

G. A. CHAPMAN.
SHAFT-COUPLING.

No. 189,190.

Patented April 3, 1877.

Fig. 1.

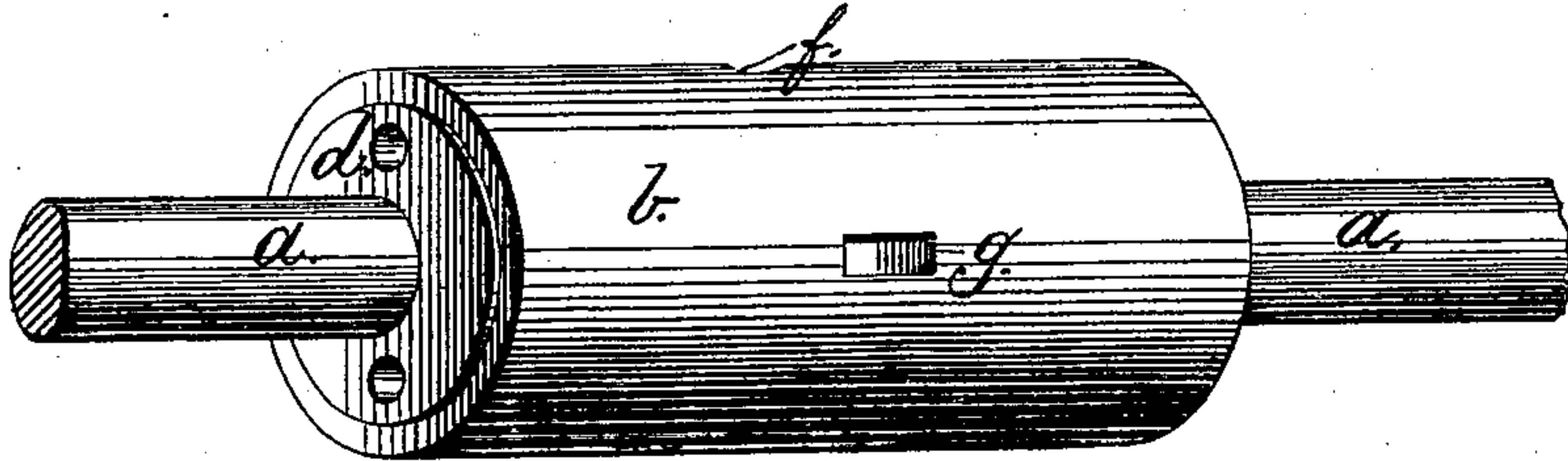


Fig. 2.

