

(No Model.)

O. VANORMAN.

DOUBLE TREE.

No. 279,846.

Patented June 19, 1883.

Fig. 1.

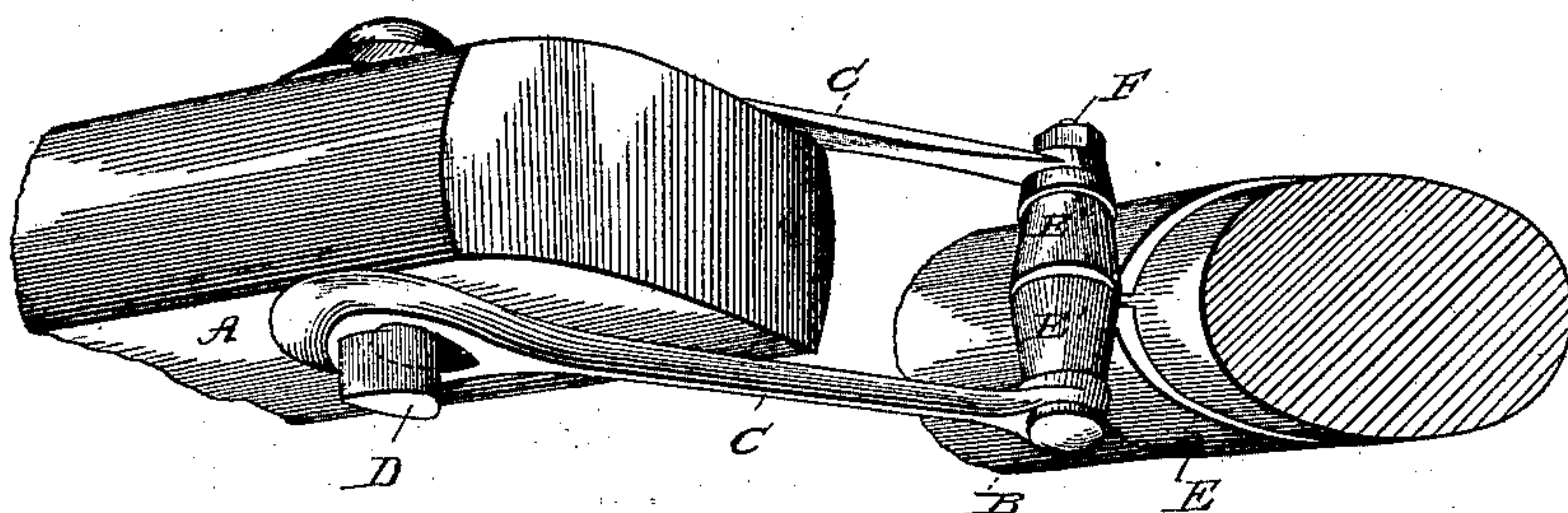


Fig. 2.

