(No Model.)

J. F. STEWARD.

PITMAN ROD CONNECTION.

No. 342,716. Patented May 25, 1886.

Fig. 1.

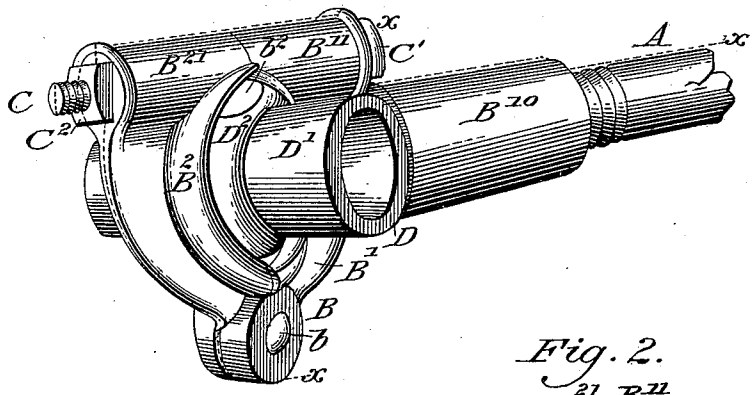


Fig. 2.

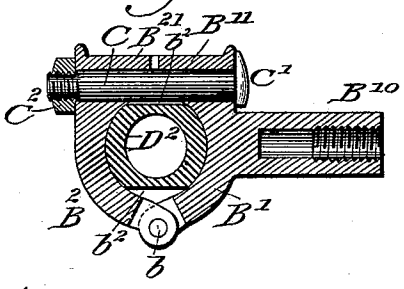


Fig. 3.

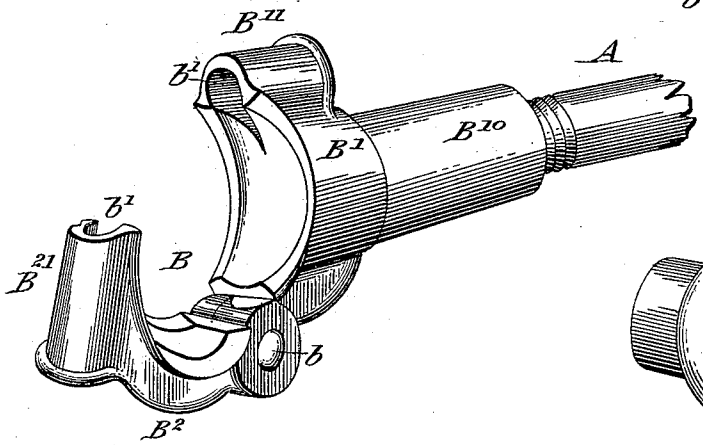


Fig. 4.

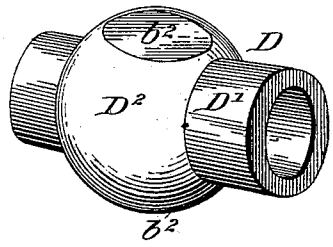
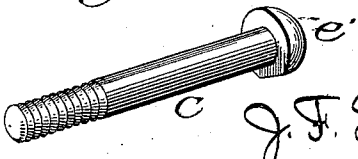


Fig. 5.



Witnesses:
Frances W. Parker,
William F. Simmers

Inventor:
J. F. Steward
By Chas. D. Burton
His attorney.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN F. STEWARD, OF CHICAGO, ILLINOIS.

PITMAN-ROD CONNECTION.

SPECIFICATION forming part of Letters Patent No. 342,716, dated May 25, 1886.

Application filed January 8, 1886. Serial No. 187,973. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. STEWARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pitman-Rod Connections, which are fully described in the following specification.

This invention is an improved joint which may be employed either as a pitman-box at the crank-wrist or as a pitman-head at the connection with the reciprocated bar. It is especially designed for use in the sickle-driving mechanism of a harvester. It is of the nature of a ball-joint, and is an improvement upon a device invented by Alfred Bramen, for which application, Serial No. 197,748, was filed April 3, 1886.

