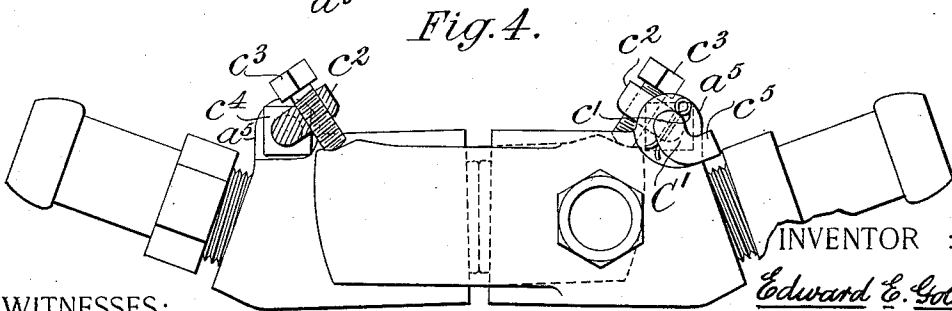
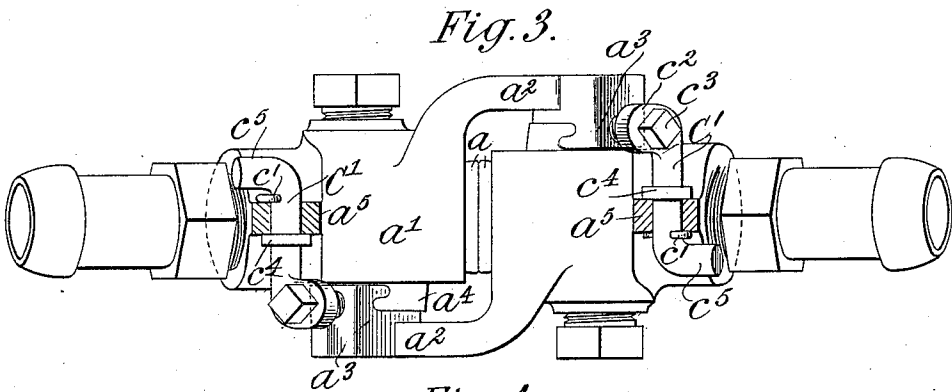
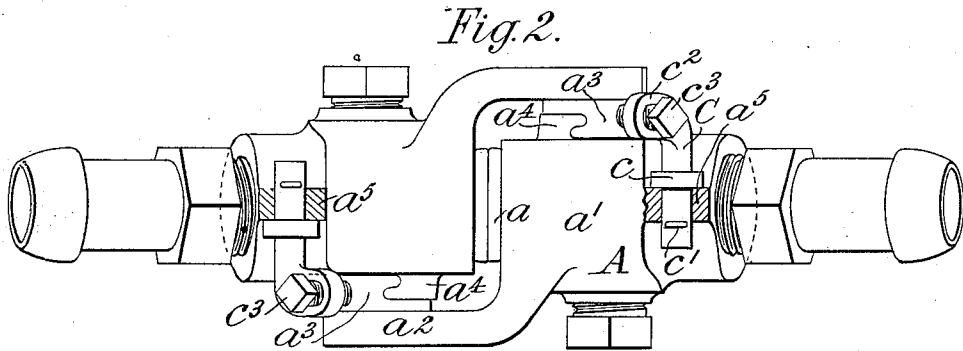
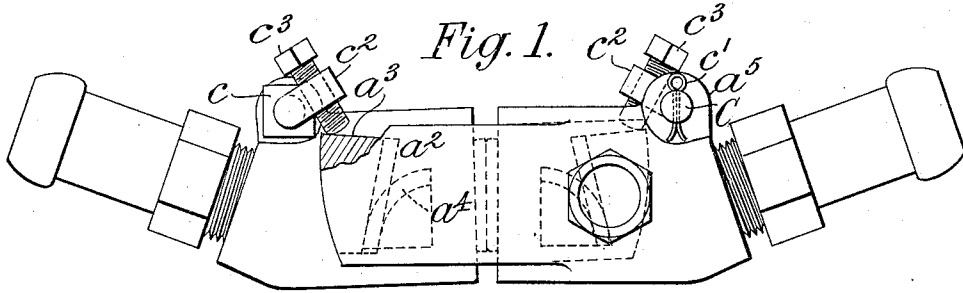


E. E. GOLD.
 LOCK FOR COUPLINGS.
 APPLICATION FILED JULY 20, 1911.

1,046,460.

