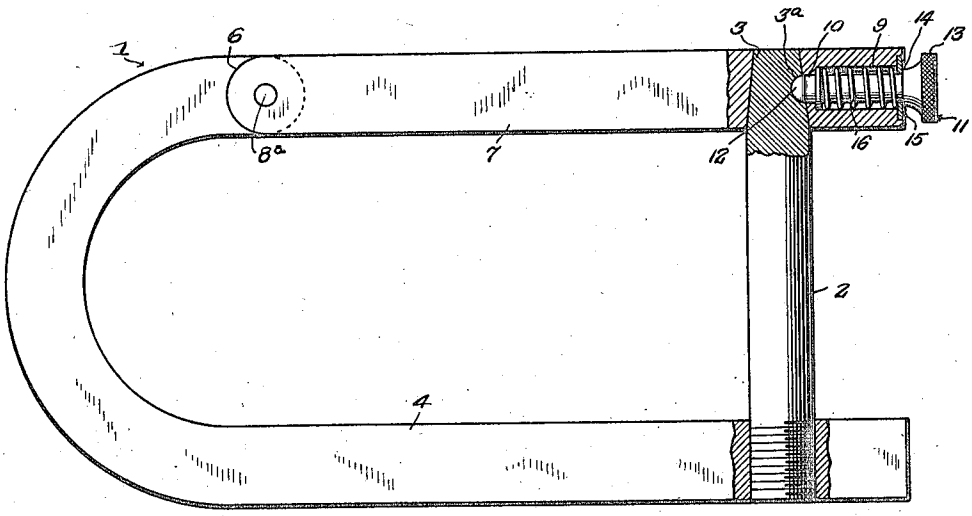
Sept. 11, 1923. 1,467,844

L. H. DAMM

HINGE LOCK CLEVIS

Filed April 28, 1921

Fig. 1.



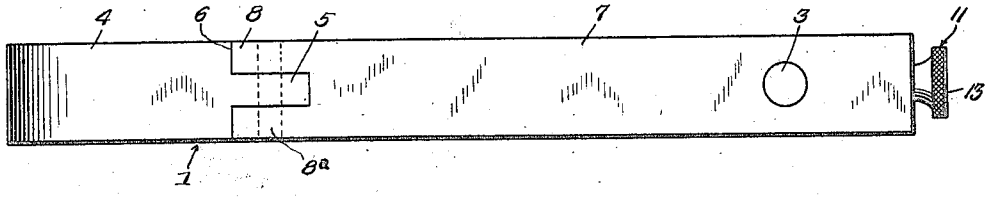


Fig. 2.

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UNITED STATES PATENT OFFICE.

LOUIS H. DAMM, OF GREAT BEND, KANSAS.

HINGE LOCK CLEVIS.

Application filed April 28, 1921. Serial No. 465,186.

To all whom it may concern:

Be it known that I, LOUIS H. DAMM, a citizen of the United States, residing at Great Bend, in the county of Barton and State of Kansas, have invented certain new and useful Improvements in Hinge Lock Clevises, of which the following is a specification.

This invention relates to clevises and the object thereof is to provide a device of this character so constructed that it will automatically lock when the pivoted member thereof is swung into place.

Another object is to so construct such a device that it has a surface smooth throughout so that there are no protuberances upon which single or double trees may catch should one horse get in front of the other.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention.

In the accompanying drawings:—

Figure 1 represents a side elevation of the clevis constituting this invention with parts broken out and in section, and

Fig. 2 is edge view thereof.

In the embodiment illustrated the clevis 1 constituting this invention is made U-shaped in form comprising a J-shaped member 4 having a rectilinear latch member 7 pivotally connected with the short arm thereof as shown at 8^a and constituting one arm of the clevis.

A cross rod 2 connects the free ends of the clevis arms 4 and 7 and is here shown threaded at one end into one end of said clevis arm 4 near the terminal thereof and with its other end tapered and engaged with a correspondingly shaped socket extending transversely of the member 7 near its outer end, where it is held by locking means presently to be described.

