

(No Model.)

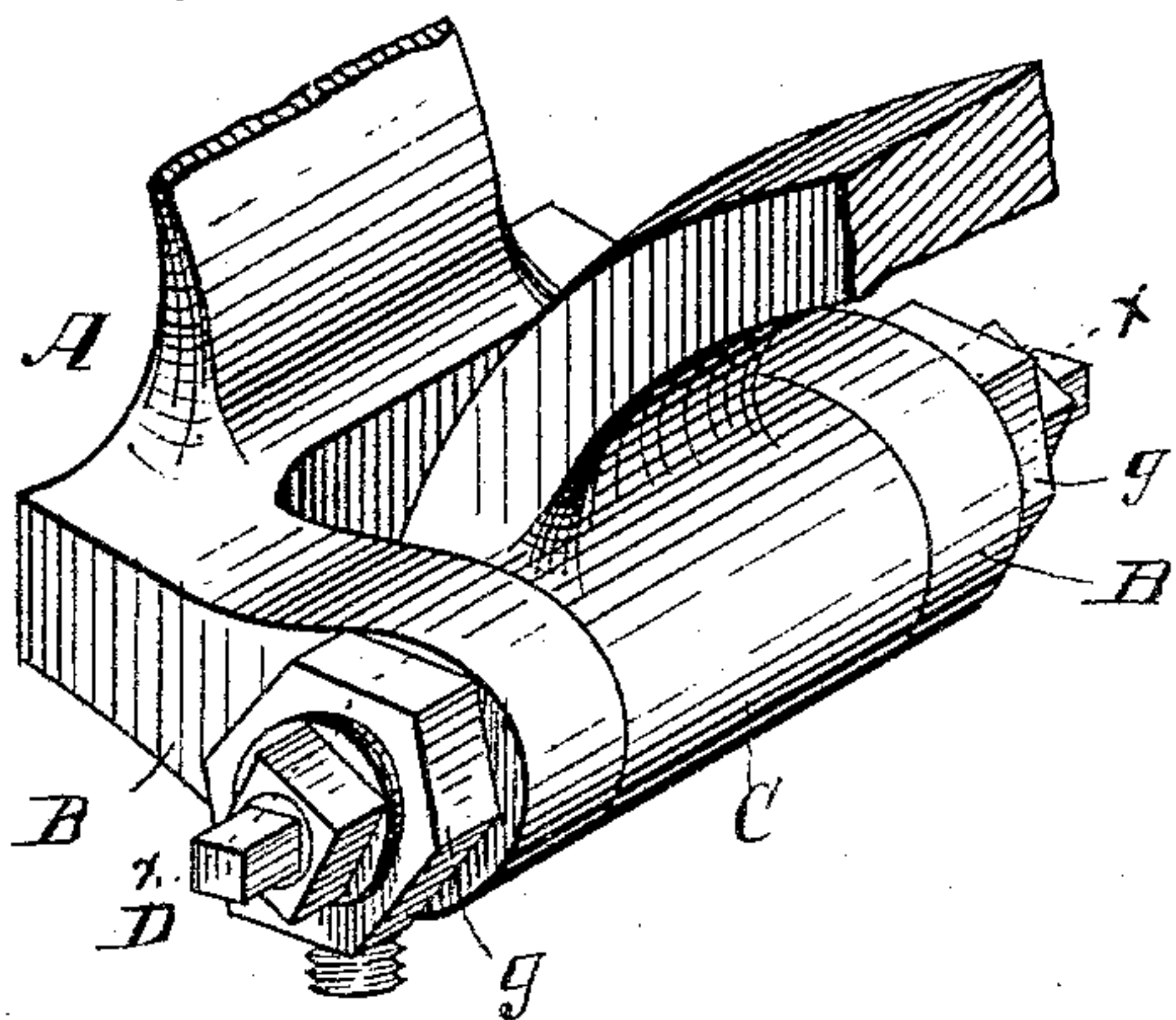
W. B. FOLSOM.

