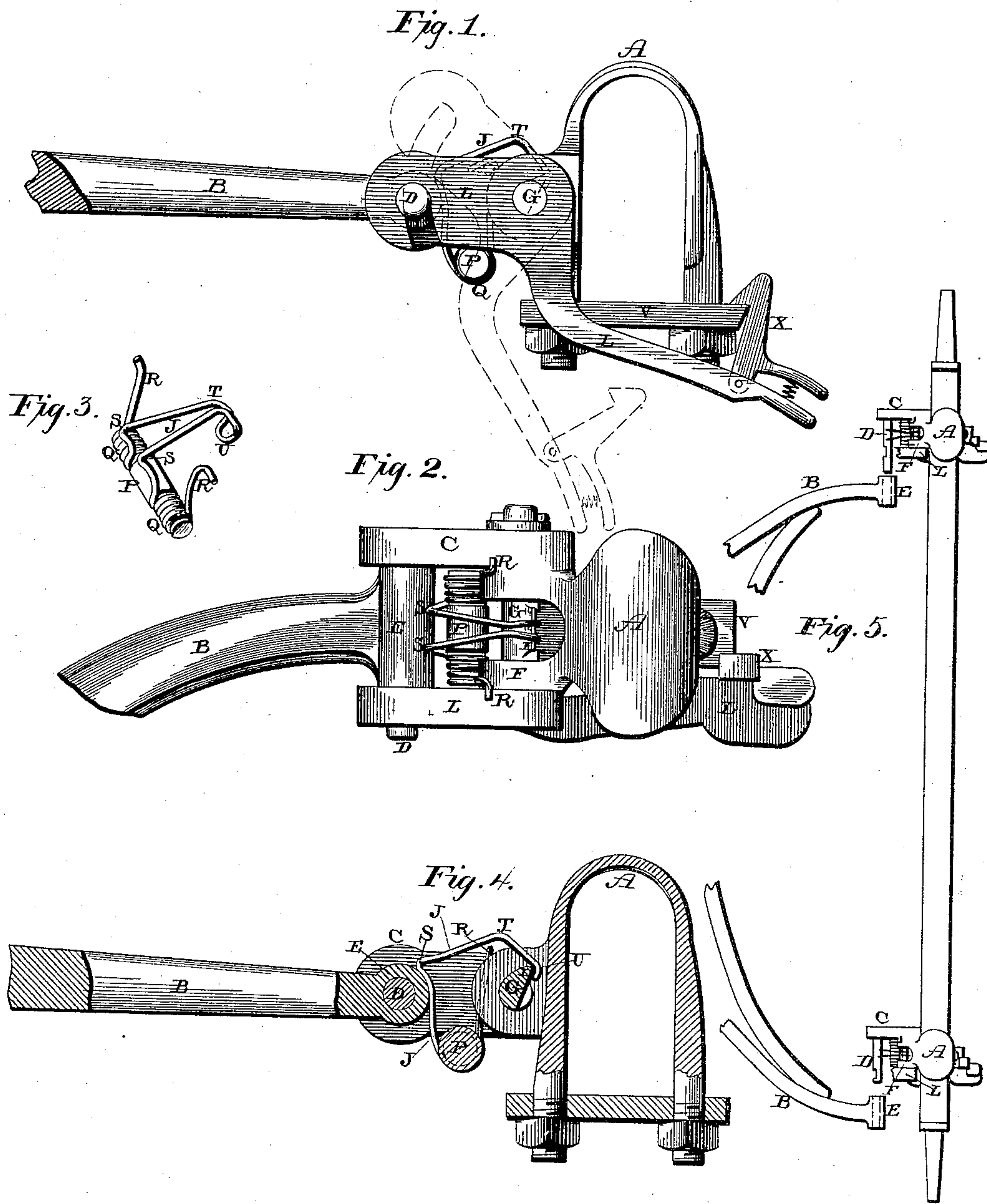


(No Model.)

B. F. STETLER.
THILL COUPLING.

No. 428,024.

Patented May 13, 1890.



Witnesses:
E. P. Ellis,
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B. F. Stetler,
per
J. A. Lehmann, atty.

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN STETLER, OF LAMAR, KANSAS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 428,024, dated May 13, 1890.

Application filed March 3, 1890. Serial No. 342,382. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN STETLER, of Lamar, in the county of Ottawa and State of Kansas, have invented certain
5 new and useful Improvements in Thill-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
10 in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in thill-couplings; and it consists in the combination and arrangement of parts, which will
15 be more fully described hereinafter, and pointed out in the claims.

The object of my invention is to provide a shaft-coupling in which the pressure of the
20 spring is removed, and which is again applied as soon as the coupling is closed, and to so construct the spring that its pressure can be applied to or removed from the shaft-iron at will.