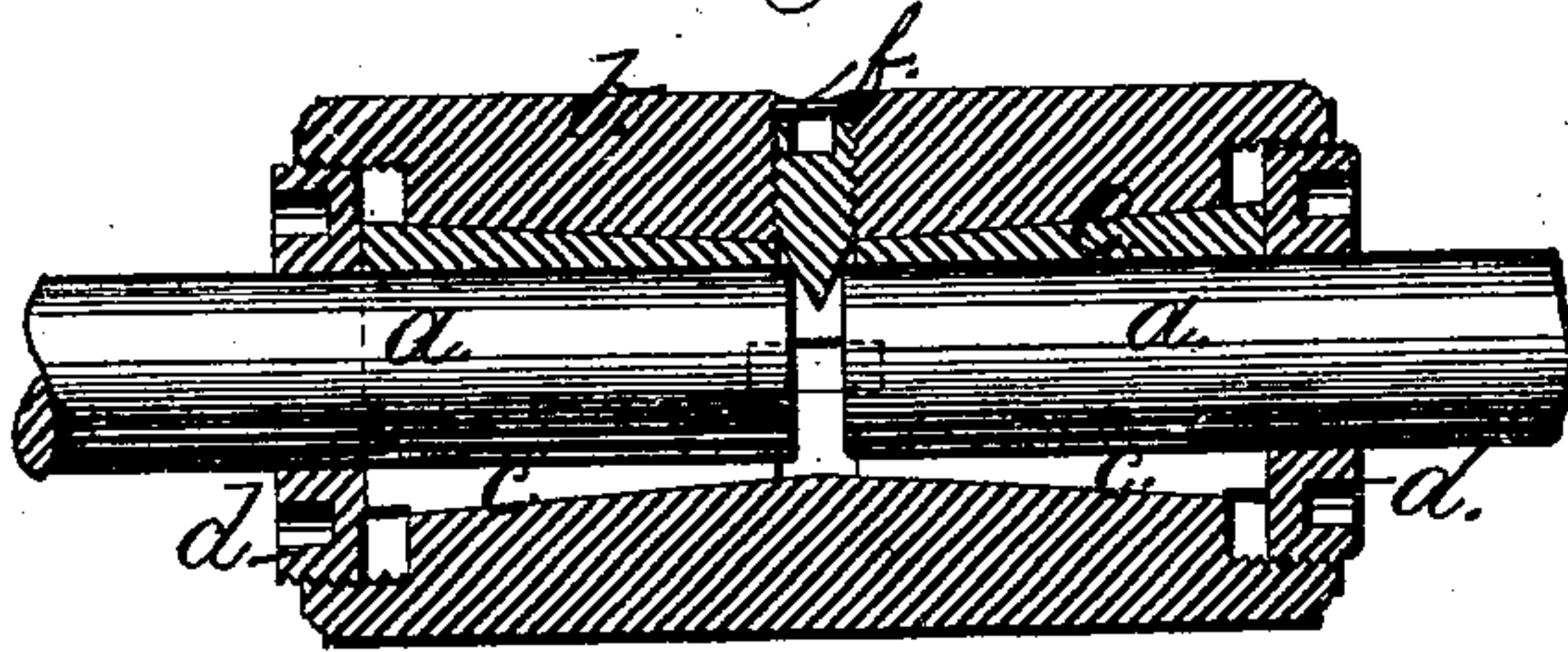


Fig. 3.

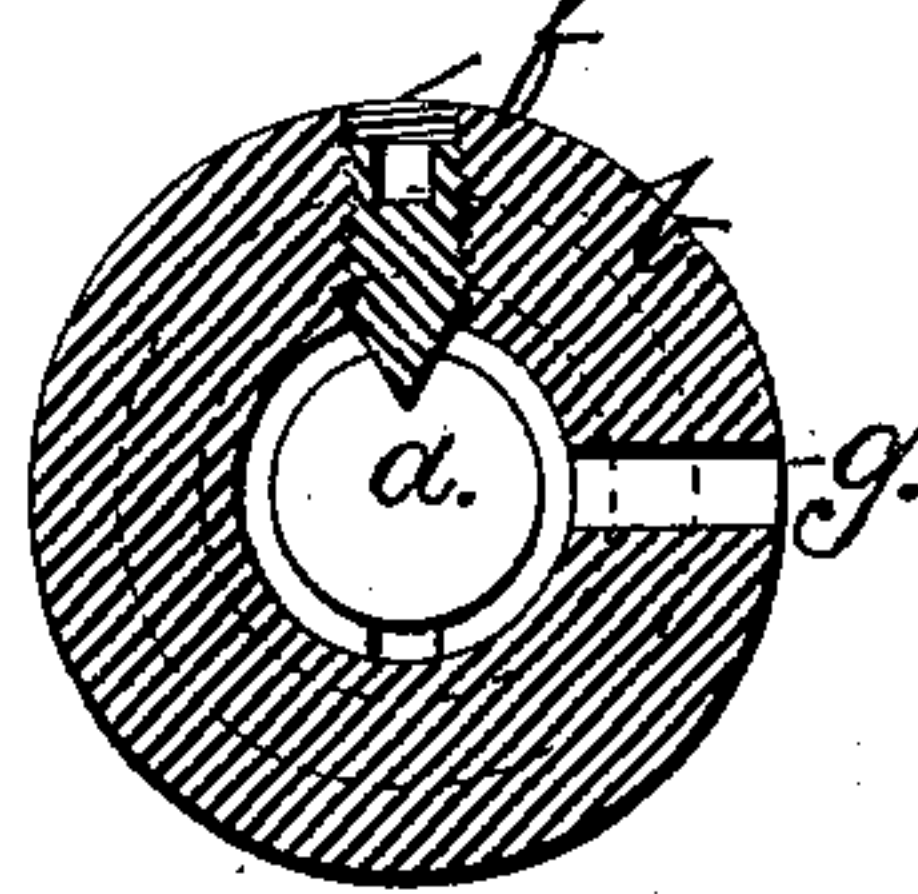


Fig. 4.