THILL COUPLING.

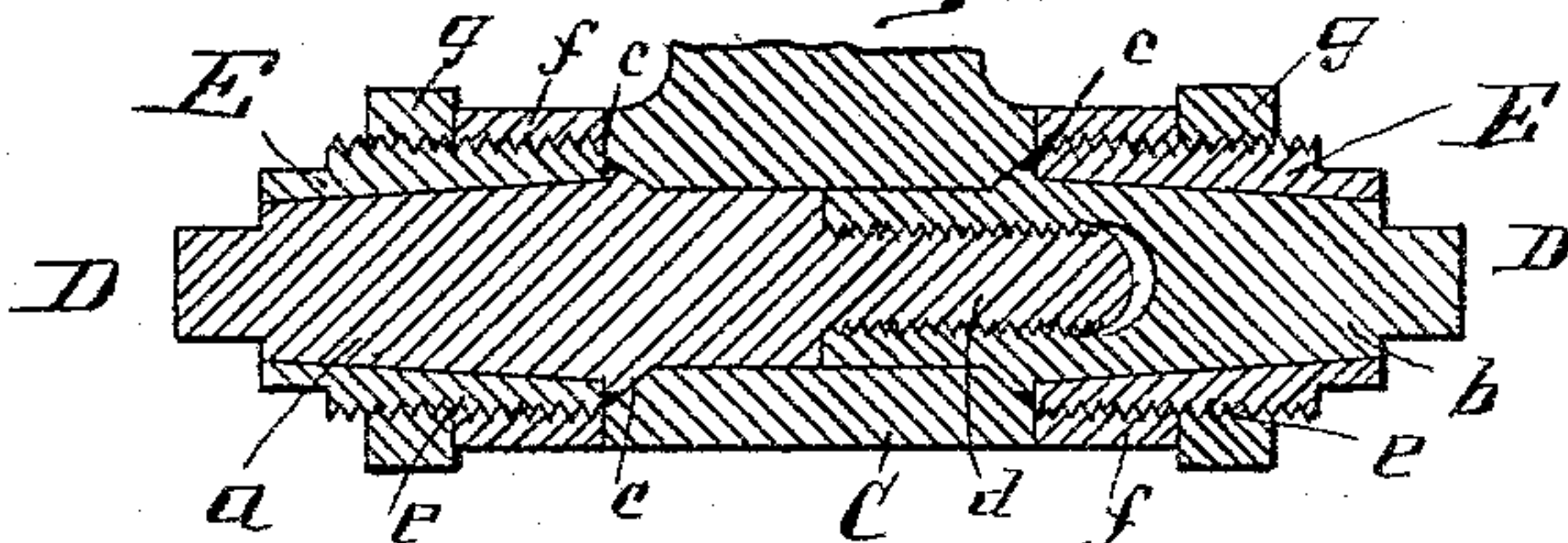
No. 387,972.

Patented Aug. 14, 1888.

