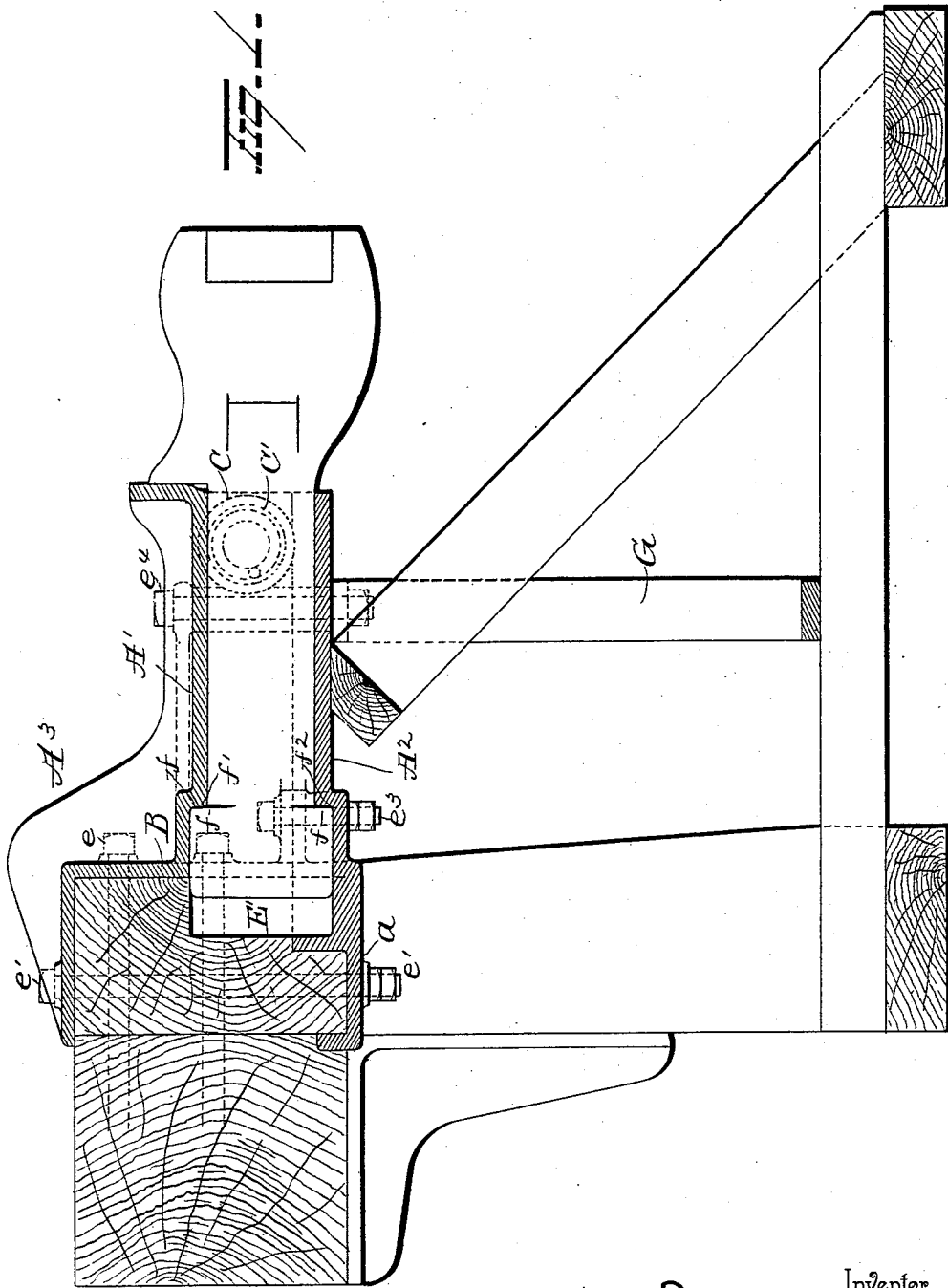


No. 570,672.

