

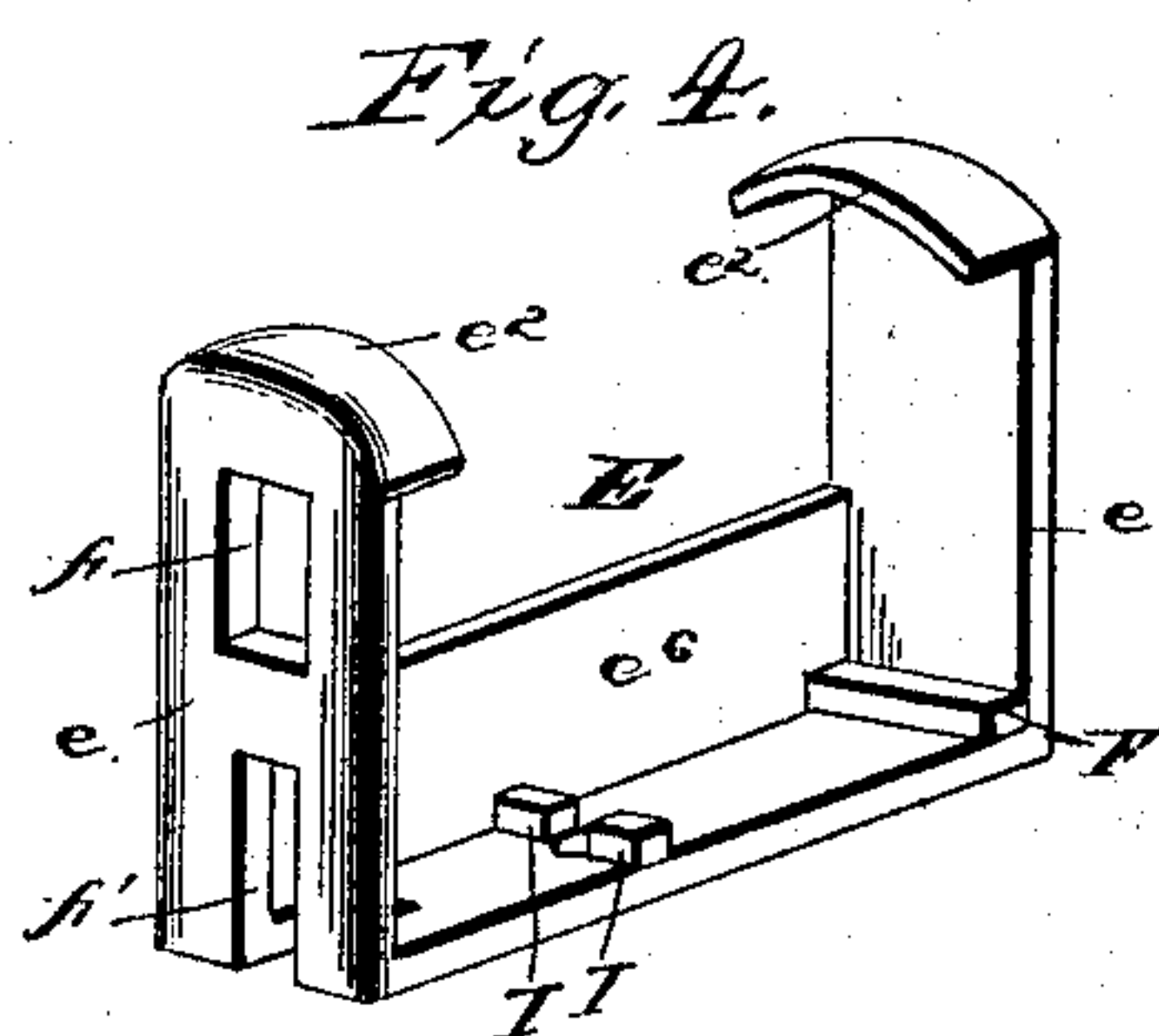
