W. D. FORBES.

Shaft-Coupling.

No. 212,547. Patented Feb. 25, 1879.

FIG. 1.

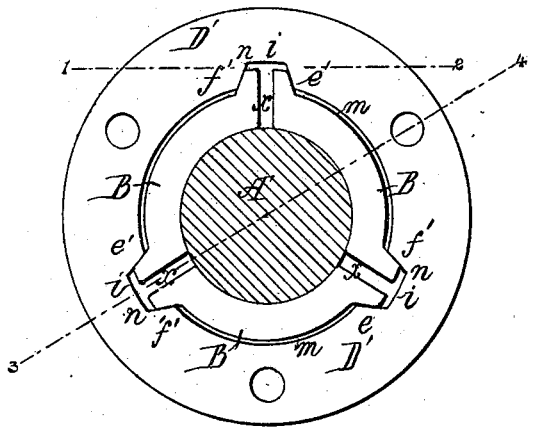


FIG. 2.

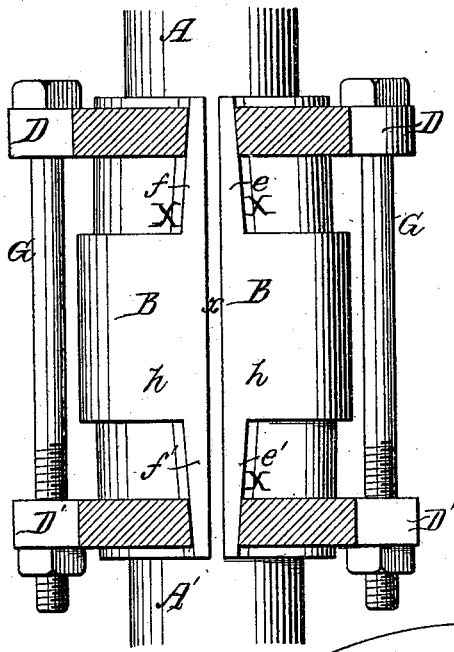


FIG. 3.

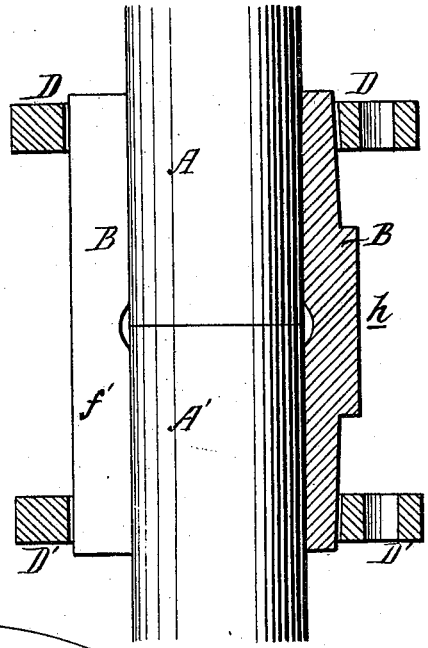
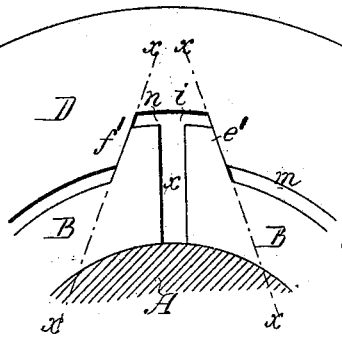


FIG. 4.



Witnesses,
Henry Howson Jr.
Harry A. Crawford

William D. Forbes
by his attorneys,
Howson and Sons

UNITED STATES PATENT OFFICE.

WILLIAM D. FORBES, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SHAFT-COUPLINGS.

Specification forming part of Letters Patent No. **212,547**, dated February 25, 1879; application filed August 19, 1878.

To all whom it may concern:

Be it known that I, WILLIAM D. FORBES, of Buffalo, New York, have invented a new and useful Improvement in Shaft-Couplings, of which the following is a specification:

The object of my invention is to make a cheap, simple, and effective device for coupling shafts; and this object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is an end view of my improved shaft-coupling; Fig. 2, a longitudinal section on the line 1 2; Fig. 3, a longitudinal section on the line 3 4, and Fig. 4 an enlarged view of part of the device.

My improved coupling consists of three main parts, namely: first, the clamping-plates B—three in the present instance—the plates being adapted to the shafts A A′; second, the two slotted rings D D′; and, third, the bolts G, passing through the two rings.

For shafts of ordinary size three clamping-plates are preferred, although two may be used in some instances; but for larger shafts there may be more than three plates, which are of segmental form, and of such a width that when fitted snugly to the shafts there shall be narrow spaces *x* between the adjoining plates.

Each clamping-plate has on one edge two ribs, *e e′*, and on the other edge two similar ribs, *f f′*, all the ribs terminating in a central enlargement, *h*, the object of which is merely to add to the strength of the plate. Each rib is made on a taper, being inclined on its inner edge, X, so that when the plates are fitted to the shaft, as shown in Fig. 2, the rib *e* of one plate B and the rib *f* of the adjoining plate B will form together a wedge-shaped projection, beveled at the edges, (for each rib is beveled,) as indicated by the dotted lines *x x*, Fig. 4. This tapering and beveled projection is adapted to a slot, *i*, in the ring D, the latter having two additional slots for the two remaining tapering projections. In like manner the ribs *e′* and *f′* of adjacent plates constitute a wedge-shaped projection, adapted to a slot in the ring D′, which has two additional slots for the other projections.

When the two rings are made to approach each other by tightening the nuts of the bolts G, all three clamping-plates will be simultaneously bound to the two shafts A and A′ alike, the edges of the three slots in the ring D bearing near one end of the coupling against the inclined and beveled sides of the tapering projections formed by the ribs *e* and *f*. In like manner and at the same time the opposite sides of the three slots in the ring D′ will act, near the other end of the coupling, on the tapering beveled projections formed by the ribs *e′* and *f′*. In other words, the forcing of the rings toward each other by tightening the nuts of the bolts will tend to force the edges of the adjoining plates simultaneously toward each other, and will insure such a griping of the shafts that they will be effectually coupled together by the plates.

It should be understood that there is no bearing of the rings on the clamping-plates, excepting against the inclined and beveled sides of their ribs, there being spaces *m* between the inner circumference of each ring and the plates, and spaces *n* between the bottoms of the slots in the ring and the upper edges of the ribs of the plates; hence the coupling can be very economically manufactured, the only parts of each clamping-plate which have to be finished being the inclined and beveled sides of the ribs and the part which fits to the shaft, and the only parts of each ring where accuracy is required being the opposite sides of each slot.

I claim as my invention—

A shaft-coupling consisting of clamping-plates B, each having beveled and tapering ribs *e e′* and *f f′*, slotted rings D D′, adapted to the plates and ribs, and bolts G, all combined substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM D. FORBES.

Witnesses:

RICHARD H. NOYES,

A. B. KELLOGG.