

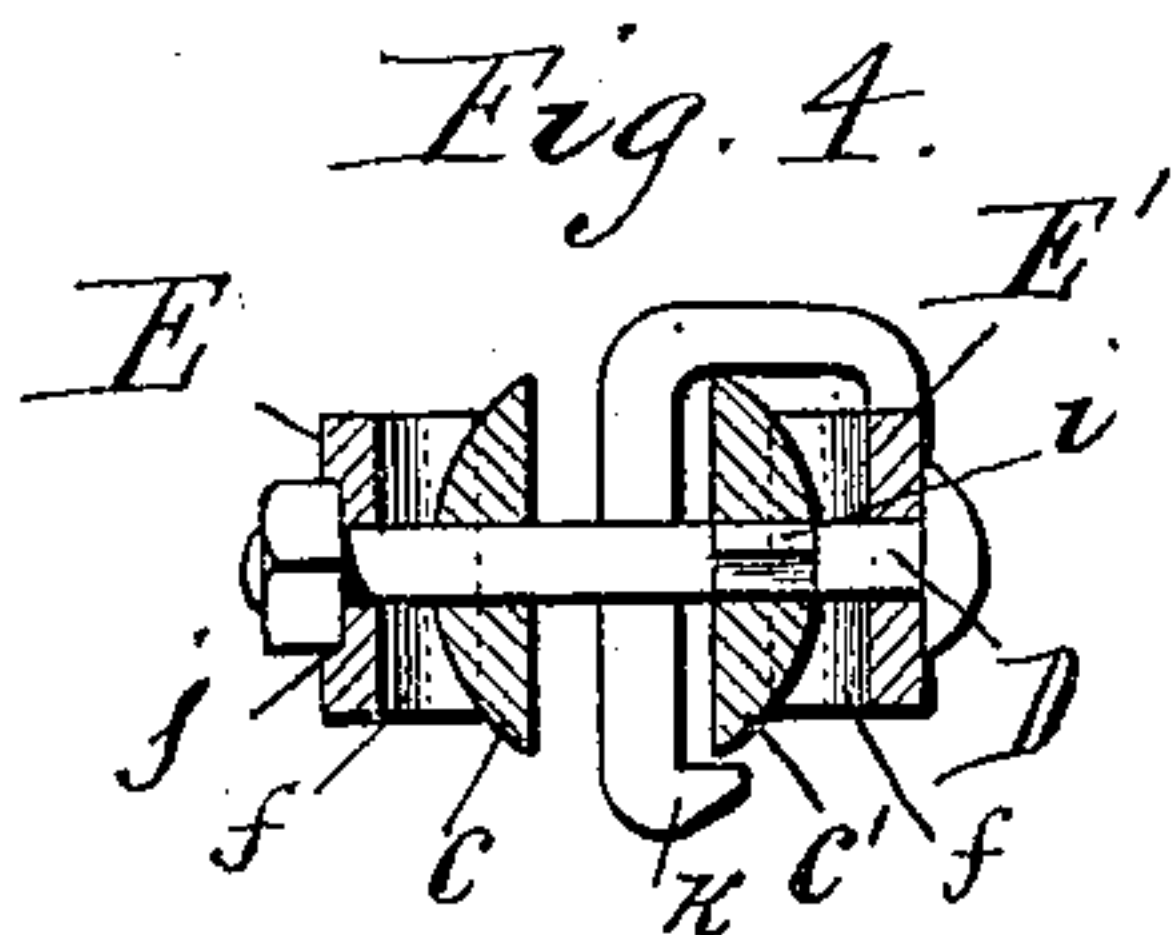
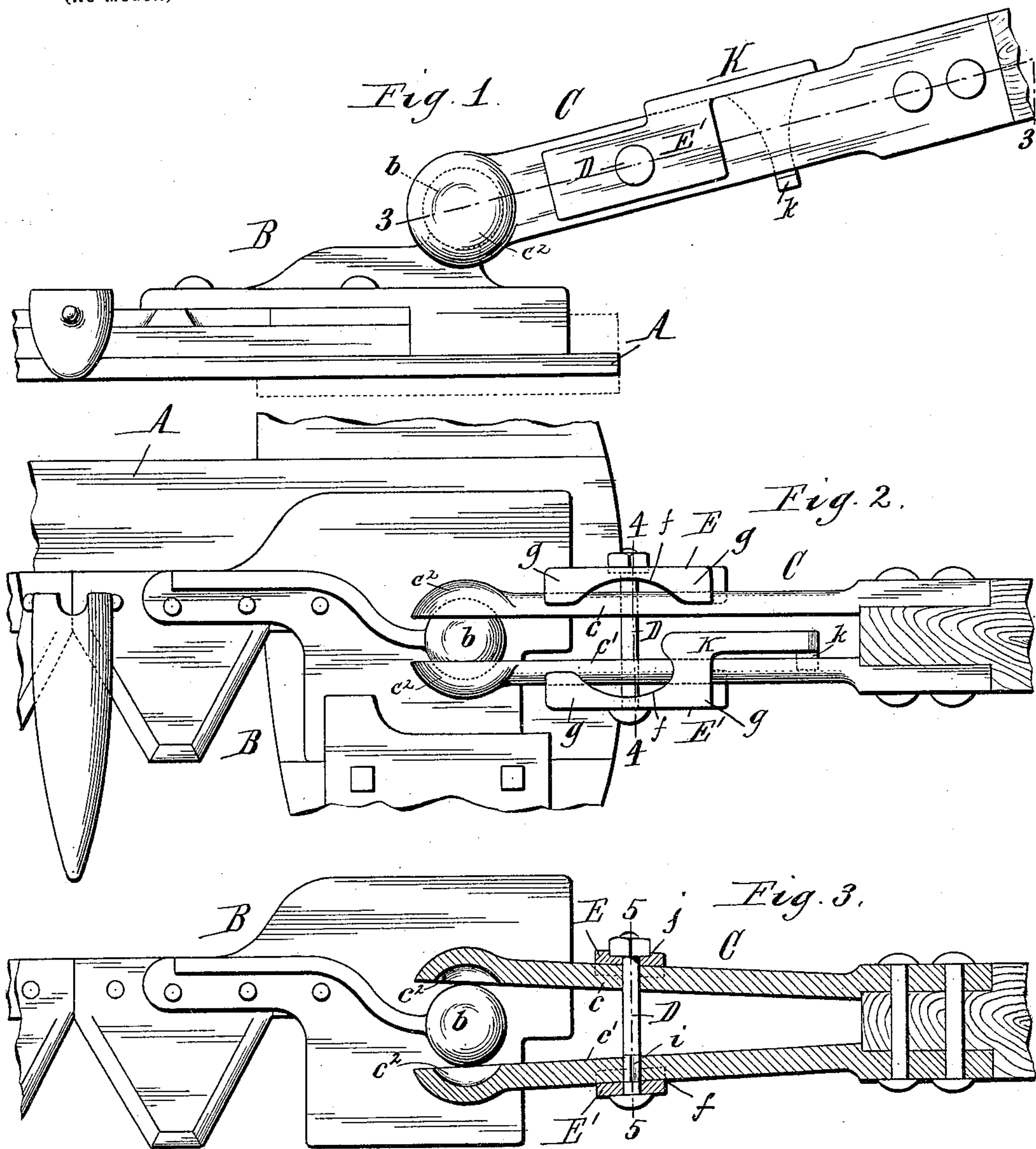
No. 641,430.

