

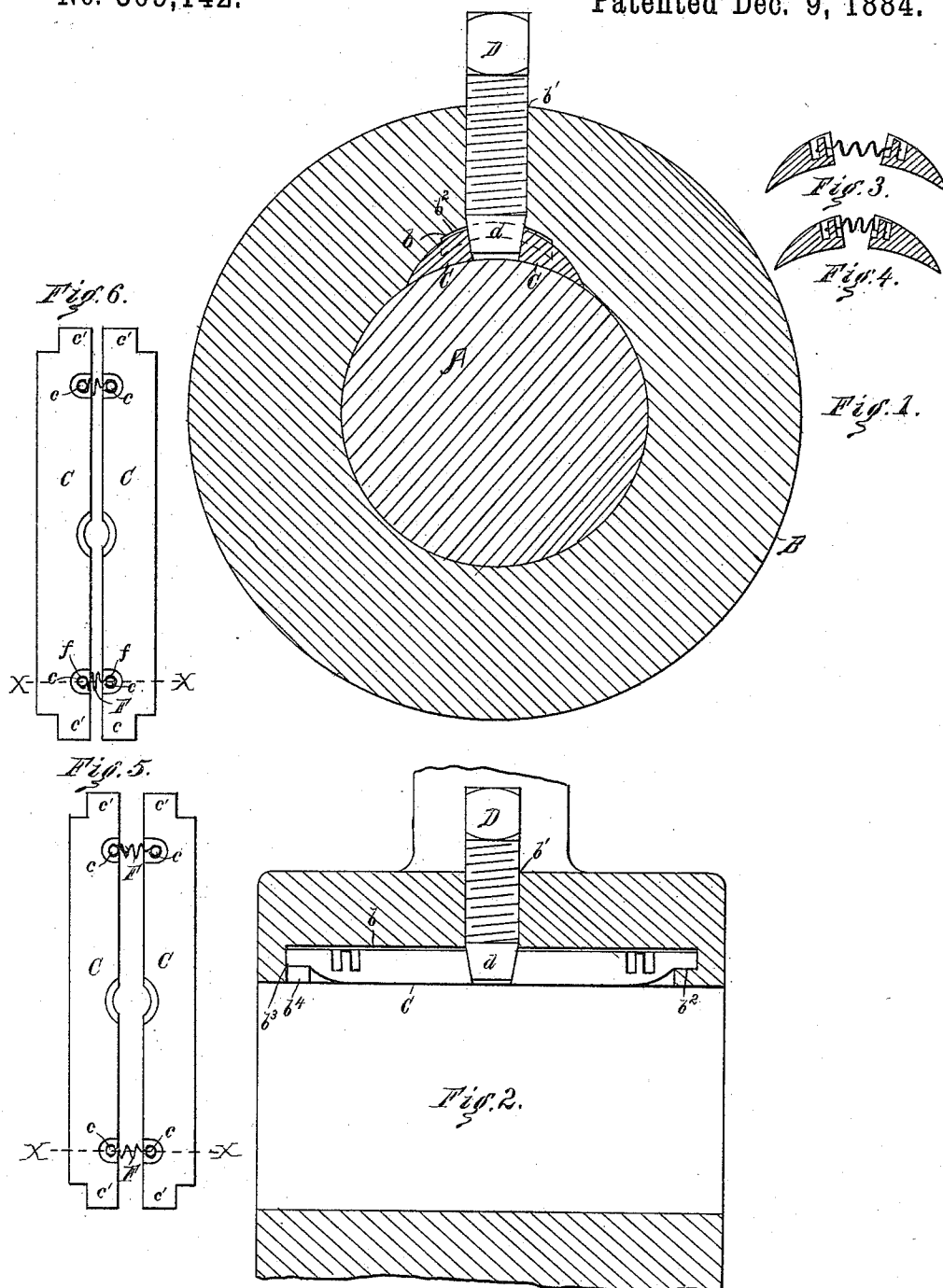
(No Model.)

K. HYDE.

DEVICE FOR SECURING COLLARS AND HUBS TO SHAFTING.

No. 309,142.

Patented Dec. 9, 1884.



