

No. 700,457.

Patented May 20, 1902.

A. B. TOWER.
SHAFT COUPLING.

(Application filed Feb. 24, 1902.)

(No Model.)

Fig. 1.

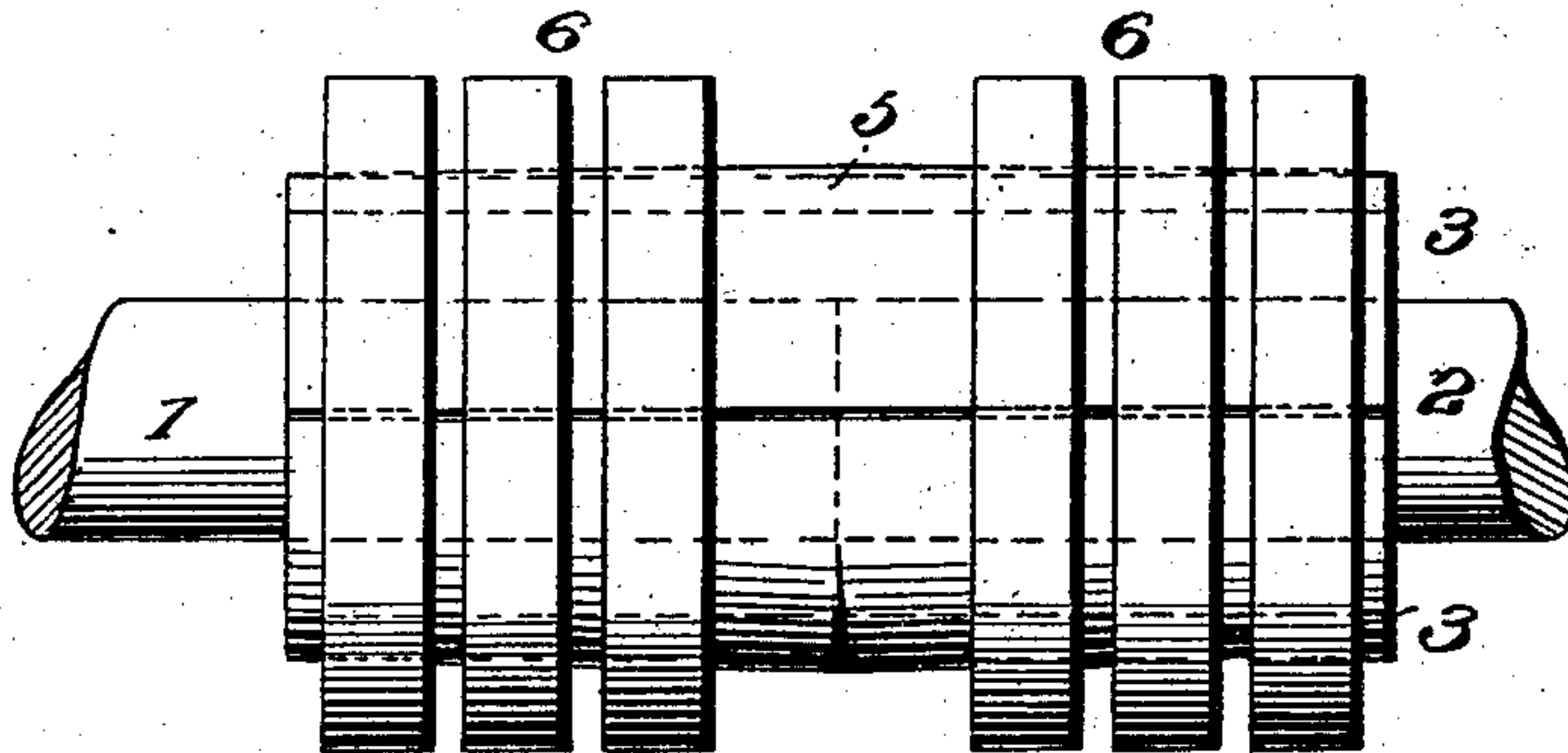


Fig. 2.