Patented Jan. 16, 1900.

H. F. BONESTEEL.
COUPLING FOR MOWERS.

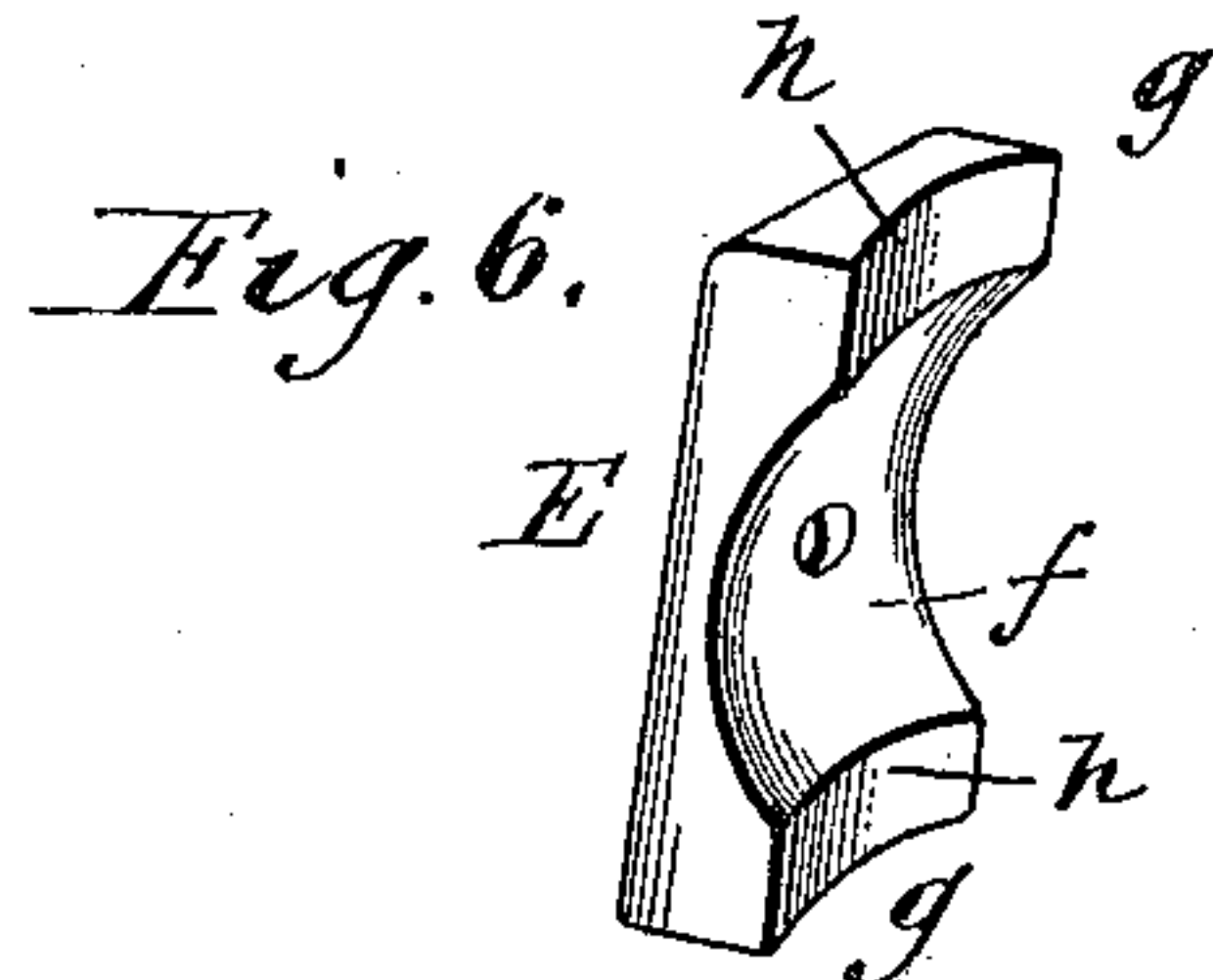
