

H. B. WILLCOX.

Thill Coupling.

No. 80,262.

Patented July 21, 1868.

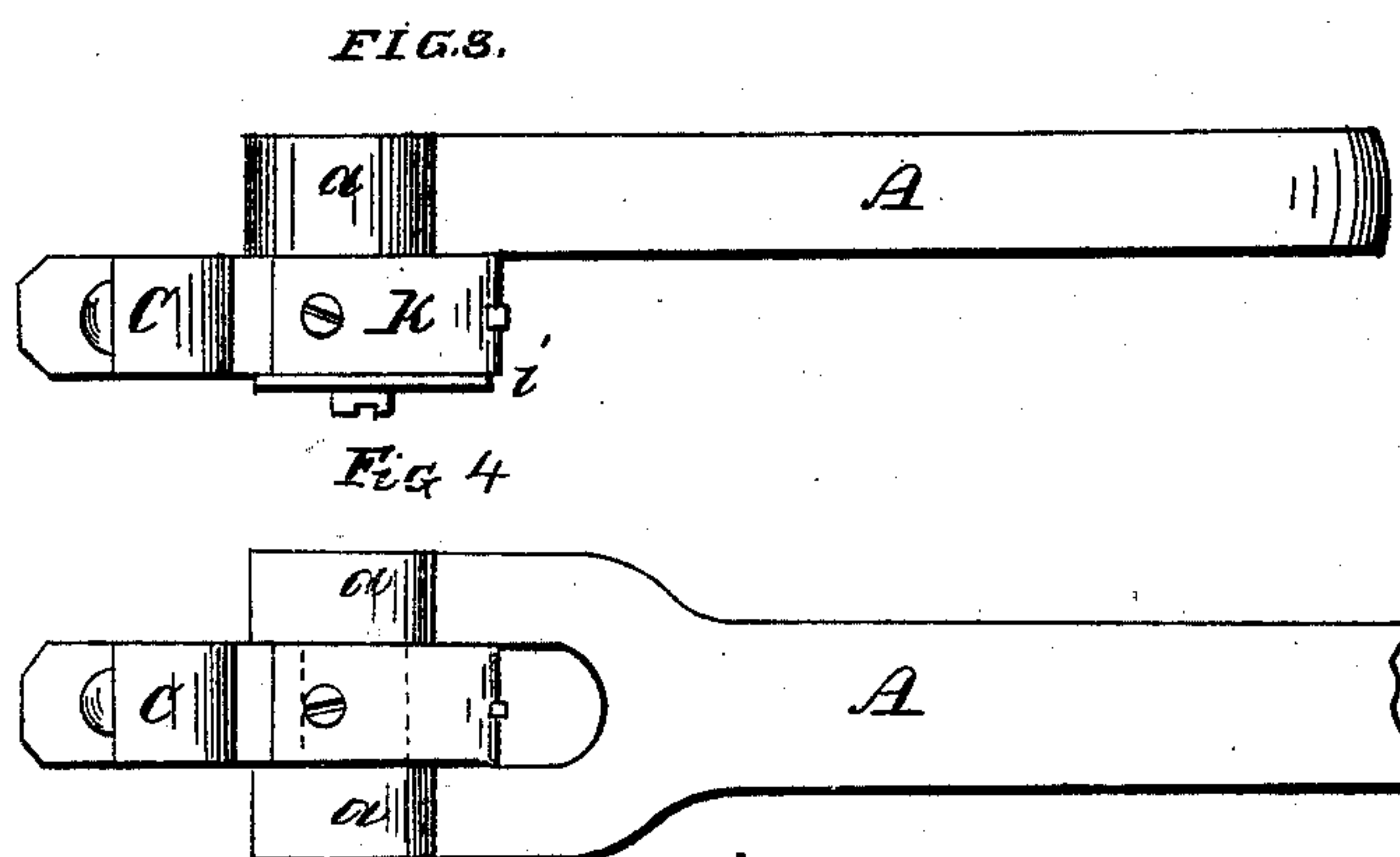
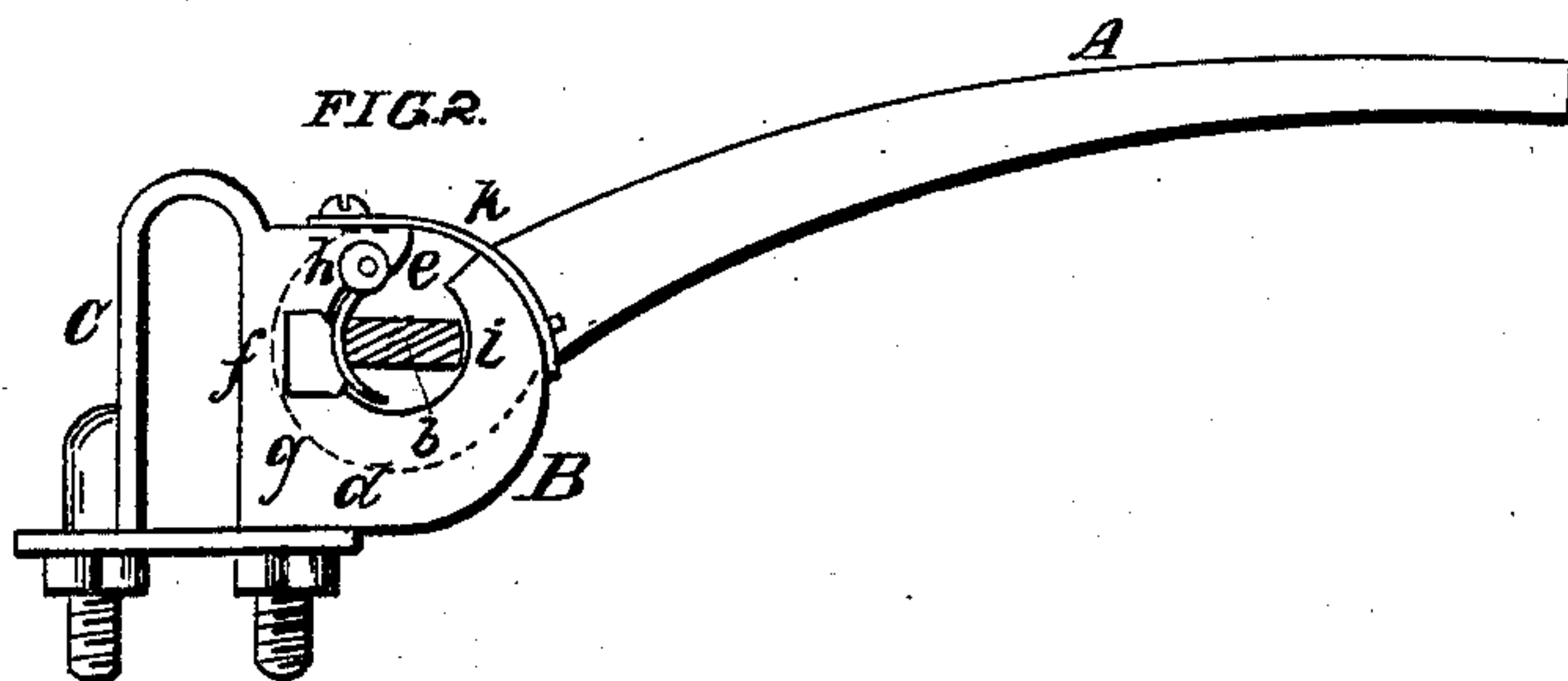