Patented Dec. 10, 1912.

2 SHEETS-SHEET 1.



WITNESSES:
Rene Guine
Fred White

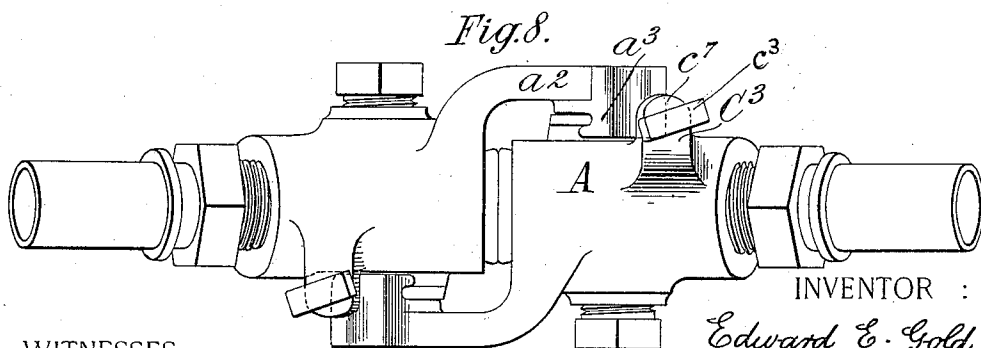
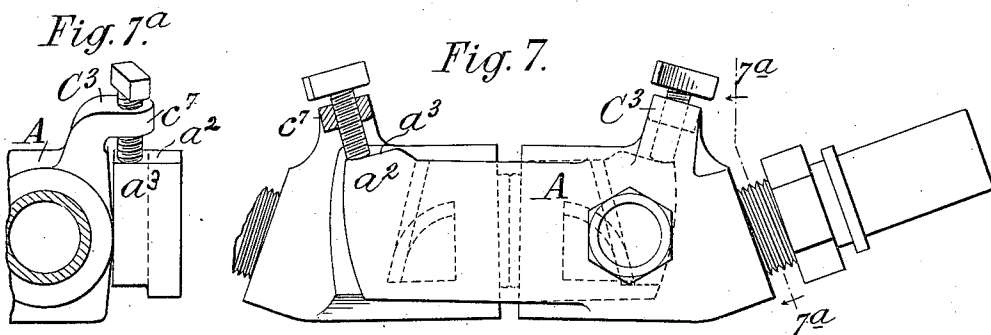
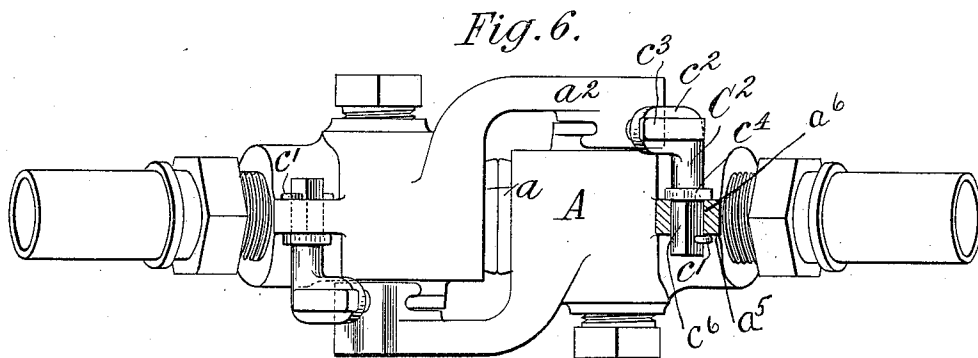
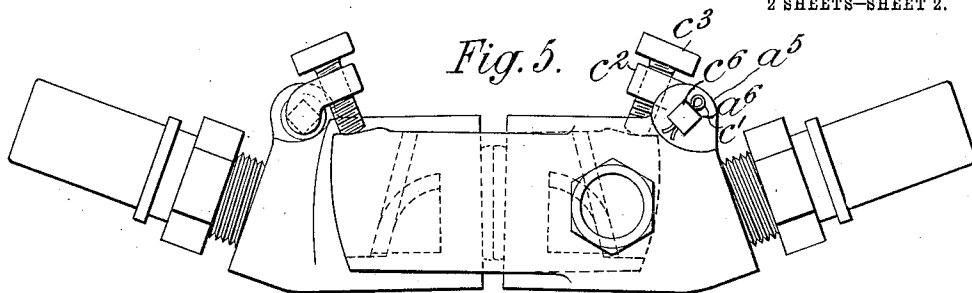
INVENTOR :
Edward E. Gold,
 By Attorneys,
Thaw, Turk & Myers