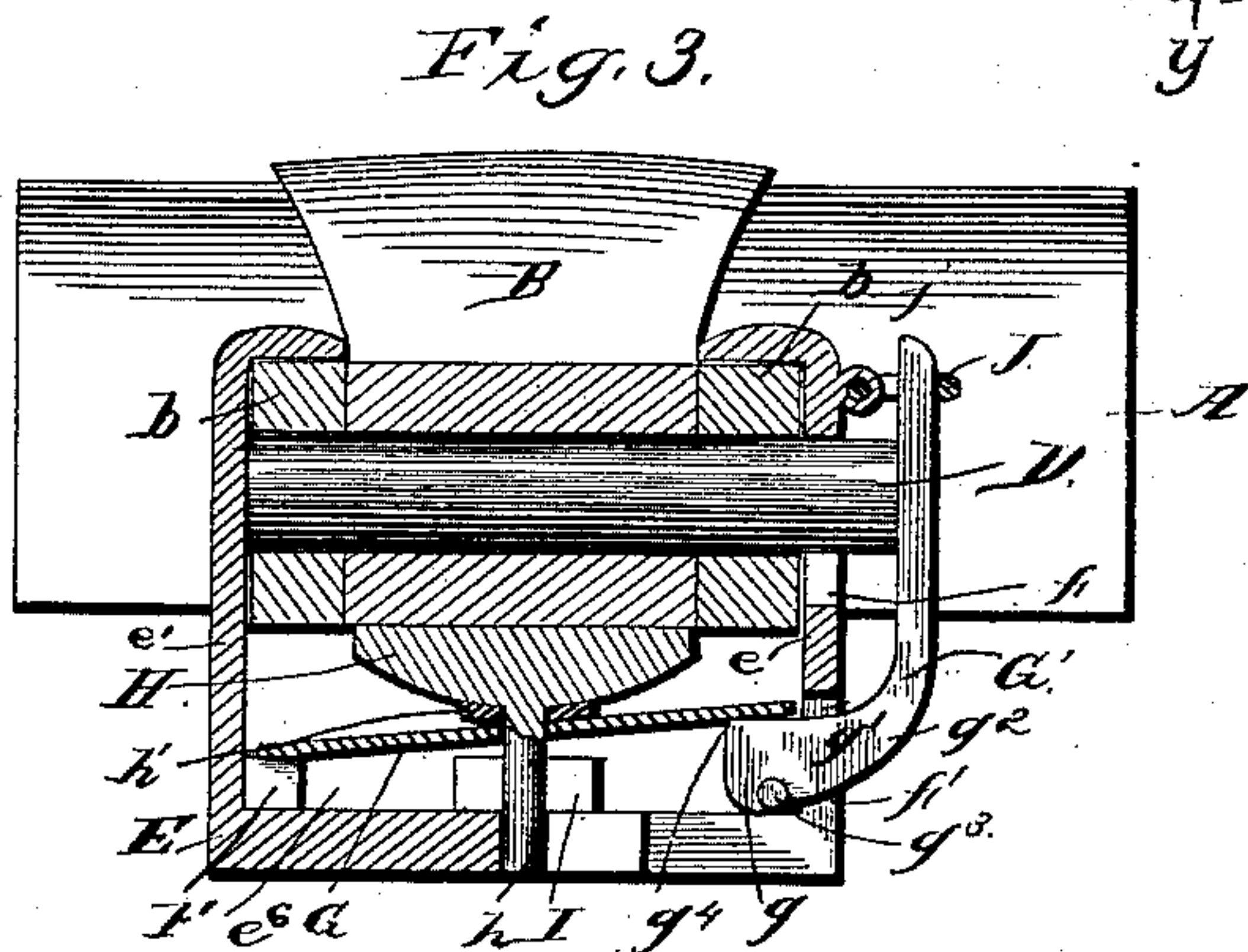
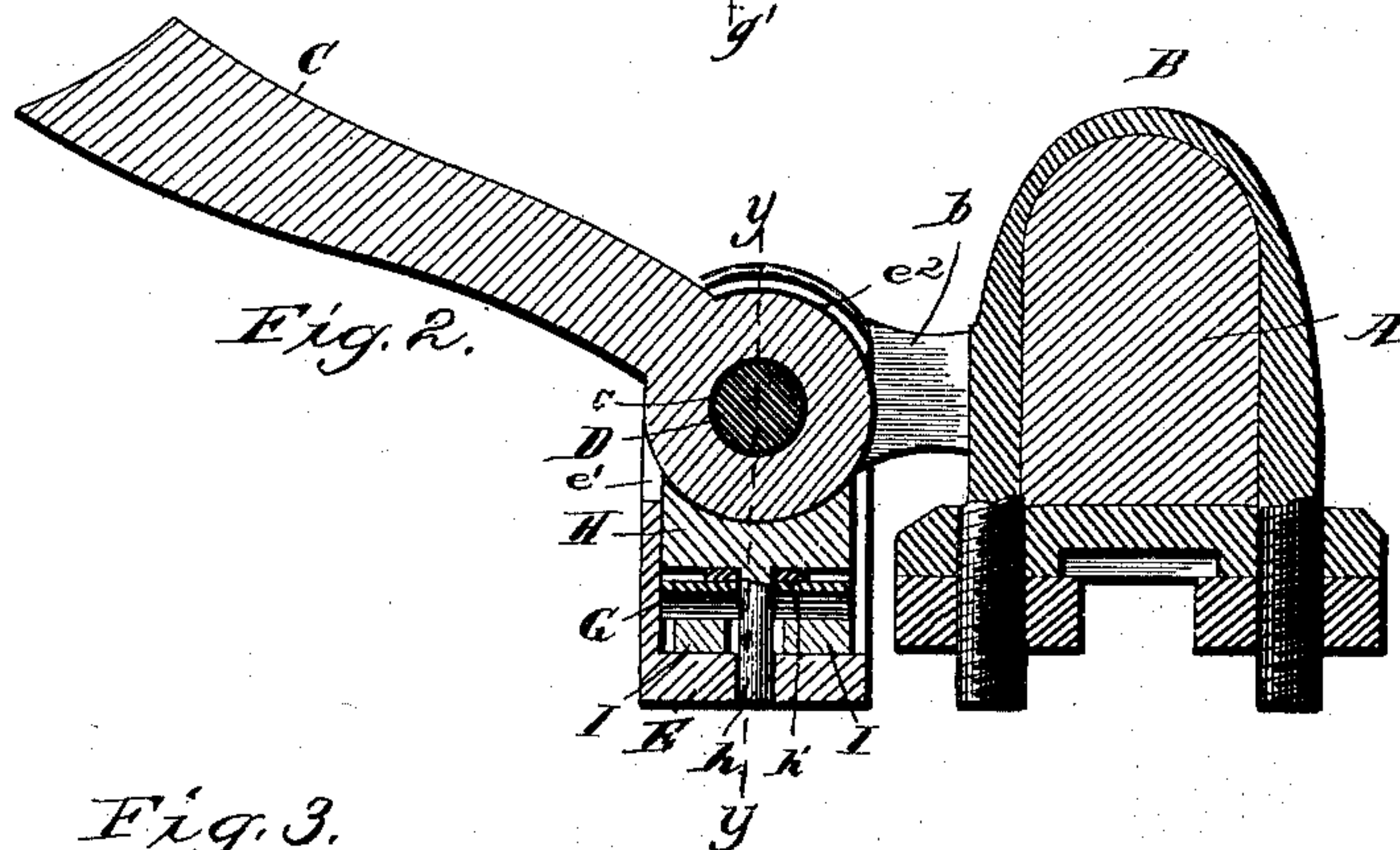
