A. H. WORREST.

THILL COUPLING.

APPLICATION FILED FEB. 12, 1908. RENEWED APR. 27, 1909.

952,025. Patented Mar. 15, 1910.

Fig. 4.

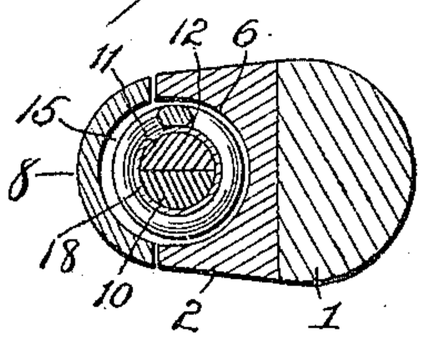


Fig. 1.

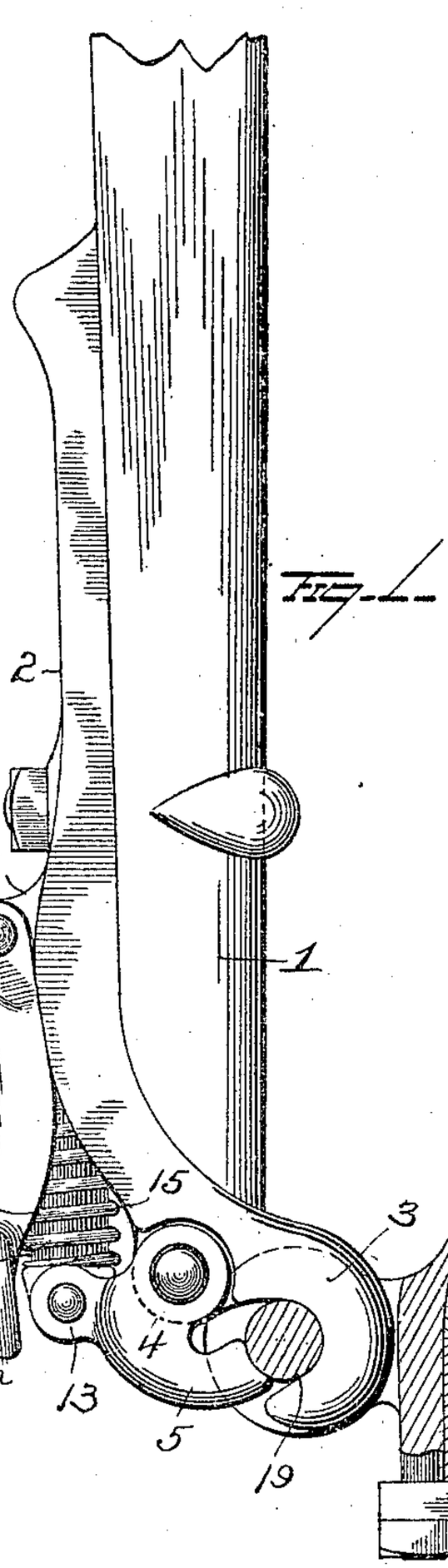


Fig. 5.