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2 SHEETS—SHEET 2.



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Fred White

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UNITED STATES PATENT OFFICE.

EDWARD E. GOLD, OF NEW YORK, N. Y., ASSIGNOR TO GOLD CAR HEATING & LIGHTING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LOCK FOR COUPLINGS.

1,046,460.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed July 20, 1911. Serial No. 639,612.

To all whom it may concern:

Be it known that I, EDWARD E. GOLD, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Locks for Couplers, of which the following is a specification.

My invention relates to locks for positively locking in coupling position the mating couplers used for coupling together air hose or steam hose upon railway trains.

Great difficulty is experienced in such case with couplers that are not held together by a positive lock, as in going around curves, etc. the coupled hose is pulled nearly straight, thereby partially unlocking the lock. Afterward it is very probable that the coupling will not resume its original position but will remain partly open, permitting the escape of steam, etc.

My invention has for its object to overcome this defect by providing a simple, cheap and efficient positive lock which will hold the couplers in coupling position at all times. Further to provide a lock that will not get broken or easily get out of order and which may be applied to couplers whether of identically the same construction or not, and further which may be applied to couplers now in use without requiring reconstruction thereof.

In carrying my invention into effect, I provide a member of the coupler with an arm which extends across the overlapping ends of both members of the coupler, and in connection with said arm I employ a means, preferably a set screw, whereby upon the same being turned the two parts of the coupler are forced together and are positively locked in such coupling position.

My improved lock is not necessarily applied to couplers of any peculiar or distinctive conformation. It may be well employed in connection with the coupling of my Patent No. 913,950, dated March 2, 1909, in connection with which I have illustrated it in the accompanying drawings.

The present invention is a continuation of my former application Ser. No. 605,912 filed February 1, 1911, as to Figures 1 and 2 hereof and relates to that type of coupler of the general character above referred to, wherein an arm upon one coupler member extends adjacent to the overlapping por-

tion of the mating coupler member and carries a set-screw adapted to engage said overlapping portion and force the coupling members together.

The accompanying drawings illustrate desirable forms in which my invention may be constructed.

Here,—Fig. 1 is a side elevation of a pair of mating couplers constructed according to my invention; Fig. 2 is a plan view of said mating couplers assembled; Fig. 3 is a plan view similar to Fig. 2, illustrating a modified form of arm; Fig. 4 is a side elevation similar to Fig. 1, illustrating the modification of Fig. 3; Figs. 5 and 6 are views in elevation and plan respectively, illustrating another modified form of arm; Figs. 7 and 8 are views similar to Figs. 5 and 6 respectively, illustrating still another modified form of arm; Fig. 7^a is a cross section on the line 7^a—7^a Fig. 7 of the modified form of Figs. 7 and 8.

In the particular type of coupler in connection with which my invention is illustrated two heads are employed, each of the same construction. Each head as a whole I designate by the letter A. The said couplers are provided with direct ports *a* formed on the inner ends of body portions *a'*, and at one side of the said body portion each coupler is provided with an extension *a*² which overlaps the body portion *a'* of the mating coupler. Upon the said extension is carried a flange *a*³ which engages a projection *a*⁴ upon the body portion of the mating coupler, and these have their mating faces inclined relatively to each other, so that as the flange *a*³ is forced down upon the projection *a*⁴ the ports *a* will be brought to coupling position. Each of the couplers is provided with a perforated lug *a*⁵ within which the locking bolt is carried. In positively locking the said coupler members together, I provide an arm C which is illustrated as mounted in a perforated lug *a*⁵ upon the body portion of one part of a coupler, and the end of which extends adjacent to and over the overlapping portion of the mating coupler. I further provide the said arm with means whereby it may be employed to force the locking flanges of the couplers together by forcing one coupler down upon the other. Such means may well take the form of a set-screw *c*³ mounted in one end of said arm, and this function is

well accomplished by providing a projection c^2 which, as illustrated is in the form of an offset portion at the end of said arm which is threaded to receive the said set-screw.

