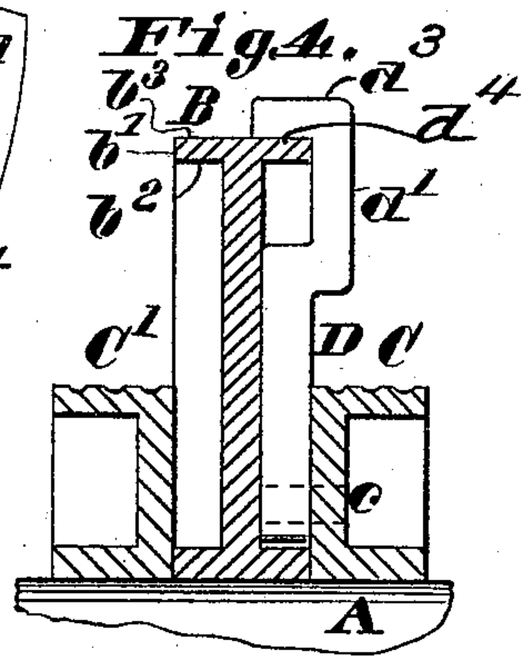
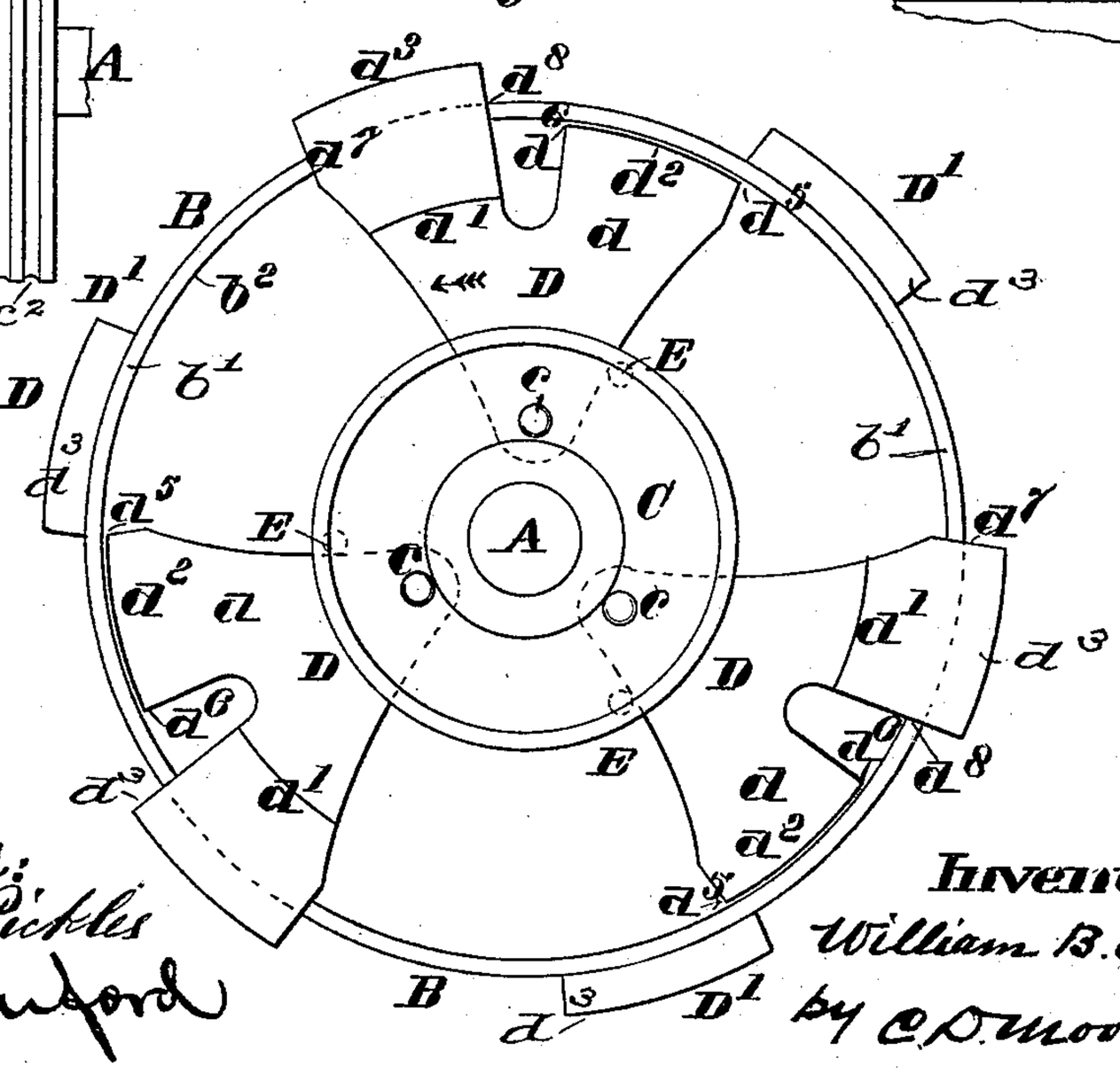


Fig. 4.





