L. ABADIE.

INDICATOR COUPLING.

APPLICATION FILED SEPT. 30, 1912.

1,085,836.

Patented Feb. 3, 1914.

2 SHEETS—SHEET 1.

FIG. 1

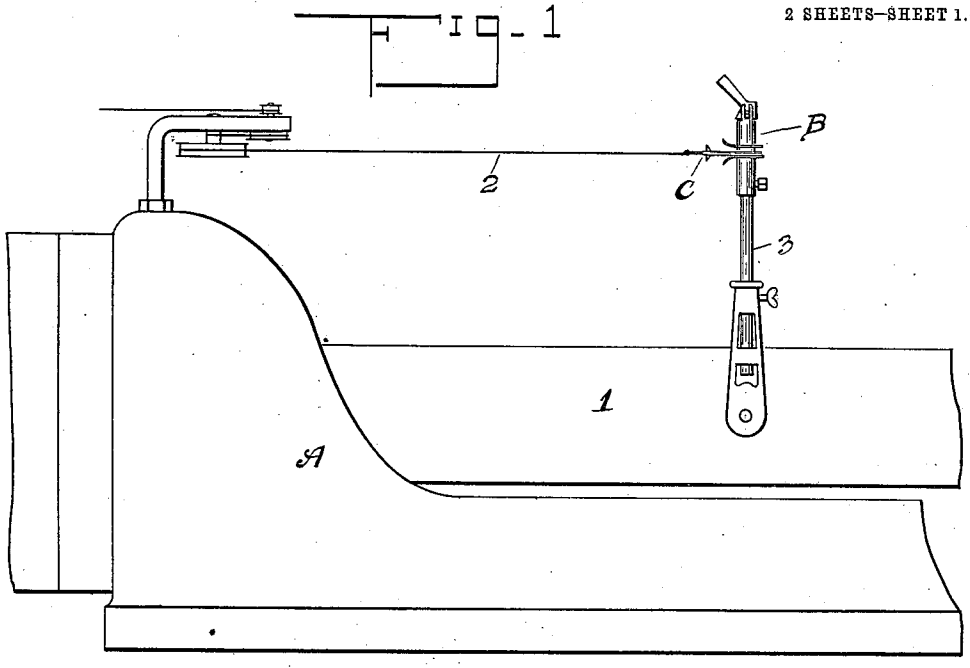


FIG. 2

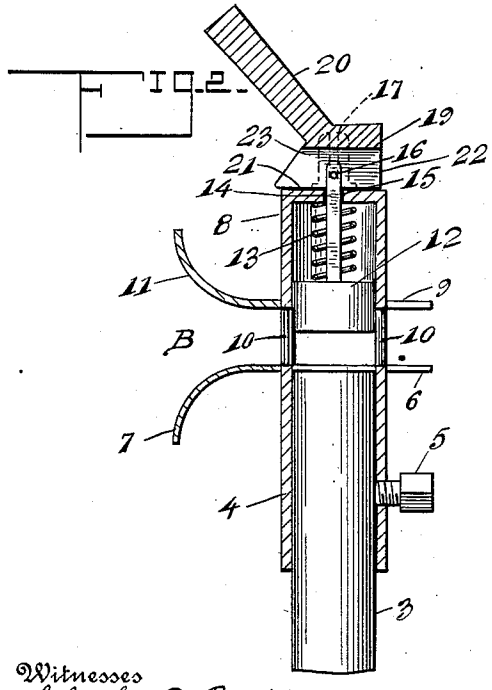
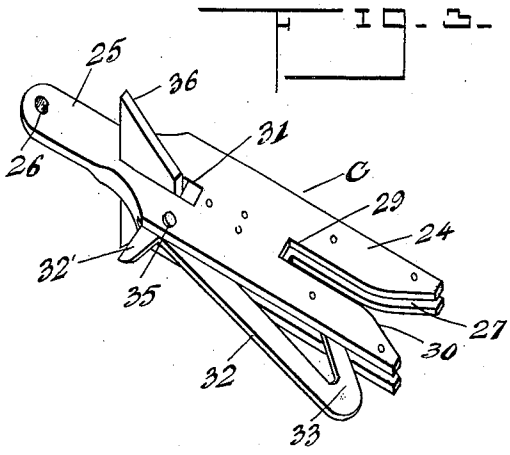


FIG. 3



Witnesses

Charles R. Beall.

