

(No Model.)

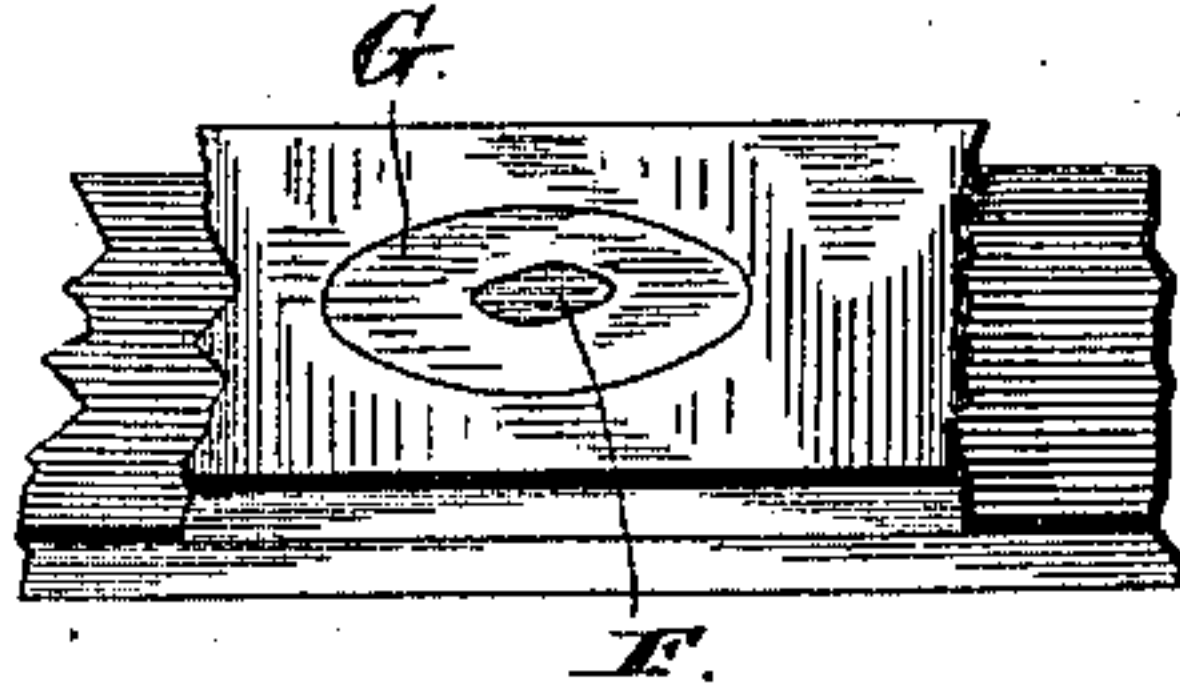
T. J. WOOD.

RIVET.

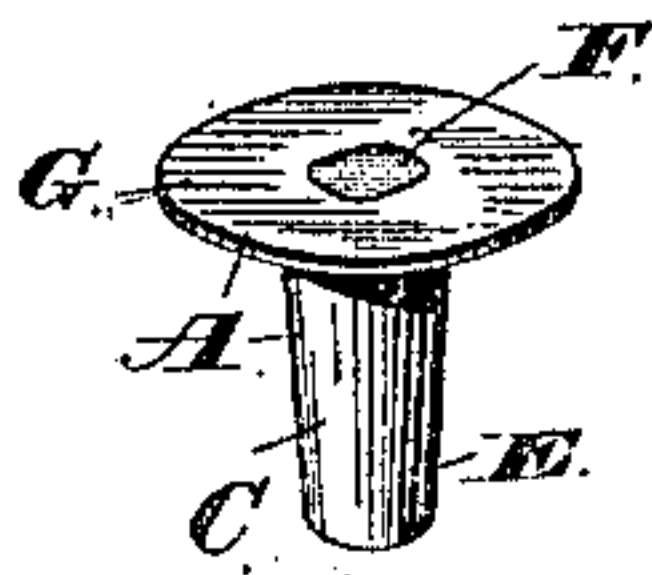
No. 309,430.

Patented Dec. 16, 1884.

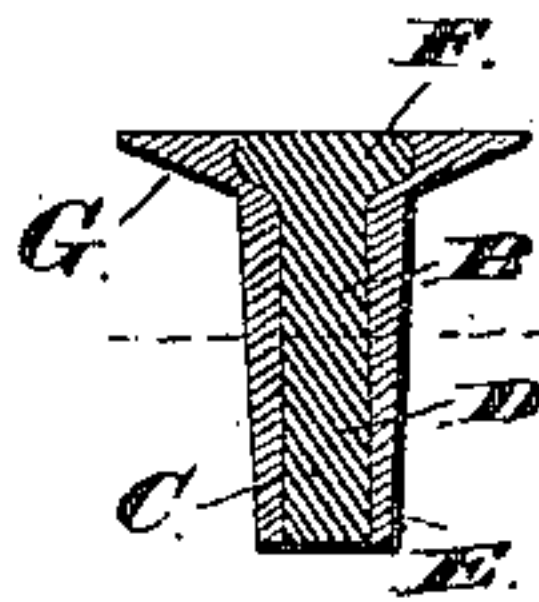
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
Jas. E. Hutchinson.  
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# UNITED STATES PATENT OFFICE.

