No. 729,287. PATENTED MAY 26, 1903.

J. W. DAVIS.

ECCENTRIC.

APPLICATION FILED FEB. 14, 1903.

NO MODEL.

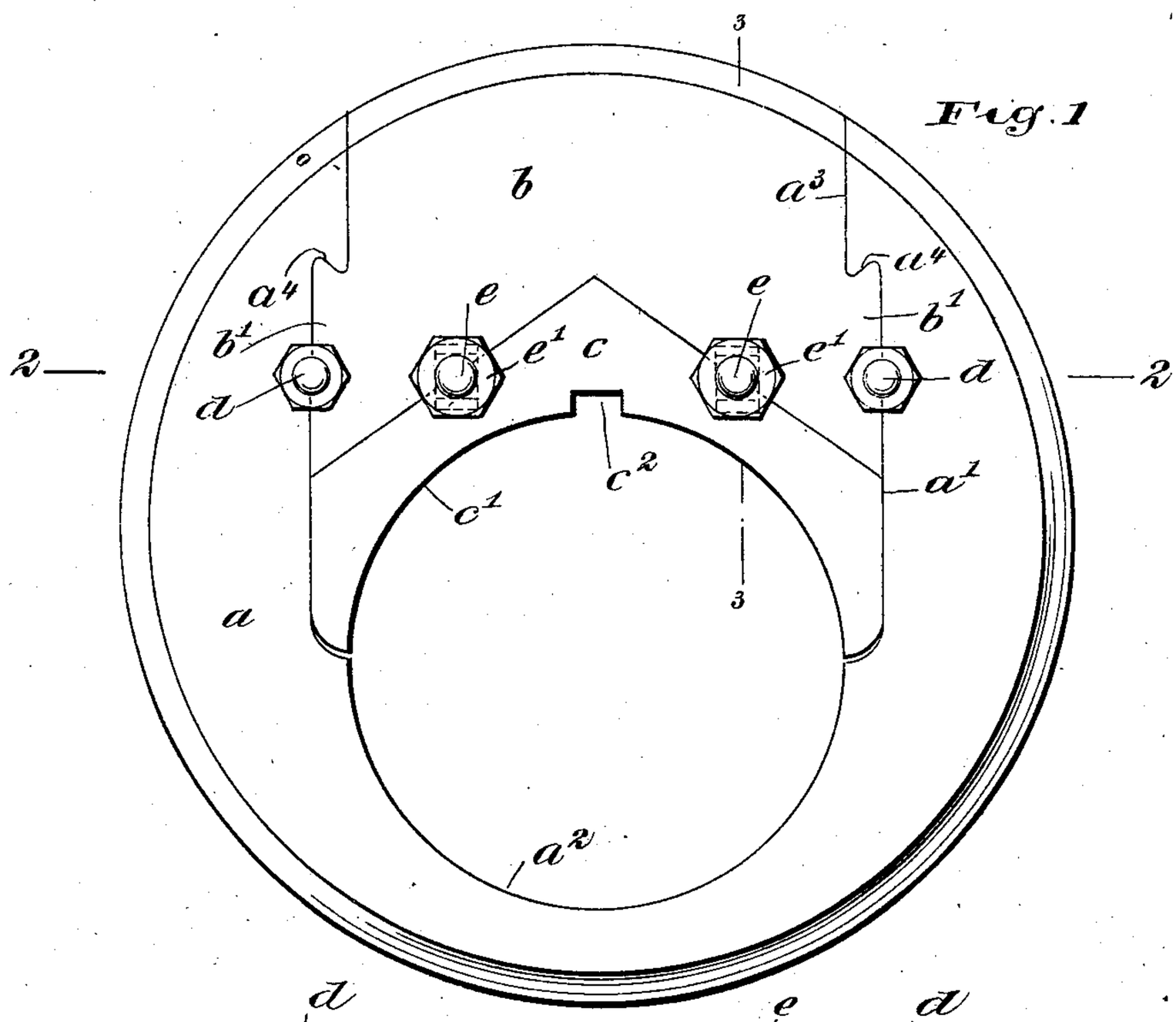

Fig. 1

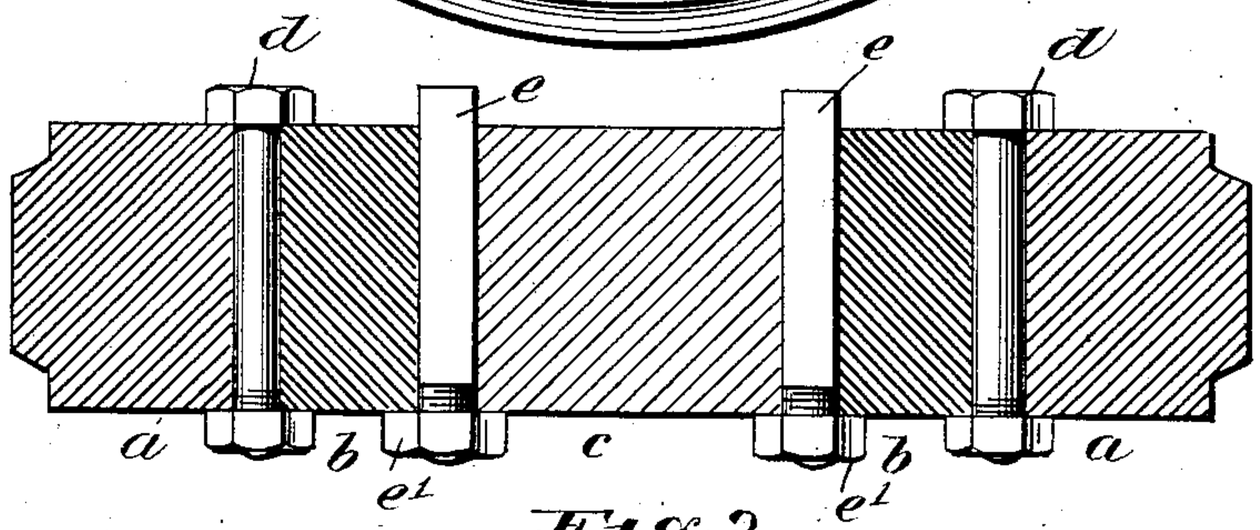

Fig. 2

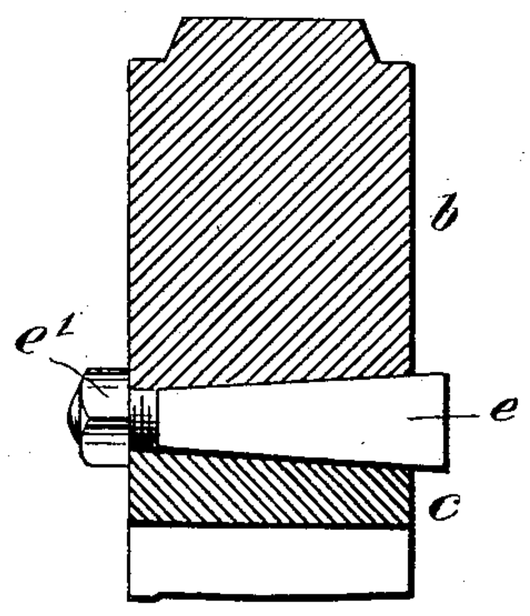

Fig. 3

WITNESSES:

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No. 729,287. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

JOHN WESLEY DAVIS, OF SALISBURY, NORTH CAROLINA.

ECCENTRIC.

SPECIFICATION forming part of Letters Patent No. 729,287, dated May 26, 1903.

Application filed February 14, 1903. Serial No. 143,280. (No model.)

To all whom it may concern:

Be it known that I, JOHN WESLEY DAVIS, a citizen of the United States, and a resident of Salisbury, in the county of Rowan and State of North Carolina, have invented a new and Improved Eccentric, of which the following is a full, clear, and exact description.

This invention relates to an eccentric adapted especially for use on locomotives to operate the valve-gear thereof.

The object of the invention is to construct the eccentric so that it may be fastened to the axle or shaft more securely than heretofore.

In the modern locomotive the strains to which the eccentric is subjected are so destructive that as ordinarily arranged the eccentrics frequently become loose on the shaft and necessitate extensive repairs. My invention seeks to overcome this disadvantage.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the eccentric. Fig. 2 is a section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1.