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UNITED STATES PATENT OFFICE.

WILLIAM B. FRISBIE, OF ST. LOUIS, MISSOURI.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 251,107, dated December 20, 1881.

Application filed September 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. FRISBIE, of St. Louis, Missouri, have made a new and useful Improvement in Devices for Converting Reciprocating into Continuous Rotary Motion, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective of the improved device, a portion of the pulley at the rim being broken away to exhibit the construction; Fig. 2, a side elevation; Fig. 3, an edge elevation; and Fig. 4, a detail, being a sectional edge elevation of a portion of the device.

The same letters denote the same parts.

The present invention relates especially to the improved means for transmitting the motion of the reciprocating parts to the pulley.

A represents the shaft to which it is desired to impart the continuous rotary motion. Attached thereto, and turning with it, is a construction resembling a pulley, B.

C C′ represent two frames loose upon the shaft A, and arranged to rotate thereon, and at opposite sides of the pulley B. The frames are similar, and in diameter can be larger or smaller than the pulley B, according to the speed or power to be used.

D D D D′ D′ D′ represent two series of dogs, pivoted respectively to the frames C C′ at *c*, and at their outer ends shaped and arranged to engage, when turned in one direction upon the pivots *c c*, with the pulley-rim *b′*, and when turned in the opposite direction upon the pivots to be free of the pulley-rim, the form and operation of the dogs more particularly described being as follows: In side elevation and in general outline the dogs are triangular. Toward their outer ends the dogs fork into two parts, *d* and *d′*, which are arranged to come respectively on opposite sides of a radial line drawn through the center of the shaft A and pivot *c*. The outer end, d^2, of the part *d* is shaped to fit, when the dog is turned on its pivot *c*, as hereinafter described, the inner face, b^2, of the rim *b′*, and the other part, *d′*, is provided with a flange, d^3, the inner face, d^4, of which comes over and fits the outer face, b^3, of the rim *b′*. The part *d* is also so proportioned that the distance from the pivot *c* to the point d^5, or outer end of the face d^2, is longer than the distance from the pivot to the point d^6, or inner end of the face d^2, and the part *d′*, so that the distance from the pivot *c* to the point d^7, or outer end of the face d^4, is longer than the distance from the pivot to the point d^8, or inner end of the face d^4. Thus made, when the dog is swung on its pivot in the direction of the arrow, Fig. 2, the face d^2 binds against the face b^2 of the pulley-rim *b′*, and the face d^4 binds against the face b^3 of the pulley-rim; but when the dog is swung in the opposite direction it is free of the pulley-rim.

The chief advantage of this improvement is the dogs are enabled to bind more readily upon the pulley-rim, and when so binding to exert less strain upon the pivots *c c* than when only the inner part, *d*, of the dog is used.

The device is operated as follows: The frames C C′, by any suitable means, as by cords (not shown) passing around the frames in the grooves c^2, have a reciprocating movement upon the shaft A, one frame, C or C′, being turned forward as the other, C′ or C, is turned backward. As the frames are turned backward, the dogs do not bind upon the pulley-rim, but when turned forward the dogs bind against the rim *b′*, causing the pulley to continuously rotate. The movement of the dog is indicated by the dotted lines in Fig. 2. Stops E may be used to keep the dogs from falling too far away from the rim *b′*.

I am aware that a dog bearing upon the inner face simply of the pulley-rim has heretofore been used.

I claim—

1. The herein-described device for transmuting reciprocating into continuous rotary motion, which consists in the shaft A, the pulley B, having the rim *b′*, the frames C C′, and the dogs D D D D′ D′ D′, said dogs having the two parts *d* and *d′*, and combined and operating as set forth.

2. The combination of the pulley-rim *b′* and the dog D, having the parts *d* and *d′*, substantially as and for the purpose set forth.

WM. B. FRISBIE.

Witnesses:

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