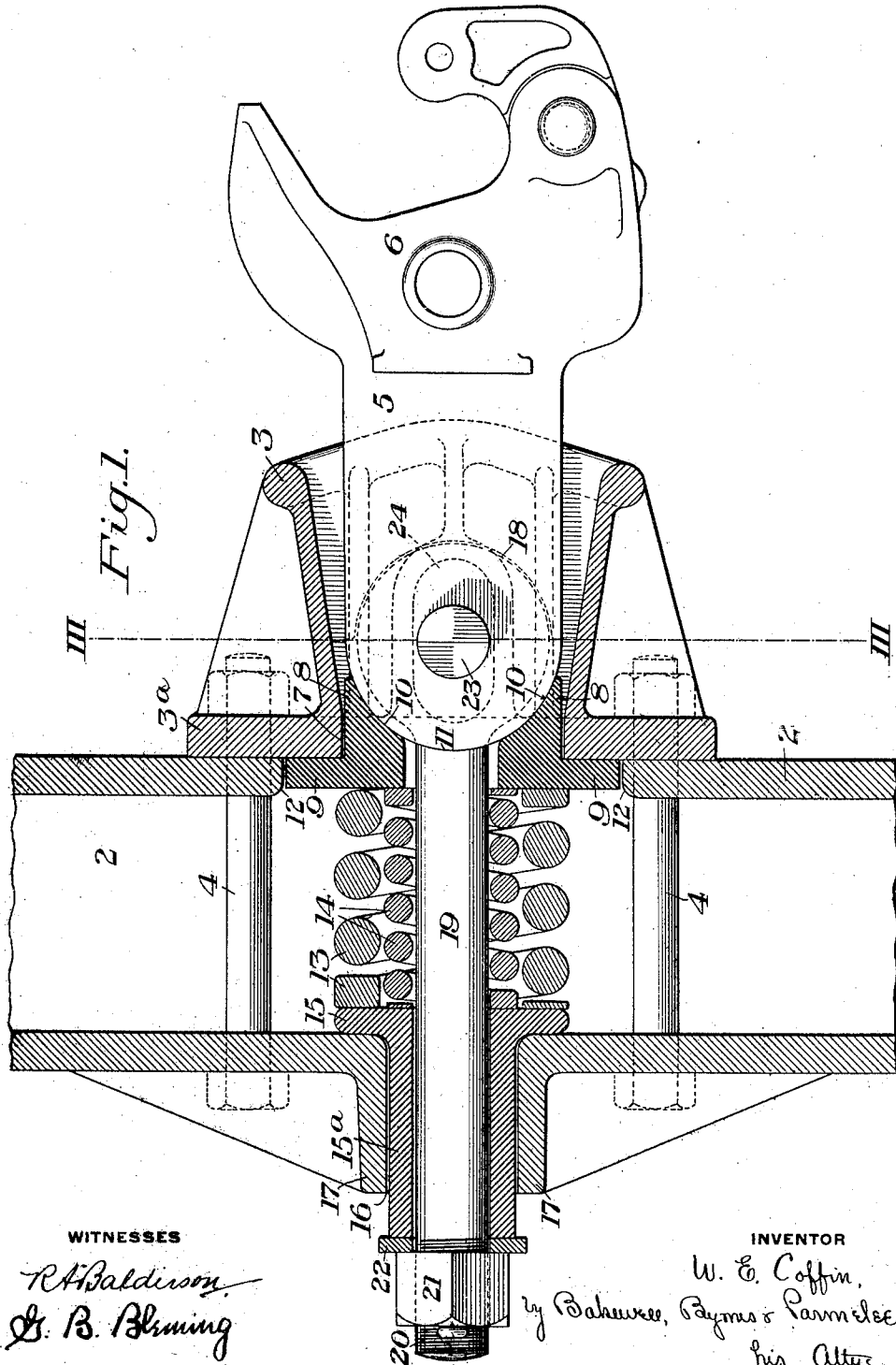


W. E. COFFIN.
ENGINE COUPLING.
APPLICATION FILED JAN. 4, 1911.

1,025,785.

Patented May 7, 1912.