R. B. Cavanagh.

Inventor

L. Abadie

By

Attorneys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

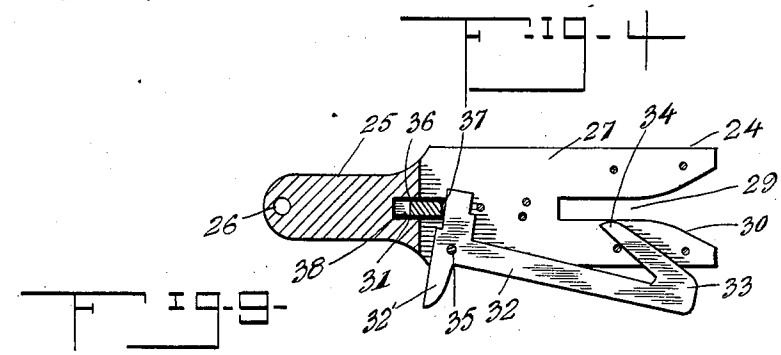


FIG. 9.

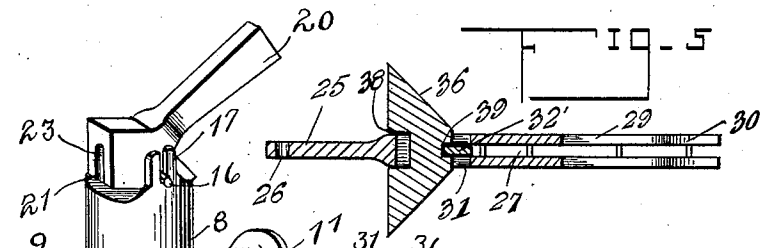


FIG. 5.

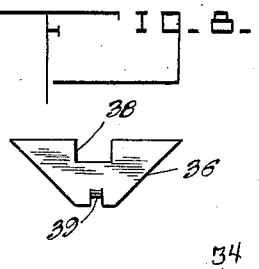


FIG. 8.

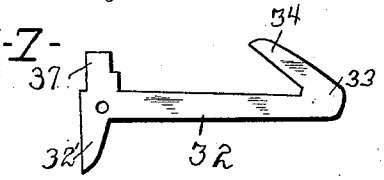


FIG. 7.

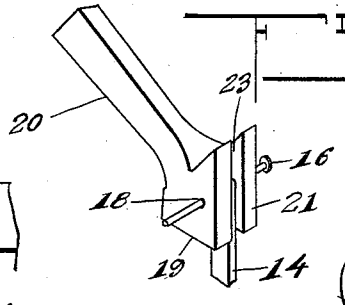


FIG. 6.

Witnesses

C. R. Beall

F. B. Cavanagh.

Inventor

L. Abadie.

By

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LOUIS ABADIE, OF ABBEVILLE, LOUISIANA.

INDICATOR-COUPLING.

1,085,836. Specification of Letters Patent. Patented Feb. 3, 1914.

Application filed September 30, 1912. Serial No. 723,186.

To all whom it may concern:

Be it known that I, LOUIS ABADIE, a citizen of the United States, residing at Abbeville, in the parish of Vermilion, State of Louisiana, have invented certain new and useful Improvements in Indicator-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 to make and use the same.

This invention relates to certain novel and useful improvements in a coupling device designed to connect the cord or line of an engine indicator to a moving part of the engine, such for instance as the cross head.

In the present instance it is my purpose to provide a simple and reliable coupling by means of which the cord of the indicator may be readily connected to and disconnected from the cross head without the necessity of stopping the engine.

Still a further object of my invention is the provision of a coupling which will embody the desired features of efficiency and durability, and which may be employed in connection with engines of any well known type utilizing either steam or gas for motive purposes.

