(No Model.)

J. E. MILLER.

THILL COUPLING.

No. 481,961. Patented Sept. 6, 1892.

Fig 1

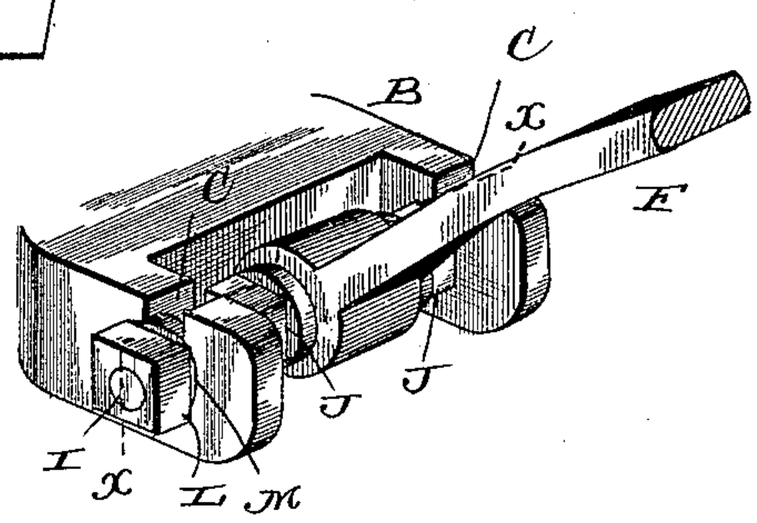


Fig 2

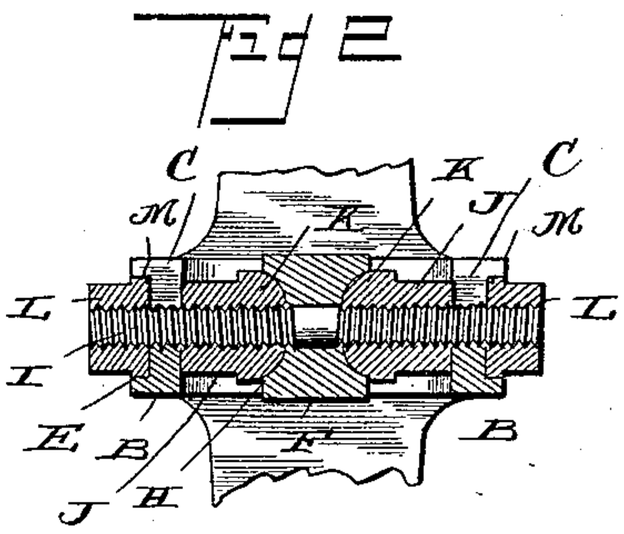


Fig 3

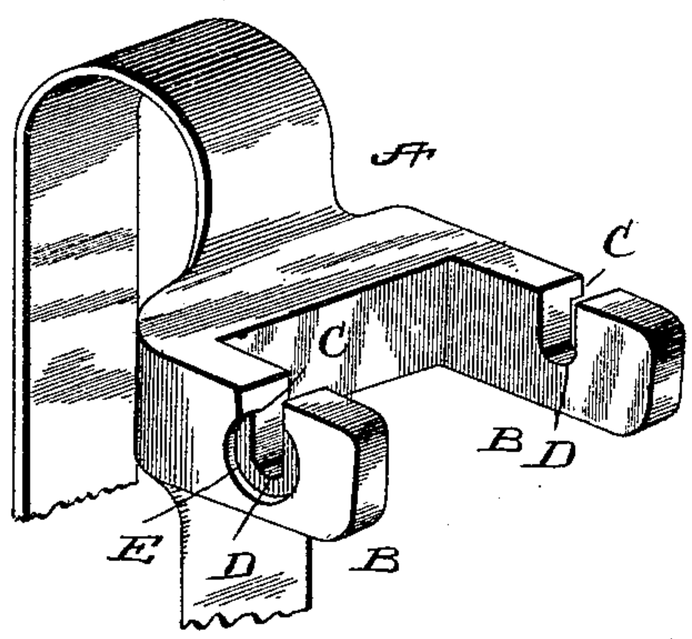


Fig 4

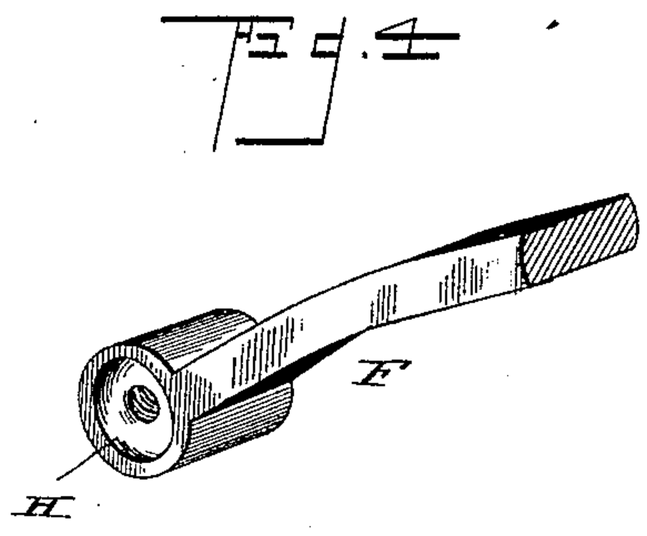
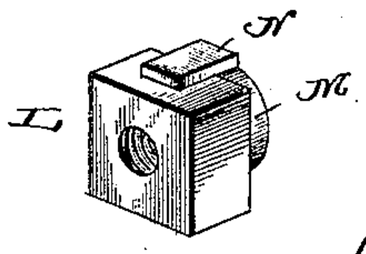


Fig 5



Witnesses

John Devine

A. S. Bishop.

Inventor

John E. Miller

By his Attorney

R. H. Bishop.

UNITED STATES PATENT OFFICE.

JOHN E. MILLER, OF ALLEGANY, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 481,961, dated September 6, 1892.

Application filed April 12, 1892. Serial No. 428,818. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. MILLER, a citizen of the United States, residing at Allegany, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Thill-Couplings; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in thill-couplings; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a thill-coupling provided with my improvements. Fig. 2 is a vertical section of the same taken on the line *x x* of Fig. 1. Fig. 3 is a detail view of the clip. Fig. 4 is a detail view of the end of the thill-iron, and Fig. 5 is a detail view of a slight modification.

The clip A is secured to the axle in the usual manner and is provided with the forwardly-projecting supporting-arms B, as shown. These arms B are provided with the notches C in their upper sides and the bearings D at the lower ends of said notches. The outer sides of the arms are provided with the recesses E, which are adapted to receive washers on the coupling-pin, as will be hereinafter more fully described.

The thill-iron F is provided with an eye G at its rear end, which is inserted between the supporting-arms and is provided with the conical recesses H in its sides, the purpose of which will presently appear.

The coupling-pin I is inserted through the eye of the thill-iron and rests in the bearings B of the supporting-arms. The coupling-pin is provided with right and left hand threads and clamping-nuts J are mounted on the pin on opposite sides of the thill-iron and are provided with conical inner ends K to engage the conical recesses H in the thill-iron. The iron is thus prevented from moving laterally on the coupling-pin, and all wear can be readily taken up by tightening the said nuts. On the extremities of the coupling-pin I mount the securing-nuts L and the washers M, so that by tightening the said securing-nuts the coupling-pin may be secured in the supporting-arms, so as to be prevented from having any lateral movement thereon. It will be observed that when the securing-nuts are turned home the washers will be forced into engagement with the recesses E and the coupling-pin will thus be prevented from being accidentally lifted from the bearings.