The J-shaped member 4 has a longitudinally extending tongue 5 at the terminal of its short arm formed midway the width thereof and is provided on opposite sides of said tongue at the base thereof with arcuate shoulders 6 with which are designed to be engaged correspondingly shaped terminals or furcations 8 of the member 7, said member being bifurcated to receive between its furcations 8 the tongue 5 and to be hingedly connected thereto by a pintle 8^a. The member 7 which constitutes what may be termed the latch member is adapted to swing outwardly to release the cross bar 2 for connection of the clevis with the single or double tree or with any other object with which it is to be used.

The outer end of the member 7 has a longitudinally extending socket 9 with a reduced bore 10 at its inner end which communicates with the socket extending transversely through the member 7.

A locking bolt or pin 11 is mounted to reciprocate in the socket and bore 10 and has a rounded inner end 12 which when in closed operative position is designed to enter a correspondingly shaped recess 3^a in the end 3 of the cross-bar 2 as is shown clearly in Fig. 1. The outer end of the pin 11 has a knurled head 13 with a shoulder 14 at its inner end which when the pin is in retracted locking position engages a washer 15 which is secured over the outer end of the socket 9 as is shown clearly in Fig. 1.

A coiled spring 16 encircles the body of the pin within the socket 9 and bears at one end against the washer 15 and at its other against a shoulder formed at the inner end of the rounded portion 10 of said pin so that when the pin is projected being drawn out against the tension of said spring 16, the spring will be compressed and when the pin is released will operate to return it to locking position.

By rounding the inner end of the pin 11 and forming a correspondingly shaped recess in the rod end 3 when the latch member 7 is swung inwardly into operative position over said end 3 the pin 11 will automatically enter said recess in the bolt member without necessitating the withdrawal of the pin by hand to permit such locking action such as is ordinarily necessary in devices of this character.

It is of course understood that this clevis may be made of any desired material preferably of cast iron or steel sufficiently strong to resist the strain to which it may be subjected. The arrangement of the locking pin 11 longitudinally of the latch member 7 and the positioning of the head 13 thereof adjacent the outer end of said member 7 prevents all danger of the pin being accidentally released by contact with surrounding objects.

It will be readily seen from the foregoing description taken in connection with the

drawings that by retracting the pin 11 against the tension of the spring it is disengaged from the notch or recess in the rod 2 thus permitting the latch member 7 to be swung clear of said rod 2 enabling a connecting member to be introduced. By swinging the member 7 inward the transversely formed socket therein will engage the tapered end 3 of the rod 2 and the semi-circular notch or recess 3^a in said end 3 will be engaged by the rounded end 12 of the pin 11 thereby locking the latch member 7 securely in position and confining the member with which the clevis is to be connected. If tensile strain is exerted on the connecting member such strain will be taken up by the rod 2 and will be sustained equally by the member 4 and the latch member 7 so that the locking pin 11 will be subjected to no strain whatever.

The rod 2 being mounted as shown by threading one end in engagement with the member 4 of the clevis provides for its ready replacement in case of breakage or injury thereto.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

What I claim is:—

1. A clevis including a body portion with a latch arm hingedly connected herewith and provided with a socket opening through its outer end perpendicular to the length of the clevis, and another socket entering the outer end of the latch arm perpendicular to the length of said latch arm and intersecting the first named socket, a connecting rod secured to one end of said body and having a tapered free end adapted to enter the transversely arranged socket of the latch member, and a spring-urged pin mounted in the longitudinal socket of said latch and provided with a rounded end, said tapered rod having a correspondingly shape notch to receive the pin when the parts are in closed position.

2. A U-shaped clevis including a T-shaped body having a rectilinear latch pivoted at one end to the terminal of the short arm of said body, said latch and arm having co-operating hinge members, the latch terminating in a tapered extremity and the pivoted arm having a socket transversely thereof also tapered to receive the tapered end of the companion arm, and a spring urged pin movable longitudinally in the end of the socketed arm in advance of the socket and having an actuating head extending longitudinally relative to the said latch, said pin being designed to enter the socket in the latch and engage said rod and of a length to remain flush with the latch arm when locked in position thereon.

3. A U-shaped clevis having one arm pivoted, and a cross rod fastened to the clevis and terminating in a tapered extremity fitting a tapered socket in the latch arm and of a length to remain flush with the arm when positioned therein, and a spring latch provided with a socket receptacle in the latch arm and engaging the tapered extremity of the fixed member of the latch arm.

In testimony whereof, I affix my signature hereto.

LOUIS H. DAMM.