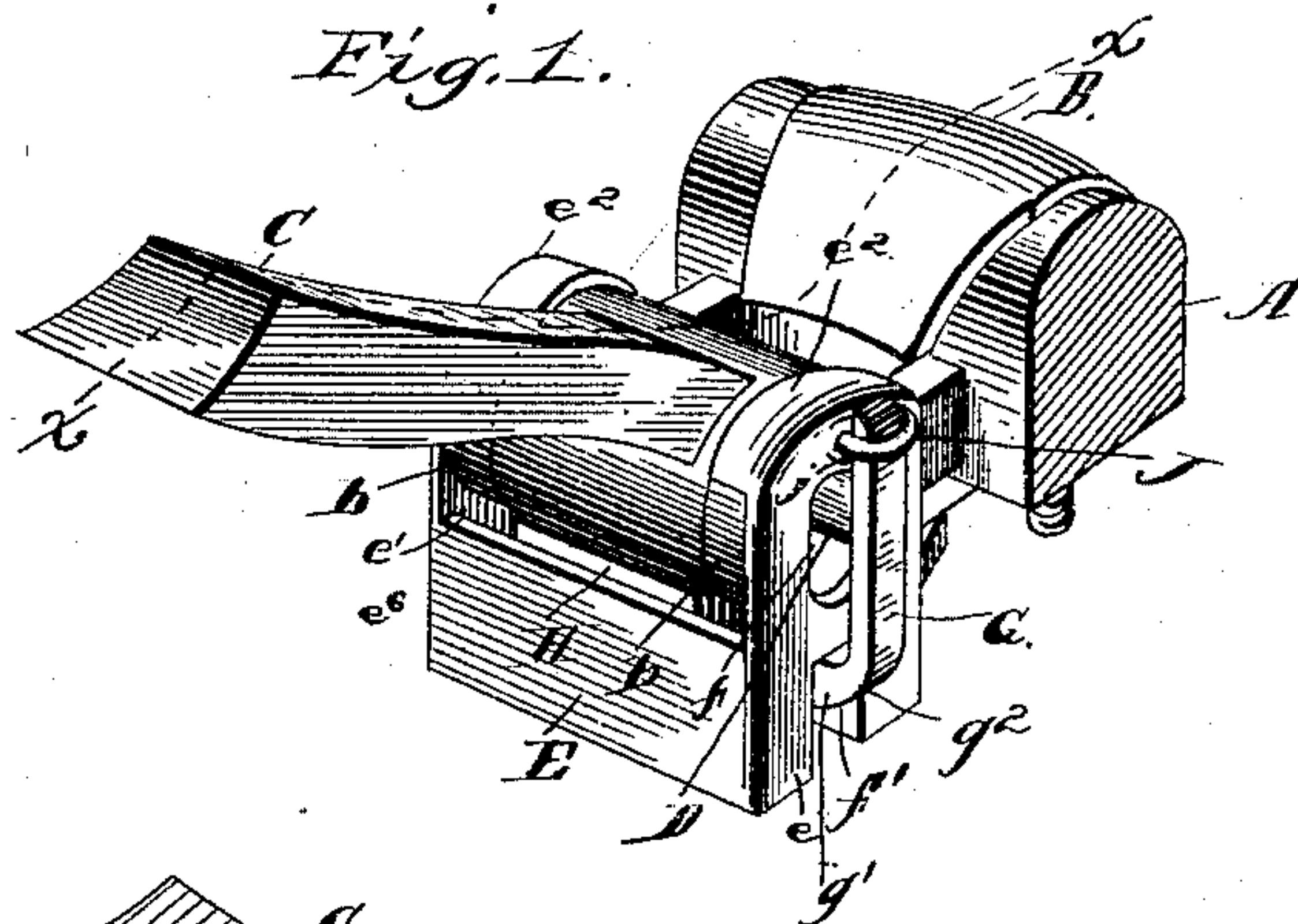
(No Model.)

