

No. 765,826.

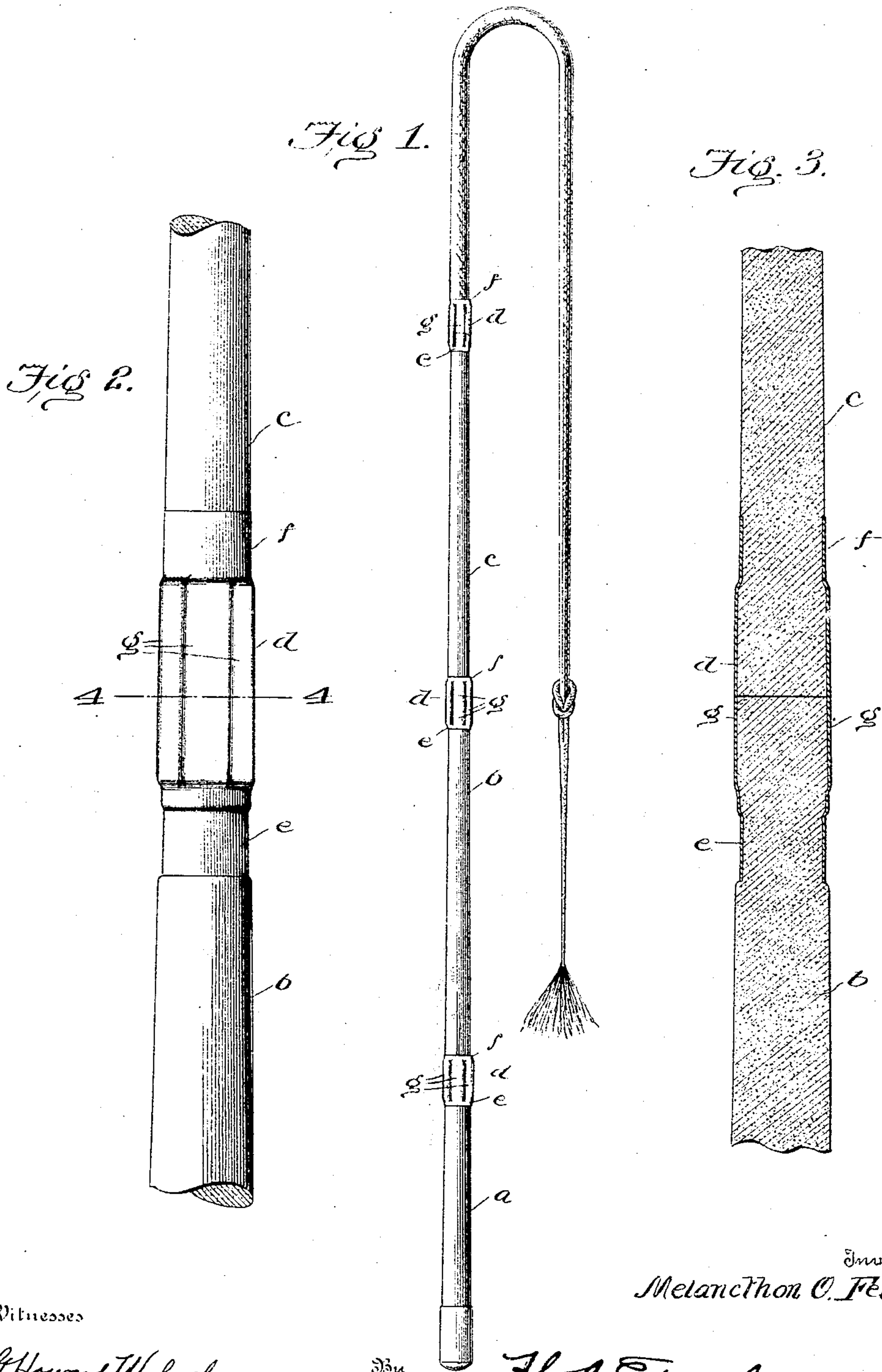
PATENTED JULY 26, 1904.

M. O. FELKER.  
MEANS FOR UNITING WHIP SECTIONS.

APPLICATION FILED MAR. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

*H. Howard Walmsley.*  
*F. H. Schaefer.*

By

*H. A. Gaultner,*  
Attorney

Inventor  
*Melanchthon O. Felker,*

No. 765,826.