Patented Nov. 3, 1896.



Witnesses
E. Nottingham
G. F. Downing.

Inventor
J. Mackenzie
By H. A. Seymour
Attorney

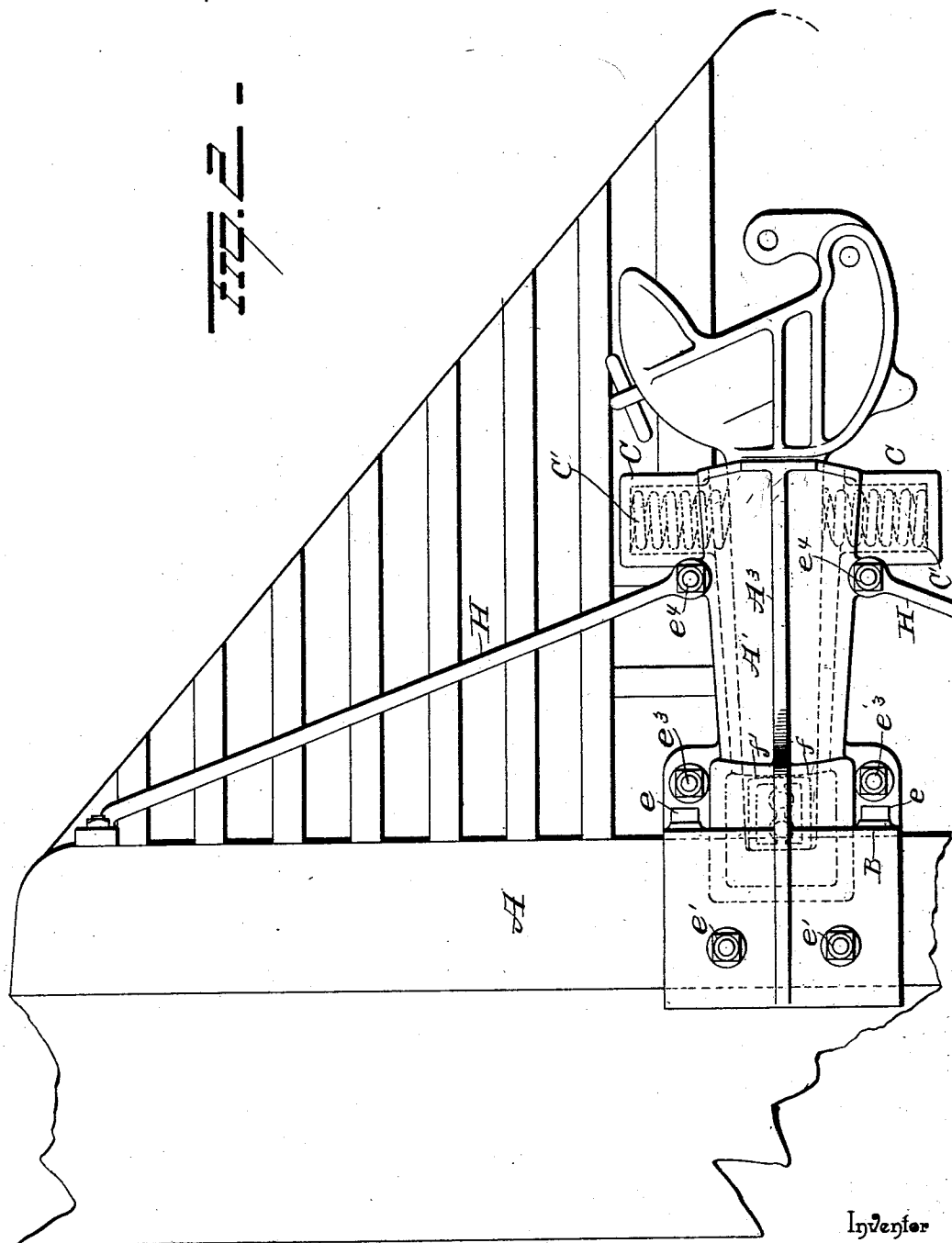
(No Model.)

