April 9, 1940. E. A. PY 2,196,780

DRAW PIN

Filed July 15, 1939 2 Sheets-Sheet 1

Fig. 1.

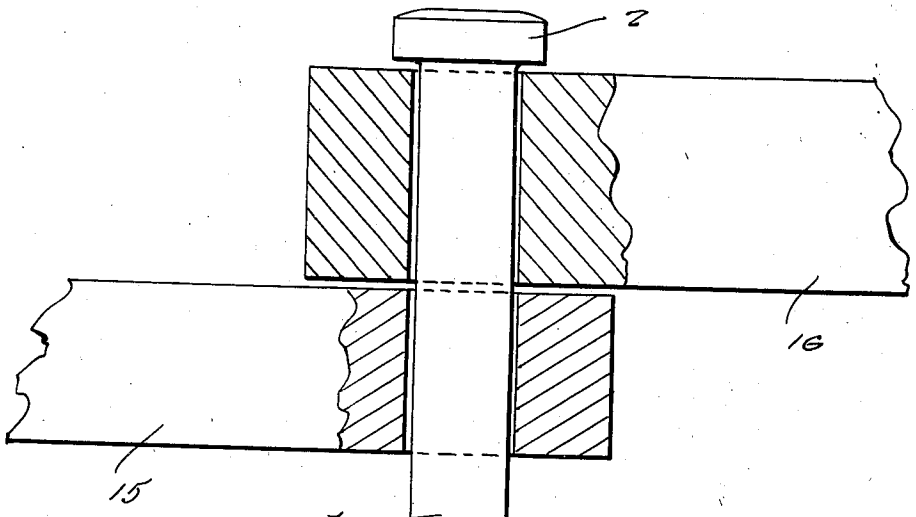


Fig. 2.

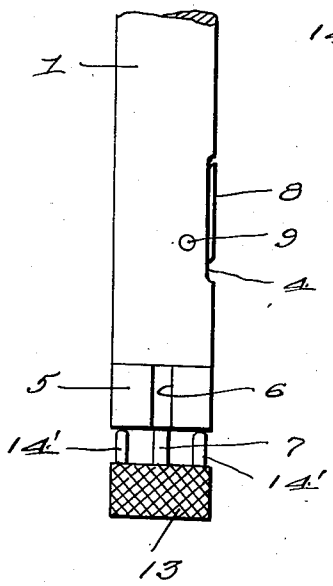
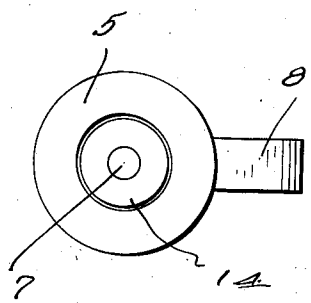


Fig. 3.



Inventor

Emil A. Py

By Clarence O'Brien and Hyman Berman

Attorneys

April 9, 1940. E. A. PY 2,196,780

DRAW PIN

Filed July 15, 1939 2 Sheets-Sheet 2

Fig. 4.

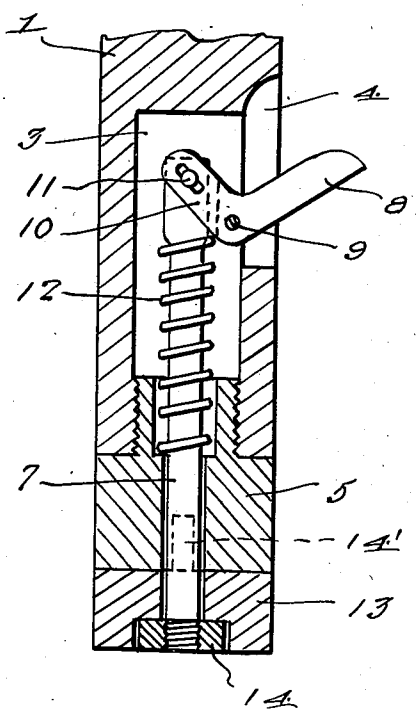


Fig. 5.

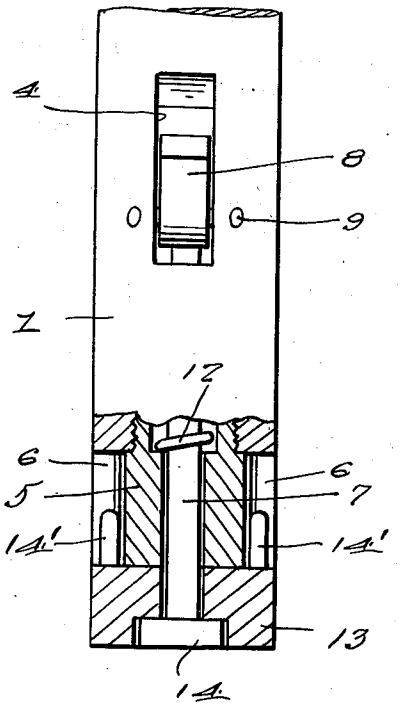


Fig. 6.

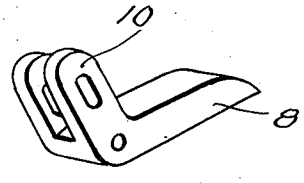
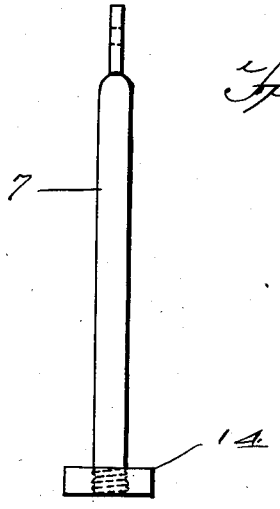


Fig. 7.