W. C. BURROWS.

THILL COUPLING.

No. 374,343.

Patented Dec. 6, 1887.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 374,343, dated December 6, 1887.

Application filed March 24, 1887. Serial No. 232,305. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM COLLINS BURROWS, a citizen of the United States, residing at Stockton, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Thill - Couplings, of which the following is a specification.

The invention relates to improvements in thill-couplings, its objects being to prevent the coupling from rattling after being long in use from the wear of the eye of the thill-irons or of the coupling-bolt, to secure the coupling-bolt in the coupling, to admit of the thills being detached quickly, and to insure the safety of the coupling; and it consists in the construction and arrangement of the parts of an attachment hung or connected to the coupling lugs or jaws of the clip secured upon the front axle, as hereinafter described, illustrated in the drawings, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a thill-coupling embodying my invention. Fig. 2 is a vertical section on the line  $xx$  of Fig. 1. Fig. 3 is a sectional view on line  $yy$  of Fig. 2, and Fig. 4 is a perspective view of the supporting-block of the thill-eye. Fig. 5 is a perspective view of the supporting-block of the thill-eye.

Referring to the drawings, A designates the front axle of a vehicle; B, one of the thill-clips attached thereto and provided with the coupling lugs or jaws  $b\ b$ ; C, the thill-iron provided with the eye  $c$ , and D the bolt passing through said jaws and eye to connect the thill-iron to the clip.

E is a box or casing provided with the hollow rectangular body  $e^b$  and the vertical arms  $e\ e'$  at its respective ends, which arms are provided at their ends with the curved inward standing flanges  $e^2\ e^2$ , that fit upon the upper edges of the jaws  $b\ b$  and support the casing thereon. The casing is provided upon the floor of its body adjacent to the arm  $e'$  with the transverse shoulder F and at its other end with the slots  $f\ f'$ , made, respectively, in the arm  $e$  near its upper end, and at its lower corner extending longitudinally into its floor and vertically into the arm  $e$ .

G is a strong plate-spring, with one end resting upon the shoulder F and the other upon the

head  $g$  of the cam-lever  $G'$ , which head is within the box or casing E, the arm  $g'$  of the lever extending outward through the slot  $f'$  and having the angular bend  $g^2$  at a proper point, as shown. By turning the said arm upward the head is rotated by means of the pins or trunnions  $g^3$  turning upon the inner corner formed by the arm  $e$  and the floor of the casing, the surfaces of the corner forming bearings for the trunnions. The head is so curved that when rotated inward by turning the arm  $g'$  upward it lifts the adjacent end of the spring till the point  $g^4$  of the head is immediately below the same. The said point then passes inward and the spring falls a little, forcing, when pressed downward by parts hereinafter described, the arm  $g'$  of the cam-lever up against the outer end of the coupling-bolt D, which passes through the slot  $f$  in the arm  $e$  of the casing, thus preventing the disengagement of the bolt. The opposite arm,  $e'$ , is imperforate, so that the adjacent end of the bolt abuts against it.