THOMAS J. WOOD, OF ANSONIA, CONNECTICUT, ASSIGNOR TO HIMSELF AND  
WILLIAM PAUL, OF SAME PLACE, AND FELIX CHILLINGWORTH, OF NEW  
HAVEN, CONNECTICUT.

## RIVET.

SPECIFICATION forming part of Letters Patent No. 309,430, dated December 16, 1884.

Application filed February 23, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. WOOD, of Ansonia, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Rivets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows my rivet as applied to fasten together two pieces of leather; Fig. 2, a perspective view of the rivet before using; Fig. 3, a longitudinal axial section of the same; and Fig. 4 a cross-section of the rivet-shank, showing the shape of the re-enforcing core.

As is well known, rivets made of iron or steel are not suitable for use in riveting sheets of copper or other metals, and when used to join leather or wood they deteriorate and rust away rapidly, corroding the material surrounding them. Rivets made of copper have, therefore, heretofore been used. This metal, however, being quite soft, bends too easily and has not tensile strength enough to stand much strain. Rivets made of it have, then, to be made quite large and thick in order to be strong enough.

The object of my present invention is to provide an improved rivet which while having the strength of iron or steel will have the non-corrosive quality of copper; and to this end it consists of the compound rivet having a steel or iron re-enforcing core, as hereinafter described, and more specifically pointed out in the claims.

In the drawings, A designates my rivet, which, as shown, consists of an iron or steel core, B, surrounded by a covering of copper, C. The shape of the core conforms substantially to that of the external portion of the rivet. It has the shank D, extending centrally down throughout the shank E of the rivet, and the head F, in the center of the rivet-head G. The core-shank, as shown in the longitudinal sectional view, is in shape like the exterior of the copper covering thereon, and the head is similar in external shape to the rivet-head, except that its edges are more rounded and thicker, being near the center of said rivet-head.

My improved rivet, as described, is made from a compound wire consisting of an iron or steel core surrounded by copper, brass, or alloy. I prefer that the covering shall be of copper, but do not limit myself to such metal. Any other metal or alloy which will protect the core from rust and corrosion can be used.

The manner of the manufacture of the rivets from such compound wire differs in no way from the mode of making rivets from simple iron or copper wire as heretofore, and need not, therefore, be described herein. I prefer to use in such manufacture compound wire having an envelope of copper surrounding a non-cylindrical core of steel or iron, as described and claimed in an application filed by me and now pending. The shape of such core is substantially shown in Fig. 4 of the drawings accompanying this application.

In the formation of the rivet from the compound wire, when the head is formed by upsetting, the end of the iron or steel core is also upset, so as to take the form of a head within the rivet-head, as shown best in the longitudinal section, as shown in Fig. 3.

Owing to the strengthening or re-enforcing core my rivets can be made quite small, while still having great strength. The necessity for making large rivet-holes is thus avoided.

Where rivets are used in making mail-bags, harness, &c., it is obviously very desirable that the holes punched for the rivets shall be as small as possible in order to leave as much as possible of the stock. For such work my rivet is, then, especially adapted; but it is advantageous in point of economy of material and in its strength for use wherever the rivets heretofore made can be used. There is obviously also a great saving in the expense of manufacture of rivets where steel or iron or a cheaper material is used for the central portion of the rivet instead of copper.

As indicated above, instead of copper I contemplate using, as desired, any of the alloys of copper or other metals which can be used to cover the steel or iron core and protect it from corrosion.

Instead of using the compound wire such as is made by me and described in the application referred to, any of the wires now in the



market, consisting of a stiffening or re-enforcing core surrounded by copper or alloy, can be used, however such copper or alloy may be applied.

5 The rivets might be made of what is known as "electro-deposited compound wire"—that is, of steel or iron wire upon which an envelope of copper has been deposited by the electroplating process; but I prefer to make them of  
10 my compound wire, as the envelope thereof is tougher, stronger, and better than the electro-deposited one.

Having thus fully described my invention, what I claim is—

15 1. As an article of manufacture, a compound

copper and iron or steel rivet composed of an iron or steel core and a copper envelope, substantially as herein described.

2. As an article of manufacture, a compound rivet composed of a non-cylindrical steel or  
20 iron core surrounded by a protecting envelope of copper or alloy, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of 25 December, 1884.

THOMAS J. WOOD.

Witnesses:

WM. PAUL,

F. CHILLINGWORTH.