

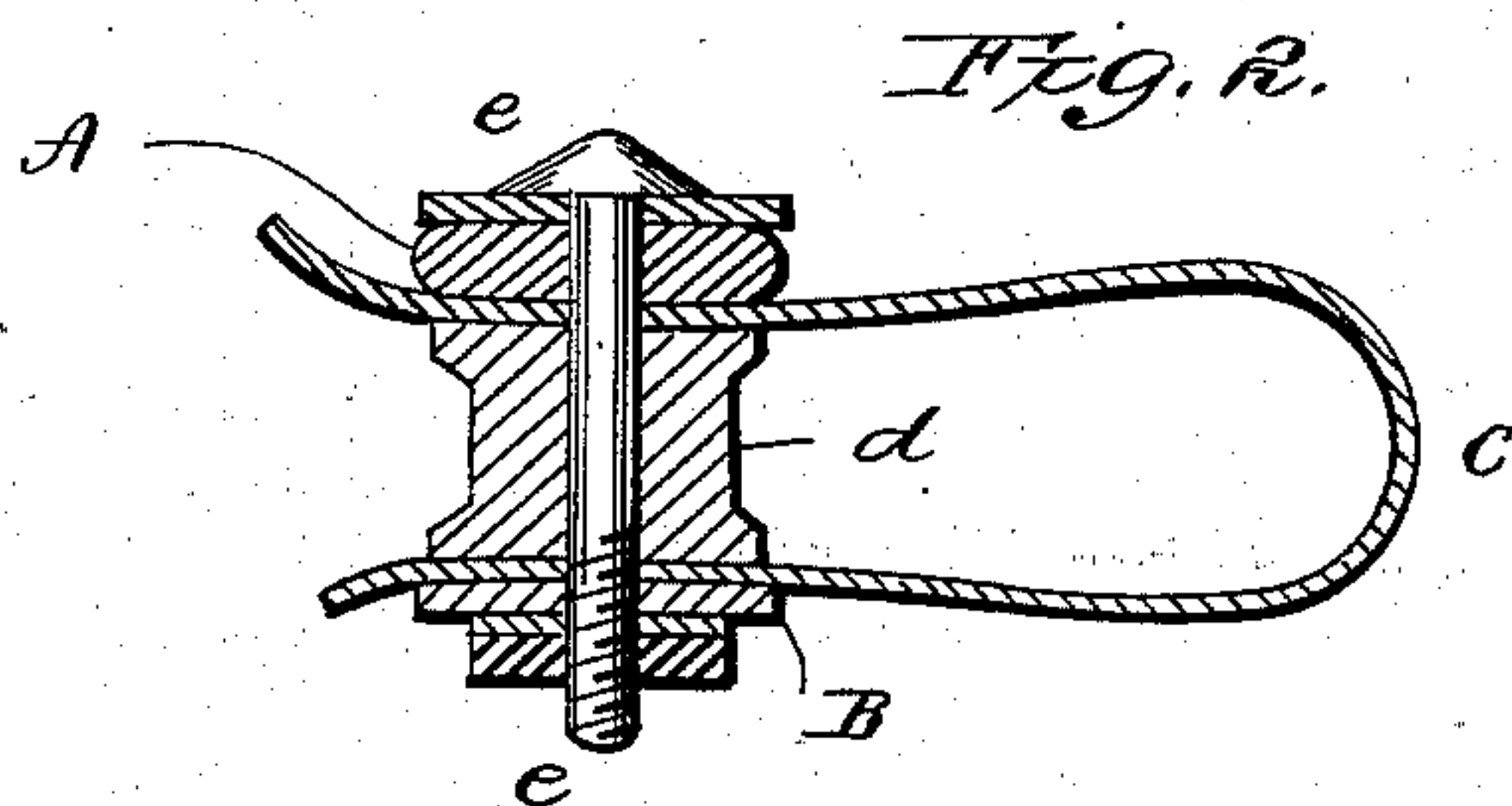
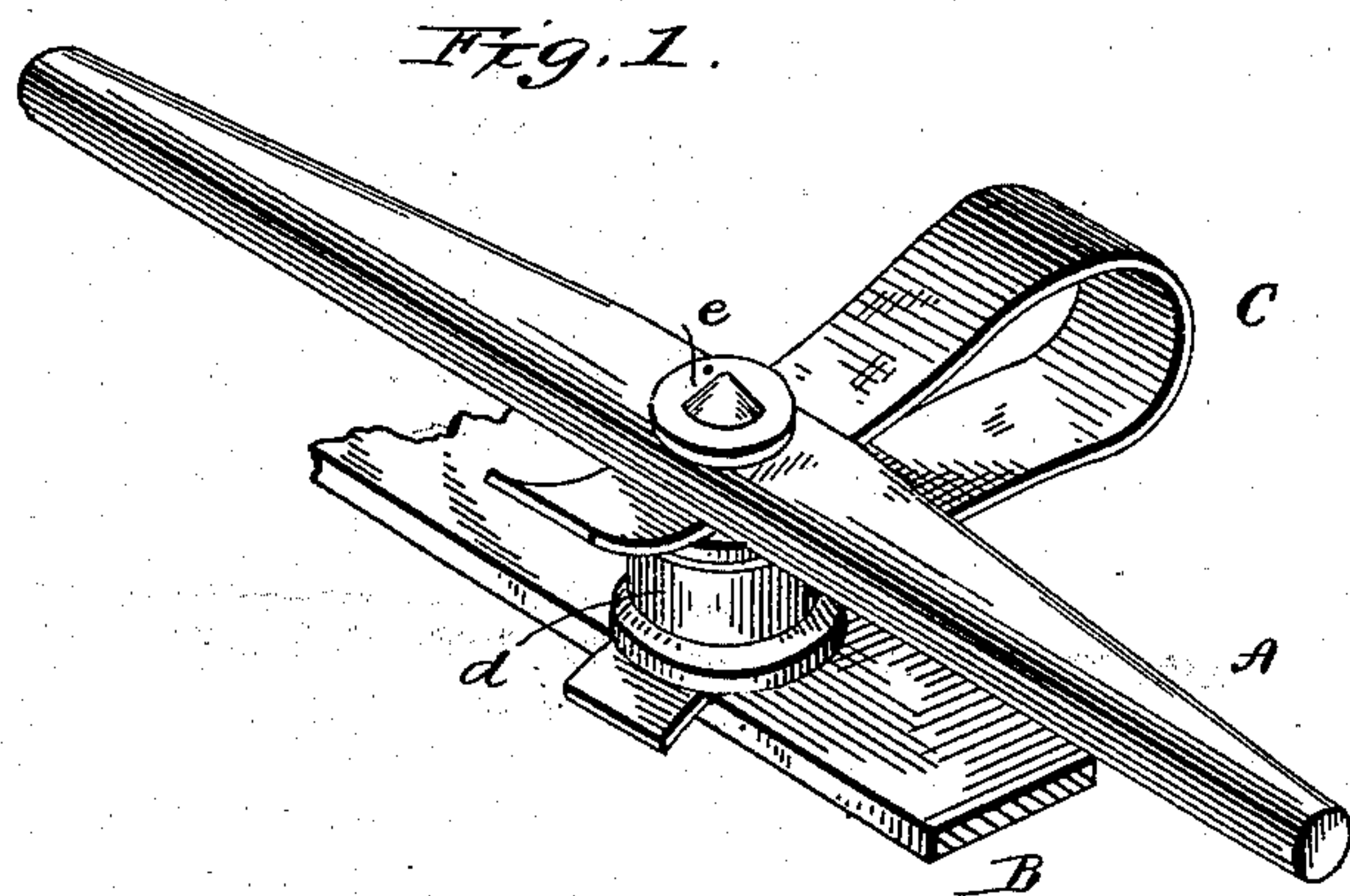
(No Model.)