With the above recited objects and others of a similar nature in view, my invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the drawings: Figure 1 is a view in side elevation showing my invention applied to an engine which is conventionally illustrated. Fig. 2 is a vertical sectional view of a portion of the coupling connected with the cross head of the engine. Fig. 3 is a perspective view of the hook member of the coupling. Fig. 4 is a horizontal sectional view taken through the hook member. Fig. 5 is a vertical longitudinal sectional view through the hook member. Fig. 6 is a detail perspective view of the plunger operating lever and its connections. Fig. 7 is a detail plan view of the hook. Fig. 8 is a detail plan view of the hook trigger. Fig. 9 is a perspective view of the coupling in position on the engine.

Referring now to the accompanying drawings in detail, the letter A designates conventionally an engine to which the coupling is to be applied, and 1 indicates the cross head of the engine, while 2 is the cord of the indicator. Mounted in any suitable manner upon the cross head of the engine and traveling therewith is the rod 3 designed to carry the member B of the coupling. This member B is provided with a sleeve or socket 4 which is slipped over the end of the rod and fastened by the set screw 5. At the top of the sleeve is a horizontally disposed plate 6 terminating in a downwardly curved lip 7.

The numeral 8 designates a cylindrical plunger casing opening at the bottom, and carried by the lower end of this casing is a plate 9 extending parallel with but held spaced apart from the plate 6 by the spaced vertical studs 10. The plate 9 is provided with an upwardly turned lip 11 which it will be noted is turned in the opposite direction from the lip 7. Within the casing is arranged a movable plunger 12 which is tensioned through the medium of the coil spring 13. This plunger is preferably made of paper fiber as I have found by experience that it is an ideal material for this purpose, inasmuch as it is light, durable and strong. The stem 14 of the plunger projects through the bore 15 in the top of the casing and is loosely connected to the cross pin 16 which rides up and down in the slotted guideways 17 disposed opposite each other at the top of the casing. This cross pin passes through the transverse bores 18 disposed eccentrically in the bifurcated head 19 of the plunger operating lever 20. This bifurcated head is of approximately of triangular or arrow-head form and is provided with a long bearing face 21 and a shorter bearing face 22. The slot 23 which forms the bifurcation in the head permits the stem of the plunger to play, as will be readily understood, so that when the lever is shifted from side to side to bring the long bearing face or the short bearing face in contact with the top of the plunger casing, the plunger will move vertically, the cross pin working in the slotted guides. When the lever is shifted to bring the long face of the bifurcated head against the end of the casing, the plunger is lowered into binding position on the hook member of the coupling as described hereafter, while when the lever is shifted to the opposite side to bring the short bearing face

against the top of the casing, the plunger will be drawn up into the casing and the cross pin will be at the top of the slot. This plunger lever is also preferably formed of paper fiber.

The letter C indicates as an entirety the second or hook member of the coupling. This member C comprises an approximately rectangular plate 24 which is also formed of paper fiber and terminates in an ear 25 perforated as at 26 for the attachment of the indicator cord 2. The rectangular plate portion is slotted as at 27, such slot extending horizontally throughout the length of the rectangular portion and dividing the plate into upper and lower parts, one of which is a companion of the other. The plate is further vertically slotted as at 29, said vertical slot being widened by beveling the adjacent portions of the plate as shown at 30, thus forming a mouth for guiding the vertical stud pins carried by the section B of the coupling into the vertical slot. Adjacent the end where the rectangular section of the plate merges into the ear, I provide a short vertical slot 31. Pivoted between the two members of the bifurcated plate and playing in the main horizontal slot is the hook member 32, one end of the shank of which terminates in the acutely inclined hook 33, the end of which is beveled as at 34, said hook portion when in operative position extending across the horizontal slot adjacent the widened mouth and coupling the section C to the vertical studs of the section B. The opposite end of the shank of the hook member is provided with a transverse arm forming a T in conjunction with the shank and the hook member is connected with the plate by means of the pivot 35 passing through the T portion, the inner section of the cross arm extending across the short vertical slot at the lower portion of the latter, while the outer part of the cross arm projects at one side of the plate.