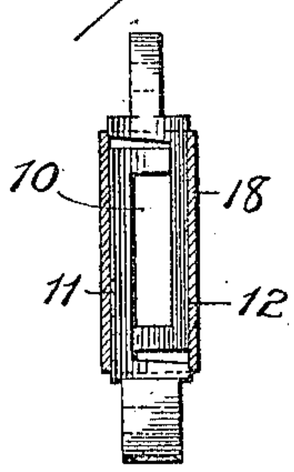
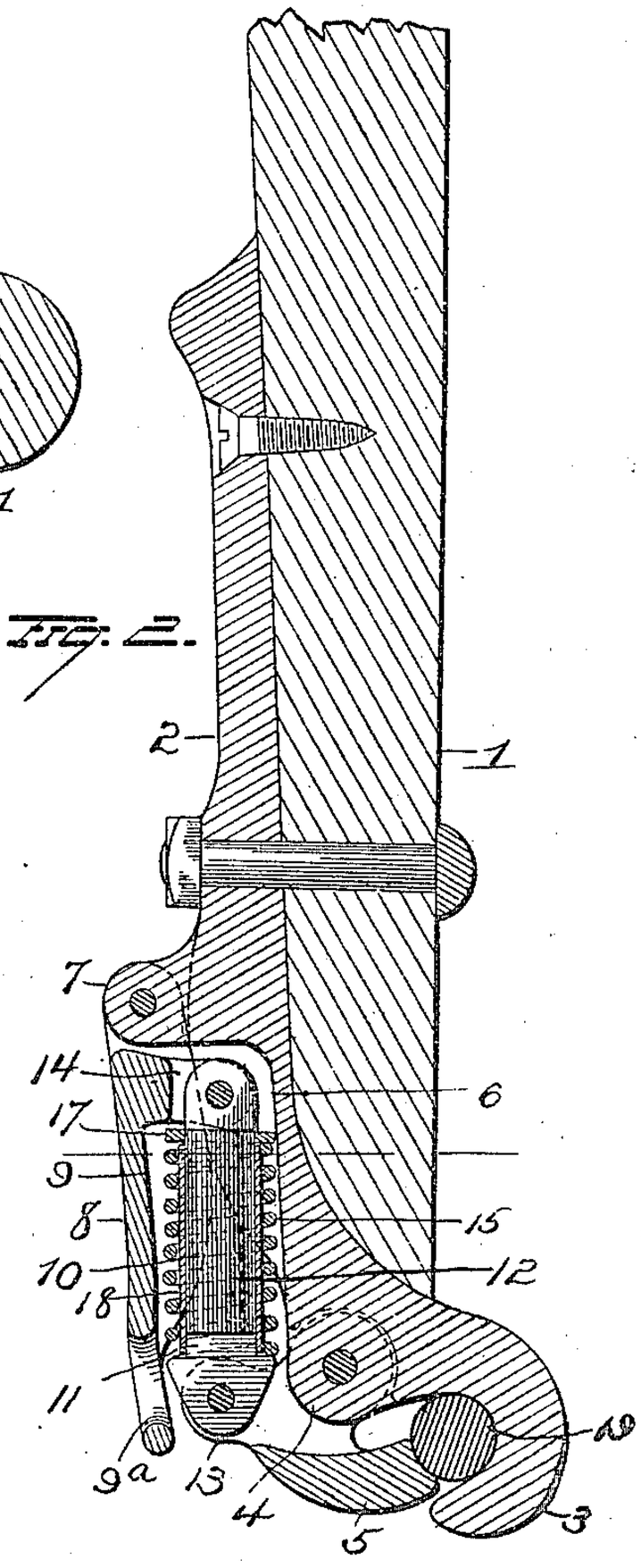


Fig. 2.



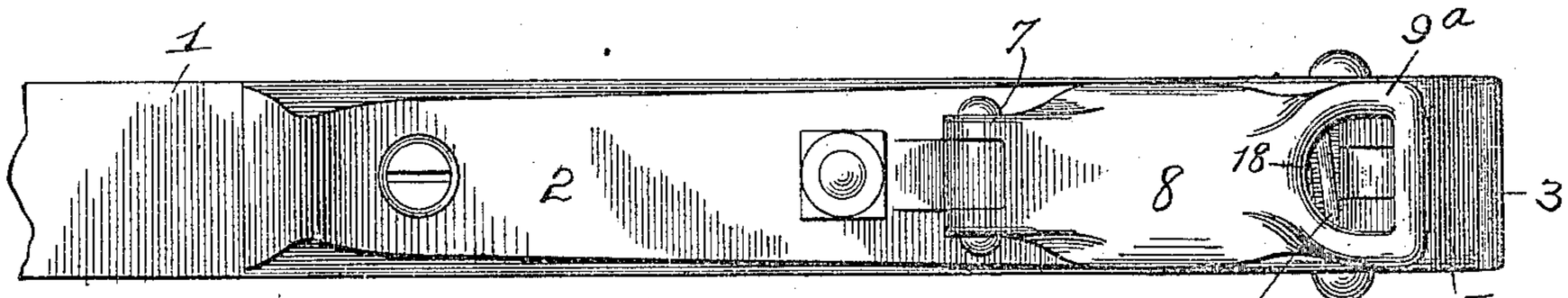


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALFRED H. WORREST, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO METAL STAMPING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

THILL-COUPLING.

