(No Model.)

F. CASTO.

PITMAN CONNECTION.

No. 422,914. Patented Mar. 11, 1890.

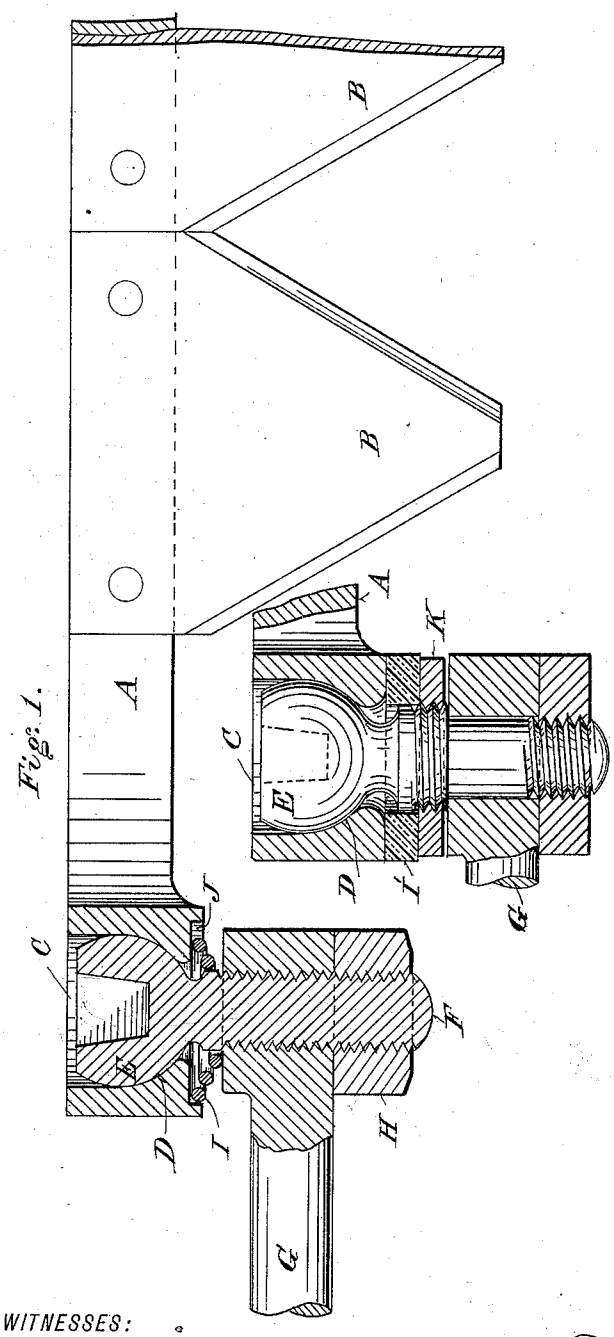


Fig. 1.

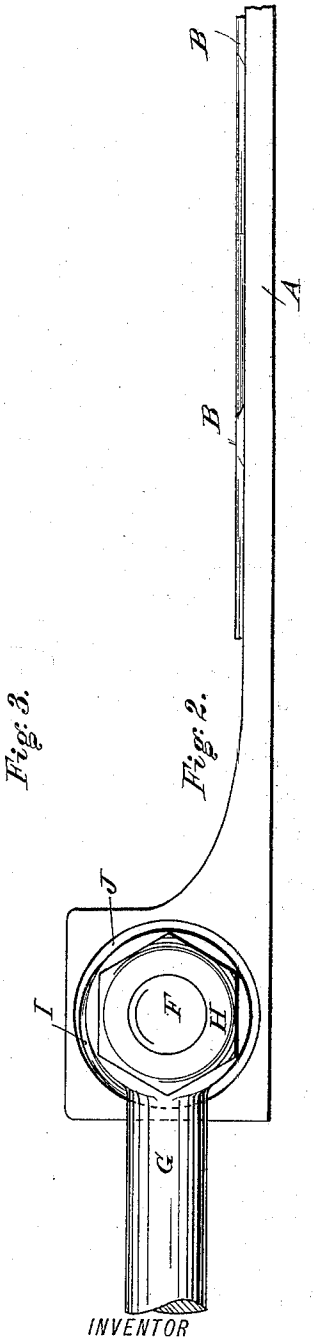


Fig. 2.

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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PITMAN-CONNECTION.

SPECIFICATION forming part of Letters Patent No. 422,914, dated March 11, 1890.

Application filed December 2, 1889. Serial No. 332,175. (No model.)

To all whom it may concern:

Be it known that I, FRANK CASTO, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Pitman-Connections, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in pitman-connections, and is specially designed for use in connection with harvesters, mowers, and grain-binders, though applicable to other machines.

The object of the invention is to provide a connection between the pitman wrist-pin and the cutter-bar or other operated device in such manner that the wrist-pin shall be capable of a wide range of movements in the eye of the bar, while a spring shall act to maintain an intimate contact between the wrist-pin and the eye, so that all lost motion due to the wear of the parts shall be prevented and rattling of the parts avoided, and the strains brought by the pitman utilized to draw the wrist-pin more firmly against the bar.