3 SHEETS—SHEET 1.

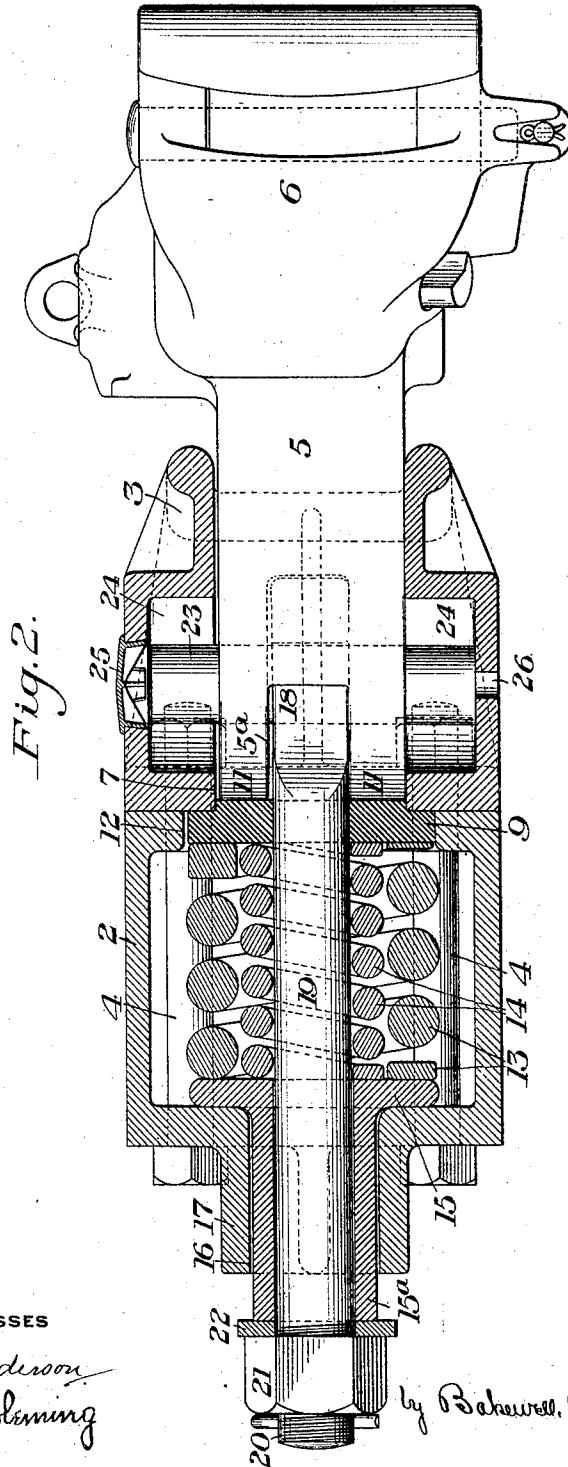


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WITNESSES

R. A. Balderson
G. B. Blumling

INVENTOR

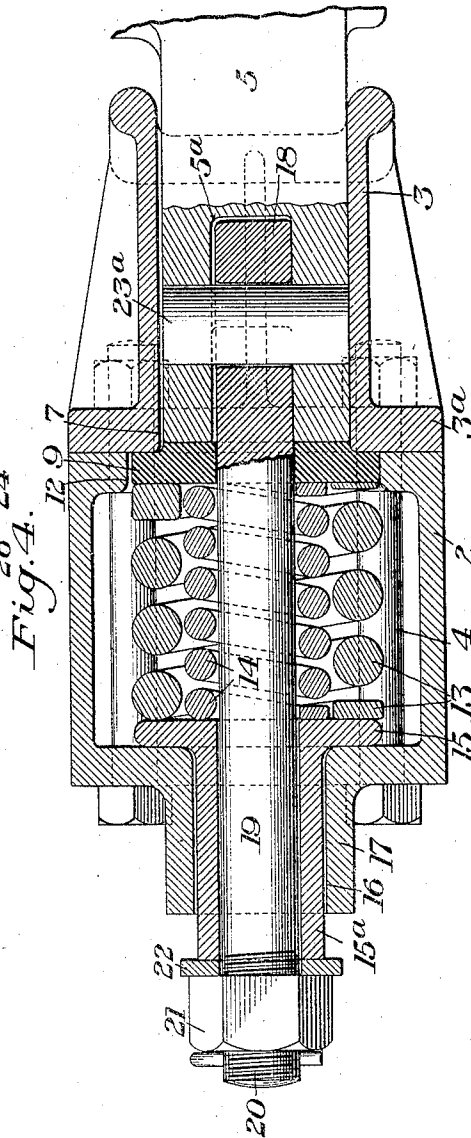
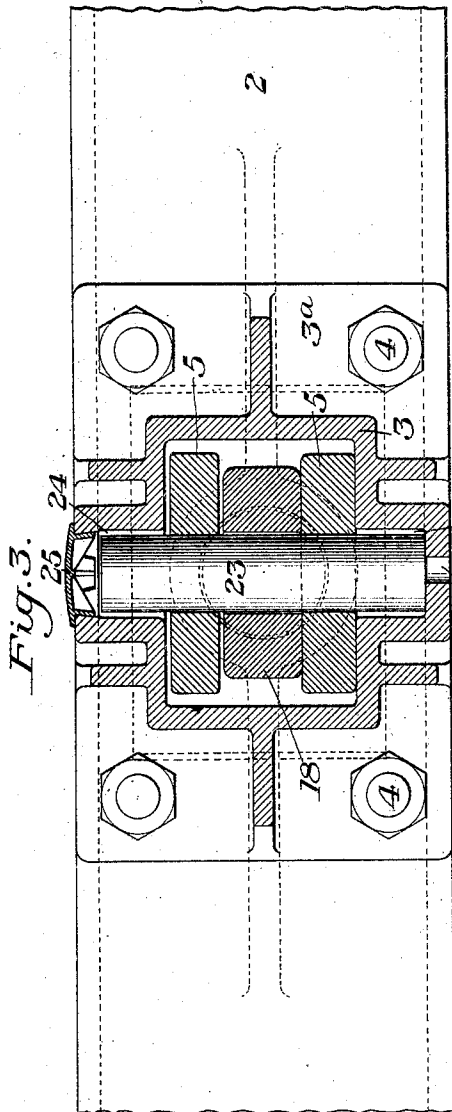
W. E. Coffin,
by Behrman, Byrnes & Parmelee
his Atty