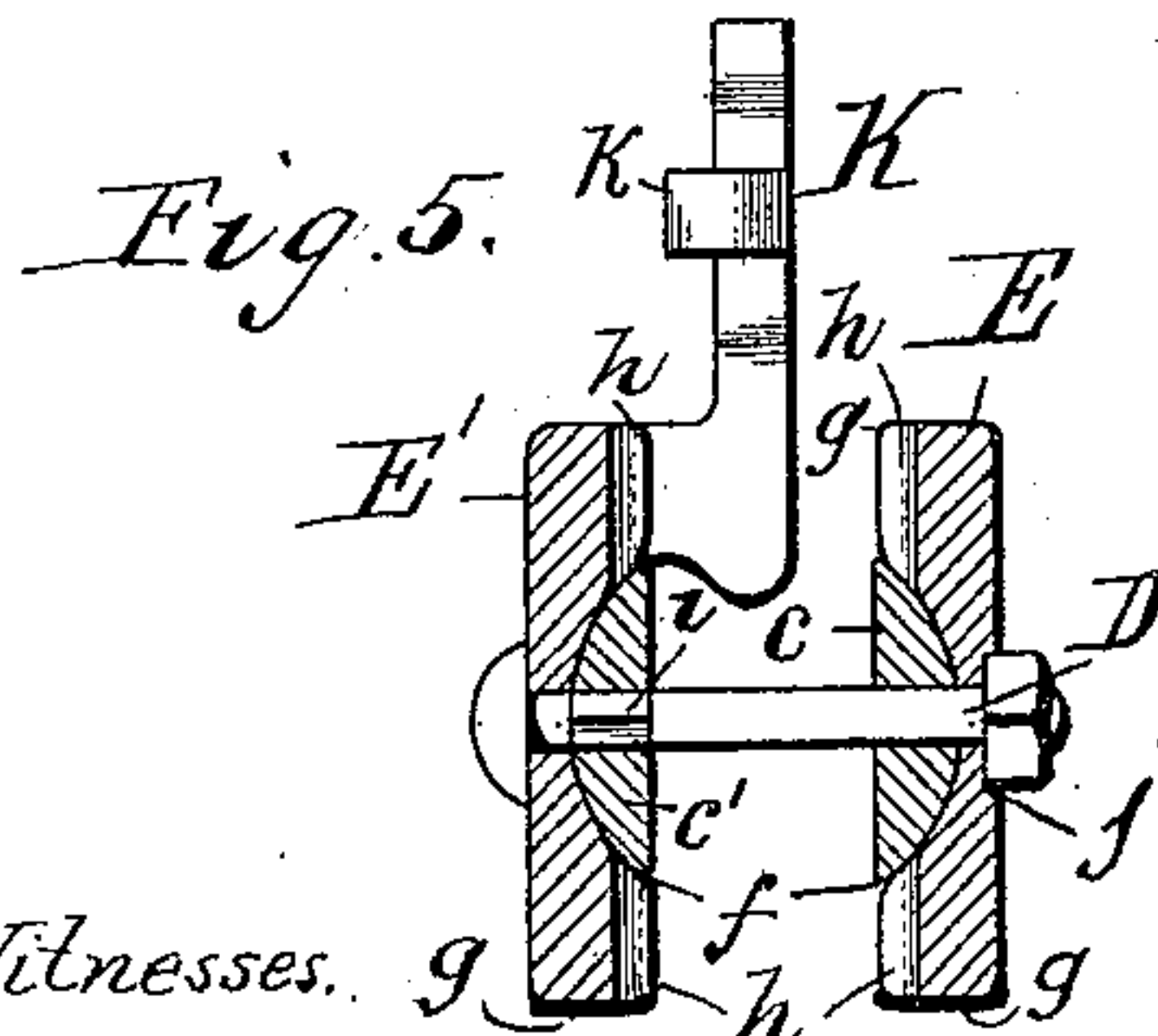
(Application filed May 8, 1899.)