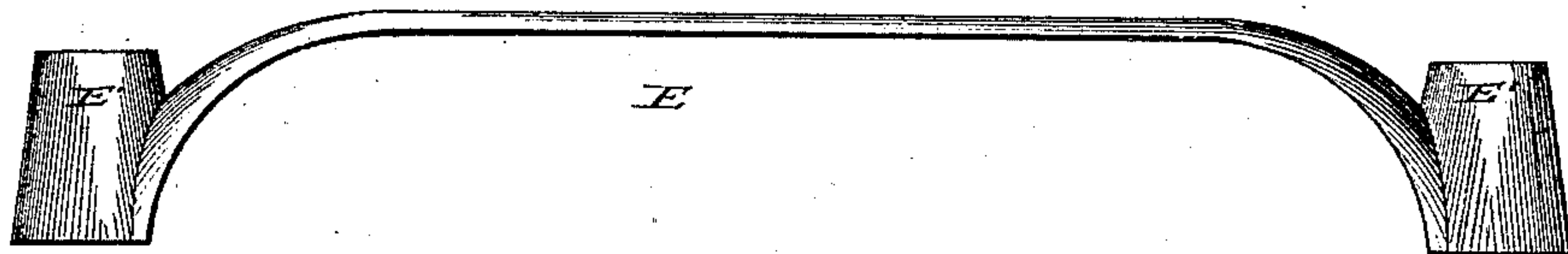
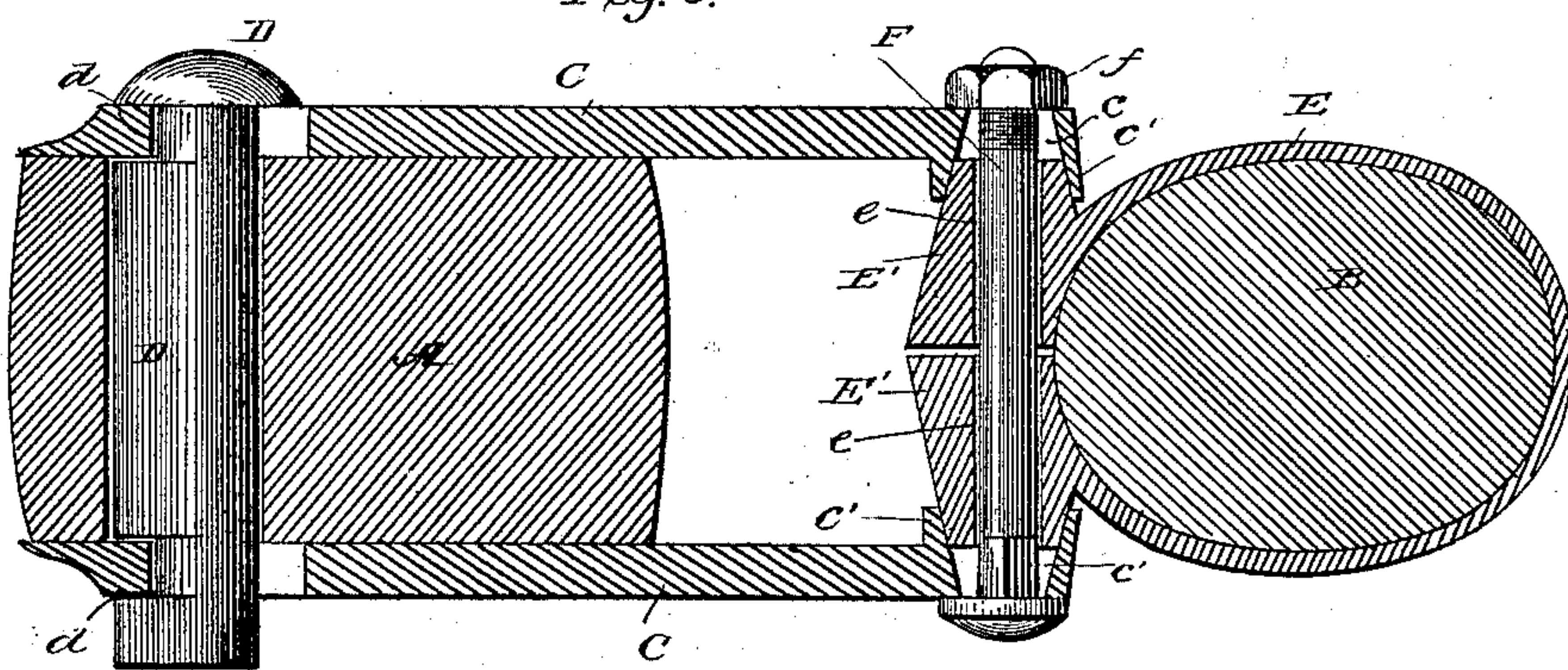


Fig. 3.



Witnesses.

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Inventor:

Oliver Vanorman  
per M. E. Dutton  
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# UNITED STATES PATENT OFFICE.

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## DOUBLE-TREE.

SPECIFICATION forming part of Letters Patent No. 279,846, dated June 19, 1883.

Application filed March 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER VANORMAN, of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Double-Trees; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to coupling-irons for connecting whiffletrees with the double-tree, the object being to provide a simple and cheap form of such irons, adapted to be readily applied, and forming two joints, one at the double-tree and the other between the double-tree and whiffletree.