E. PALMER.

WHIFFLETREE.

No. 283,274.

Patented Aug. 14, 1883.



Witnesses.  
Edwin L. Jewell.  
Chas. D. Davis

Inventor.  
E. Palmer,  
By *Wm. H. Alexander*  
Attorney.



# UNITED STATES PATENT OFFICE.

EDWARD PALMER, OF WEST GARLAND, MAINE.

## WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 283,274, dated August 14, 1883.

Application filed May 22, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD PALMER, of West Garland, in the county of Penobscot, and in the State of Maine, have invented certain  
5 new and useful Improvements in Whiffletrees; 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  
10 thereon, making a part of this specification.

My invention relates to the attachment of whiffletrees to cross-bars of vehicles; and its object is to prevent rattling of the parts, especially when they come loose by long and  
15 constant wear, as will be hereinafter fully set forth.

In the accompanying drawings, making part of this specification, Figure 1 represents a perspective, and Fig. 2 a central vertical cross-  
20 section, of my invention.

In the figures, A represents a whiffletree of any ordinary construction, and B the cross-bar to which the whiffletree is usually attached.

C represents a bow-spring, its ends being  
25 interposed between the whiffletree and the bar. Interposed between the two ends of the spring is an anti-friction roller, *d*, made of any suitable shape, but of small dimensions, so as not to remove the whiffletree too far from the bar.

30 *e* represents a bolt which passes down through the center of the whiffletree, the roller and the

bar, and through the springs, near their ends. This bolt is provided with a suitable adjusting and tightening nut at its lower end.

In adjusting the parts together the two ends  
35 of the spring are placed upon the bar B, with the roller *d* interposed between them. The whiffletree is placed upon the upper end or leaf of the spring, and the bolt *e* is then passed  
40 down through the several parts and secured in place by its nut. The bow of the spring remains in rear of the whiffletree and bar. As wear takes place the upper end or leaf of the  
45 spring bears the whiffletree upward, and thus prevents any rattle of the same. The roller allows the parts to work freely when they are  
tightened up closely by the nut.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
50 Patent, is—

The combination of the bar B, whiffletree  
55 A, bow-spring C, with the interposed roller *d*, and binding-bolt *e*, the several parts being constructed and connected, substantially as and for the purposes described.

In testimony whereof I affix my signature, in presence of two witnesses, this 22d day of  
September, 1882.

EDWARD PALMER.

Witnesses:

W. E. PARSONS,  
FRANK A. HART.