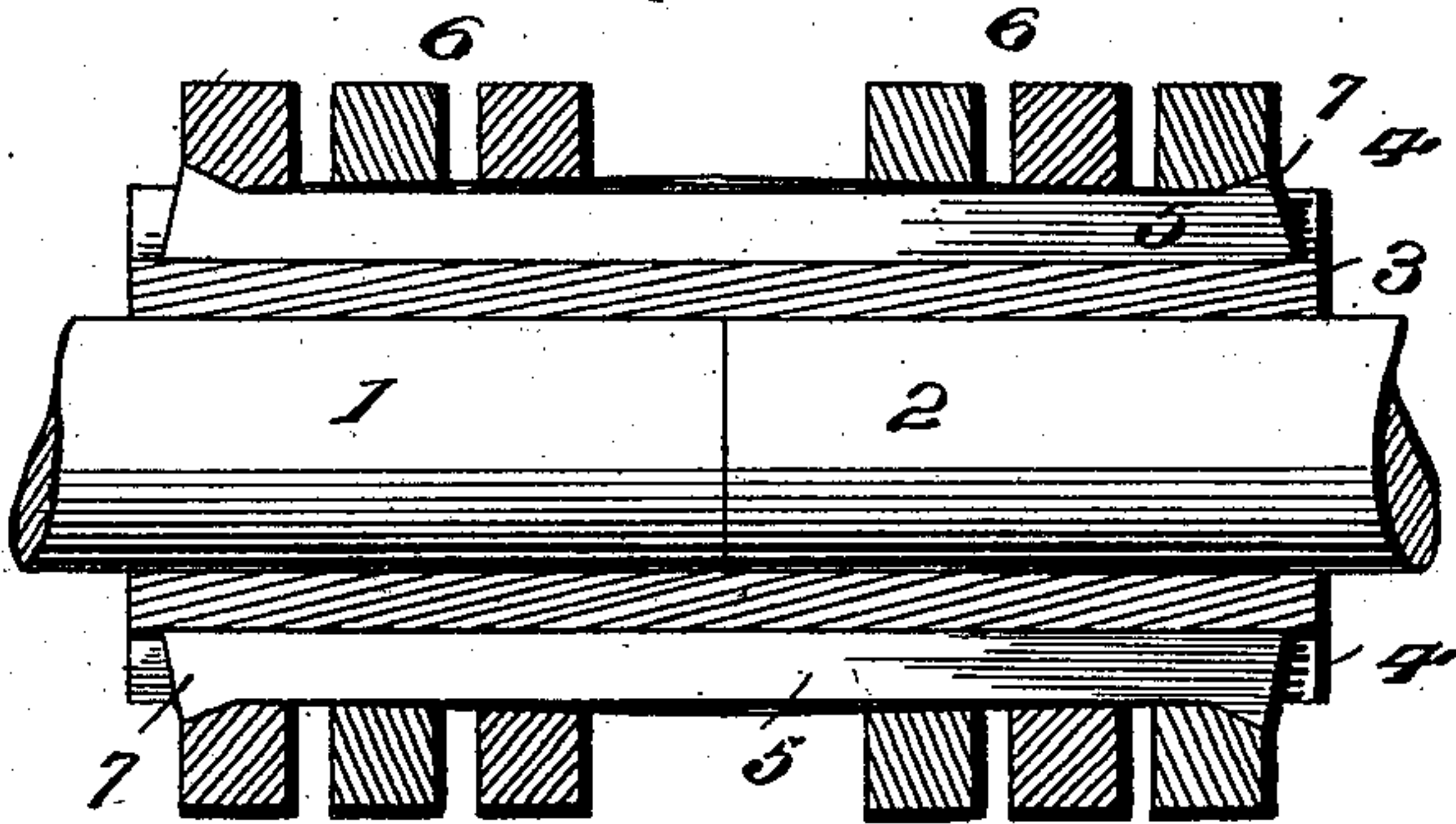


Fig. 3.