The arm C is held in place by a cotter pin c^1 which passes through the same and is held from turning by a plate c which is mounted thereon and held from turning relatively thereto by a squared perforation therein which engages a squared part of the said arm, or other equivalent means may be employed to fix the plate upon the arm. The square edge of the plate c rests against a flat portion of the body of the coupler A.

It will be observed that the offset portion c^2 of the said arm is inclined relatively to the horizontal, as indicated in Fig. 1, and this enables the set-screw to extend forward to meet the overlapping extension a^2 and provide sufficient room for the extension to be swung into and out of place when the set-screw is withdrawn. The said extension when the flange is brought into engagement with the projection, moves substantially in the arc of a circle, and the arm carrying the set-screw is situated just outside of said arc. It will also be observed that by reason of the flange lying within the end and below the top of the extension to which it is attached, I have illustrated said arm as being constructed so that it will be long enough to extend over the said flange but not to extend over the extension on which the flange is mounted.

In Figs. 3 and 4 I have illustrated a modified form of my invention. Here the arm which I shall designate C^1 , is mounted as before in the perforated lug a^5 and has the perforated offset end c^2 carrying the set-screw c^3 , and is held in place against longitudinal movement by the cotter pin c^1 , and if desired by a washer c^4 having a square perforation received on a square part thereof which also holds the arm from axial movement by having its lower end rest upon the body of the coupler. In this form the end of the arm is offset or bent at c^5 , and this bent end is so inclined as to rest upon the coupler A. When the coupler is assembled this bent end c^5 will resist the tendency of the arm C^1 to turn, and will enable the set-screw to forcefully engage the flange a^3 upon the extension a^2 and press it into engagement with the projection a^4 , thereby forcing the parts a together. The coupler will then be held positively locked in this coupled position by the arm and set-screw.

Figs. 5 and 6 illustrate another modified form wherein the arm which I shall here designate C^2 , has the same means to hold it against longitudinal movement as in Figs. 3 and 4, comprising cotter pin c^1 and stop c^4 , and also has the offset end c^2 with set-screw c^3 threaded therein. In this form however

the arm is held from turning axially by the lug. Any one of many suitable means may be employed for this purpose; for instance as shown a squared part c^6 of the arm enters the squared perforation a^6 in lug a^5 .

The operation of the parts is the same as in the previous figures, and tends to impose a torsional strain upon the arm when the coupler is locked in coupled position.

Figs. 7 and 8 illustrate a modified form wherein the arm which I shall here designate C^3 is held from turning by being formed integral with coupler A, as by being cast in one piece therewith and preferably upon the top. The end c^7 of said arm extends laterally in the direction of the overlapping extension a^2 of the mating coupler and overlies the flange a^3 . Said end is inclined relatively to the horizontal as indicated in Fig. 7, and has a set-screw c^3 threaded therein and substantially perpendicular to said end, so that as it is screwed down upon the flange a^3 it will be inclined with reference to a vertical line. Thereby when the coupler is uncoupled, the extension a^2 and flange a^3 will clear the arm C^3 .

The means interposed between the end of the arm and the flange illustrated as a set screw is adjustable and thereby may force the overlapping arm farther down upon the body as the gaskets and other parts wear, and has the advantage of compensating for such wear and preserving a tight fit of the parts.

Although I have minutely described the construction of my improved coupler lock and of several modifications thereof, it is not thereby to be inferred that I conceive my invention to be limited to such particular forms illustrated and described, as the same may be changed and equivalent devices employed within the limits of the appended claims.

What I claim is:—

1. A lock for couplers comprising mating members each comprising a body portion having a direct port and a side projection and an extension adapted to overlap the body of the mating coupler and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted in a perforated lug upon one of said coupler members and having its end situated adjacent the overlapping portion of the mating coupler, and means to hold said arm from turning, a set screw carried by said arm and adapted to engage the overlapping extension of the mating coupler and to force the two couplers together and positively lock them in coupled position.

