No. 691,274. Patented Jan. 14, 1902.

J. KENNEDY.

SHAFT COUPLING.

(Application filed Nov. 2, 1901.)

(No Model.)

Fig. 1.

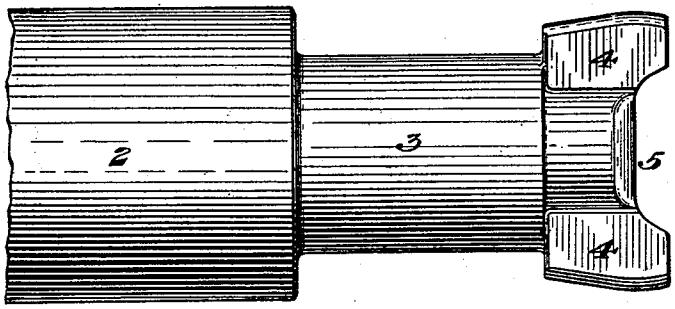


Fig. 2.

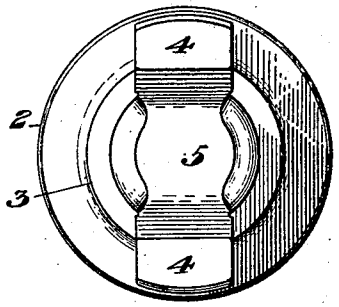


Fig. 4.

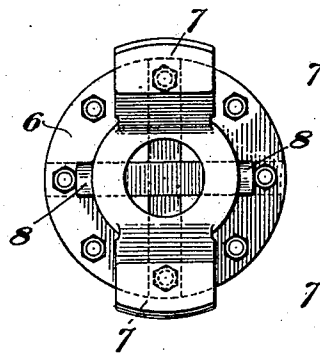


Fig. 3.

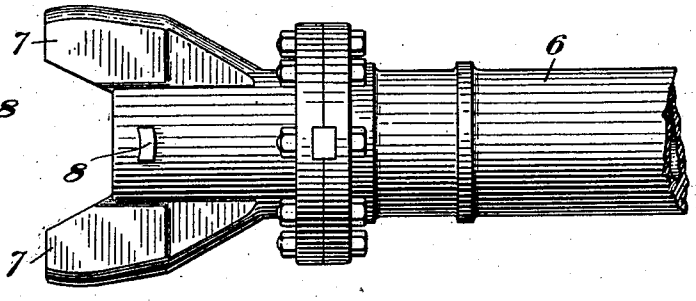


Fig. 5.

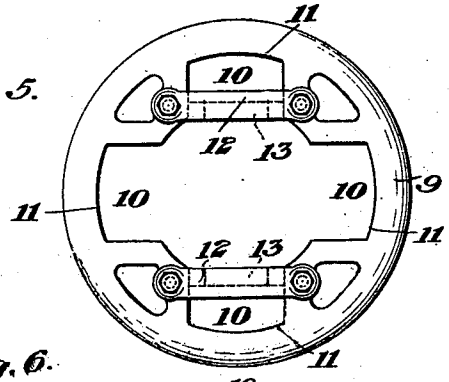
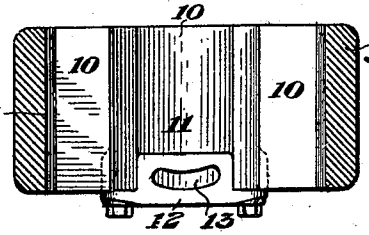


Fig. 6.



WITNESSES

INVENTOR

Julian Kennedy
by Baldwin & Hymes
his attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

JULIAN KENNEDY, OF PITTSBURG, PENNSYLVANIA.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 691,274, dated January 14, 1902.

Application filed November 2, 1901. Serial No. 80,898. (No model.)

To all whom it may concern:

Be it known that I, JULIAN KENNEDY, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Shaft-Coupling, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation showing a portion of a roll constructed in accordance with my invention. Fig. 2 is an end elevation of the spindle end of the roll-neck. Fig. 3 is a side elevation of the driving-spindle. Fig. 4 is an end elevation of the spindle. Fig. 5 is an end elevation of the coupling-box, and Fig. 6 is a horizontal section of the box.

My invention relates to shaft-couplings, and particularly to the couplings between a vibrating spindle and a roll, and is designed to improve such couplings, reduce lost motion, and lengthen their life.