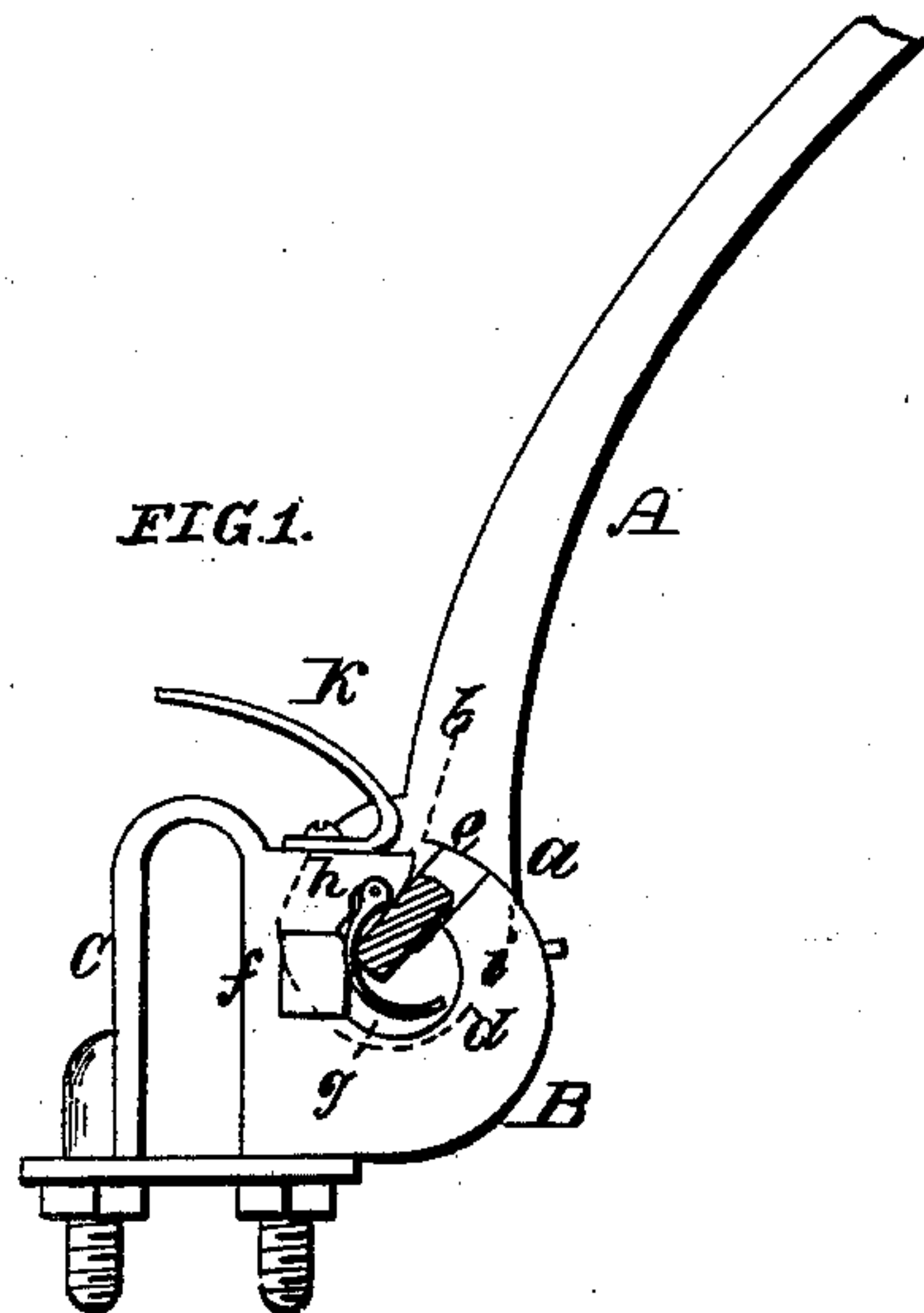
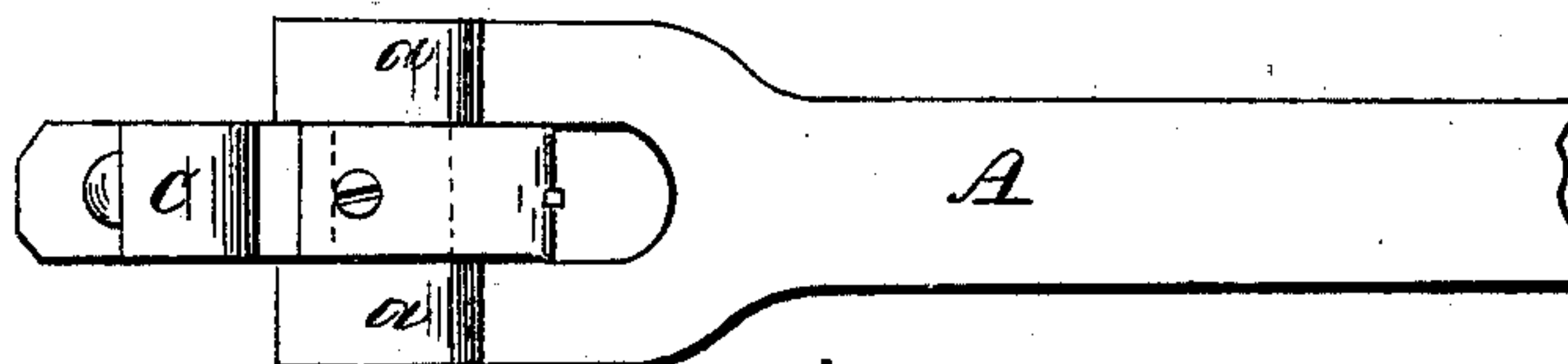