2. A lock for couplers comprising mating members each comprising a body portion

having a direct port and a side projection and an extension adapted to overlap the body of the mating coupler and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted in a perforated lug upon one of said coupler members and having its end situated adjacent the overlapping portion of the mating coupler, and means to hold said arm from turning, means interposed between said arm and the said overlapping portion of the mating coupler adapted to force them apart, and to force the two couplers together and positively lock them in coupled position.

3. A lock for couplers comprising mating members each comprising a body portion having a direct port and a side projection and an extension adapted to overlap the body of the mating coupler and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted in a perforated lug upon one of said coupler members and having its end situated adjacent the overlapping portion of the mating coupler, a perforated plate mounted on said arm and having an engagement therewith and with said first-mentioned coupler member to prevent said bar from turning, means interposed between said arm and the said overlapping portion of the mating coupler adapted to force them apart and to force the two couplers together and positively lock them in coupled position.

4. A lock for couplers comprising mating members each comprising a body portion having a direct port and a side projection and an extension adapted to overlap the body of the mating coupler and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted in a perforated lug upon one of said coupler members and having its end situated adjacent the overlapping portion of the mating coupler and having a portion near its end projecting toward the said overlapping portion of the mating coupler, means to hold said arm from turning and a set screw mounted in said projecting portion of said arm and adapted to engage the overlapping end of the mating coupler and to force the two couplers together and positively lock them in coupled position.

5. A lock for couplers comprising mating members each comprising a body portion

having a direct port and a side projection and an extension adapted to overlap the body of the mating coupler and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm rigidly mounted in a perforated lug upon one of said coupler members and having its end situated adjacent the overlapping portion of the mating coupler, a set screw carried by said arm and adapted to engage the overlapping end of the mating coupler and to force the two couplers together and positively lock them in coupled position.

6. A lock for couplers comprising mating members each comprising a body portion having a direct port and a side projection, and an extension adapted to overlap the body portion of the mating coupler, and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted upon the body of one coupler and held from turning thereon, and having its end extending above the flange on the overlapping extension of the mating coupler, and means adapted to force said flange and arm apart.

7. A lock for couplers comprising mating members each comprising a body portion having a direct port and a side projection, and an extension adapted to overlap the body portion of the mating coupler, and a flange on said extension adapted to cooperate with the projection on the body of the mating coupler, means for forcing said couplers to coupled position and positively holding them in such position, comprising an arm mounted upon the body of one coupler and held from turning thereon, and having its end extending above the flange on the overlapping extension of the mating coupler, and a set-screw carried by said arm and adapted to engage said flange.

8. A lock for direct port couplers having body portions and extensions each adapted to overlap the body portion of the mating coupler and cooperating side projections and flanges on said body portions and extensions respectively, comprising an arm rigidly mounted upon the top of the body portion and extending transversely thereof and having a portion extending over the flange of the mating coupler, and means for positively locking the said couplers in coupled position comprising a set screw adjustably mounted in said extension of said arm and adapted to engage the flange upon the mating coupler and to force the same down on the projection on the coupler body and to exert axial pressure upon said ports.

9. A lock for direct port couplers having body portions and extensions each adapted to overlap the body portion of the mating coupler and cooperating side projections and
5 flanges on said body portions and extensions respectively, comprising an arm rigidly mounted upon the top of the body portion and having a portion extending over the flange of the mating coupler, and means for
10 positively locking the said couplers in coupled position comprising a set screw adjustably mounted in said arm and adapted to engage the flange upon the mating coupler and to force the same down on the projec-
15 tion on the coupler body and to exert axial pressure upon said ports.

10. A lock for direct port couplers having body portions and extensions each adapted to overlap the body portion of the mating

coupler and cooperating side projections and 20 flanges on said body portions and extensions respectively, comprising an arm rigidly mounted upon the top of the body portion and extending transversely thereof and hav-
25 ing a portion extending over the flange of the mating coupler, and means for positively locking the said couplers in coupled position comprising an adjustable device inter-
posed between said arm and flange and adapted to force the same apart and to com- 30 pensate for wear on the parts.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD E. GOLD.

Witnesses:

EUGENE V. MYERS,

THOMAS F. WALLACE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