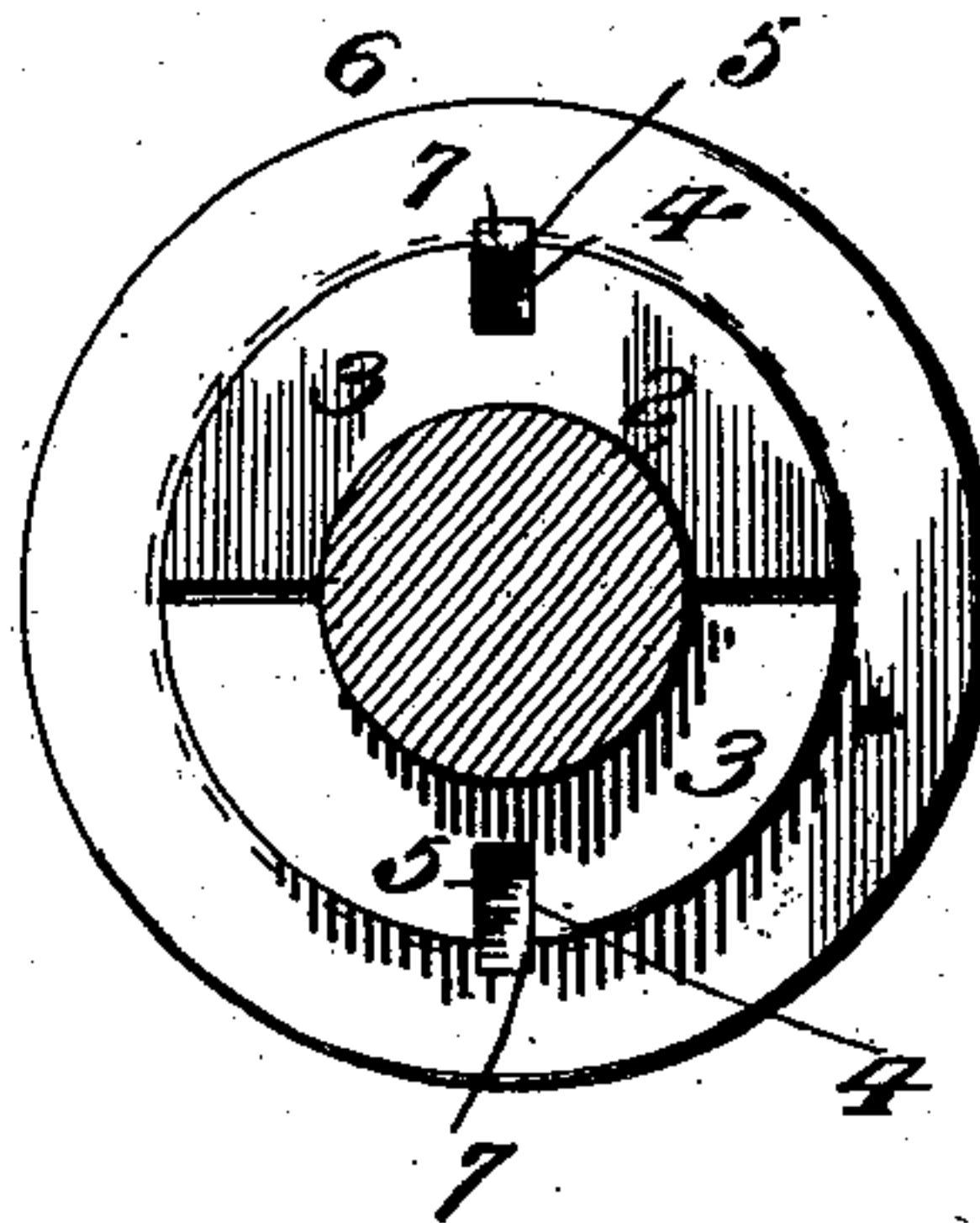


Fig. 4.