Inventor

Emil A. Py

By Clarence A. O'Brien and Hyman Berman

Attorneys

Patented Apr. 9, 1940

2,196,780

UNITED STATES PATENT OFFICE

2,196,780

DRAW PIN

Emil Alger Py, San Joaquin, Calif.

Application July 15, 1939, Serial No. 284,777

3 Claims. (Cl. 85—3)

The present invention relates to new and useful improvements in draw pins particularly for trailers and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character embodying novel locking means.

Another very important object of the invention is to provide a draw pin of the aforementioned character wherein the locking means may be expeditiously retracted and secured in inoperative position when desired.

Other objects of the invention are to provide a draw pin of the character described which will be comparatively simple in construction, strong, durable, compact and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a draw pin constructed in accordance with the present invention, showing the device in use.

Figure 2 is a side elevational view of the lower portion of the draw pin, showing the locking means in inoperative position.

Figure 3 is a bottom plan view of the draw pin.

Figure 4 is a view in vertical section through the lower portion of the device.

Figure 5 is a view taken at right angles to Fig. 4, showing the draw pin partially in elevation and partially in vertical section.

Figure 6 is a detail view in perspective of the pivoted retaining arm.

Figure 7 is a detail view in elevation of the arm retracting rod.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a smooth bolt 1 of suitable metal having a head 2 on its upper end. In its lower end portion, the bolt 1 has formed therein a socket 3. A vertical slot 4 in the bolt 1 communicates with the socket 3.

Threadedly mounted in the lower end portion of the socket 3 is a metallic cap 5 having vertical grooves 6 in diametrically opposite sides thereof. Extending slidably through a bore provided therefor in the cap 5 into the socket 3 is a rod 7. The reference numeral 8 designates a metallic retaining arm which is pivotally mounted on a pin 9 in the bolt 1, said arm being operable in the slot 4. Ears 10 on the pivoted end of the arm 8 straddle the upper end portion of the rod 7 and are operatively connected thereto by a pin and slot connection 11. A coil spring 12 yieldingly urges the rod 7 upwardly in the socket 3.

Rotatably mounted on the lower end portion of the rod 7 is a knurled metallic disc 13. The disc 13 is countersunk to accommodate a retaining nut 14 which is threaded on the rod 7. Rising from the disc 13 are pins 14' which are engageable in the grooves 6. In Fig. 1 of the drawings the reference numerals 15 and 16 designate members to be connected by the draw pin.

It is thought that the manner in which the device will be used will be readily apparent from a consideration of the foregoing. To swing the arm 8 inwardly to inoperative position, the rod 7 is pulled downwardly against the tension of the coil spring 12 through the medium of the knurled disc 13. The disc 13 is then rotated in a manner to move the pins 14' out of alignment with the grooves 6 for engagement with the lower end of the cap 5, thus securing the arm 8 in inoperative position. The pin is then inserted in the members to be coupled, as at 15 and 16, after which the disc 13 is again rotated to permit the pins 14' to enter the grooves 6 thereby allowing the coil spring 12 to move the rod 7 upwardly for swinging the arm 8 outwardly to operative or locking position.

It is believed that the many advantages of a draw pin constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A draw pin comprising a bolt having a socket therein and further having a slot therein communicating with the socket, a locking arm pivotally mounted in the bolt and operable in the slot, a removable cap threadedly mounted in the socket, a rod extending slidably through the cap into the socket, means operatively connecting the arm to said rod for actuation thereby, resilient means for actuating the rod in one direction for swinging the arm to operative position, and coacting means on the rod and the cap for retracting the arm and releasably securing said arm in retracted position.

2. A draw pin comprising a bolt having a socket therein and further having a slot therein communicating with the socket, a locking arm pivotally mounted in the bolt and operable in the

slot, a removable cap threadedly mounted in the socket, a rod extending slidably through the cap into the socket, means operatively connecting the arm to said rod for actuation thereby, resilient means for actuating the rod in one direction for swinging the arm to operative position, and coacting means on the rod and the cap for retracting the arm and releasably securing said arm in retracted position, said coacting means including a disc rotatably mounted on the rod, the cap having longitudinal grooves therein, and pins on the disc engageable in the grooves when the arm is in operative position and engageable with the cap for securing said arm in inoperative position.

3. A draw pin of the character described comprising a smooth bolt having a socket in one end portion thereof and further having a longitudinal slot therein communicating with the socket, a head on the other end of the bolt, a locking arm pivotally mounted in the bolt and operable in the slot, a removable cap threadedly mounted in the socket and having longitudinal grooves in diametrically opposite sides thereof, a rod extending slidably through the cap into the socket, ears on the pivoted end of the arm straddling one end portion of the rod and pivotally connected thereto, a coil spring in the socket operatively connected to the rod for actuating same in one direction for swinging the arm to operative position, a disc rotatably mounted on the other end portion of the rod for manually actuating said rod in the opposite direction, and pins on the disc engageable in the grooves when the arm is in operative position, said pins further being engageable with the cap for securing the arm in inoperative position.

EMIL ALGER PY.