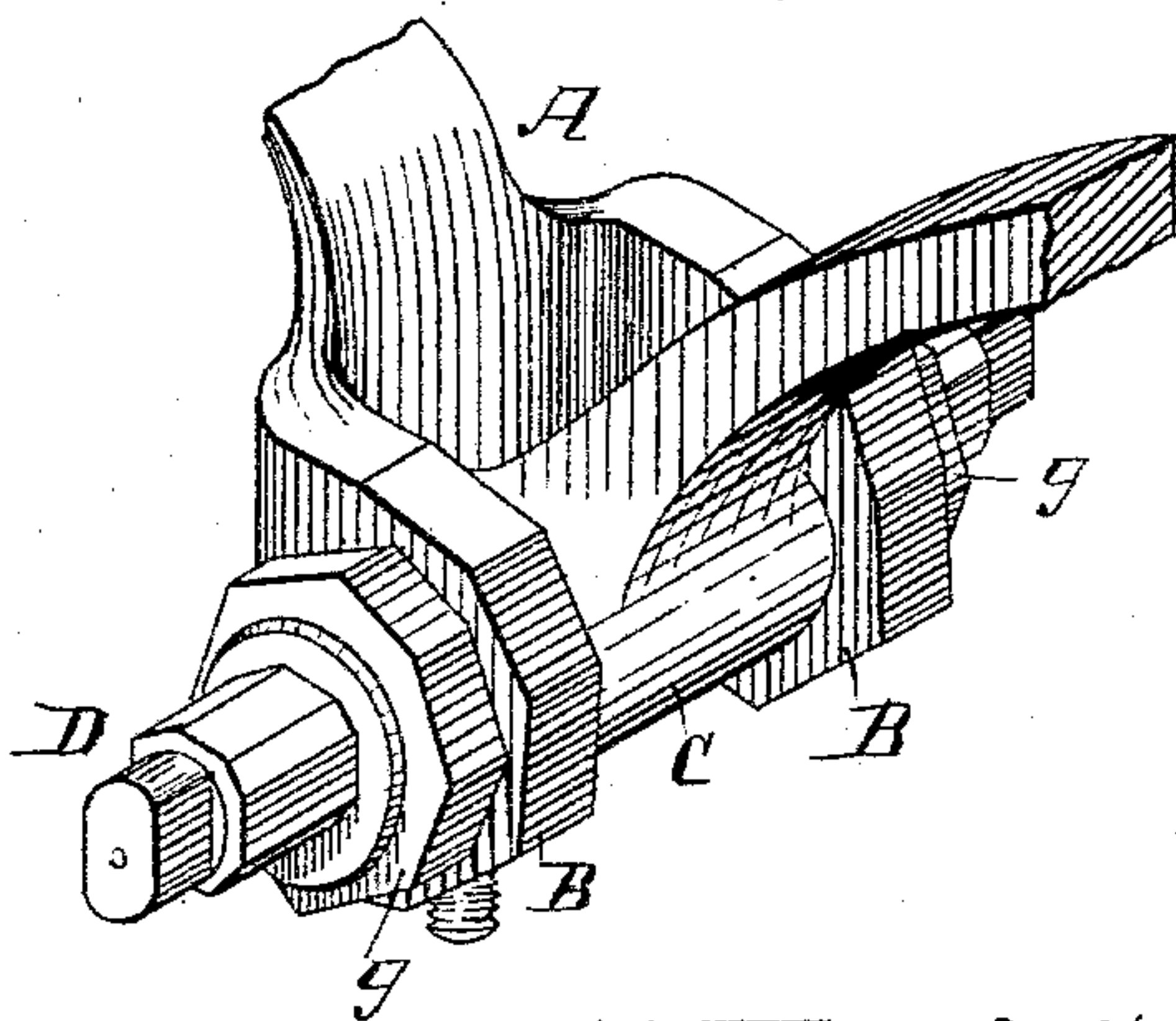
*Fig. 1.*



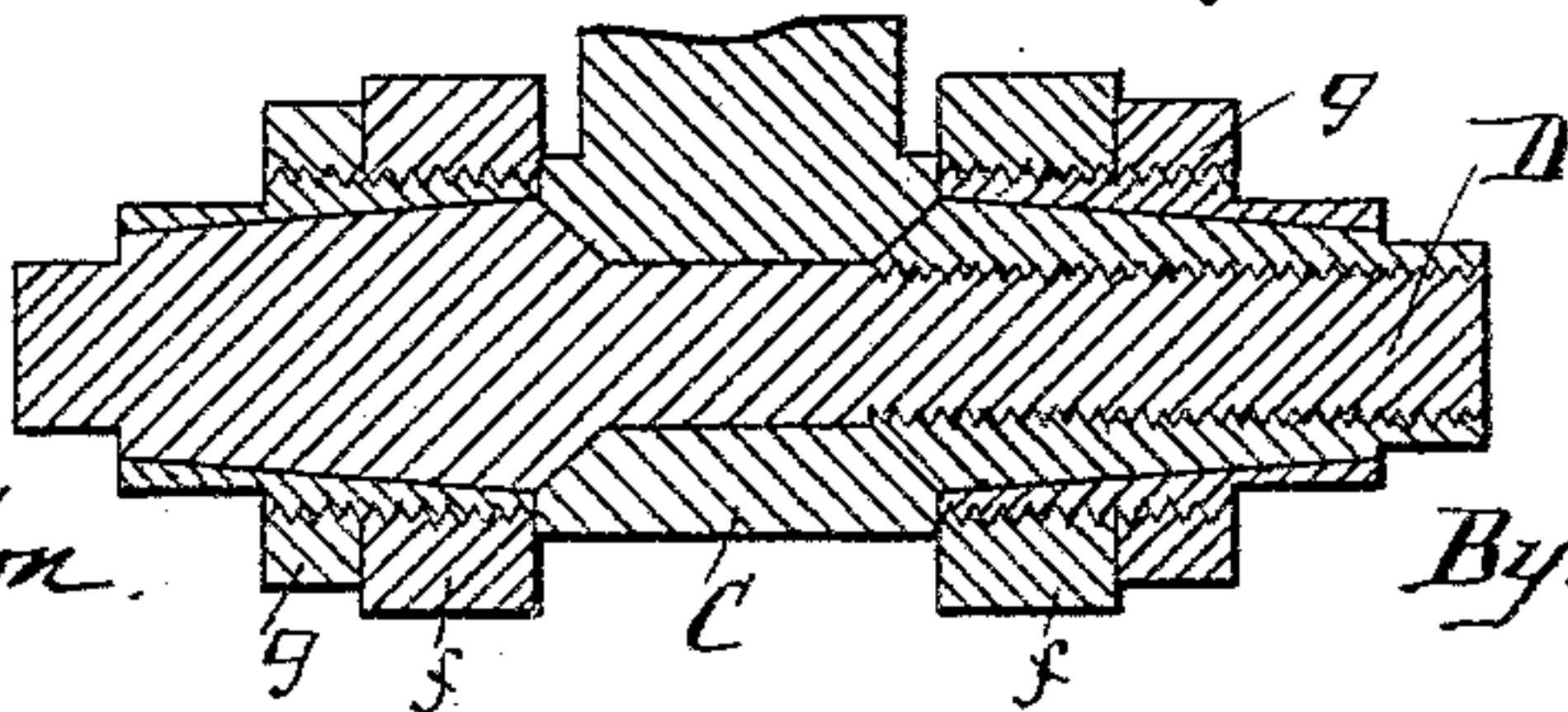
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES.

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# UNITED STATES PATENT OFFICE.

WILLIAM B. FOLSOM, OF SALT LAKE CITY, UTAH TERRITORY, ASSIGNOR OF  
ONE-HALF TO WILLIAM H. FOLSOM, OF SAME PLACE.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 387,972, dated August 14, 1888.

Application filed March 30, 1888. Serial No. 268,988. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. FOLSOM, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented certain new and useful Improvements in Thill-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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to thill-couplings for vehicles; and it consists in the improved construction hereinafter described and explained, whereby the general structure of this class of devices is improved and rattling or loosening of the parts prevented.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of my improved coupling. Fig. 2 is a section of the same on the dotted line *xx*, Fig. 1. Fig. 3 is a perspective view of a modification, and Fig. 4 a detailed view of the central bearing bolt or pin of the same.

A represents a portion of the thill-clip, having the usual parallel perforated ears, B, between which rests the loop C of the shaft, the said loop being perforated, as ordinarily, to register with the perforations in the clip-ears.