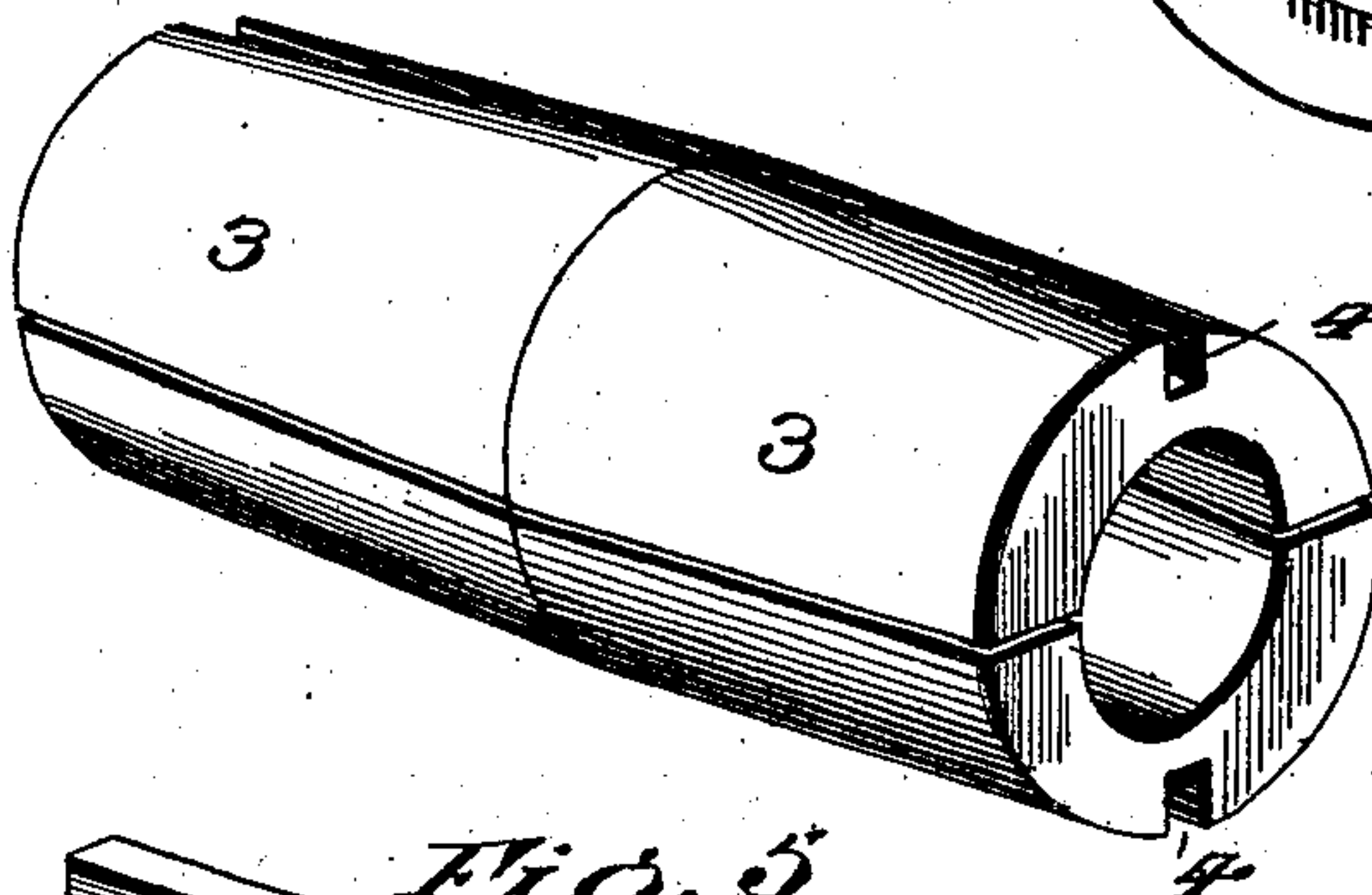
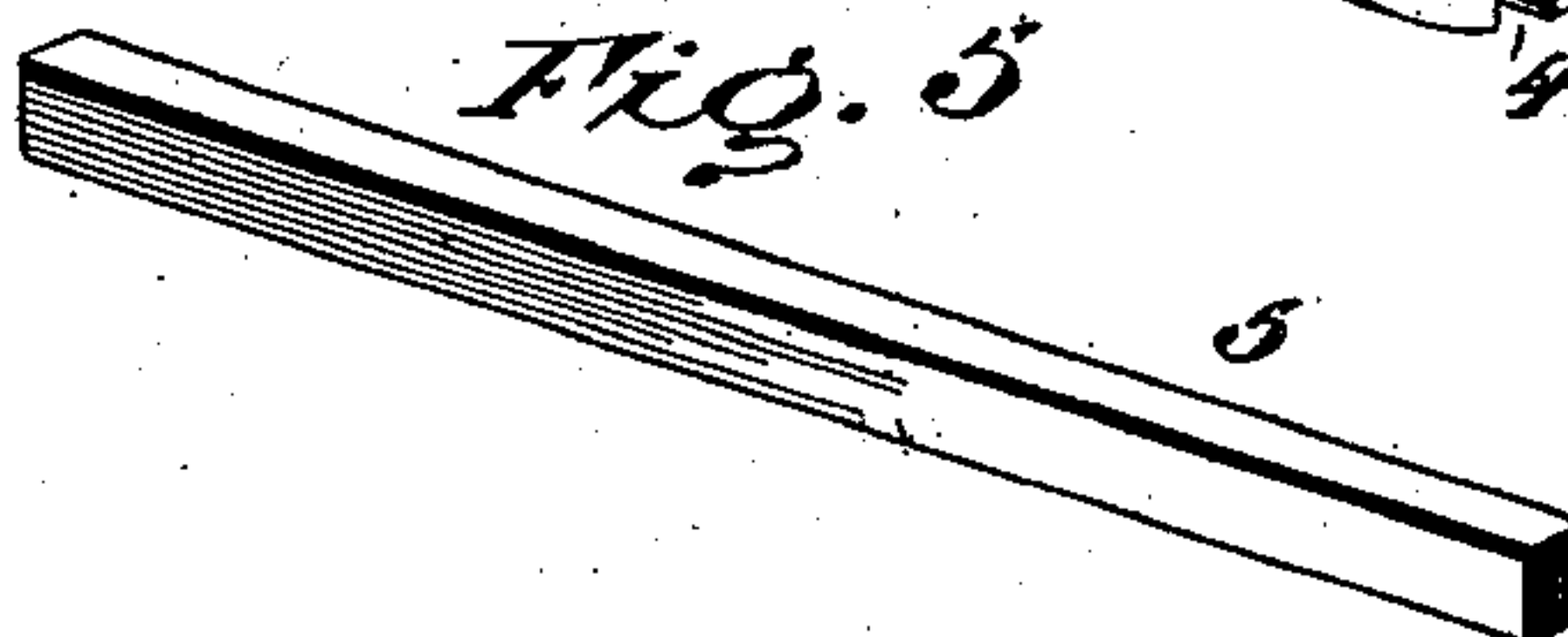


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 700,457, dated May 20, 1902.