952,025. Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed February 12, 1908, Serial No. 415,598. Renewed April 27, 1909. Serial No. 492,616.

To all whom it may concern:

Be it known that I, ALFRED H. WORREST, of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain 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 in the art to which it appertains to make and use the same.

My invention relates to improvements in thill couplings and more particularly to such as employ a hook and a pivoted jaw to engage the coupling bolt and a lever for operating the pivoted jaw, objects of my present invention being to provide a thill coupling of the type above mentioned in which the pivoted jaw will be pressed against the coupling bolt by the action of a spring, the construction being such that said spring shall be housed; and to provide simple and efficient means for locking the pivoted jaw so as to effectually prevent its accidental disengagement from the coupling bolt.

With these and other objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a thill showing the application of my invention thereto. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a plan view. Fig. 4 is a transverse sectional view, and Fig. 5 is a detail view showing the collapsible bolt.

1 represents the rear portion of a thill, to which a thill-iron 2 is secured, and provided at its rear end with a hook 3. Near the hook 3, the thill-iron is provided with a lug 4, to which the bifurcated portion of a jaw 5 is pivoted.

The under face of the thill-iron beyond the jaw 5, is made with a pocket or recess 6 and at the forward end of this pocket or recess, a lug 7 projects from the thill-iron and has pivoted to it the bifurcated end of a lever 8. This lever is formed with a pocket 9 which coöperates with the pocket 6 to form a housing for the devices which connect the lever with the pivoted jaw. The free end of the lever is provided with a loop 9^a for the passage of a safety strap.

A collapsible bolt or rod 10 is disposed between the lever 8 and the pivoted jaw 5, said bolt or rod comprising two members 11—12 disposed side by side and movable relatively to each other. The member 11 of the collapsible rod or bolt is pivotally connected at one end between lugs 13 on the pivoted jaw 5 and one end of the member 12 of said rod or bolt is pivotally attached to lugs 14 projecting from the lever 8 in proximity to the pivotal connection of the latter to the thill-iron. A spring 15 encircles the collapsible bolt or rod 10, said spring bearing at one end against the lug on the pivoted jaw and at the other end against a washer 17 which bears against the lugs on the lever 8. A sleeve 18 surrounds the collapsible bolt or rod within the spring 15. This sleeve serves to prevent the buckling of the spring 15 and also to prevent the entrance of dust or mud between the movable members of the collapsible rod or bolt.

From the construction and arrangement of parts above described, it will be seen that when the lever is moved forwardly the two relatively movable members which connect the lever and the jaw engage each other and the pivoted jaw will be opened and the hook 3 can be readily placed upon the coupling bolt 19. The lever 8 will then be operated and caused to transmit motion through the medium of the collapsible rod or bolt and the spring to the pivoted jaw, causing the latter to engage the coupling bolt 19. During this movement of the lever the members of the collapsible bolt or rod will move relatively to each other and the pivotal connection thereof with the lever will be moved beyond a line passing through the pivotal connection of the lever with the thill-iron and the pivotal connection of the rod or bolt with the pivoted jaw. With the parts in these positions, the spring will operate to force the pivoted jaw against the coupling bolt with a yielding pressure, permitting the attachment of the thill to the coupling bolt in such manner as to allow proper movement of the thill and at the same time prevent rat-

tling. The spring will also serve to retain the lever 8 in its normal position and operate in conjunction with the collapsible rod or bolt connected with said lever and jaw in the manner above explained, to lock said jaw and effectually prevent any accidental movement thereof which would tend to release the coupling from the coupling bolt. It will also be seen that when the parts are in their normal positions with the thill connected with the coupling bolt, the collapsible rod or bolt and the spring will be housed within the pockets 6 and 9 with which the thill-iron and lever are provided.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to restrict myself to the precise details herein set forth.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. In a thill-coupling, comprising a bolt-engaging hook, a pivoted jaw to coöperate therewith, a lever, a bolt comprising relatively movable members connecting said lever and pivoted jaw, and a spring encircling said bolt between the lever and pivoted jaw.