3 Sheets—Sheet 2.

J. MACKENZIE.
ENGINE COUPLING.

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Witnesses
E. S. Nottingham
C. F. Downing.

Inventor
J. Mackenzie
By H. A. Seymour
Attorney

(No Model.)

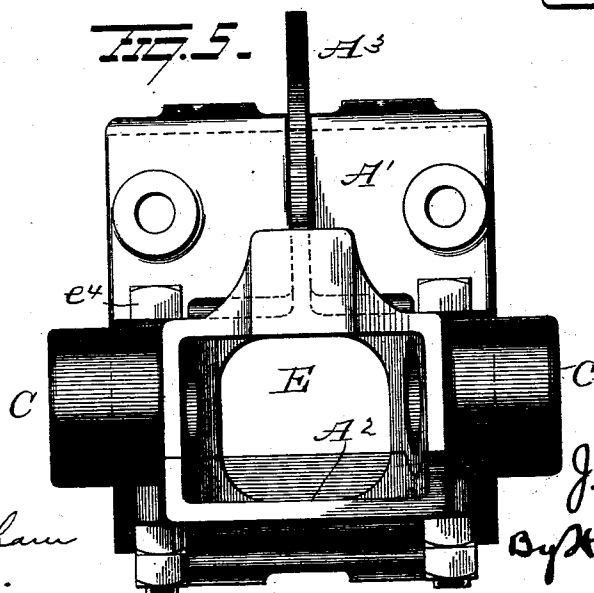
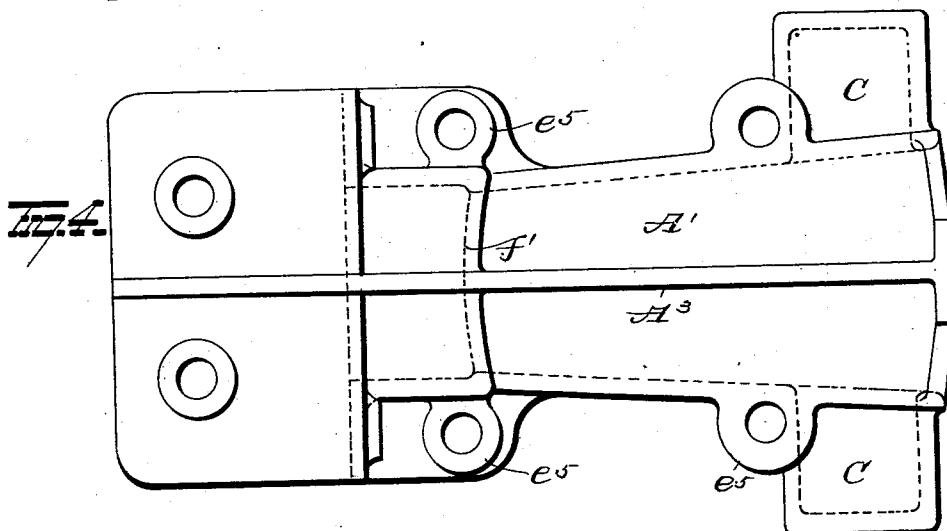
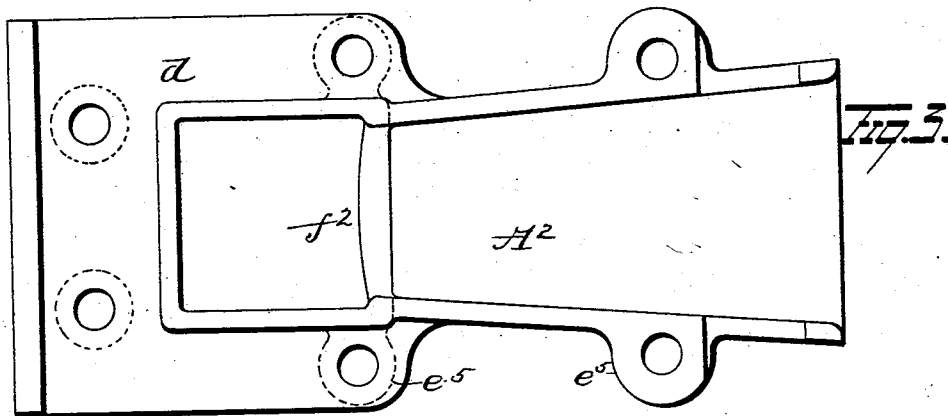
J. MACKENZIE.