WITNESSES -

John H. Lynch
Edward H. Thompson

INVENTOR -

Kirkley Hyde,
By Albert M. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

KIRKLEY HYDE, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF THREE-FOURTHS TO JAMES W. BENNETT, ALBERT M. MOORE, AND FREDERICK TAYLOR, ALL OF SAME PLACE.

DEVICE FOR SECURING COLLARS AND HUBS TO SHAFTING.

SPECIFICATION forming part of Letters Patent No. 309,142, dated December 9, 1884.

Application filed May 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, KIRKLEY HYDE, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Devices for Securing Collars and Hubs to Shafting, of which the following is a specification.

My invention relates to devices for securing collars and hubs, as of pulleys, gears, cranks, levers, and other articles which have a round hole to receive a shaft; and it consists in the combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a section, at right angles to the axis of the shaft, through the collar and shaft, across the wedges at the middle of the same; Fig. 2, a central longitudinal section through a hub or collar and between the wedges; Figs. 3 and 4, cross-sections through the wedges on the line X X in Figs. 5 and 6, respectively; Fig. 5, a plan of the wedges and springs as spread apart when in use, and Fig. 6 a plan of the same when drawn together by the springs.

A, Fig. 1, is a cylindrical shaft. B is a collar or hub of the ordinary construction, except that it has an internal chamber, *b*, preferably extending nearly from end to end of the hub, and shaped to receive the wedges C. A hole, *b'*, is drilled and tapped radially through from the outside of the hub or collar into the chamber *b*, and in this hole turns a screw, D, having a smooth tapering point, *d*. The wedges C are alike, their outer and inner surfaces being curved—the inner surface curved to fit the shaft, and the outer surface curved to fit the curved surface of the chamber. They are used in pairs, having their bases or thick sides turned toward each other, as shown in the first four figures, and are connected by a pair of spiral springs, F, the ends of which are bent into hooks *f*, which receive studs or pins *e* on said wedges, and draw the wedges toward each other, but not close together, when not held apart by the point of the screw. Each wedge C is provided at each end with an

ear, *e'*, which enters a corresponding groove, *b² b³*, at the end of the chamber, there being a groove at each end of the chamber, and at one end of the chamber a radial passage, *b⁴*, which leads out of the groove into the bore or central aperture of the collar. After placing one ear of the wedge in the groove *b²*, the other ear may be introduced into the groove *b³* through the passage *b⁴*, and then, after sliding the wedge along in the grooves, the other wedge may be in the same manner introduced to the grooves, which will retain them in the collar. Each wedge of a pair is provided at the middle of the thick side with a curved notch of such a size that the two together will admit the point of the screw. When the collar, with the wedges, is placed on a suitable shaft, and the screw is turned into the collar and pushes the wedges away from each other into the shallowest part of the chamber, the wedges will prevent the collar from slipping on the shaft, as the motion of the collar in either direction will crowd the wedges still farther into the narrowest part of the space between the collar and shaft.

Evidently the tightening device above described may be applied to the hub of a pulley, gear, or wheel, or to any piece which has a round hole to receive a round shaft or piece to prevent said pieces from slipping on each other.

I claim as my invention—

1. The combination of the collar having a wedge-chamber, the pair of wedges, and means, substantially as described, of crowding said wedges apart, as and for the purpose specified.

2. The combination of the collar provided with a chamber shaped substantially as described, and with a threaded hole, the wedges placed within said chamber, and the screw provided with a tapering point adapted to enter between and separate said wedges, as and for the purpose specified.

3. The combination of the collar provided with the wedge-chamber having end grooves and a passage connecting one of said grooves

with the central opening of the collar, and the wedges provided with ears adapted to enter said grooves, as and for the purpose specified.

4. The combination of the collar having
5 the wedge-chamber, the wedges, and the springs connecting said wedges, as and for the purpose specified.

5. The combination of the collar provided

with the wedge-chamber, the wedge provided with pins, and the springs provided with 10 hooks, as and for the purpose specified.

KIRKLEY HYDE.

Witnesses:

EDWARD W. THOMPSON,
ALBERT M. MOORE.