The numeral 36 indicates a trigger plate which is in the form of a trapezoid and is also constructed of paper fiber, this trigger extending transversely through the short slot 31, and playing loosely therein. The long parallel side of the plate has a relatively wide notch cut therein for seating the adjacent end wall of the short slot, while the short parallel side of the trigger is notched to receive the shouldered portion 37 of the cross arm 32′, so that the trigger plate is loosely locked in the slot. The larger notch of the trigger plate is indicated at 38, while the smaller notch receiving the cross arm is shown at 39. This trigger plate is so constructed and arranged relative to the cross arm of the hook that when it is shifted slightly inward of the slot and against the adjacent shouldered portion 37 of the cross arm, the hook will be thrown or moved outward thus permitting the disconnection of the two members B and C of the coupling.

From the above description taken in connection with the accompanying drawings, the construction and operation of my improved coupling will be readily apparent. When it is desired to attach the same, the plunger lever is shifted so that the plunger is raised against the tension of the spring. The hook member C is then grasped in the hand with a finger bearing on the trigger of the hook and is inserted between the lips of the member B so that the long wide mouth slot is in line with the vertical stud pins. As soon as the contact of the first pin is felt against the end of the hook, the member C is pushed sharply forward so that the hook engages the vertical stud pins. The lever of the plunger is then shifted to depress the plunger which bears against the plate carrying the hook so that the two parts of the coupling are firmly united, forming to all intents and purposes a rigid connection, and thereby avoiding any sagging of the indicator cord which would occur were the hook member merely loosely connected to the member on the cross head. To release the hook the lever is shifted to raise the plunger and the trigger plate is thrust forward in the slot by the fingers so that the hook is moved outward by the trigger plate contacting with the cross arm, the two members are then disconnected by withdrawing the hook member C.

While I have herein shown and described one particular embodiment of my invention, I wish it to be understood that I do not confine myself to all the precise details of construction herein set forth by way of illustration, as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the appended claims.

What is claimed is:

1. The combination with a coupling member adapted to be connected with the moving part of an engine and provided with a hook receiving portion, of a second coupling member adapted to be connected with an indicator and provided with a movable hook adapted to engage the hook receiving portion of the first member, a movable locking element carried by the first member, and a hook releasing element carried by the second member.

2. The combination with a coupling member adapted to be connected with the moving part of an engine and provided with a hook receiving portion, of a second coupling member adapted to be connected with an indicator and provided with a movable hook adapted to engage the hook receiving portion of the first member, a movable locking plunger carried by the first member and

adapted when in locking position to bear against the second member, and a hook releasing trigger carried by the second member.

3. The combination with a coupling member adapted to be connected with the moving part of an engine and provided with a hook receiving portion, of a second coupling member comprising a plate and a hook carried by said plate and designed to engage with the hook receiving portion of the first member, a spring tensioned locking plunger carried by the first member, an operating lever for the plunger, and a hook releasing element carried by the second member.

4. The combination with a coupling member adapted to be connected with the moving part of an engine, of a second coupling member designed to be connected to an indicator cord and comprising a plate provided with a horizontal slot, and a vertical slot at one end, a hook pivoted to the plate within the horizontal slot and adapted to project when in locking position across the vertical slot, said plate having a second vertical slot, and a trigger for the hook movably arranged in the second vertical slot.

5. The combination with a coupling member comprising a sleeve designed to be connected with the moving part of an engine, vertical studs connected at one end with the sleeve, a plunger casing connected with the opposite ends of the studs, guide plates at the upper end of the sleeve and the lower end of the casing respectively, a plunger movable in the casing and an operating lever for the plunger, of a second coupling member adapted to be attached to an indicator cord and comprising a horizontally slotted plate having an elongated vertical slot terminating at one end of the plate in a widened mouth portion, a hook member including a shank, a hook at one end of the shank adapted to lie in locking position across the vertical slot, a cross arm at the opposite end of the shank having one end portion thereof extending inward across a second vertical slot in the plate the opposite end of the cross arm projecting beyond the plate, a pivot movably supporting the hook member in the horizontal slot of the plate, and a movable trigger plate located in the last mentioned vertical slot of the plate and adapted to bear against the cross arm of the hook member to move the latter out of locking position.

In testimony whereof, I affix my signature, in the presence of two witnesses.

LOUIS ABADIE.

Witnesses:

CLAUDE BROUSSARD,

THEO. BAUDOIN.

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