The invention consists in a particular form of casting or iron forming a clip intended to centrally embrace the whiffletree, in combination with straps connecting said clip with the double-tree, together with two bolts, one connecting the clip with the straps and the other connecting the straps with the double-tree, thus forming two independent joints, as stated.

It also consists in special features of construction of the parts at the points where the clip unites with the connecting-strap, as will hereinafter more fully appear.

In the accompanying drawings, Figure 1 is a perspective view, showing the end of a double-tree and a portion of a whiffletree-coupling, together with the irons uniting them, and constructed as proposed by my invention. Fig. 2 is a view of the clip intended to embrace the whiffletree. Fig. 3 is a vertical section through the said coupling and the parts thereby connected.

A is a double-tree, and B a whiffletree. CC are two straps, connected to the double-tree by means of a clevis-bolt, D; and E is a clip-iron which centrally embraces the whiffletree, and forms a connection for the pivotal attachment of the said straps C thereto by a vertical bolt, F. The said clip-iron E is usually a malleable casting, though it may be wrought, and it is formed in the extended shape shown in Fig. 2, wherein it will be observed that the said iron is curved near its ends to conform with the curve of the rear face of the whiffletree, when centrally bent to embrace the latter,

as shown in Figs. 1 and 2. Said iron is provided with terminal hubs E', having their axes transverse to the general longitudinal axis of the iron when extended, and said hubs are so placed that their axes are brought into line with each other when the clip is bent around the whiffletree. Said hubs are provided with apertures e, as shown, to admit the straight bolt F, which passes through the said hubs and the ends of the two strap-irons C, and which serves both to secure the said straps pivotally to the clip and to bind the clip to the whiffletree. The ends of the hubs E' are preferably extended at e', as shown in the drawings, and are adapted to fit into recesses c, formed in the ends of the straps C, so that any transverse strain will be taken off the bolt F and fall directly on the said hubs. The ends of the hubs are also preferably made conical, and the recesses c in the ends of the straps of corresponding shape, so that by tightening the nut f upon the end of the bolt F any wear in the parts may be taken up and a close-fitting joint maintained. The straps C are attached to the double-tree by means of a bolt, D, which, as shown in the drawings, is in the form of a feathered clevis-bolt, constructed in a well-known manner, so that it may be passed through oblong apertures in the straps C and the double-tree, the said straps being reversed when the bolt is inserted, and serving to lock the bolt in place, when they are turned into their normal position, by notches d d, formed in the feather on said bolt.

One of the advantages of the construction described is found in the fact that the principal movement of the joint will be at the junction of the straps with the clip, where the friction is of metal upon metal, and not wholly at the junction of the straps with the double-tree, where the movement of the straps tends to mar the surface of the wood.

By the preferred construction of the connection between the clip and the straps, embracing the extended hubs and recessed straps, a simple and strong pivot-joint is formed in which there is no transverse strain on the connecting-bolt, and which can be readily tightened. The construction of the connection to the whiffletree is rendered very simple by the use of a single bolt, both to retain the ends of

the straps in place and to clamp the clip around the whiffletree, whether or not the peculiar construction last described is employed.

I claim as my invention—

5 1. The combination, with the whiffletree and a double-tree, of a clip, E, constructed to encircle the whiffletree, and provided with apertured hubs, straps C, attached to the double-tree, and a single pivot and tightening bolt  
10 uniting the said straps to the clip-hubs, substantially as described.

2. The combination, with a whiffletree and a double-tree, of a clip, E, provided with apertured hubs E', straps C, attached to the double-tree, and having their ends recessed to fit  
15 the extensions of said hubs E', and a bolt for

holding the straps in engagement with the hubs, substantially as described.

3. The whiffletree coupling-irons described, consisting of the malleable casting E, having  
20 a straight central portion, curved at its ends, and provided with terminal hubs, straps C, recessed at their ends to fit the hubs of the clip, and bolts for joining the parts, substantially  
25 as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

OLIVER VANORMAN.

Witnesses:

G. W. RODGERS,

G. B. WINTER, Jr.