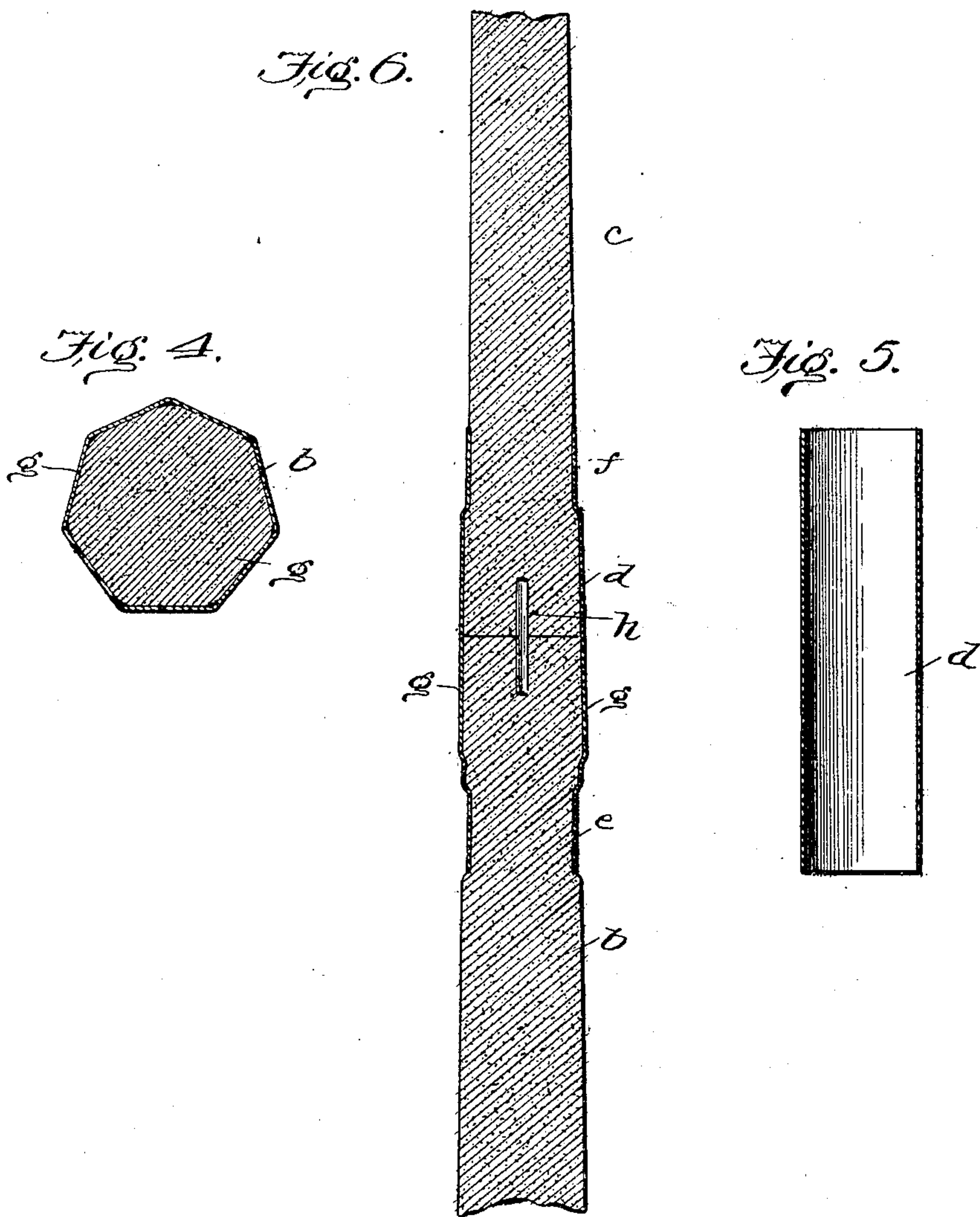
PATENTED JULY 26, 1904.

M. O. FELKER.  
MEANS FOR UNITING WHIP SECTIONS.

APPLICATION FILED MAR. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



Inventor

Melancthon O. Felker,

Witnesses

H. Howard Walmsley,  
J. H. Schaefer.

By

H. A. Taulman,

Attorney



# UNITED STATES PATENT OFFICE.

MELANCTHON O. FELKER, OF CHICORA, PENNSYLVANIA.

## MEANS FOR UNITING WHIP-SECTIONS.

SPECIFICATION forming part of Letters Patent No. 765,826, dated July 26, 1904.

Application filed March 18, 1903. Serial No. 148,310. (No model.)

*To all whom it may concern:*

Be it known that I, MELANCTHON O. FELKER, a citizen of the United States, residing at Chicora, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Means for Uniting Whip-Sections, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in couplings for whips, used for the purpose of joining together whip-sections or sections composing parts of horse-whips.

15 The object of this invention is to secure the sections which are to be joined together in a manner to prevent them from the possibility of working loose in the coupling either in a lengthwise direction or a rotative direction.

20 This object is obtained and carried out in practice by constructing the coupling in circular form in cross-section, then inserting therein the whip-sections, and then in compressing or swaging the coupling so as to reduce the diameter of its end portions and to change more or less of the body portion from a circular to a polygonal cross-section. Thus the coupling is made to hold the sections as well against working loose in a rotative direction as against separating in a longitudinal direction.

30 The first feature of my invention is, therefore, in the article itself thus made, the novelty lying, first, in the coupling so formed, and, secondly, in the coupling so formed combined with the whip-sections.

