

(No Model.)

F. TRUMP.

CRANK SHAFT AND CRANK SHAFT BLANK.

No. 304,285.

Patented Aug. 26, 1884.

Fig: 1.

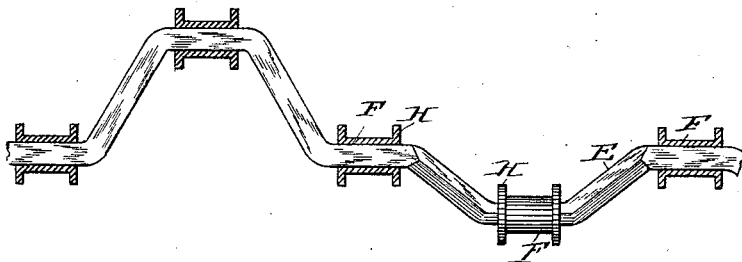


Fig: 2.

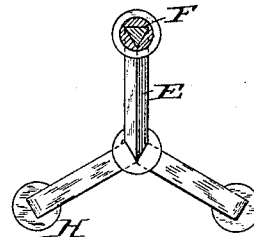
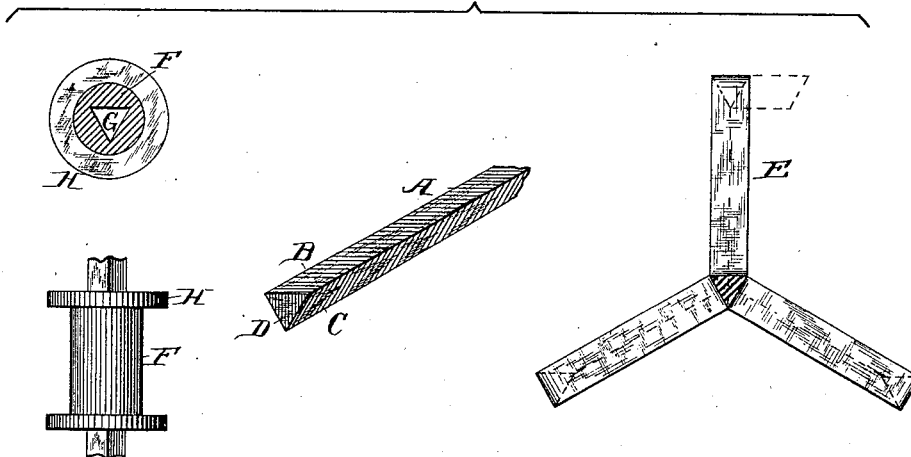


Fig: 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

FULLER TRUMP, OF SPRINGFIELD, OHIO.

CRANK-SHAFT AND CRANK-SHAFT BLANK.

SPECIFICATION forming part of Letters Patent No. 304,285, dated August 26, 1884.

Application filed July 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, FULLER TRUMP, of the city of Springfield, county of Clark, and State of Ohio, have invented certain new and useful Improvements in Crank-Shafts and Crank-Shaft Blanks, of which the following is a specification.

This invention relates to shafts, and is especially intended as an improvement upon that class known as "crank-shafts," wherein the cranks are formed a part with the shaft and extend out at different planes relative to one another.

In the manufacture of crank-shafts from round iron such as heretofore used much difficulty has been experienced in bending the iron to form the cranks and retain a proper degree of pitch with relation to one another, the cranks being usually in planes at an inclination of sixty or one hundred and twenty degrees with relation to one another.

The object of my invention is to provide a blank or crank body having as many flat sides as there are inclinations or planes in the cranks, said sides being adapted to act as guides in bending the said blank to form cranks in different planes with relation to one another; also, to provide the said cranks with fixed journal-bearing "spools" or boxes adapted to rotate with the shaft.

The invention consists in a blank or body for crank-shafts having a number of plane surfaces, substantially as hereinafter described.

It also consists in a crank-shaft having a number of plane surfaces, provided with cranks, the plane surfaces of the main or horizontal portion of the shaft being substantially at right angles to the plane of the crank, substantially as hereinafter described.

It also consists in a crank-shaft triangular in shape in cross-section, provided with three cranks extending out at right angles, or substantially so, to the three sides of the said triangle, each inclined plane surface of the triangularly-shaped shaft acting as a gage to determine the pitch or inclination of its respective crank, substantially as hereinafter described.

It also consists in a crank-shaft of a shape angular in cross-section, provided with cranks contiguous therewith, in combination with journal-bearing spools located thereon, and

provided with an opening corresponding to the cross-sectional shape of the crank-shaft, substantially as hereinafter described.

Figure 1 represents in side elevation, partially in section, a crank-shaft constructed in accordance with my invention; Fig. 2, an end view of the same, showing three cranks; and Fig. 3, enlarged details of the journal-bearing spool, shaft-blank, and cranks.

In this my invention the shaft or blank A is provided with flat surfaces B C D, said flat surfaces forming, as herein shown, a triangle, which, when used in connection with hay-tedders, is preferable, insomuch as the cranks E, which form a part of the said shaft, are preferably in planes substantially at right angles to the flat surfaces of the triangularly-shaped shaft. By forming a shaft-blank with flat surfaces or angular in cross-section, as shown, each plain or flat surface being at substantially a right angle to the desired plane of the crank or cranks, I am enabled to bend the shaft to form the cranks in the proper planes, using the flat surfaces which are at right angles to the desired planes of the cranks, and bending the shaft directly at right angles to said flat surfaces.

By constructing the shaft as described I am enabled to do away with much material that is used with shafts made from round iron and secure a shaft equally as strong, the edges of the shaft extending from end to end, acting as strengthening-ribs.

Located upon the shaft A and cranks E at desired points are journal-bearing spools F, having openings G of a shape substantially corresponding to the shape of the shaft A in cross-section, said journal-bearings being fixed thereon and adapted to rotate with the said shaft. As herein shown, the journal-bearing spools F are made in one piece and provided with shoulders or collars H, said collars being adapted, when the shaft is used with hay-tedders, to bear against the tedder-fork carriers or their journal-boxes and the main journal-boxes of the tedder-frame which support the shaft.

It is obvious that the shaft A might be formed in many shapes in cross-section to suit the purpose for which it is intended, and that the spool F might be made in two pieces, if desired, without departing from my invention.

Therefore I do not desire to limit myself to any special construction or shape of the said shaft and spool.

The spools F will preferably in practice be placed upon the shaft before the cranks are formed.

I claim—

1. A crank-shaft or blank having two or more plane surfaces, substantially as described.
- 10 2. A crank-shaft having two or more flat surfaces provided with cranks, the flat surfaces of the main or horizontal portion of the shaft being at right angles to the planes of the said cranks, or substantially so, as and for the purpose described.
- 15 3. A triangular-shaped crank shaft in cross-section provided with cranks extending out in a direction at right angles, or substantially so, to the sides of the said triangular shaft, each flat surface of the shaft acting as a gage to determine the plane of the crank, substantially as described.
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4. A crank-shaft of a shape angular in cross-section, provided with journal-bearing spools located thereon, having openings corresponding to the cross-sectional shape of the said shaft, substantially as and for the purpose described.

5. The combination, with the crank-shaft of a shape angular in cross-section, of the spool F, having an opening, G, of a shape substantially corresponding to the shape of the shaft, and provided with collars H, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal, at Springfield, Ohio, this 21st day of July, A. D. 1884.

FULLER TRUMP. [L. S.]

In presence of—

PERCY NORTON,
W. A. SCOTT.