

KIRKMAN & GRAY.

Tire Tightener.

No. 66,030.

Patented June 25, 1867.

Fig. 1

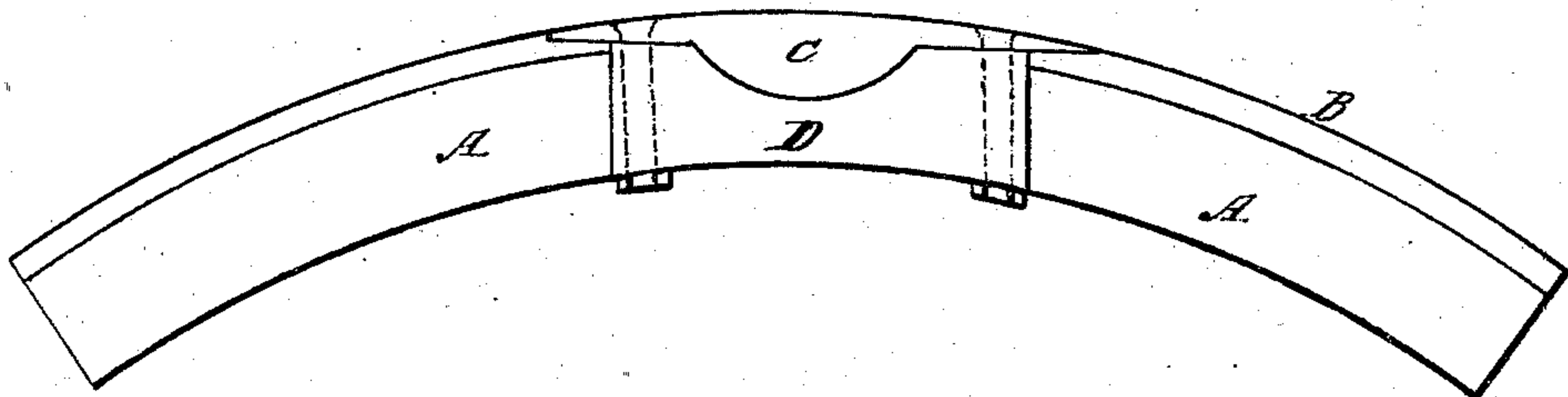


Fig. 2

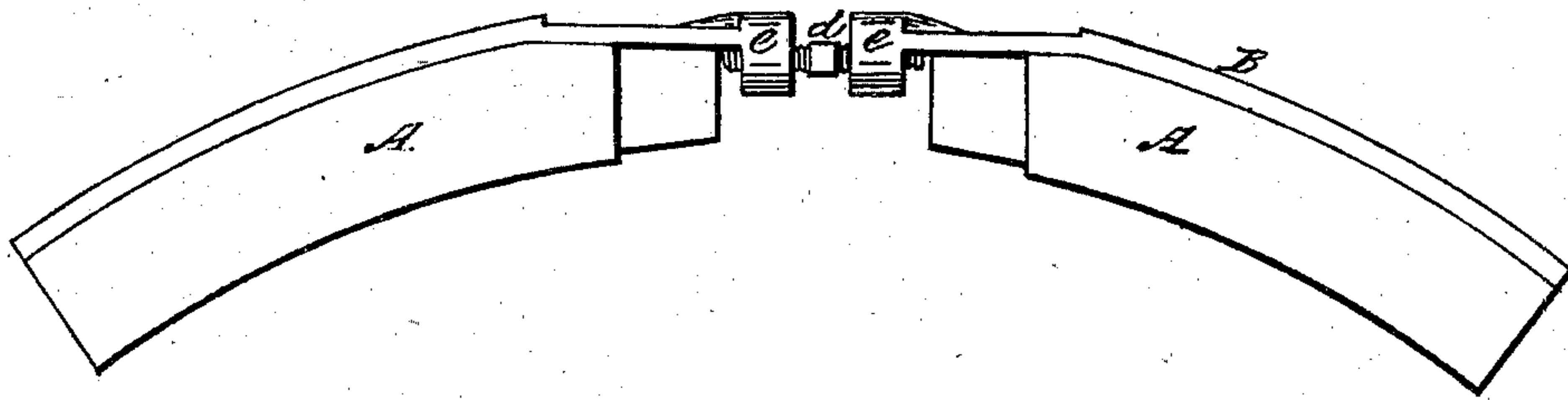
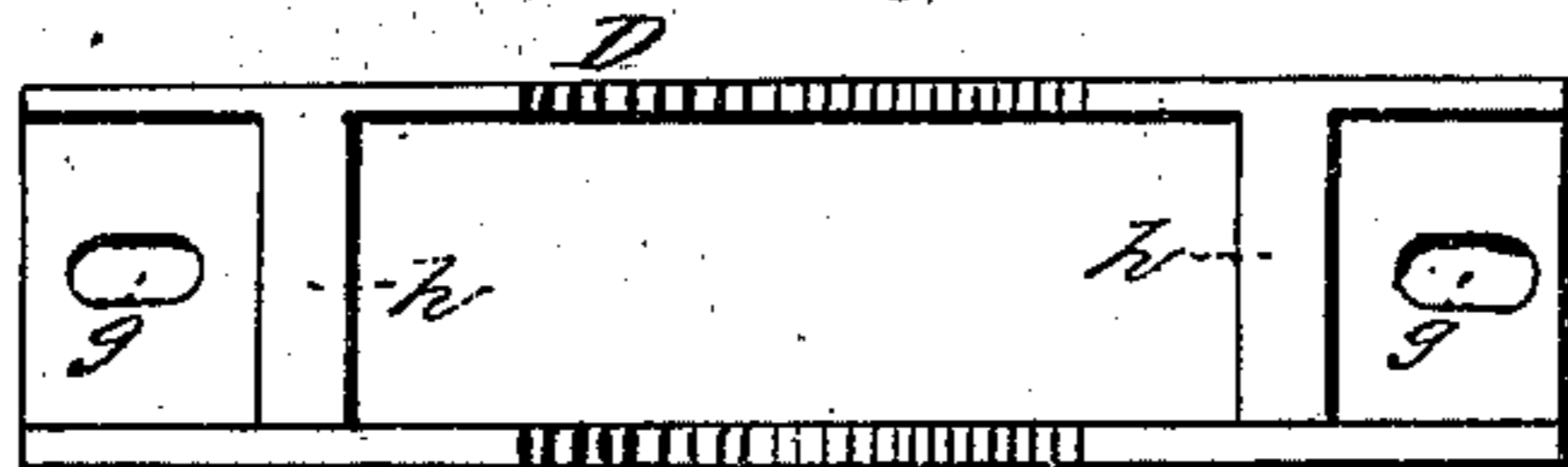