25 Figure 1 is a side elevation of a shaft-coupling which embodies my invention, the catch being shown in solid lines in one position and another position in dotted lines. Fig. 2 is a plan view of the same. Fig. 3 is a perspective
30 view of the spring. Fig. 4 is a vertical section of my coupling. Fig. 5 is a plan view of an axle, showing my couplings attached thereto and the thills in the act of being placed thereon.

35 A represents a clip, to which the plate C is rigidly secured in the usual manner. To the inner side of the outer end of this plate C is rigidly secured the pin D, which passes
40 through the eye E of the thill-iron B in the usual manner, and which pin is notched in one side of its outer end, so as to engage with the catch. To the opposite edge of the clip
45 from the plate C is secured a much shorter plate F, there being left sufficient space between the outer end of this plate F and the end of the pin D to allow the shaft-iron B to be freely placed upon and removed from the pin. Passing horizontally through the inner
50 ends of these two plates C F is a partially-revolving rod G, which is provided with a cam I at its center for the purpose of operating the spring J, and to one end of this pin G is

rigidly secured the catch L, which is preferably provided with a handle at its inner end for the purpose of operating it. A handle is
55 not absolutely necessary, for the catch may be made without one, if so desired. The hooked end of this catch engages with the notch in the pin D for the purpose of holding the thill-iron B in place. This catch L being
60 rigidly secured to the partially-turning bolt G, the bolt is operated each time that the catch is opened or closed. When the catch is raised, the thill-iron B can be freely removed and returned to position; but when
65 the catch is closed the thill-iron is locked rigidly in position.

The spring J is made of spring-wire of suitable thickness, and is used to prevent the rattling or noise of the parts while in use. In
70 order to give this spring the desired shape and rigidity, the short rod P is used, and around this rod the wire out of which the spring is made is wrapped a suitable number
75 of times, so as to form the coils Q. From the outer ends of these coils Q extend the ends R, which are bent outward, as shown, so as to catch over the top part of the coupling, and thus prevent them from becoming accidentally
80 displaced. From the inner ends of these coils Q the wire is curved upward to the points S, and from these points S it is bent backward to the point T, and from the point T it is bent downward to the hook or forward bend U. The curved vertical portion bears against the
85 rear edge of the thill-iron, while the horizontal portion passes over the top of the cam upon the bolt G, and the hook catches underneath the cam, so as to be operated thereby
90 whenever the catch L is opened or closed. When the catch is opened, the cam engages with the hook and pulls or turns the spring backward, so as to remove its pressure from the thill-iron, and thus leave the thill-iron
95 free to be removed. As soon as the catch is closed the cam ceases to bear against the hook, and then the pressure of the spring is again applied to the thill-iron to prevent rattling of the parts.

In order to enable the shafts to be readily
100 applied to the thill-irons, the pin D upon one of the couplings will be made longer than the other, so that it can be first inserted into the eye of one of the thill-irons, and then the

other pin can be inserted much more readily than could be done if both of the pins were made of the same length.

In order to prevent the catch L from becoming accidentally loosened, there is pivoted to the rear end of its handle a spring-actuated catch X, as shown in Fig. 1, and which catch X has its upper end to catch over the rear end of the clip-plate V.

10 Having thus described my invention, I claim—

1. In a thill-coupling, the combination of the clip having a plate extending outward from one side thereof, a thill-bolt rigidly secured to the outer portion of the plate, a short plate at the opposite side of the said clip, a rod passing through the said plates inside of the thill-bolt, the rod having a cam at its center and a latch rigidly secured to one end of the cam-bolt, the forward end of the latch engaging the said thill-bolt, and a spring having a vertical portion adapted to bear against the inner side of said thill and extending backward to the cam-bolt and its end engaging the said cam, whereby when the latch is turned up the pressure of the spring against the thill is released, substantially as specified.

2. In a thill-coupling, the combination of the clip having a plate at one side thereof, a thill-bolt secured at one end to the said plate,

a cam-bolt in rear of the said thill-bolt, a latch rigidly secured thereto at one end and having its forward end engaging the free end of the thill-bolt, a spring having a vertical rear portion which engages the clip, its lower portion formed into a coil, a forward vertical portion adapted to bear against the thill, and an upper portion extending rearward and engaging the cam-bolt, whereby when the latch is turned upward the pressure of the spring against the thill is released, substantially as shown and described.

3. In a thill-coupling, the combination of the clip having a plate extending outward therefrom, a thill-bolt rigidly secured at one end to the said plate, a latch pivoted to the clip and having its front end extending forward and engaging the said thill-bolt, and its rear end extending downward and rearward under the axle, and a catch secured to the rear end thereof, which engages the lower plate of the clip for locking the said thill-bolt latch, substantially as shown.

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

BENJAMIN FRANKLIN STETLER.

Witnesses:

W. L. HARVEY,
WM. H. AVERY.