

(Model.)

W. H. KIMBALL.
Flexible Shafting.

No. 235,780.

Patented Dec. 21, 1880.

Fig. 1.



Fig. 2.

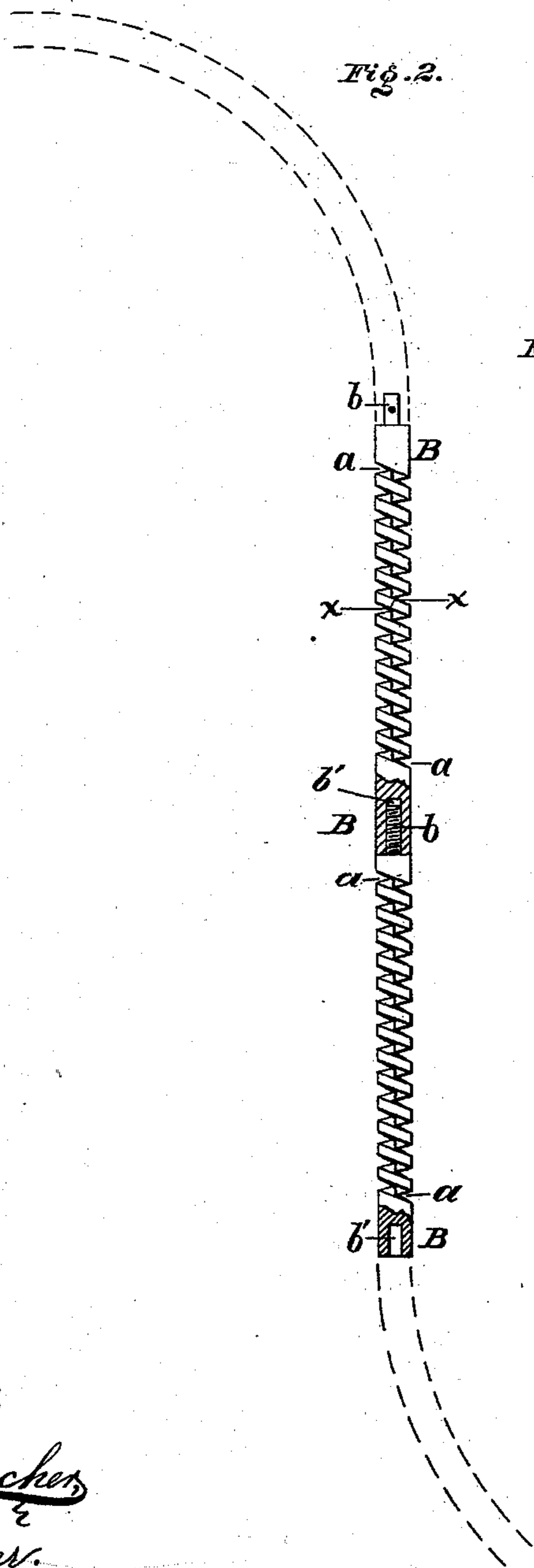


Fig. 3.



Witnesses:

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WILLIAM H. KIMBALL, OF BURLINGTON, NEW JERSEY.

FLEXIBLE SHAFTING.

SPECIFICATION forming part of Letters Patent No. 235,780, dated December 21, 1880.

Application filed August 21, 1880. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM H. KIMBALL, a citizen of the United States, residing in the city and county of Burlington, and State of New Jersey, have invented a new and useful Improvement in Flexible Shafting, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a view of the blank from which the shafting is formed. Fig. 2 is a view of the shafting. Fig. 3 is a section in line *xx*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of flexible shafting formed of solid metal spirally or helically grooved, the advantages whereof are strength and durability, avoidance of friction of the coils one on the other, and means for securely and conveniently connecting sections of the shafting one to another.

Referring to the drawings, A represents a solid rod of suitable metal which is spirally or helically grooved, as at *a*, thus presenting the appearance of a coil of wire. The spiral groove begins and terminates at a short distance from the ends B of the rod, thus leaving said ends ungrooved, and one end is formed with a longitudinally-extending tongue or dowel, *b*, and the other with a socket, *b'*. A number of such grooved rods are placed end to end, the dowel of one length or section entering the socket of the adjacent length or section, and thus the desired length of shafting is built up. A pin may be passed through the end of each section, so as to connect the dowel and socket ends of adjacent sections and there-

by firmly secure the sections as one. The sockets may be tapped and the dowels threaded, and the sections thus screwed together, this being a desirable form of connection of the sections, as it is easily and conveniently made and is strong and reliable, it furthermore readily admitting of separation of the sections.

It will be seen that the grooved rod is flexible in its nature and possesses strength and durability. While it may be bent to an extent sufficient for all practicable purposes, its coils when bent do not touch each other, so that the friction of the same one with another is avoided.

Sections of the grooved or flexible rod may be readily connected and separated.

In practice I do not design to cut the coils entirely through so that they are thoroughly separated, but prefer not to cut the spiral groove beyond the center, thus apparently leaving a rib or web at the center of each coil continuous throughout the rod to the end B, for strengthening purposes. The ends B also provide means for attaching tools, &c.

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

1. Flexible shafting formed of a solid rod of metal spirally grooved, substantially as and for the purpose set forth.

2. A rod of metal spirally grooved and having connectable ends B, substantially as and for the purpose set forth.

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