(No Model.)

G. H. ZSCHECH.

SHAFT COUPLING.

No. 284,704. Patented Sept. 11, 1883.

Fig: 1.

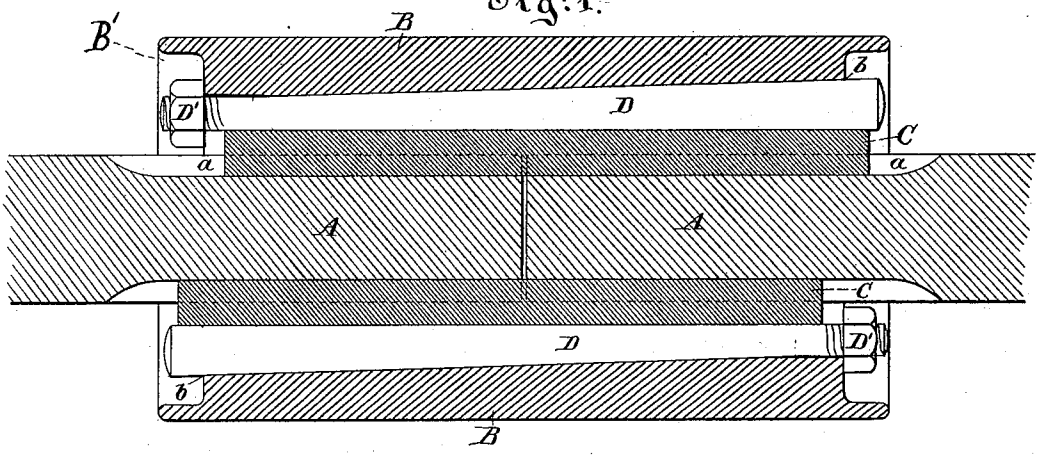


Fig: 2.

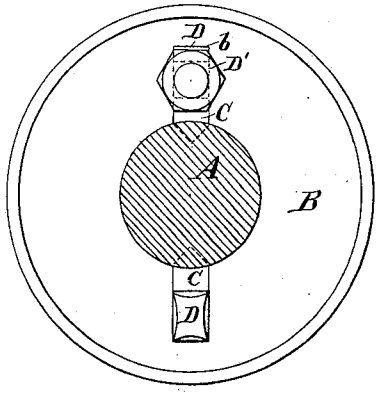
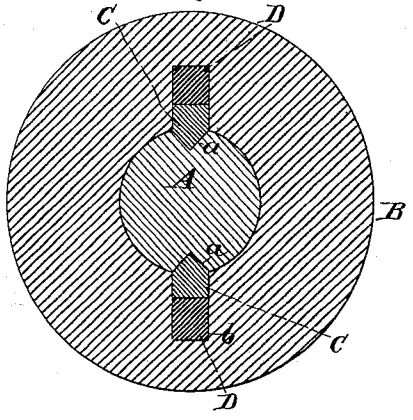


Fig: 3.



WITNESSES

J. A. Rennie

H. H. Gentner

INVENTOR

Gustavus H. Zschech.

by his attorney

Thomas D. Stetson.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GUSTAVUS H. ZSCHECH, OF INDIANAPOLIS, INDIANA.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 284,704, dated September 11, 1883.

Application filed March 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS H. ZSCHECH, of Indianapolis, Marion county, in the State of Indiana, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a specification.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a central longitudinal section. Fig. 2 is an end elevation, and Fig. 3 is a cross-section.

Similar letters of reference indicate like parts in all the figures.

The object of the invention is, as usual, to compel two lengths of shafting to turn together, and also to hold them in line, and to insure a perfect balance. I spline or groove longitudinally the ends of the respective lengths of shafts with a groove of V-section, and insert therein keys adapted to match such grooves. The backs or outer edges of the keys are of rectangular section, and received in grooves of rectangular section in a stout sleeve which envelops the whole. The grooves or channels in the sleeve are tapered, and receive tapering keys, which hold the V-sectioned pieces or keys pressed tightly home. The keys may be drawn tightly to their seat by nuts. I employ two sets of V-shaped keys and tapering adjusting-keys fitted opposite to each other. The tapering keys will lie heads and points. Each is drawn tightly to its seat, and is adjusted by the aid of a nut matching on a screw-thread produced on the cylindrical portion at the small end. The sleeve is recessed at the end, so that the nuts and keys are protected by a projecting rim.

Referring to the figures, A A are two lengths of shaft. In each is a splined key-seat, *a*, of V-section.

B is an inclosing-sleeve, certain portions being designated, when necessary, by additional marks, as B′. In its interior are planed or otherwise produced two longitudinal grooves or splines, *b*, of rectangular section. The position of these splines *b* and their widths correspond to the V-shaped grooves *a*.

C C are keys, of cast-steel or other suitable material. The outer side of each key C is of rectangular section, and is received in the spline *b* in the sleeve. The inner side of each key C is of V-shaped section, and is received in a spline, *a*. The spline *b* in the sleeve B is tapering from one end to the other. In it is fitted a wedge-key, D, correspondingly tapered. Its small end is extended, rounded, and screw-threaded, and receives a correspondingly-threaded nut, D′. The shafts are held in line, the V-shaped keys C applied in position, and the sleeve B is moved endwise from its place on one of the lengths of shafting, so that it applies about equally upon each length. Then the wedge-keys D are inserted, the nuts D′ applied and tightened up by turning with the fingers or otherwise, so as to adjust both alike and bring all the parts to a gentle and easy bearing. Then both nuts are turned by the aid of a wrench until the whole is set very firmly. The sleeve B is formed with a rim, B′, which overhangs each end, so as to protect the nut D′ and the adjacent end of the wedge-key D. The hole in the center of the sleeve should be nicely turned, and should match pretty closely to the exterior of the lengths of shafting. Then the tapering keys D D are forced home gradually and equally, so that the V-shaped keys C are pressed into their respective seats equally and firmly.

Modifications may be made in the forms and proportions of the details. The wedge-keys D may be driven by a hammer or a mallet until they come to a gentle bearing in their respective seats, and the nut D′ applied afterward. I can apply a belt on the exterior of the sleeve, and thus use the sleeve as a pulley. For such use it may be slightly swelled, and may be increased in diameter to any desired extent.

I claim as an improvement in shaft-couplings—

In a shaft-coupling, the two sets of keys C D, the innermost, C, being of V-shaped section and fitted in a corresponding spline in the shaft, and the outermost, D, of rectangular section and tapered, in combination with each other and with the sleeve B and means, as D′, for adjusting the keys D without disturbing the keys C, as herein specified.

In testimony whereof I hereunto set my hand, at Indianapolis, this 18th day of January, 1883, in the presence of two subscribing witnesses.

GUSTAVUS H. ZSCHECH.

Witnesses:

PETER SPITZFADEN,

THEODORE REYER.