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COUPLING PIN

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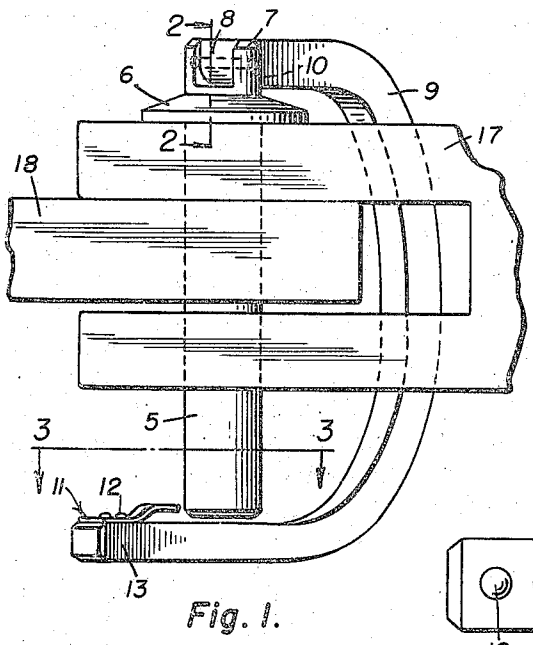


Fig. 1.

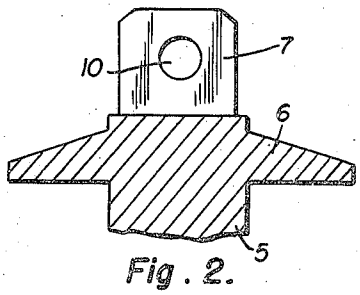


Fig. 2.

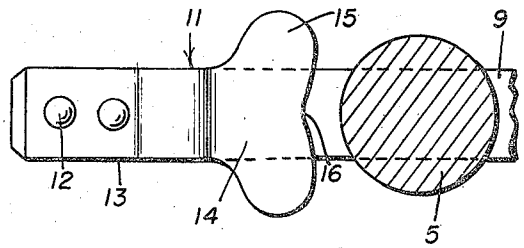


Fig. 3.

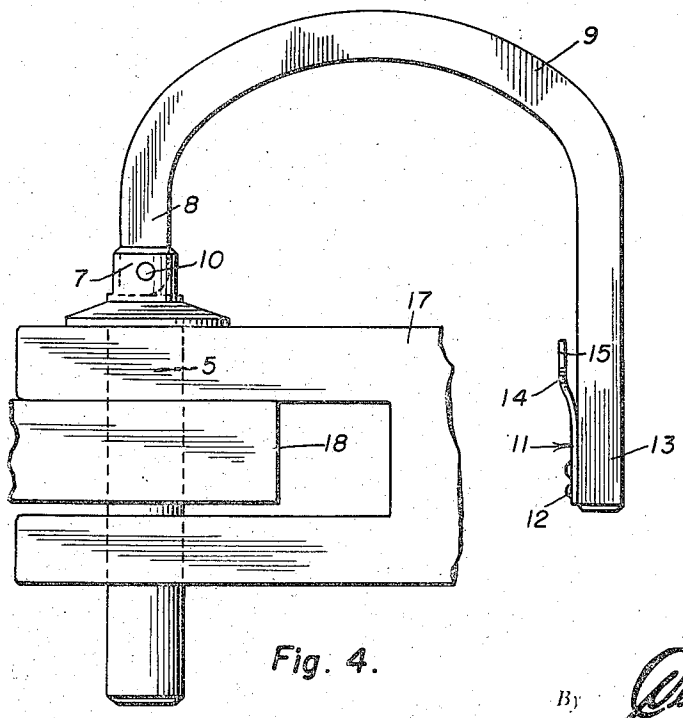


Fig. 4.

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COUPLING PIN

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2 Claims. (Cl. 280—33.15)

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This invention relates to new and useful improvements in coupling pins and more particularly to a gravity locking coupling pin.