The eccentric comprises three parts, namely, a body *a*, a crown-piece *b*, and a key-piece *c*. The body *a* is formed with an opening *a'*, which extends outward from the opening a^2 for the shaft to the periphery of the eccentric, such opening *a'* extending across the wide portion or largest radius of the eccentric. This opening *a'* is formed with a contracted outer portion a^3, producing shoulders a^4 at each side, these shoulders being undercut, as illustrated. The crown-piece *b* is seated in the outer portion of the opening *a'* and has its outer edge curved to form a continuation of the periphery of the eccentric. At each side edge the crown-piece is enlarged, as indicated at *b'*, thus forming portions which match with the enlarged or main portion of the opening *a'* and lock against the undercut shoulders a^4. The key-piece *c* is of a width equal to the diameter of the shaft-opening and has its inner edge *c'* curved to form a continuation of the curve of the opening a^2 in the body-piece, these edges or openings a^2 and *c'* jointly forming the opening for the shaft on which the eccentric is mounted. The key-piece *c* is also formed in its edge *c'* with a seat c^2 for a spline or feather to be used in the usual manner. The adjoining edges of the parts *b* and *c* should be matched together in the manner shown or in any other convenient or desired form. It will be observed from Fig. 1 that the lower side portions of the key-piece *c* are separated slightly from the adjoining walls of the opening *a'* in the body-piece, thus allowing the key-piece a slight movement toward and from the center of the shaft on which the eccentric is mounted. The crown-piece *b* is not, however, adapted to have any movement relative to the body-piece, the shoulders *a'* preventing outward movement (the tendency to which is greater than to inward movement) and bolts *d* prevent inward movement. These bolts are passed through matching cavities formed in the adjoining walls of the sections *a* and *b*, as illustrated best in Fig. 2.