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3 SHEETS—SHEET 3.



WITNESSES

R. A. Balderson
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INVENTOR

W. E. Coffin,
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his Attys.

UNITED STATES PATENT OFFICE

WALTER E. COFFIN, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

ENGINE-COUPLING.

1,025,785.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed January 4, 1911. Serial No. 600,828.

To all whom it may concern:

Be it known that I, WALTER E. COFFIN, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented
5 a new and useful Improvement in Engine-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a horizontal sectional view showing my improved coupler; Fig. 2 is a longitudinal vertical section of the same; Fig. 3 is a section on the line III—III of Fig. 1; and Fig. 4 is a longitudinal vertical
15 section partly broken away, and showing a modification.

My invention has relation to engine couplers, and more particularly to means for attaching the engine coupler to a pilot beam,
20 in such a manner as to permit of longitudinal yielding of the coupler both in buffing and in pulling.

The nature of my invention will be best understood by reference to the accompanying drawings, in which I have shown two
25 different embodiments thereof and which will now be described, it being premised, however, that various changes may be made in the details of construction and arrangement of the several parts by those skilled
30 in the art, without departing from the spirit and scope of my invention as defined in the appended claims.

In these drawings, the numeral 2 designates the pilot beam of an engine, and 3 a coupler pocket which is secured thereto by means of the usual bolts 4. The coupler pocket 3 is, in general, of the usual form, comprising a flat base plate portion 3^a, fitting the pilot beam and engaged by the
40 bolts 4, and the flaring pocket portion which receives the shank 5 of the coupler head 6. The pocket, however, differs from the pockets ordinarily used heretofore, in that
45 it is formed with an opening 7, at its inner end to receive the forwardly projecting portion 8 of a front follower 9. The portion 8 of this follower has a concave face 10, to receive the correspondingly convex end 11
50 of the coupler shank. The front of the pilot beam is cut away, as shown at 12, to form an opening which registers with the open rear end of the coupler pocket. The opening 12 is, however, made larger than
55 the opening in the coupler pocket, so that

the flange portions of the front follower may have a bearing against the overlapping walls of the base plate of the pocket, as clearly shown in Figs. 1 and 2. This opening in the front wall of the pilot beam is
60 also made sufficiently large to permit of the introduction of the draft and buffing springs 13 and 14. These springs are seated between the rear face of the front follower 9 and the front face of a rear follower 15. The latter
65 preferably has a hub or thimble portion 15^a, which extends outwardly through an opening 16 in the back wall of the pilot beam. To properly guide and support the hub or thimble portion of this follower, the
70 back portion of the pilot beam is formed with a rearwardly extending hub or boss 17, in which the thimble portion is seated.