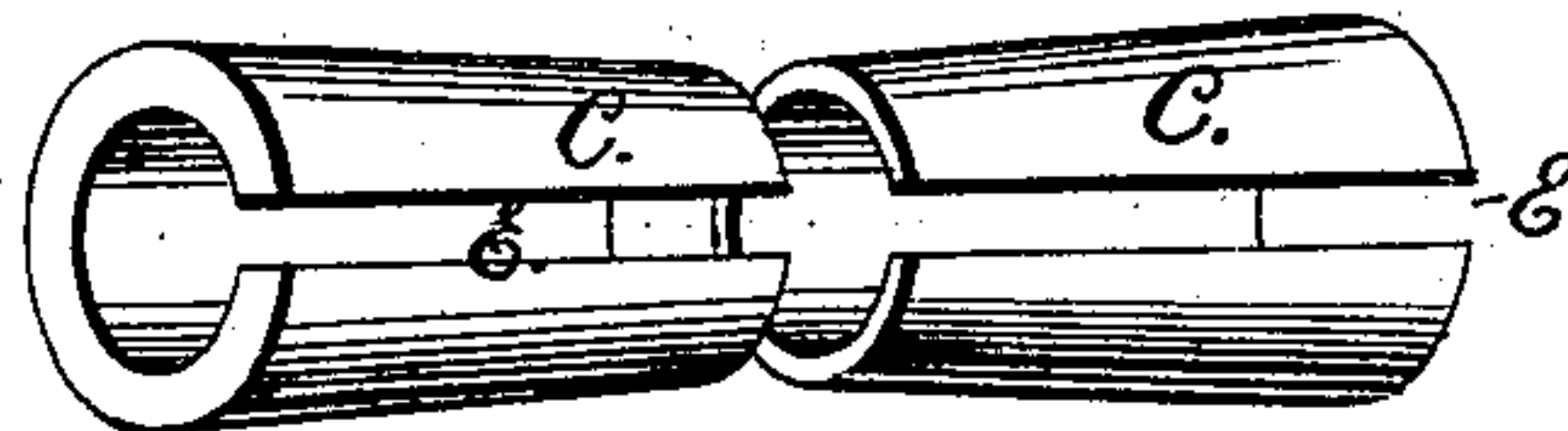
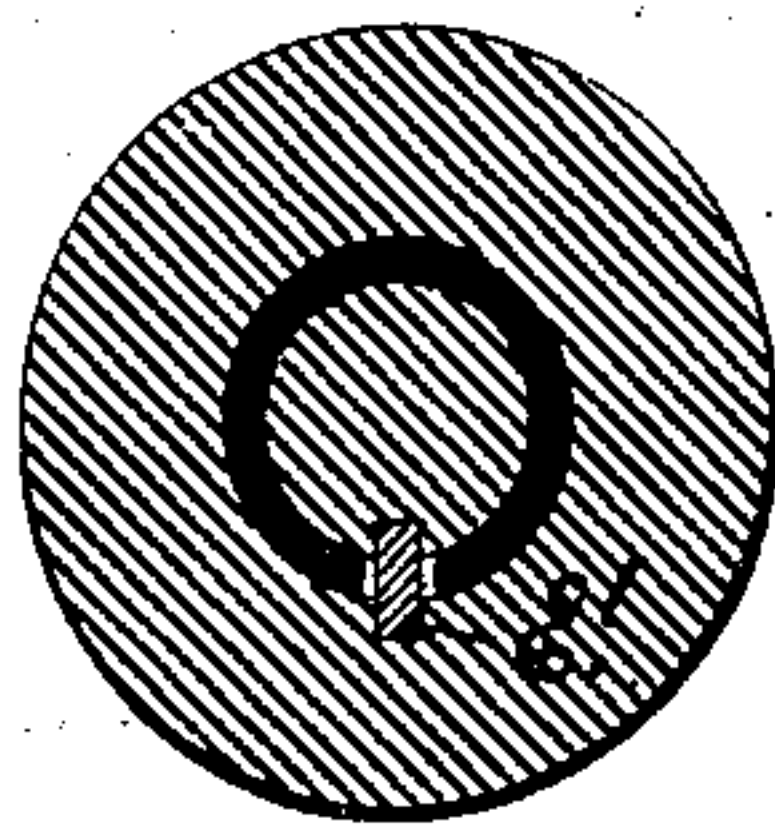


Fig. 5.



