

(No Model.)

O. KROMER.
FRICTION COUPLING.

No. 344,320.

Patented June 22, 1886.

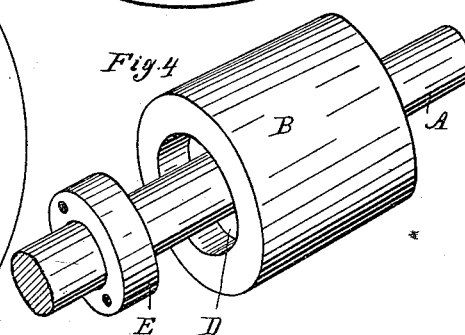
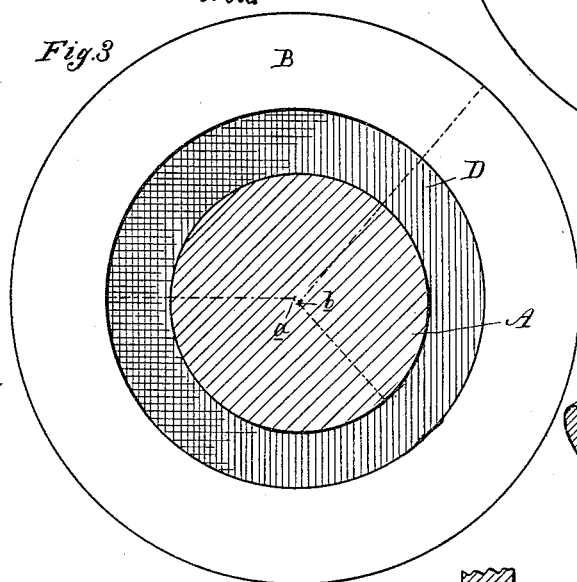
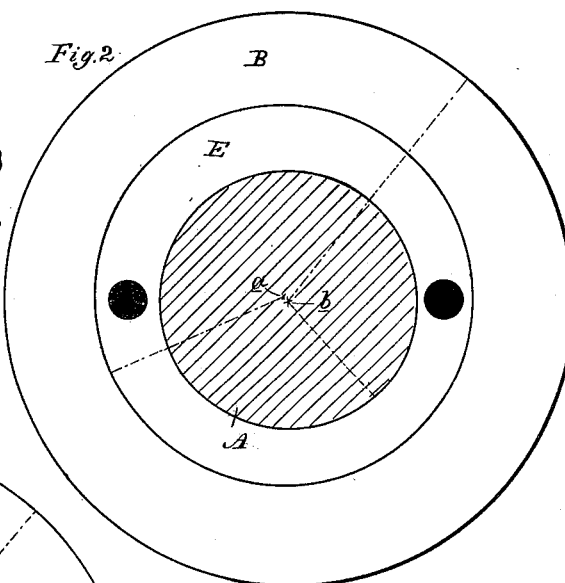
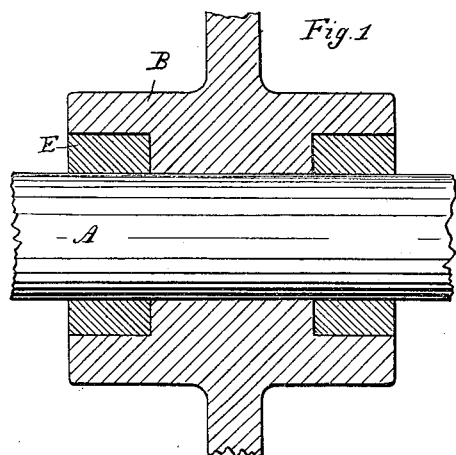
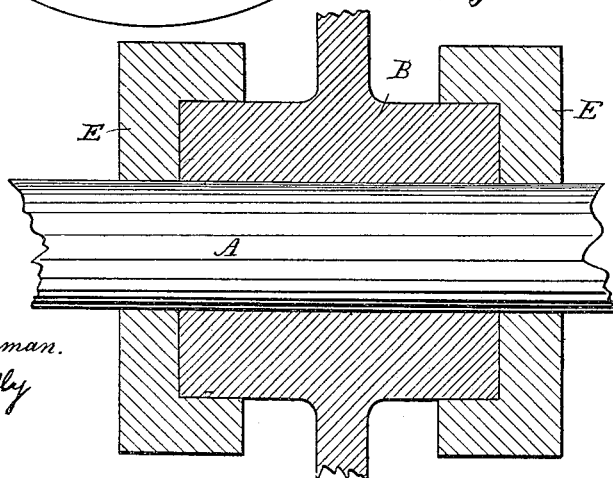


Fig. 5



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FRICTION-COUPLING.