D represents the bearing bolt or pin, which bears in the ears B of the clip and projects therefrom at either end, as shown most clearly in Fig. 2. The said bolt or pin D consists of two portions or sections, *a b*, each of which is tapered at its outer portion, while their inner ends are depressed to conjointly and centrally present a strict cylindrical bearing for the shaft-loop, the said depressed portion forming shoulders *e*, which afford lateral bearings for the shaft-loop. The two sections *a b* of the pin are securely held relative to each other by means of a threaded shank, *d*, of the portion *a*, adapted to enter and engage a threaded opening therefor in the section *b*, the relative sizes of the said shank and opening being such as to permit the said shank to be screwed sufficiently far enough into the said opening to permit the

depressed portions to closely approach each other, as indicated in Fig. 2, thereby presenting at their center practically an unbroken cylindrical bearing.

The major portion of the conical ends of the bearing bolt or pin D projects beyond the ears, as before mentioned, and each is adapted to receive a sleeve, E, which is provided with a central conical perforation of a size sufficient to enable the said sleeve to be snugly and neatly slipped upon the said conical end, the major portion of the external face, *e*, of said sleeve being threaded to adapt the said sleeve to engage and enter the internal threaded face, *f*, of the adjacent ear B. As illustrated in Fig. 2, the said sleeve enters said ear sufficiently far to leave exposed beyond said ear a portion of its threaded face, which exposed portion is adapted for the engagement and retention of a lock-nut, *g*, the latter being capable of being screwed on the threaded portion until it comes in contact with the side of the ear and bears rigidly and firmly thereagainst.

From the foregoing it will be obvious that the construction of the bearing pin or bolt is such that its sections are connected to each other at the center of said bolt, which connection is concealed by the shaft-loop; that the connection is such as to form a continuous bearing for said shaft-loop without bringing any of the strain directly upon the threaded shank *c* of the section *a*, and, further, that the location and adjustment of the sleeves E is such that the said sleeves hold said bearing pin or bolt rigid relative to the ears B, and thereby overcome any tendency of the sections *a b* to lateral separation.

In the modified construction illustrated in Figs. 3 and 4 the bearing-pin D is represented as consisting of two conical sections, *a b*, the section *a* being provided with an elongated shank, *c*, the portion of which immediately adjacent to the inner end of the conical sections *a* being left unthreaded, while the threaded portion *c'* is designed to traverse a threaded opening in the section *b*, which threaded opening extends entirely through the same.

It will be obvious from the last-described construction that the inner portions of the



sections *a b* present the lateral bearing-shoulders for the shaft-loop, while the unthreaded exposed portion of the shank *c* affords a central bearing for said loop.

5 I do not limit myself to the precise construction or design of the device herein specified, as either said construction or design may be modified without departing from the spirit of my invention. The location and operation of  
10 the nuts *g* afford a good opportunity for enhancing the general style and beauty of the device, inasmuch as the said nuts may be formed in the shape of an acorn or other neat design.

I claim—

15 1. The combination, in a thill coupling, of a clip having ears provided with internally-threaded perforations and adapted to receive between them the shaft-loop, a bearing pin or  
20 bolt, consisting of two portions adapted to engage each other, and sleeves embracing the ends of said bolt or pin and engaging the threads in the said ears, substantially as set forth.

2. The combination, in a thill-coupling, of a clip provided with parallel ears having per- 25  
forations internally threaded and adapted to receive between them the shaft-loop, a bearing pin or bolt having a central depressed portion and bearing-shoulder *c*, and sleeves embracing  
30 the ends of said pin or bolt and engaging the threads of the said ears, substantially as set forth.

3. The combination, in a thill-coupling, of a clip provided with parallel ears having per-  
forations internally threaded, a bearing pin or 35  
bolt, sleeves embracing the ends of said bolt and engaging the threads in the said ears, and nuts embracing said sleeves to bear against said ears, substantially as set forth.

In testimony whereof I affix my signature in 40  
presence of two witnesses.

WILLIAM B. FOLSOM.

Witnesses:

J. H. HOUGAARD,  
F. R. KENNER.