Fig 4



Witnesses { *Wm Albert Stiel*  
*Woolbham*

*H. B. Willcox*  
*By his Atty*  
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# United States Patent Office.

H. B. WILLCOX, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 80,262, dated July 21, 1868.

## IMPROVEMENT IN CARRIAGE-THILL COUPLING.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, H. B. WILLCOX, of Philadelphia, State of Pennsylvania, have invented an Improved Carriage-Thill; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a peculiar thill, fully described hereafter, for coupling the shafts or pole of carriages or other conveyances to the axles, the thill being such as to admit of ready coupling and uncoupling of the shafts, and also such as to prevent disagreeable rattling.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a side view, partly in section, of my improved carriage-thill, showing the two parts as they appear when being connected together.

Figure 2, the same, with the shaft depressed and the connection complete.

Figure 3 a plan view, and

Figure 4 a modification of my invention.

Similar letters refer to similar parts throughout the several views.

The usual bent bar A is secured to each of the shafts of a carriage, and from one side of the enlarged end *a* of this bar projects a pin, *b*, with opposite flattened sides and rounded edges, as shown in the drawing.

A metal block, B, is secured to the axle of the carriage, or to the clip C of the same, and in this block is formed a circular opening, *d*, adapted to the reception of the pin *b*, the latter being introduced into this opening through a narrow, inclined passage, *e*, in the upper portion of the block, as shown in fig. 1.

In the block at the rear portion of the opening *d* is a recess, *x*, for the reception of a small solid slab of gutta percha or rubber, *f*, a portion of which projects into the said opening, the projecting portion being covered by a metal apron, *g*, which is curved to conform to the shape of the opening, and is hinged to the block by a pin, *h*, as shown in figs. 1 and 2.

When it is desired to connect the shafts to the axle, they are elevated to such a position that the pins *b* are directly over and in line with the passages *e* leading to the openings *d*, into which the pins are pushed. The shafts are then depressed until the pins assume the position shown in fig. 2. In thus turning down the shafts, the pins *b* are caused to bear against the front portion *i* of the block, and to force backwards the curved apron *g*, the latter bearing against and compressing the whole body of the gutta-percha spring *f*.

The opening *d* is covered and protected from dust by a leather flap, *k*, on the top of the block-B, and by a disk, *i'*, fig. 3, which is secured to the end of or forms a part of the pin *b*.

The modification of my invention shown in fig. 4, represents a device to be used in connection with heavy shafts or with a single pole. In this case the same coupling-block B is employed, but the end of the shaft or pole is forked so as to embrace the block, the pin *b* fitting into the latter in the manner above described, and connecting the opposite forked ends of the shaft or pole, as shown by dotted lines.

It will be apparent that much less rubber is required when it is confined as above described, than when a block is merely interposed between the end of the arm A and the coupling-piece, and that owing to the arrangement of the block of rubber in relation to the openings *d* and *e*, and to the use of an oblong pin, *b*, on the arm A, the pressure of the rubber upon the pin is not exerted until the shafts are nearly in a horizontal position, so that the shafts may be readily disconnected and replaced without the necessity of detaching the rubber.

I claim as my invention, and desire to secure by Letters Patent—

1. The block B, with its recesses *d*, *e*, and *x*, and the block *f* of rubber, fitting the recess *x*, in combination with the bar A and its projection *b*, substantially as and for the purpose described.

2. The combination of the above, the flap *k*, and disk *i'*, substantially as and for the purpose specified.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

H. B. WILLCOX.

Witnesses:

JOHN WHITE,

W. J. R. DELANY.