The primary feature of the present invention is to provide a coupling pin that is pivotally connected at one end to a latch frame so that when the latch frame is swung outwardly the pin may be conveniently inserted in position and said pin being in position the latch frame is swung downwardly so that the lower free end of the pin will ride over and behind a spring clip carried by the latch for locking the latch frame and pin in position.

Another important feature of the present invention is to provide a coupling pin that is strong and durable, easily applied in position and removed from its secured position in a minimum of time with very little effort.

A further feature of the present invention is to provide a coupling pin of the character referred to that is simple and practical in construction, efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the improved coupling pin locked in position to its latch frame;

Figure 2 is an enlarged fragmentary sectional view of the upper end of the pin;

Figure 3 is an enlarged sectional view taken on the line 3—3 of Figure 1, and

Figure 4 is a side elevational view showing the locking pin in position and with the latch frame swung outwardly to release the pin.

Referring now to the drawing in detail, wherein for the purpose of illustration we have disclosed a preferred embodiment of the present invention, the numeral 5 represents an elongated cylindrical coupling pin having an integral flange 6 near its upper end.

The head end 7 of said pin is bifurcated to receive one end 8 of a substantially U-shaped latch frame 9 and a pin or the like 10 pivotally connects the head 7 of the pin to the upper end 8 of the latch frame.

A resilient spring catch designated generally by the numeral 11 has one end secured by rivets or the like 12 to the lower end 13 of frame 9

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and the free end 14 of said catch extends slightly upwardly from end 13 and slightly above the lower end of pin 5 which is spaced upwardly from and overlies end 13 as shown in Figure 1 of the drawing.

Extending outwardly from each side of end 14 of the spring catch 11 are a pair of integral tongues 15 which extend past the sides of the pin, and said free end 14 is curved inwardly as at 16 to seat against the pin and provide means for preventing the lower end of the frame from swinging outwardly without first applying a downward pressure on said free end of the spring.

In operation of the device the pin 5 is held vertically and inserted downwardly into position between the yoke 17 of a trailer or the like and a conventional draft or coupling bar 18, said latch frame being swung upwardly to one side as shown in Figure 4.

To lock the pin in position thereto it is only necessary to release the lower end 13 of the latch frame to gravitate downwardly so that the lower end of the frame rides inwardly until the catch 11 passes under the pin. The catch then engages the pin to prevent upward swinging movement of the latch frame and the pin is thus locked against removal.

To remove the pin 5 the free end of the spring 11 is pressed downwardly and at the same time the lower end of the latch frame is swung outwardly from the pin so that the frame can be pulled upwardly causing the pin to be withdrawn from its position in the yoke 17 and the coupling bar 18.

The flange 6 is adapted to bear on the yoke and to prevent swinging motion of the pin which remains in a vertical position.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

What we claim is:

1. A coupling pin of the class described comprising a cylindrical shank having a bifurcated head end, a substantially U-shaped latch frame having one end interposed between the furcations of said head end and pivoted thereto for swing-

ing movement of the frame toward and from the shank, the lower free end of said frame extending under the lower end of the shank and spaced therefrom, and a resilient spring locking catch secured at one end to the free end of the frame and its other end spaced upwardly from the said end of the frame, said spring catch being pressed downwardly by the lower end of the shank as the frame is swung toward the shank for locking said shank to the frame behind the spring.

2. A coupling pin of the class described comprising a cylindrical shank having a bifurcated head end, a substantially U-shaped latch frame having one end interposed between the furcations of said head end and pivoted thereto for swinging movement of the frame toward and from the shank, the lower free end of said frame extending under the lower end of the shank and spaced therefrom, and a resilient spring locking catch secured at one end to the free end of the frame,

the other end of said catch being spaced from said frame and of slightly larger width than the diameter of the shank, said catch adapted to be pressed down by the lower end of the shank as the frame is swung toward the shank to lock the lower end of said shank behind the catch.

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The following references are of record in the file of this patent:

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