(No Model.)



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Witnesses.



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UNITED STATES PATENT OFFICE.

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COUPLING FOR MOWERS.

SPECIFICATION forming part of Letters Patent No. 641,430, dated January 16, 1900.

Application filed May 8, 1899. Serial No. 716,047. (No model.)

To all whom it may concern:

Be it known that I, HARRY F. BONESTEELE, a citizen of the United States, residing at Shannon, in the county of Meagher and State of Montana, have invented new and useful Improvements in Couplings for Mowers, of which the following is a specification.

This invention relates to the coupling which connects the sickle or cutter bar of a mower, harvester, or other machine with the usual operating-pitman of the sickle-bar.

The object of my invention is the provision of a simple coupling of this kind which permits the pitman to be quickly attached to and removed from the sickle-bar for changing and sharpening the latter.

In the accompanying drawings, Figure 1 is a fragmentary front elevation of a sickle-bar and its operating-pitman provided with my improved coupling. Fig. 2 is a top plan view thereof, showing the jaws closed. Fig. 3 is a longitudinal section in line 3 3, Fig. 1. Fig. 4 is a transverse section in line 4 4, Fig. 2. Fig. 5 is a similar section showing said jaws unlocked. Fig. 6 is a perspective view of the locking-button which has no catch.

Like letters of reference refer to like parts in the several figures.

A is the finger-bar of a mower or similar machine, and B the reciprocating sickle or cutter bar, which is provided at its inner end, on its upper side, with a spherical knuckle *b*.

C is the pitman, which is bifurcated at its lower end to form jaws *c c'*. These jaws are provided at their front ends, on their inner sides, with concave sockets or cups *c²*, which embrace the knuckle *b* of the sickle-bar.

D is a tie-bolt which passes transversely through the jaws *c c'* on the rear side of their sockets.

E is a locking-button, washer, or cam applied to the bolt D between its nut and the outer side of the adjacent jaw *c*, and E' is a similar button or cam applied to the bolt between its head and the other jaw *c'*. The jaws *c c'* are convex on their outer sides, and each of the buttons E E' is provided on its inner side with a transverse groove or depression *f*, which receives the convex side of the adjacent jaw in the open position of the jaws, as shown in Figs. 3 and 5. These grooves are

of such a depth that when the buttons are turned to bring the grooves in line with the jaws the latter are allowed to open sufficiently to permit their easy detachment from the knuckle *b* of the sickle-bar. The raised or salient portions *g* of the buttons on opposite sides of their transverse groove are of such a thickness that when the buttons are turned so as to bring said raised portions in line with the sides of the jaws, as shown in Figs. 1, 2, and 4, the jaws are forced toward each other and their sockets are caused to embrace the knuckle *b*, thereby connecting the pitman with the sickle-bar. The salient portions *g* of the buttons, in conjunction with the transverse grooves *f* between the same, act as cam-surfaces, which force the jaws into their inward or locked position when the highest portions of the cams bear against the convex outer sides of the jaws and which allow the jaws to separate or to be separated sufficiently to disconnect the same from the knuckle of the sickle-bar when the grooved or receding portions *f* of the buttons are turned in line with the jaws.