In the drawings, Figure 1 is a perspective elevation of the entire joint, showing the same closed as when fully connected, ready to be applied upon the wrist-pin. Fig. 2 is a section on a diminished scale through the plane indicated by the dotted line *x x*, Fig. 1. Fig. 3 is a perspective of the clasp or stirrup, being shown open. Fig. 4 is a perspective of the ball and sleeve which constitute the box for the wrist-pin. Fig. 5 is a perspective of the clamping-bolt by which the clasp is secured about the wrist-pin box.

A is the pitman-rod. B is the stirrup made of two members B′ and B², the former having the shank B^{10}, into which the pitman-rod A is screwed. The pieces or members B′ and B² are hinged together at *b*, said pivot being in a plane at right angles to the pitman-rod, and said members are spherically concaved toward each other, and are provided at a point opposite the hinge *b* with the bosses B^{11} and B^{21}, respectively, through which is formed the bolt-chamber *b′*, wherein is placed the clamp-bolt C in a plane at right angles to the pivot of the hinge *b*. Said hinge may be entirely outside the interior spherical surface of the stirrup; but the bolt-chamber *b′* cuts through said sphere, and the bolt C, when in place, passes through the spherical cavity of the stirrup near one side thereof. The bolt C has the head C′ of greater radius than the distance from the center of the bolt-chamber to the surface of the shank B^{10}, and said bolt is designed to be inserted into its chamber from the end toward said shank, and for that purpose its head C′ is flattened at one edge, a small segment being cut off to reduce it to correspond to the space allowed for it, and it is thereby prevented from turning in its chamber after being once inserted therein.

The box D consists of a sleeve, D′, swelled in the middle of its length to form the ball D^2. Said ball fits the spherical cavity of the stirrup B, and the sleeve is designed to receive the wrist-pin and form its bearing. Said ball has a segment cut off from one side, and may have such segment cut from the opposite side; also forming on the ball the flat surfaces b^2 b^2, the cutting-planes being parallel and parallel with the axis of the sleeve, and the segment cut away being of a height equal to the radial intrusion of the bolt C into the spherical space of the stirrup B. When the box D is placed between the members of the stirrup so that its ball D^2 rests in the spherical cavity of the stirrup, said members being closed together, embracing the ball, said box is revolved to bring one of the flat surfaces b^2 of the ball B^2 parallel with the axis of the bolt-chamber *b′*, and the bolt C being then inserted through said chamber from the end toward the shank B^{10}, and the clamp-nut C^2 is placed on the other end of the bolt, and the two members clamped together about the ball as closely as may be desired. The ball-and-socket joint thus formed permits, practically, only one movement to the box D relatively to the stirrup B—namely, rotation about a diameter of the spherical cavity of the stirrup and in a plane parallel to the flat surfaces b^2 of the ball B^2, any other motion being prevented by the co-operation of said flat surface and the clamp-bolt C.

The purpose of forming the ball B^2 with two flat surfaces is that it is thereby made reversible.

I claim—

1. The stirrup having its two members spherically concaved toward each other and adjustably united, and the pivot-ball fitting such spherical cavity in the stirrup and protruded thereinto upon a suitable stem, said ball being truncated to form the flat surface b^2, in combination with the clamping-bolt intruding into said spherical cavity of the stir-

rup at the locality of said truncation of the ball, substantially as and for the purpose set forth.

2. The stirrup having its two members spherically concaved toward each other and adjustably united, and the box D, comprising the sleeve D′ and the ball D^2, fitting the spherical cavity of the stirrup, said ball being truncated to form the flat surface b^2, and the clamping-bolt C, intruding into the spherical cavity of the stirrup at the locality of said truncation of the ball, all combined and operating substantially as set forth.

3. The stirrup having its two members permanently hinged together and one of them provided with the shank B^{10}, the box embraced by said members, the clamp-bolt uniting them opposite their hinge and having the truncated head laterally engaging the side of the shank, all combined and operating substantially as set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, December 31, 1885.

JOHN F. STEWARD.

Attest:

W. L. PARKER,

CHAS. S. BURTON.