(No Model.)

E. J. FINLEY.

FRAME JOINT.

No. 590,307. Patented Sept. 21, 1897.

FIG. I.

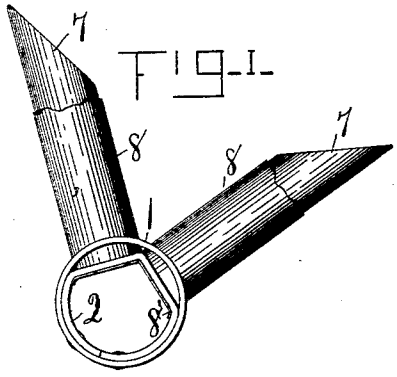


FIG. II.

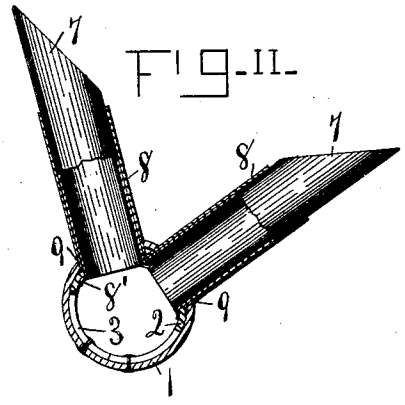


FIG. III.

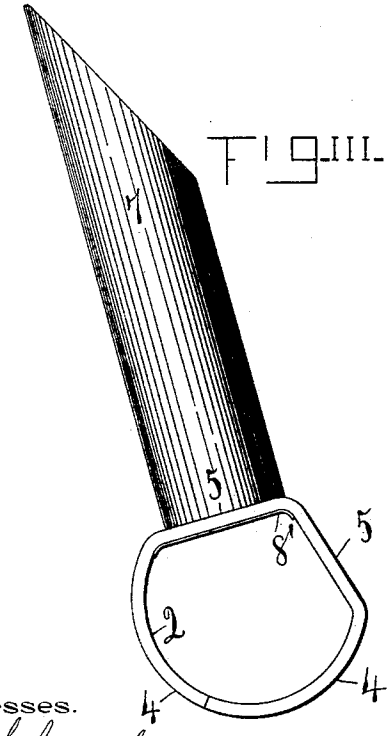
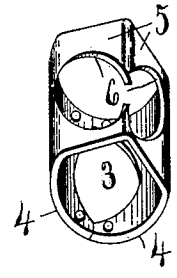


FIG. IV.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWIN J. FINLEY, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE E. C. STEARNS & COMPANY, OF SAME PLACE.

FRAME-JOINT.

SPECIFICATION forming part of Letters Patent No. 590,307, dated September 21, 1897.

Application filed January 9, 1897. Serial No. 618,633. (No model.)

To all whom it may concern:

Be it known that I, EDWIN J. FINLEY, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Frame-Joint; and I do hereby declare that the following, in connection with the accompanying drawings, is a full, clear, and exact description of the invention.

The object of my invention is to provide a light and simple bicycle crank-hanger and means for securely attaching the main tubes of the frame thereto. Within the crank-hanger tube is inserted a brace or short piece of tubing rearwardly fitted snugly to the crank-hanger tube, but forwardly and upwardly provided with two flattened sides arranged opposite perforations in the crank-hanger tube, so as to leave a space between the inner surface of the tube and said sides. The ends of the frame members inserted through said perforations fit against said flattened sides. Corresponding smaller perforations are formed in these sides, through which the reinforcements are inserted.

My invention will be better understood by reference to the accompanying drawings, in which the same numerals of reference refer to the same parts in all the figures.

Figure I is a side elevation of my improved crank-hanger, showing portions of the frame-tubes and the reinforcements. Fig. II is a corresponding cross-section. Fig. III is an enlarged elevation of the inner tube or brace detached, showing the arrangement of one reinforcement. Fig. IV is a perspective view of the brace detached.

In the various figures 1 indicates the crank-hanger tube, 2 the inner tube preferably cut away, as shown at 3, for lightness, fitting snugly through a portion of its circumference 4 to the crank-hanger tube and provided with flattened sides 5 5, in which are the perforations 6 6 to receive the reinforcements 7 7, provided with flanges 8′ 8′, turned against the inner face of the inner tube. The flattened sides 5 5 are arranged at the proper angle to receive against their outer faces the ends of the main frame-tubes 8 8, cut square, which are inserted through round perforations 9 9 in the crank-hanger tube 1, respectively opposite the sides 5 5.

It will be seen that perforations 9 9, to which the tubes 8 8 are fitted, are larger than the perforations 6 6 for receiving the reinforcements 7 7. The parts, when assembled, are brazed securely in position.

My crank-hanger is strong, durable, and cheap to construct. The inner tube is a brace for all the parts, against which set the ends of the frame-tubes cut off square, it not being necessary to mill them, as where they fit against a curved surface.

My crank-hanger may be entirely constructed of simple tubes or stamped parts, and it is lighter and stronger than crank-hangers made at a greater expense from drop forgings or castings. In this construction the brazing may be performed more effectively and easily. The flux is introduced at the point where the parts come together and thence flows outwardly around the reinforcements, an improvement on the ordinary construction, in which the frame-tubes are inserted into integral nipples formed on the crank-hanger. The flux must then be introduced at the outer edge of the nipple to flow inwardly to and around the end of frame-tube, thence outwardly.

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

1. In combination with a crank-hanger tube perforated to receive the main frame members, an interior tube having flattened sides opposite said perforations and corresponding smaller perforations in said flattened sides to receive the reinforcements of said main frame members.

2. In combination with a crank-hanger tube perforated to receive the ends of the main post and of the lower tube of the diamond, an inner tube or brace rearwardly fitted to the interior of said crank-hanger tube and formed on its upper and forward portion with flattened sides, between which and the interior of the crank-hanger tube a space is left, said flattened sides being formed with perforations opposite said perforations in the crank-hanger tube, said latter perforations

being smaller than the former, and of sufficient size to receive the reinforcing-pieces for the frame-tubes.

3. In combination with a bicycle crank-hanger tube, perforated to receive the main frame members, an inner tube or brace having flattened sides in which are formed perforations opposite said perforations in the crank-hanger tube, the main frame-tubes fitted snugly to said outer perforations and setting against the outer faces of said flattened sides, and reinforcing-pieces for the ends of said main tubes, extending inwardly through said perforations in said inner tube and flanged on their inner ends, substantially as described and shown.

In witness whereof I have hereunto set my hand, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 31st day of December, 1896.

EDWIN J. FINLEY.

Witnesses:
L. F. WEISBURG,
C. C. SCHOENECK.