3 Sheets—Sheet 3.

ENGINE COUPLING.

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By H. A. Seymour
Attorney

UNITED STATES PATENT OFFICE.

JOHN MACKENZIE, OF CLEVELAND, OHIO, ASSIGNOR TO THE BUCKEYE
MALLEABLE IRON AND COUPLER COMPANY.

ENGINE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 570,672, dated November 3, 1896.

Application filed June 6, 1896. Serial No. 594,579. (No model.)

To all whom it may concern:

Be it known that I, JOHN MACKENZIE, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain
5 new and useful Improvements in Engine-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains
10 to make and use the same.

My invention relates to an improvement in devices for attaching car-couplings to the pilot ends of engines, the object being to provide means for attaching the well-known and
15 standard makes of couplings to the front sill of the engine in a solid and substantial manner, the construction of parts being such that the entire draw-bar and coupling-head can be removed for repair or replacement within a
20 short space of time and without the aid of tools other than an ordinary wrench.

With this object in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed
25 out in the claims.

In the accompanying drawings, Figure 1 is a view showing my improvement applied to the pilot of a locomotive. Fig. 2 is a view in plan of the same. Fig. 3 is a top plan view
30 of the lower section of the casing. Fig. 4 is a similar view of the top section of the casing, and Fig. 5 is a view in front elevation of the casing.

A represents the front sill of an engine, to
35 the front face of which is secured the two-part casing B, which latter is adapted to receive and retain the draw-bar of the coupling. This casing is composed of an upper section A' and a lower section A², the upper section
40 constituting the major portion of the casing, while the lower section constitutes the bottom and a small portion of the sides thereof.

The rear end of the upper section A' of the casing A is enlarged at its base or rear end,
45 the enlargement being in the form of a flange which projects laterally and vertically, constituting a seat which rests solidly against the front sill of the engine. The upper end of this flange or base is continued rearwardly
50 in a horizontal plane, so as to rest on the top of the sill, and the flanges and body of the

section A' are strengthened by the rib A³, which extends throughout the length of the section and is cast integral therewith. The upper section is also provided at its sides,
55 near its front or outer ends, with the cylindrical pockets C, which form seats for spiral springs C', employed for yieldingly holding the draw-bar and coupling-head centrally within the casing. 60

The lower section A², as before stated, constitutes the bottom and a portion of the sides of the casing, and its rear end, like the end of section A', is enlarged laterally to afford
65 a firm and solid base and is also provided with a horizontally-projecting flange d, which rests under the sill, the rear end of the flange being provided with an upwardly-projecting lip, which rests in a slot or kerf in the under
70 face of the sill.

The upper section A' of the casing is secured to the sill by the bolts e, which pass through the lateral flanges and horizontally through the sill, and hence secure the upper
75 section in place independently of the fastening devices which secure the lower section A² in place. In addition to these bolts e the section A' is also secured by the bolts e', which pass vertically through the top flange of the
80 section A', through the sill, and through the horizontal flange of the lower section. By means of the bolts e, however, the upper section of the casing can be secured in place independently of the lower section, and hence
85 can be permanently fastened in place before placing the draw-bar in position.