H is a supporting-block longitudinally grooved on its upper face to rest against the lower part of the eye of the thill-iron, and provided with a depending stem,  $h$ , that passes through a central opening in a washer,  $h'$ , then through a central opening in the spring G, and through a similar opening in the floor of the casing E. The block H stands between the jaws  $b$ , and its ends are adjacent thereto.

I I are transverse clips on each side of the openings in the floor of the casing E, to support the central part of the spring and prevent its being strained or sprung too much.

It is evident that when the arm  $g'$  of the cam-lever is turned up as described the head of said lever, by forcing the spring upward, will also force the supporting-block upward, and will bind the eye of the thill-iron against the coupling-bolt, so as to prevent any rattling.

Should the wear of the parts cause the coupling to become loose and rattling to begin, the washer below the supporting-block can be replaced by a thicker washer, so as to cause the said block to bind on the eye of the thill-coupling. As the spring descends a little after the point  $g^4$  of the head of the cam-lever has rotated inward, it tends to keep the arm  $g'$  raised; but for fear lest the arm should be depressed by accident, a ring, J, may be run through an



opening in a projection, *j*, on the adjacent side of the arm *e* in such position as to fall over the end of the arm *g'* and prevent its turning down.

5 The main feature of my invention resides in its ready applicability to the present form of thill-couplings.

Having described my invention, I claim—

10 1. In a thill-coupling, the combination, with the thill-clip, the thill-iron, and the coupling pin or bolt, of the casing suspended from the thill-clip, the supporting-block for the thill-eye, the spring below the supporting-block, and the cam-lever journaled in the suspended 15 casing and bearing against the under side of the spring to raise the supporting-block, substantially as specified.

20 2. In a thill-coupling, the combination, with the thill-clip, the thill-iron, and the bolt or pin passing through the openings in the thill-eye and coupling-jaws of the clip, of the casing suspended from said jaws, the supporting-block for the thill-eye, the spring below the supporting-block, the cam-lever passing through a slot 25 in the casing and provided with a head which, when the said lever is turned on its trunnions having bearing-surfaces in the interior corner of the casing, will raise the adjacent portion of the spring, so as to cause the same to raise 30 the block and make the thill-eye bind on the coupling-bolt, substantially as specified.

3. The combination, with the thill-clip, thill-iron, and coupling-block, constructed substantially as described, of the casing suspended 35 from the jaws of said clip, the supporting-block for the thill-eye, provided with a depending guide-stem passing through openings

in the washer, spring, and floor of the casing, the washer below the supporting-block, the spring below the washer, and the cam-lever 40 having an arm, *g'*, passing through the slots *f'* of the casing, and provided with the head *g*, trunnions *g<sup>3</sup>*, and a point, *g<sup>4</sup>*, which, when rotated inward below the spring, allows the latter to descend a little and force the end of the 45 arm *g'* up against the end of the coupling-pin, which passes out of the slot *f* of the casing, substantially as specified.

4. In a thill-coupling, the combination, with the thill-clip, thill-iron, and coupling-bolt, of 50 the casing *E*, provided with the body *e<sup>6</sup>*, arms *e e'*, having the curved flanges *e<sup>2</sup>*, slots *f f'*, and shoulder *F*, the spring *G*, cam-lever *G'*, provided with the head *g*, arm *g'*, trunnions *g<sup>3</sup>*, and point *g<sup>4</sup>*, supporting-block *H*, provided 55 with the guide-stem *h*, and the washer *h'*, all constructed and arranged substantially as and for the purpose specified.

5. In a thill-coupling, the combination, with the thill-clip, thill-iron, and coupling-bolt, of 60 the casing *E*, spring *G*, cam-lever *G'*, provided with the arm *g'*, supporting-block *H*, and ring *J*, passing through the projection *j* of the casing and falling over the arm *g'* when raised, so as to prevent said arm from being turned 65 down, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM COLLINS BURROWS.

Witnesses:

CHAS. GORDON BLOOMFIELD,  
MINER DE WITT BURROWS.