Heretofore in roll-couplings the spindle ends of the roll-neck and the corresponding end of the driving-spindle have been formed in cross shape or with three or four radial arms, such arms fitting loosely in corresponding recesses of the coupling-box. As the roll is adjusted up and down and is not in actual alinement with the spindle, there is a rocking movement of the cross-shaped ends in the recesses of the box, which necessitates the rounding or curving of the arms, and thus reduces the bearing-surface. A large amount of lost motion is necessary, and under the jars and shocks to which the couplings are subjected they wear out quickly. My invention largely overcomes this difficulty, increases the bearing-surface in the coupling, and reduces the lost motion, thus enabling the coupling to last much longer than those now used; and it consists in providing the roll-neck or driven shaft with two oppositely-projecting lugs or arms, which fit within two of the recesses in the coupling-box, the driving-spindle also having two opposite lugs engaging the other two recesses of the coupling-box and lying in a plane at substantially right angles to the plane of the lugs on the roll-neck or shaft.

It further consists in a latch device for holding the coupling-blocks in place and in certain features of construction hereinafter described and claimed.

In the drawings, 2 represents a roll having its neck 3 provided at the end with oppositely-projecting lugs 4 4. These lugs are longitudinally curved upon their outer longitudinal edges, as shown in Fig. 1, and are also transversely curved upon these faces, as shown in Fig. 2. They project beyond the end of the neck, leaving a recess 5 between them to receive the lugs upon the spindle. The end 6 of the spindle is also provided with a pair of opposite arms 7 7, which are similar in general shape to the arms upon the roll-neck. The cylindrical end portion of this spindle is provided upon opposite sides with small curved lugs 8 8, which project in opposite directions at right angles to the general plane of the lugs or arms.

The coupling-box 9 (shown in Figs. 5 and 6) is hollow and provided with four recesses 10, having outer curved faces 11 to fit the transversely-curved faces of the lugs or arms upon the roll-neck and the spindle, respectively. When the parts are assembled, the coupling is slipped over the lugs on the roll-neck, the lugs upon the spindle are moved into the other two recesses, and the box is held in place by latch devices 12, which are bolted across one face of the coupling-box and are provided with curved slots 13, engaging the correspondingly-curved lugs upon the cylindrical end portion of the spindle. In the operation of the device the rotation of the spindle drives the box, and thereby the roll, and the box rocks or wabbles upon the spindle-lugs and the roll-neck lugs, the longitudinally-curved faces of these lugs allowing such movement, while the outer flat parallel faces of both sets of lugs fit neatly within the recesses and bear upon their sides. Much closer fitting of the parts can thus be obtained and the amount of lost motion and shocks incident thereto are avoided. The parts are easily disconnected by sliding the box endwise after releasing the latches. The device works smoothly and is long-lived.

Many variations may be made in the form and arrangement of the lugs or arms, the box, and the latch or holding device without departing from my invention.

I claim—

1. In a shaft-coupling, a coupling-box having four recesses, a shaft having a pair of

oppositely-projecting lugs engaging two of said recesses, and a driving-spindle also having two oppositely-projecting lugs arranged to engage the other recesses of the box; substantially as described.

2. In a shaft-coupling, a neck or shaft having a pair of oppositely-projecting lugs with longitudinally-curved edges, a driving-shaft or spindle having a pair of similarly-shaped oppositely-projecting lugs, and a box having four recesses arranged to receive the lugs of the shaft at right angles to those of the driving-shaft or spindle; substantially as described.

3. In a shaft-coupling, a driving and a driven shaft, each having a pair of oppositely-projecting lugs, a coupling-box having recesses receiving the lugs at right angles to each other and arranged to be slid back upon one of said shafts, and a device for normally holding the box in position; substantially as described.

4. In a shaft-coupling, a driving and a driven shaft, each having a pair of oppositely-projecting lugs, a coupling-box having four recesses receiving the pairs of lugs at right angles to each other, and a latch device for holding the box in place; substantially as described.

5. A driving and a driven shaft, each having a pair of oppositely-projecting lugs with longitudinally-curved edges, one of said shafts having curved holding-lugs, a coupling-box having four recesses arranged to receive the lugs and shaft at right angles to each other, and a latch or holding device having curved surfaces engaging the holding-lugs to retain the box in place; substantially as described.

In testimony whereof I have hereunto set my hand.

JULIAN KENNEDY.

Witnesses:
H. M. CORWIN,
L. M. REDMAN.