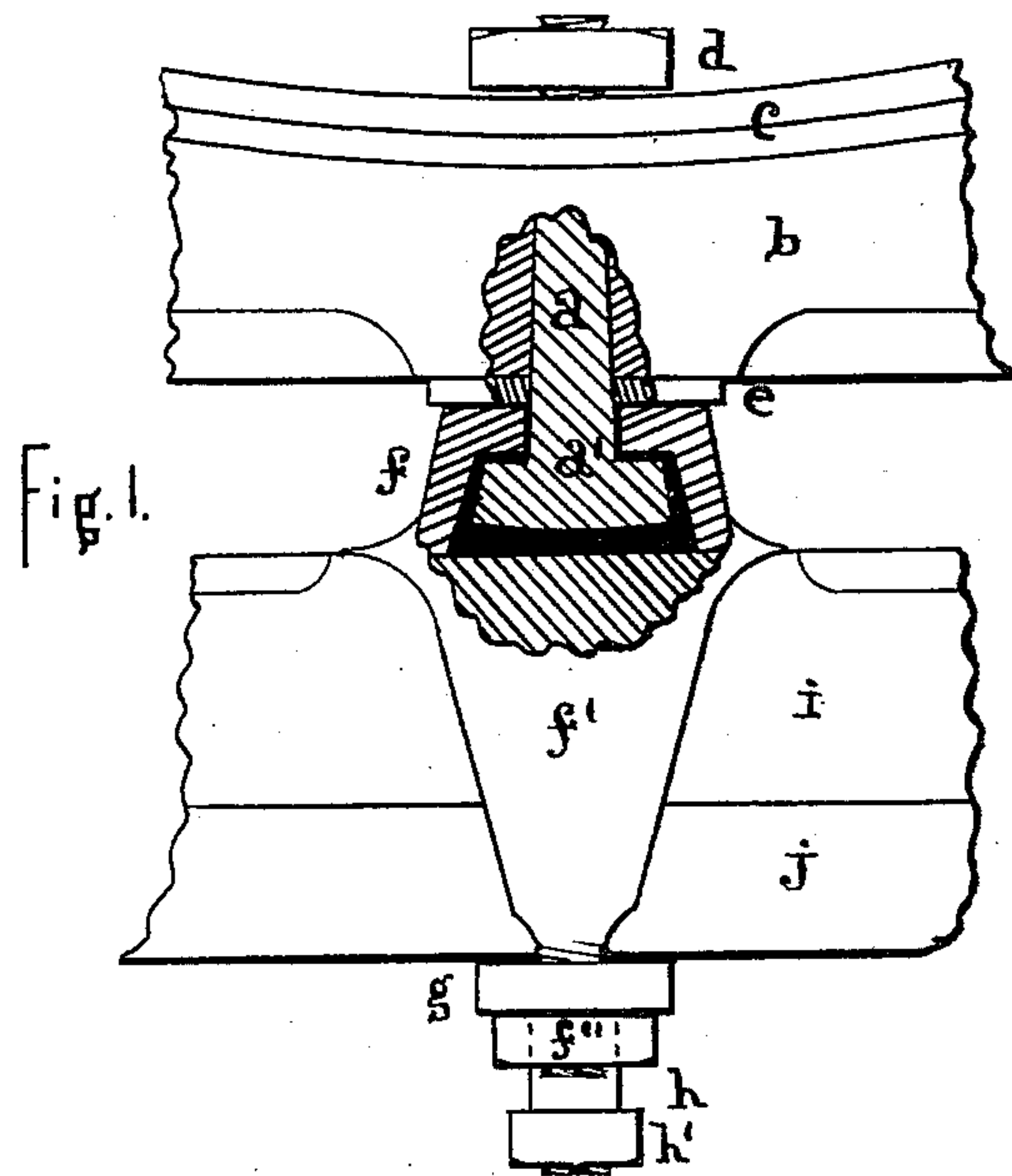


E. FREEMAN.  
King-Bolts for Vehicles.

No. 166,693.

Patented Aug. 17, 1875.



G. J. Parker.  
O. P. Hyde.

Witnesses.

Elisha Freeman.  
Inventor.

# UNITED STATES PATENT OFFICE.

ELISHA FREEMAN, OF ETNA, NEW YORK.

## IMPROVEMENT IN KING-BOLTS FOR VEHICLES.

Specification forming part of Letters Patent No. **166,693**, dated August 17, 1875; application filed May 27, 1875.

*To all whom it may concern:*

Be it known that I, ELISHA FREEMAN, of Etna, in the town of Dryden, Tompkins county, New York, have invented an Improved Wagon-Axle Clip with King-Bolt, which improvement I have set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to a clip surrounding the front axle of a wagon, with a divided bolt or joint part above and part below the axle; and the nature of my invention will be apparent as I describe it.

Figure 1 is a front elevation of an axletree with my clip about it, and other parts connected therewith.

In Fig. 1, *a* is the bolt that passes through the bolster *b* and spring *c*, secured by a nut, *d*. The head *a'* of the bolt *a* lies in a cavity in the top of the clip *f* over the top of the axle. The clip *f* extends, first, by a broad part, *f'*, which narrows, next, as it goes down, until it becomes a screw-bolt for the clip-bar *g*, which bar is held, as part of the clip, to the axle, by the nuts *f''*. In the middle of the clip-bar *g* is a hinge-projection, *h*, just beneath the line or axis of the bolt *a*, and it makes the lower part of the king-bolt hinging of the axle.

To this projecting bolt *h* a stout iron is hinged which connects with the wagon-reach or other part of the wagon, and thus is part of the axis or hinge turning of the bolster and axle.

It will be noticed that this dividing of the king-bolt into two parts, one above and the other below the axle, and the making each fast, one to the bolster and the other to the clip-bar, gives a wide joint, while the preservation of the axle entire gives strength to the axle, the wood *i* of the axle and the iron *j* of the axle being thereby preserved in their full strength and size for this purpose.

The other advantages and uses of my invention are apparent to those skilled in the art to which it appertains.

I claim—

The clip *f*, about the front axle of a wagon, having a double-jointed attachment to it, the upper part being a bolt, *a*, from the bolster *b*, with its bolt-head *a'* in a cavity in the upper part of the clip, and the lower part of the joint being made by the projection *h* on the clip-bar *g*, substantially as set forth.

ELISHA FREEMAN.

Witnesses:

SAMUEL J. PARKER,  
O. P. HYDE.