Fig. 3



Fig. 4



Witnesses:

F. Lehman
A. K. Yeakman

Inventors:

J. F. Kirkman
E. H. Gray Per
J. H. Alexander & Co.
attys.

United States Patent Office.

D. J. KIRKMAN AND E. H. GRAY, OF WINCHESTER, ILLINOIS.

Letters Patent No. 66,030, dated June 25, 1867.

IMPROVEMENT IN ADJUSTABLE TIRES FOR WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, D. J. KIRKMAN and E. H. GRAY, have invented certain new and useful Improvements in Adjustable Tires; and we do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a representation of two felloes properly united and braced by means of the adjustable cap and shoe.

Figure 2 represents two felloes with the adjustable cap and shoe removed, showing the manner in which the tire is connected and tightened, and also the mode of forming the ends of the felloes.

Figure 3 is a plan of the under side of the adjustable cap, and

Figure 4 is a like view of the shoe.

This invention has for its object the tightening of tires, when from shrinkage of the felloes or any other cause they become loose; and to enable others skilled in the art to make and use it, we will now describe its construction and operation.

A A represent a portion of two felloes with their ends cut down, as seen in fig. 2, for the purpose of allowing the shoe to fit on them evenly. The top parts of the felloes are sloped toward their ends in order that the tire may be also sloped or depressed, so that when the adjustable cap is fitted in its place the wheel will present the appearance of a perfect circle. The felloes are provided with elongated slots, as represented by red lines in fig. 1. B indicates the tires, the ends of which should form bolt-heads *e e*, said heads having right and left screw-threads through them, as shown in fig. 2. The top part of the tire should be formed with an oval swell at its end, and with a concavity beneath, the swell being for the purpose of allowing the screw-holes to be formed at or near the centre of draught, while the concavity is to allow the screw-bolt sufficient play in loosening or tightening the tire. *a* represents the screw-bolt which is formed square at its centre to enable it to be operated by means of a wrench. C represents the adjustable cap, the external form of which is clearly shown in fig. 1. Said cap should have a groove on its under side, as seen in fig. 3. It should be also provided with elongated bolt-holes *i i* to correspond with those in the felloes. Said holes *i i* are serrated on their sides, so that when the bolt-head is screwed down in them it will not slip. D represents the shoe, which is also grooved out in order to fit on and support the felloes. *h h* are two divisions or shoulders. Said shoulders when the shoe is properly adjusted come between the ends of the felloes and the bolt-heads *e e*. The shape of the shoe is distinctly seen in fig. 1, and it must be observed that the circular excavation on each side of the shoe should fit perfectly with elongated bolt-holes. The bolt holes through each end of the tire must be round and the same size of the bolt which passes through them. Thus it will be observed that when the tire becomes loose it is only necessary to remove the cap and shoe, and by means of a wrench force the ends of the tire closer together by turning the screw-bolt *a*.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The cap C, when constructed substantially as and for the purpose set forth.
2. The shoe D, when constructed substantially as and for the purpose specified.
3. The cap C and shoe D as constructed, in combination with bolt-heads *e e* and screw-bolt *a*, substantially as and for the purpose described.

In testimony whereof we affix our signatures in the presence of two witnesses.

Witnesses:

W. W. CHAPMAN,
Y. W. OISTER.

D. J. KIRKMAN,
E. H. GRAY.