The rear end of the coupler shank 5 is bifurcated, as shown at 5^a, to receive the eye
75 18 of a tail bolt 19, which extends rearwardly through the front follower 9, the springs 13 and 14, and the rear follower 15, its rear end projecting beyond the rear end of the thimble portion of the rear follower
80 and being threaded, as shown at 20, to receive a nut 21. This nut seats against a washer 22, which bears against the rear end of said thimble portion. The forward end of the tail bolt is connected to the coupler
85 shank by means of a vertical pivot pin 23. This pin in the construction shown in Figs. 1, 2 and 3 not only passes through the eye of the tail bolt and the walls of the coupler shank, but it also extends upwardly and
90 downwardly a short distance beyond the top and bottom of the shank and into recesses 24, formed within the upper and lower walls of the engine pocket. The lower recess 24 may be partially closed at its bottom, while
95 the top recess may be closed by a removable plate or cap 25. These apertures 24 are elongated longitudinally, as clearly shown in Fig. 2, so that the coupler and the pin which moves with the coupler may have a
100 predetermined forward and rearward movement under pulling and buffing strains respectively.

The advantage of using a pin having projecting upper and lower ends is not only
105 that it may assist in receiving buffing and pulling strains after the capacity of the spring has been reached, but also that it may prevent accidental pulling of the coupler entirely out of the pocket, in case the
110

tail bolt or other parts should give way. In Fig. 4, however, I have illustrated a modification in which this feature is omitted, the pin 23^a extending through the tail bolt and coupler shank only, and the recesses in the top and bottom walls of the coupler pocket being omitted. The construction is otherwise the same as that shown in the other figures and corresponding reference letters are applied to similar parts.

The device being assembled in the manner shown in the drawings, its operation will be clear. The stress put upon the coupler in buffing is transmitted from the rounded rear end of the coupler shank to the forward concave portion of the front follower, and thence to the springs 13 and 14. These springs are prevented from rearward movement by their bearing against the rear follower and this, in turn, is supported by its bearing against the rear wall of the pilot beam. In pulling, the stress put upon the coupler is transmitted by means of the pin 23 (or 23^a) to the tail bolt, which, by reason of its nut and washer, transmits the strain to the rear follower, which moves forward within a guide provided for it in the pilot beam, and thereby presses the springs against the forward follower. The flaring form of the pocket permits a limited lateral swing of the coupler head.

In the construction shown in Figs. 1, 2 and 3, the pin 23 may be driven into position after the holes in the coupler shank and in the eye of the tail bolt have been placed in register, by passing it downwardly through a hole in the upper recess 24 of the pocket. This hole is afterward closed by a cap 25, which not only acts as a closure, but also serves to prevent accidental upward creeping of the pin. The bottom recess may be provided with a small aperture 26, through which a small tool can be inserted to drive the pin upwardly after the cap has been removed.

The advantages of my invention will be apparent, since it provides an engine coupler having means of simple and efficient character for permitting the necessary yielding of the coupler both in buffing and in pulling.

I claim:

1. In an engine coupler, a pilot beam, a coupler pocket secured to the front side of the pilot beam, a coupler shank mounted in

said pocket, front and rear followers, a yielding resistance between the followers, and a member connected to the coupler shank and extending rearwardly through the followers and having a pulling engagement with the rear end of the rear follower, substantially as described. 60

2. In an engine coupler, a pilot beam having a recess therein, a bell-mouthed coupler pocket secured to the front side of the pilot beam, a coupler shank mounted in said pocket, front and rear followers seated in the recess of the pilot beam, the rear end of the pocket being open for the passage of the front follower, spring means between the two followers and located wholly within the recess of the pilot beam, the rear wall of the recess having a seat for the rear follower, and a coupler shank engaging the front follower and having means which engage the rear follower to transmit draft strains thereto; substantially as described. 65 70 75

3. In an engine coupler, a pilot beam, front and rear followers seated in the front and rear walls, respectively, of said beam, a yielding resistance interposed between the followers, a coupler pocket secured to the front wall of the pilot beam, the front follower having a portion extending forwardly into the said pocket through the open rear end thereof, a coupler shank entering said pocket, and bearing against the forwardly projecting portion of the front follower, and a tail bolt connected to the coupler shank and extending through the followers and engaging the rear follower, substantially as described. 80 85 90

4. In an engine coupler having a pilot beam, a coupler pocket secured thereto, said pocket having elongated recesses in its upper and lower walls, a coupler shank entering said pocket, a tail bolt extending rearwardly from the coupler shank, a pin pivotally connecting the coupler shank to the tail bolt, said pin having projecting upper and lower ends engaging said recesses, and spring means operatively connected with the tail bolt and coupler to receive both pulling and buffing strains, substantially as described. 95 100

In testimony whereof, I have hereunto set my hand. 105

WALTER E. COFFIN.

Witnesses:

HARRY E. ORR,
F. W. SWENSTON.