e indicates tapered keys which are seated in matching cavities formed in the adjoining edges of the sections *b* and *c* and which may be held in place by any desired means—for example, by the nuts *e'*, threaded on the small ends of the keys, as shown.

In applying the eccentric the parts are fitted around the shaft, and then the keys *e* are applied and forced tightly in position, this action driving the key-piece *c* down tightly on the shaft and at the same time causing the walls of the opening a^2 in the body-piece to be drawn up against the shaft with an equal pressure. By this construction the eccentric clamps the shaft tightly at all points around the shaft, and the eccentric is held in place by a pressure that is equally distributed, as contradistinguished from the action of a set-screw as ordinarily employed to tend to draw the eccentric away from one side of the shaft. After the keys *e* have been tightened up into place a key of the usual sort may be driven into the seat c^2.

Various changes in the form and details of my invention may be resorted to at will without departing from the spirit of my invention. Hence I consider myself entitled to all forms of the invention as may lie within the intent of my claims.

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

1. An eccentric having a circular periphery and an eccentric shaft-opening and comprising a body-piece having an opening extending outward from the shaft-opening to the periphery of the body-piece, a crown-piece held firmly in the outer part of said opening, a key-piece movably placed in the inner part of said opening inward of the crown-piece, and means for forcing the key-piece away from the crown-piece.

2. An eccentric, having parts forming its outer or peripheral portion and a key-piece movably placed thereon, said key-piece having a curved inner edge forming part of the shaft-opening of the eccentric, and the key-piece being of a width equal to the diameter of the shaft-opening, and means for forcing the key-piece inward toward the center of the shaft-opening.

3. An eccentric having a circular periphery and an eccentric shaft-opening and comprising a body-piece with an opening extending outward from the shaft-opening to the periphery of the body-piece, the outer part of said opening being contracted to form shoulders, a crown-piece placed in the outer part of said opening and held by the shoulders, a key-piece placed inward of the crown-piece in the inner part of said opening of the body-piece, and means for forcing the key-piece toward the center of the shaft-opening.

4. An eccentric having a circular periphery and an eccentric shaft-opening and comprising a body-piece with an opening extending outward from the shaft-opening to the periphery of the body-piece, the outer part of said opening being contracted to form shoulders, a crown-piece placed in the outer part of said opening and held by the shoulders, a key-piece placed inward of the crown-piece in the inner part of said opening of the body-piece, and means for forcing the key-piece toward the center of the shaft-opening, said means comprising a tapered key driven between the adjacent edges of the crown and key pieces.

5. An eccentric having a circular periphery and an eccentric shaft-opening and comprising a body-piece having an opening extending outward from the shaft-opening to the periphery of the body-piece, a crown-piece held firmly in the outer part of said opening, a key-piece movably placed in the inner part of said opening inward of the crown-piece, and means for forcing the key-piece away from the crown-piece, said means comprising a tapered key driven in between the meeting edges of the crown and key pieces.

6. An eccentric, comprising a body-piece with an opening extending outward from the shaft-opening to the periphery of the eccentric, the outer portion of said opening being contracted to form shoulders, a crown-piece placed in the outer portion of the opening and having an enlarged inner portion bearing against the said shoulders of the body-piece, a bolt fitted between the crown-piece and body-piece to prevent the inward movement of the former, a key-piece set in the inner part of the opening in the body-piece and movable relatively to the body-piece, and means for forcing the key-piece inward toward the center of the shaft-opening.

7. An eccentric, comprising a body-piece with an opening extending outward from the shaft-opening to the periphery of the eccentric, the outer portion of said opening being contracted to form shoulders, a crown-piece placed in the outer portion of the opening and having an enlarged inner portion bearing against the said shoulders of the body-piece, a bolt fitted between the crown-piece and body-piece to prevent the inward movement of the former, a key-piece set in the inner part of the opening in the body-piece and movable relatively to the body-piece, and means for forcing the key-piece inward toward the center of the shaft-opening, said means comprising a tapered key driven in between the meeting edges of the crown and key pieces.

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

JOHN WESLEY DAVIS.

Witnesses:
L. D. HACKETT,
B. M. MARSH.