In the preferred form of my device I have shown the washers as being formed integral with the securing-nuts; but it is obvious that they may be formed separate therefrom, and I have illustrated such construction in Fig. 5. In said Fig. 5 I have also shown the washer as provided with a lip N, which engages the side of the nut and thereby prevents the nut from turning, except when pressure is applied thereto with a wrench or suitable tool. This form of washer will be found advantageous in some instances, and its use will not involve a departure from my invention.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that I have provided a very simple device by which the thill will be securely coupled to the axle, and its advantages are thought to be obvious.

Rattling of the parts is easily prevented with my device, as it is necessary only to tighten the nuts J, thereby causing the projections K to bind in the thill-eye and hold the same steady and firm.

When it is desired to remove the thill for cleaning, repairing, or other purposes, the securing-nuts are loosened, so as to disengage the washers from the recesses in the sides of the supporting-arms, after which the thill is raised, when the coupling-pin will pass upward through the notches C, as will be readily understood. It will thus be seen that the thill can be rapidly and easily coupled and uncoupled.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of supporting-arms provided with open bearings and with recesses in their sides surrounding the said bearings, the thill-iron, coupling-pin inserted through the

thill-iron and resting in said bearings, washers mounted on the coupling-pin and adapted to engage said recesses, and securing-nuts mounted on the pin and bearing against said washers.

2. The combination of the supporting-arms provided with open bearings and with recesses in their sides around the said bearings, the coupling-pin resting in the said bearings, securing-nuts mounted on the coupling-pin, and washers engaging the recesses in the supporting-arms and provided with lips engaging the sides of the nuts.

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

JOHN E. MILLER.

Witnesses:
CHAS. MILLER,
JOSEPH KRAMPF.