SPECIFICATION forming part of Letters Patent No. 344,320, dated June 22, 1886.

Application filed January 29, 1886. Serial No. 190,184. (No model.)

To all whom it may concern:

Be it known that I, OTTO KROMER, of Sandusky, in the county of Erie and State of Ohio, have invented new and useful Improvements in Friction-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to a new and useful improvement in friction-couplings suitable for a shaft-coupling, pulley-fastener, or other similar uses.

15 In the accompanying drawings, which form a part of this specification, Figure 1 is a vertical central longitudinal section through a shaft and pulley, showing my friction-coupling applied as a pulley-fastener. Fig. 2 is an end elevation thereof with the coupling perfected. 20 Fig. 3 is a similar view showing the coupling, however, unperfected. Fig. 4 is a perspective view of the parts with the coupling-ring detached. Fig. 5 is a vertical central longitudinal section of a modification.

25 A is a shaft. B is a sleeve or hub fitting onto the shaft. The sleeve B, which in the drawings is identical with the hub of the pulley, is provided upon one or both ends with a recess, D. This recess is perfectly circular, 30 but is slightly eccentric to the bore of the sleeve, its center being at *b*, while the center of the bore of the sleeve is at *a*.

E is a ring or bushing of such shape and dimensions as to fit around the shaft and into the recess D aforescribed. Its circular face 35 has therefore the same degree of eccentricity in relation to its circular bore as the recess D. The bushing is also provided upon one end with holes, slits, or other means of engagement with a wrench or spanner for turning it, 40 as hereinafter described.

In practice, the parts being arranged as described, the bushing is inserted into the recess, and by means of a spanner or wrench adapted 45 for the purpose it is turned in its recess until it is so firmly wedged therein that it cannot become loose under the strain to which it is subjected in operation. To easily find the position in which the bushing corresponds 50 with the recess, each may be provided with a crease or mark corresponding with each other. The bushing may also be provided with a flange

or collar of any desired shape or form, and having means for turning it with a wrench, spanner, or other tool suitable to exert a sufficient amount of power for tightly wedging it 55 in its recess by a turn. It is of course preferable to turn the bushing in the opposite direction in which the power acts on the shaft, as in this case the tendency is to still further 60 tighten the coupling in operation.

When two couplings are used upon opposite ends of the sleeve or hub, as shown in the drawings, it is preferable to tighten them in opposite directions when the shaft is liable to 65 be revolved in either direction.

The process of uncoupling the device is self-evident.

The parts may be of course arranged in the converse manner, as shown in Fig. 5, in which the above-described construction of the 70 bushing applies now to the sleeve, and vice versa, and I claim this arrangement.

I deem it important that the bore of the sleeve and that of the bushing be of substantially the same diameter as the diameter of 75 the shaft or mandrel upon which the coupling is used, whereby I dispense with the split collar necessary in former constructions of this class, and the inner surface of the pulley is 80 brought directly into contact with the shaft, not with an intermediate sleeve or collar, as heretofore.

What I claim as my invention is—

1. In a friction-coupling, the combination 85 of a sleeve and bushing, both provided with a bore for the reception of a mandrel, the sleeve having a circular recess eccentric with its bore, and the bushing formed correspondingly to fit into said recess, or vice versa, and the bore of 90 the sleeve and bushing being substantially the same diameter as the diameter of the mandrel, all arranged to operate substantially as described.

2. In a friction-coupling, in combination, a 95 sleeve having a bore of substantially the same diameter as the diameter of the shaft on which it is employed, and which is provided with a circular enlargement eccentric with the bore of the sleeve, and a bushing having a corre- 100 sponding bore and circular face and fitting into said enlargement, all arranged to operate in connection with a shaft or mandrel, substantially as described.

3. In a friction-coupling, the combination of a sleeve with two bushings, all provided with a bore to fit a mandrel, the bores of said sleeve and bushing being substantially the same diameter as that of said mandrel, the sleeve having circular recesses eccentric with its bore, and the bushings having circular face and formed correspondingly to fit into said recesses, or vice versa, all arranged to operate substantially as described.

4. As a new article of manufacture, a pulley provided with a coupling device consisting of

its hub and a bushing, the hub having a circular recess eccentric to its bore, and the bushing having circular face and formed correspondingly to fit into said recess, or vice versa, the bore of said hub and bushing being of substantially the same diameter as the shaft, all arranged to operate substantially as described.

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Witnesses:

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H. FREY.