35 In the accompanying drawings, forming a part of this specification, on which like reference-letters indicate corresponding parts, Figure 1 is a side elevation of a whip complete, showing the whip-sections united by my improved coupling. Fig. 2 is a similar view in detail, on an enlarged scale, showing but a part of two adjoining sections. Fig. 3 is a central longitudinal sectional view of what is shown in Fig. 2; Fig. 4, a transverse sectional view on the line *xx* of Fig. 2. Fig. 5 is a central longitudinal sectional view of the coupling before it is compressed or swaged from its initial circular form to its final form,

and Fig. 6 a longitudinal sectional view showing a modification of the coupling in which an interior pin or rod is additionally used to join the abutting ends of the sections.

The letters *a*, *b*, and *c* designate the several 55 sections of the whip forming the subject of the illustration exhibited in Fig. 1, while the letter *d* designates the coupling. These whip-sections are preferably of the character and type set forth in my application for Letters Patent of the United States filed March 9, 1903, patented November 10, 1903, No. 743,847; but they may be of any other type or character, because my present invention is designed to be used as well in connection with 65 the invention set forth in that application as in connection with any other type of whip to the extent that the same is applicable thereto.

The coupling is prepared in the form shown in Fig. 5 and is then subjected to pressure, as by dies in a swaging-machine, until the end portions *e* and *f* are reduced in diameter enough to embed themselves somewhat into the surface of the adjoining whip-sections, which are inserted therein before this compressive or swaging action is applied. While this action is in progress the middle or other portion of the coupling is swaged or compressed from its circular form to a polygonal form—say octagonal—as shown by the flattened surfaces *g*. The effect of this action is to correspondingly change more or less completely the cross-sectional shape of the inclosed portions of the whip-sections, so that while the end portions prevent longitudinal separation 85 of the sections the polygonal portion prevents the sections from revolving or turning in the coupling. Thus all motion or change of position of the sections with respect to the coupling being prevented, the joint attains to great efficiency and permanency. By preference the end portions *e* and *f* are reduced somewhat smaller in diameter than the general diameter of the polygonal portion. As the sections taper so does the coupling taper, the 95 swaging-dies being designed to take care of this feature. The couplings before being thus treated may be slightly tapered or may have cylindrical walls.

I conceive myself to be the first to produce 100



a whip-coupling in which the coupling is compressed against the whip-sections and has a portion of its body of polygonal cross-section. I also conceive myself to be the first to produce such a coupling when the end portions are compressed upon the whip-sections and are of circular or round cross-section.

Even if the material of the sections is slightly unseasoned when the coupling is applied I have ascertained that the tendency to shrinkage from subsequent drying will not cause the sections to become loose after the compressive action they have suffered within the coupling. Thus, again, the coupling is made permanent in its action. In such a device the first requisite is the entire elimination of any possible play or lost motion or the working loose of the sections in the couplings.

Referring to Fig. 6, it will be seen that in addition to the exterior coupling I have provided an interior uniting device consisting of a pin or rod *h*, which extends into openings in the abutting ends of the sections and interconnects them interiorly, while the coupling connects them exteriorly. This pin or rod may or may not be used; but it is desirable under certain conditions as strengthening the connection between the parts and when combined with the exterior coupling it becomes effective without any tendency to split the sections, thus making a dual coupling—that is, an exterior and an interior coupling.

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

1. A whip-coupling, consisting of a tubular body of swageable wrought metal adapted to receive the adjoining ends of whip-sections, and having a portion thereof of polygonal or angular shape in internal cross-section.

2. A whip-coupling, consisting of a tubular body of swageable wrought metal adapted to

receive the abutting ends of whip-sections, having the end portions thereof of circular cross-section and an intermediate portion thereof of polygonal or angular internal cross-section.

3. The combination, with the abutting ends of whip-sections, of a coupling consisting of a tubular body adapted to receive the sections while in its normal state, and having a portion thereof of polygonal or angular cross-section and the parts of the whip-sections within such portion of substantially corresponding cross-section.

4. The combination, with the abutting ends of whip-sections, of a coupling consisting of a tubular body adapted to receive the adjoining ends of said sections, the ends of the coupling being reduced and in compressed contact with the sections and the intermediate portion of the coupling being in like contact with the whip-sections, but having a polygonal or angular cross-section, the adjacent parts of the sections being likewise of substantially the same cross-section.

5. The combination, with the abutting ends of whip-sections, of a coupling composed of a tubular body adapted to receive the ends of said sections, the ends of the coupling being circular in cross-section, reduced and in compressed contact with the sections, and the intermediate portion of the coupling being composed of a series of panels or flat surfaces at an angle to each other and in compressed contact with the adjacent portions of the sections, which are of similar cross-section.

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

MELANCTHON O. FELKER.

Witnesses:

A. FLEEGER,  
E. C. DUNLAP.