WITNESSES.

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GEORGE A. CHAPMAN, OF WOONSOCKET, RHODE ISLAND.

IMPROVEMENT IN SHAFT-COUPPLINGS.

Specification forming part of Letters Patent No. 189,190, dated April 3, 1877; application filed February 5, 1877.

To all whom it may concern :

Be it known that I, GEORGE A. CHAPMAN, of Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Shaft-Couplings; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to accompanying drawings, forming part of this specification.

Figure 1 is a perspective view of my improved shaft-coupling, shown as connecting two shafts. Fig. 2 is a longitudinal section of the same. Fig. 3 is a cross-section of the same through the center, showing the screw by which the shafts may be forced apart and released from the coupling. Fig. 4 is a perspective view of the conical sleeve-clamps. Fig. 5 is a sectional view, showing the spline or key secured to the shaft and shell.

The object of the invention is to construct a shaft-coupling that shall be strong, simple, efficient, and self-centering.

The invention is applicable to all kinds of shafting; and consists in the arrangement, with a solid sleeve bored out conical at each end, of conical sleeve-clamps and followers, arranged to hold the shaft in the center of the coupling and force in the sleeve-clamps until the shaft is firmly secured.

It further consists in the arrangement of a conical pointed screw, by which the shafts may be readily released from the coupling.

In the drawings, *a a* are the ends of two shafts. They are shown as of the same diameter. They may be of different diameters within certain limits.

b is a cylindrical coupling-sleeve, bored out conical at each end, the cones meeting in the center of the sleeve, and provided at each end with a screw-thread or screw-bolts, by which the centering-disks and followers *d d* are secured. In large couplings I prefer to secure the centering-disks or followers *d d* by screw-bolts, and provide a recess, into which the same enter exactly concentric with the center line of both the shaft and the coupling-sleeve; whereas in small shafts I prefer to secure the same, as shown, by a screw-thread cut on the disks and into the ends of the coupling-sleeve.

c c are split conical sleeves, which, when forced into the conical bore, will gripe and firmly hold the shaft. *d d* are the centering-

disks and followers, by which the clamping-sleeves *c c* are forced into the conical bore and firmly secured. The disks are bored out to fit the shaft to be secured, and as the disks are arranged, either by the screw-thread in the ends of the coupling or by a bored-out recess, to be exactly concentric with the coupling, and the holes for the shafts are exactly in the center of the disk, the coupling is self-centering, and requires no adjustment, and by employing different-sized clamping-sleeves *c* and the centering-disks or followers *d* two ends of shafting of different diameters may be secured in the same coupling.

E' is a key or feather, cut partly into the shaft and partly into the coupling-sleeve, and passing through the slit *E* in the conical clamping-sleeves. For large shafting the key is required; but for small shafting I find the clamping device sufficient without the key to firmly hold the shafts.

f is a screw, provided with a key-seat and a conical point, which can be forced between the two ends of the shaft, and so force the same asunder and release the same from the coupling.

g is an opening, into which a wedge may be driven to start the shafts apart, should, by any means, the screw *f* fail to do so.

This shaft-coupling is simple in construction, strong, and durable. Shafts may be quickly and firmly connected and disconnected without any preparation on the shafts. It is self-centering, and can be made to hold shafts of different diameters.

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

1. A shaft-coupling consisting of an outer sleeve provided with a central oblong perforation, *g*, said sleeve having conical holes, the same gradually increasing in size from the center of the sleeve toward its ends, in combination with split conical sleeves and screw-threaded followers, substantially as and for the purpose set forth.

2. The combination, with the solid tubular coupling-sleeve *b*, of the screw *f*, arranged and operated substantially as described.

GEORGE A. CHAPMAN.

Witnesses:

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