Application filed February 24, 1902. Serial No. 95,424. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. TOWER, a citizen of the United States, residing at Rockwell, in the county of Marion and State of Florida, have invented certain new and useful Improvements in Shaft-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention provides a rigid and secure joint of novel formation for rods, shafts, bars, and like parts requiring to be coupled or spliced.

The invention comprises a sectional sleeve to be fitted to the ends of the parts to be coupled, having longitudinal grooves in its outer side to form seats and to increase the circumferential flexibility of the sleeve, said sleeve tapering upon its outer side toward its extremities, rings or bands driven upon the ends of the sleeve, and keys seated in the longitudinal grooves of the sleeve and having their ends upset to hold the outermost rings in place.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a shaft-coupling embodying the invention. Fig. 2 is a central longitudinal section. Fig. 3 is an end view. Fig. 4 is a perspective view of the sectional sleeve, the rings or bands and keys being omitted. Fig. 5 is a detail view in perspective of a key.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The numerals 1 and 2 represent the proximal ends of adjacent rods, bars, or parts to be coupled and between which the joint is

formed. The coupling comprises the sectional sleeve 3, of any desired length, so as to extend along the length of the parts 1 and 2 any desired distance. This sleeve may embody any number of sections, although two only are shown. The sleeve tapers toward its ends from a middle point and is provided with a series of longitudinal grooves 4 to provide seats for the reception of keys 5. The grooves 4, besides forming seats for the keys 5, increase the flexibility of the sleeve circumferentially, thereby enabling compression of the sleeve to grip the end portions of the parts 1 and 2 when coupling the same. The sleeve is preferably of cast-iron, although any metal or material may enter into its formation, according to the specific use for which the coupling is designed.

Series of rings or bands 6 are provided and are adapted to be driven or forced upon the tapering end portions of the sleeve, so as to contract the same and compel a firm gripping of the ends 1 and 2 of the rods, bars, or other parts to be coupled. The inner walls of the rings taper slightly to conform to the taper of the sleeve, and the openings of the rings vary slightly to admit their occupying different positions in the length of the sleeve, as shown most clearly in Figs. 1 and 2. By having a plurality of rings or bands each can be forced home and a firmer connection between the sleeve and parts 1 and 2 obtained than would be possible by the use of a single ring or band of a length equal to the combined space occupied by the series of rings. The rings or bands act as binders and are preferably of steel, although this is not essential, as any material may be employed in their formation.

The keys 5 are slender and preferably of wrought metal and are fitted in the grooves or seats 4, and after the rings 6 have been driven or forced home the ends of the keys are upset, as shown at 7, to prevent outward displacement thereof. It is preferred to place the keys in position after the rings or bands have been driven home upon the sleeve, said keys being preferably heated, so that upon cooling after having their ends upset the outermost rings will be drawn inward. The

coupling may be removed at any time by cutting the keys 5 intermediate of their ends and forcing or driving the rings 6 outward.

5 The joint formed is rigid and secure, and by having the sleeve composed of sections and the sections grooved slight variations of size in the end portions of the parts 1 and 2 to be coupled are provided for and one end may be as firmly gripped as the other. When driving or forcing the rings or bands 6 home upon the sleeve, the latter yields circumferentially, so as to grip the parts 1 and 2 equally at all points. Hence a firm connection is the result.

15 Having thus described the invention, what is claimed as new is—

1. A coupling for shafts, rods and the like, comprising a sectional sleeve tapering from a middle point toward its extremities and having longitudinal grooves in its outer side, series of rings or bands forced upon the ta-

pering end portions of the sleeve, and keys seated in the said grooves and having their end portions upset, substantially as set forth.

2. The herein-described coupling for shafts, rods and the like comprising a sectional sleeve tapering upon its outer side from a middle point toward its extremities and having longitudinal grooves, series of rings or bands for each end portion of the sleeve and having their openings of varying size and tapering to conform to the taper of the sleeve, and keys fitted in the said grooves and having their outer ends upset, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT B. TOWER. [L. S.]

Witnesses:

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JAS. L. WYCHE.