2. A thill-coupling, comprising a bolt-engaging hook, a pivoted jaw, a lever, a bolt comprising relatively movable members connected with the pivoted jaw and pivotally connected with the lever in such position that said pivotal connection with the lever can be moved beyond a line passing through the pivotal support of the lever and the pivotal connection of the rod or bolt with the jaw, and a spring encircling the rod or bolt between the lever and the pivoted jaw.

3. A thill-coupling, comprising a thill-iron provided with a bolt engaging hook and with a pocket, a jaw pivoted to the thill-iron, a lever pivoted to the thill-iron, a bolt or rod comprising relatively movable members connecting the lever and pivoted jaw, and a spring encircling said rod or bolt between the pivoted jaw and lever, said rod or bolt and spring being movable into the pocket in the thill-iron.

4. A thill-coupling, comprising a thill-iron provided with a bolt engaging hook and with a pocket in rear of said hook, a jaw pivoted to the thill-iron between the hook and pocket, a pocketed lever pivoted to the thill-iron, a bolt or rod comprising relatively movable members connecting the pivoted jaw and lever, and a spring encircling said bolt between the pivoted jaw and lever, the pocket of the lever and the pocket of the thill-iron coöperating to house said rod or bolt and the spring.

5. A thill-coupling, comprising a bolt engaging hook, a pivoted jaw coöperating therewith, a lever, a rod or bolt comprising relatively movable members connecting said pivoted jaw and lever, a spring encircling said rod or bolt between the pivoted jaw and lever, and a sleeve inclosing the members of the rod or bolt within the spring.

6. A thill-coupling, comprising a thill-iron provided with a bolt engaging hook, a jaw pivoted to the thill-iron and coöperating with said hook, lugs depending from said jaw, a lug depending from the thill-iron, a lever pivoted to said last mentioned lug, a bolt or rod comprising relatively movable members, one of said members pivoted to the lugs of the pivoted jaw, the other of said members pivoted to the lever in proximity to the pivotal support of the latter, and a spring encircling the rod or bolt between the pivoted jaw and the lever.

7. In a thill coupling, a thill iron provided with a bolt engaging hook, a jaw to coöperate with the hook, a lever, and a bolt consisting of relatively movable members between said lever and the jaw.

8. A thill coupling comprising a thill iron provided with a bolt engaging hook and having a pocket, a jaw connected to the thill iron, a lever, means comprising relatively movable members connecting the lever and the jaw, and yielding means to hold the jaw to the bolt when the coupling is closed, both means movable into the pocket on closing the coupling.

9. A thill coupling comprising a thill iron provided with a bolt engaging hook and having a pocket, a jaw connected to the thill iron, a lever, means comprising relatively movable members connecting the lever and the jaw, said members engaging each other to open the jaw when the lever is thrown in one direction, and yielding means to hold the jaw to the bolt when the lever is thrown in an opposite direction, both means movable into the pocket on closing the coupling.

10. A coupling comprising a thill iron provided with a bolt engaging hook and having a pocket, a jaw coöperating with the hook, a lever having a pocket therein and pivoted to the thill iron, a connection between the jaw and the lever, the pocket of the thill iron and the pocket of the lever housing the connection when the coupling is closed.

11. A coupling comprising a thill iron provided with a bolt engaging hook and having a pocket or recess therein, a jaw cooperating with the hook to engage the coupling bolt, a lever pivoted to the thill iron and having a pocket or recess therein, a connection between the lever and jaw, and a spring to press the jaw to the coupling bolt, the pockets or recesses housing the con-

nection and spring when the coupling is closed.

12. A coupling comprising a thill iron provided with a bolt engaging hook, a jaw coöperating with the hook to engage a coupling bolt, a lever pivoted to the thill iron, a connection between the lever and the jaw, and a spring to press the jaw to the coupling bolt, a pocket or recess between the thill iron and the jaw to house the connection and spring when the coupling is closed.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ALFRED H. WORREST.

Witnesses:
E. W. WORREST,
CHAS. E. LONG.