The raised portions *g* of each button are provided in their inner face with shallow grooves or depressions *h*, which are arranged at right angles to the transverse groove *f* of the button and which are adapted to receive and interlock with the convex outer side of the adjacent jaw when the jaws are closed, so as to hold the buttons against turning.

The bolt-hole in the jaw *c'* is preferably made square, and the adjacent portion of the bolt is of the same form, as shown at *i*, to prevent its turning in the jaws or becoming loose. The other jaw is provided in its outer side with a recess or countersink *j*, which receives the nut of the bolt and is shaped to fit the nut for holding the nut against turning when the jaws are closed and locked.

In order to render the lock more secure, one of the buttons, preferably the button E' on the front side of the pitman, is provided with a catch K, which interlocks with the adjacent jaw *c'*. In the construction shown in the drawings this catch consists of an elastic arm extending downwardly from the button and arranged between the two jaws *c c'* and provided at its lower end with a lip or hook *k*,

which engages under the adjacent jaw when the jaws are closed, as shown in Figs. 1 and 4. This catch-arm is so arranged that in turning the button E' into its locking position the arm is deflected away from the jaw by its lip bearing against the inner side of the jaw, the arm springing outwardly as soon as its lip passes beyond the lower edge of the jaw, thereby causing the lip to engage automatically under the jaw and locking the button in place. To release this button, its catch is sprung in the opposite direction, so that its lip *k* clears the lower edge of the jaw, when the button can be turned to its unlocked position.

In order to unlock and open the jaws, the button having the catch *K* is first turned to the position shown in Fig. 5, and the other button is then turned to the same position, which allows the jaws to spread, as hereinbefore described. In locking the jaws the button which has no catch is first turned to its locking position, after which the other button is similarly turned and automatically locked by its catch. As the button *E* without the catch is first turned in closing the jaws and the jaws are spread at that time, the nut-recess *j* of said button does not prevent turning of the button.

My improved coupling permits the jaws to be locked or unlocked by simply turning the cams or buttons *E E'* on the bolt *D*, thereby avoiding the necessity of loosening the nut of said bolt or removing its cotter when a cotter is used, as is required in the constructions hitherto employed, and enabling the pitman to be coupled to and uncoupled from the sickle-bar in much less time than by the use of such prior devices.

I claim as my invention—

1. The combination with the sickle-bar having a knuckle, of a pitman having a pair of jaws which embrace said knuckle, and a transverse bolt passing through said jaws in rear of said knuckle and provided with a rotary locking button or cam which bears against the outer side of one of said jaws, said button being provided on its inner face with a raised portion adapted to bear against the outer side of said jaw, for closing the jaws, and a recessed or depressed portion adapted to be turned in line with said jaw, for allowing the jaws to open, substantially as set forth.

2. The combination with the sickle-bar having a knuckle, of a pitman having a pair of jaws which embrace said knuckle, a transverse tie-bolt passing through said jaws in rear of said knuckle, and rotary locking buttons or cams applied to said bolt on the outer sides of said jaws, each of said buttons being provided on its inner side with a transverse groove adapted to receive the adjacent jaw for allowing the jaws to open, and on opposite sides of said groove with raised portions adapted to bear against said jaw for holding the jaws in their closed position, substantially as set forth.

3. The combination with the sickle-bar having a knuckle, of a pitman having a pair of jaws which embrace said knuckle and which are provided with convex outer sides, a transverse tie-bolt passing through said jaws in rear of said knuckle, and rotary locking buttons or cams applied to said bolt on the outer sides of said jaws, each of said buttons being provided with a transverse groove adapted to receive the adjacent jaw, and on opposite sides of said groove with raised portions provided with concave grooves or faces which are arranged at right angles to said transverse groove and adapted to bear against the convex outer side of the jaw, substantially as set forth.

4. The combination with the sickle-bar having a knuckle, of a pitman having a pair of jaws which embrace said knuckle, a transverse tie-bolt passing through said jaws in rear of said knuckle, and rotary locking buttons or cams applied to said bolt on the outer side of said jaws and provided on their inner face with a raised portion adapted to bear against the outer sides of said jaws for closing the same and a recessed or depressed portion adapted to be turned in line with the jaws for allowing the same to open, one of said buttons having an elastic retaining-arm arranged to pass between said jaws and provided at its free end with a lip adapted to engage under the adjacent jaw, substantially as set forth.

Witness my hand this 26th day of April, 1899.

HARRY F. BONESTEELE.

Witnesses:

RICHARD MANGER,
JNO. F. JOHNSTON.