In addition to the bolts e and e', which secure the two sections together and to the sill, the two sections are further united by the bolts e^s e^t, which pass through flanges e^s, integral with the sections. 90

The casing thus formed is hollow throughout its length and open at its front end, the open front end being wider than the rear end to permit the coupling-head and draw-bar to
95 have a limited lateral movement, the draw-bar and coupling-head being normally retained in a central position by the springs C', which, as before explained, are seated in the cylindrical seats C. 100

The rear end E' of the chamber E within the casing is enlarged vertically and slightly

laterally, the enlarged section E' forming a chamber for the reception of the tail end of the draw-bar. The draw-bar and coupling (shown in Fig. 1) is enlarged at its rear end, the enlargement being abrupt, forming shoulders *f*, which latter when in position rest against the shoulders *f'* *f*², formed at the juncture of the chambers E and E'. These shoulders *f'* *f*² are convex, as shown, so as to permit the shoulders *f* to pivot readily thereon as the draw-bar is turned laterally.

With this construction it will be seen that by securing the upper section of the casing in place and then placing the draw-bar in position with one shoulder *f* thereof against the shoulder *f'* of the casing the draw-bar can be locked in place by simply securing the lower section in position, as before explained, and when so assembled the coupling rests in front and clear of the front end of the casing.

The casing is supported at its outer end against vertical movement by the support G, which latter rests at its lower end on the pilot of the engine and is secured at its upper end below the casing to the bolts *e*⁴, and the casing is also supported at its outer end against lateral deflection by the rods H, which latter are secured at their outer ends to the sill and at their inner ends, above the casing, to the bolts *e*⁴.

It is evident that numerous slight changes might be made in the general form and arrangement of parts herein shown and described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not limit myself to the precise details of construction shown, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination with an auxiliary sectional casing having internal shoulders, of an ordinary draw-bar having projecting shoulders near its rear end adapted to engage the internal shoulders of the casing, and means for locking the two parts of the casing together.

2. A device for attaching car-couplings to a car comprising an auxiliary sectional casing having internal shoulders adapted to be engaged by shoulders on the ordinary draw-bar and means for locking the parts of the casing together and the coupling to the casing, substantially as set forth.

3. The combination with an auxiliary sectional casing having internal convex shoulders, of an ordinary draw-bar having projecting shoulders near its rear end adapted to engage the internal shoulders of the casing, and means for locking the two parts of the casing together.

4. The combination with an auxiliary sectional casing having a flaring chamber and springs located at the sides and adjacent to the open outer end of said chamber, of an ordinary draw-bar secured at its rear end in the casing and means for locking the two parts of the casing together, substantially as set forth.

5. The combination with an auxiliary sectional casing having a flaring chamber, spring-seats formed in said casing at the sides and near the front end thereof, and springs located within said seats, of an ordinary draw-bar secured in said casing and means for locking the two parts of the casing together, substantially as set forth.

6. The combination with an auxiliary casing having a flaring chamber, spring-seats formed in said casing at the sides and near the front end thereof, springs located within said seats, and side braces for preventing lateral deflection of the casing, of an ordinary draw-bar secured at its rear end within said casing and adapted to have a lateral movement therein, substantially as set forth.

7. The combination with an auxiliary casing having a flaring chamber, spring-seats formed in said casing at the sides and near the front end thereof, springs located within said seats and a brace for supporting the casing against vertical movement at its free end, of an ordinary draw-bar secured within said casing and adapted to have a lateral movement therein, substantially as set forth.

8. A device for attaching couplings to the front of an engine consisting of a two-part casing, each part having lateral and end flanges for engagement with the end sill of the engine, and an internal shoulder for engaging projections on the draw-head and means for locking the parts of the casing together and to the sill of the engine, substantially as set forth.

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

JOHN MACKENZIE.

Witnesses:

G. W. MCKEE,

THEO. H. CURTIS.