Another object of the invention is to secure the pitman on the wrist-pin, so that the latter shall be adjustable within the eye of the former, and the former adapted to engage the spring and regulate its tension.

In the accompanying drawings, forming a part of this specification, and in which like reference-letters indicate corresponding parts, Figure 1 represents a plan view of a portion of a cutter-bar and a sectional view of my improvements applied thereto; Fig. 2, a front elevation thereof, and Fig. 3 a detail sectional view showing a modified form of spring and a modification in the means of adjusting the tension of the spring.

For the purpose of enabling an understanding of the invention it is illustrated in connection with the cutter-bar of a harvester, mower, or grain-binder, though, as before stated, it may be used in other machines.

The letter A designates the cutter-bar having the usual blades B and provided at one end with an eye C. The end of the eye adjacent to the pitman is contracted in diameter, so as to form curved walls D, within which is constituted the seat for the reception of the wrist-pin. This pin consists of a head E and a shank F, the former being spherical and adapted to fit snugly within the eye of the cutter-bar. The shank passes through the eye and is screw-threaded. The pitman G has a screw-threaded opening, into which the wrist-pin is screwed, and a jam-nut H is screwed upon the pin and against the pitman to prevent the possibility of the pin becoming loose and turning in the pitman.

In the form illustrated in Fig. 1 the pitman constitutes the shoulder against which presses one end of a spiral spring I, which by preference is tapered, the larger coil fitting within the recess J, formed about the eye C, and in the cutter-bar. It will be noticed that this spring exerts a strong pressure against the pitman, and thereby draws the head of the wrist-pin snugly down into its seat and keeps it there irrespective of wear and strains. The tension of the spring may be varied to suit circumstances and increased to compensate for any weakening in the spring. The spring may be in the form of an india-rubber annulus I′, as shown in Fig. 3, or, indeed, may be of other forms and material. In Fig. 3 it will be noticed that a nut K is interposed between the pitman and the spring for adjusting the latter and receiving its pressure. This may be used instead of depending upon the pitman to form a shoulder. When the nut K is used, the eye of the pitman may or may not be threaded. It is preferred, however, to thread it, because it adds greatly to the strength of the device, in that it makes the connection between the wrist-pin and the pitman absolutely firm, which is an advantage, at the same time that it admits of adjusting the wrist-pin within the pitman. The greater the strains exerted by the pitman the more positive the contact and engagement between the cutter-bar and the wrist-pin, as the pitman strains tend to draw the wrist-pin out of the eye, the curved seat of the latter resisting the head of the pin. The pin is provided with an angular cavity to receive a wrench to adjust it.

One necessity for the universal or substan-

tially universal connection between the wrist-pin and the cutter-bar is that the latter is frequently adjusted so as to change its position with respect to the axis of the wrist-pin. Such adjustment binds the parts very seriously unless the provision of this universal connection is made, because the wrist-pin which connects the pitman to its driving disk or wheel is such that any twisting of the pitman will either break this pin or will bind the pitman upon it. With the adjustability between the wrist-pin and the cutter-bar and the spring interposed, as set forth, these difficulties are entirely overcome, and the cutter-bar may be adjusted according to the requirements in usage.

From the foregoing it will be seen that there are two leading characteristics of this invention—to wit, the practically universal connection between the cutter-bar and the wrist-pin and a constant spring-pressure combined therewith, so as to maintain the intimate contact between the wrist-pin and its seat, giving a combined universal connection under spring-pressure, and the fact that the greater the strains by the pitman the closer the fit between the wrist-pin and the bar, as distinguished from a tendency to separate the wrist-pin from the bar.

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

1. The combination, with a bar having an eye with a rounded seat, of a wrist-pin having a rounded head fitted to said seat, a pitman secured thereon, and a spring interposed between the parts to draw the rounded head firmly against the rounded seat.

2. The combination, with a bar having an eye and a rounded seat, of a wrist-pin having a rounded head fitted to said seat, a pitman into which the wrist-pin is screwed, and a spring interposed between the bar and the pitman and arranged to draw the head down into the seat.

3. The combination, with a bar having an eye and a rounded seat, of a wrist-pin having a rounded head to fit into said seat, a screw-threaded shank, a pitman screwed thereon, a jam-nut, and a spring between the bar and the pitman and adjustable in tension by adjusting the pitman on the wrist-pin.

4. The combination, with a bar having an eye with a rounded seat, of a wrist-pin having a rounded head, a socket in the head, and a shank provided with a screw-thread, the shank being projected through the said eye, a pitman into which the shank is screwed, a jam-nut on the shank, and a spiral spring between the pitman and the bar, the latter being provided with a recess to receive one end of the spring.

5. The combination, with a bar having an eye with a rounded seat and a contracted opening, the seat and the opening being toward the pitman side of the bar, of a wrist-pin having a rounded head fitted to said seat and a shank extended through said opening, and a pitman secured upon said shank, whereby the strains of the pitman tend to draw the head into and against the seat.

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

FRANK CASTO.

Witnesses:
WARREN HULL,
A. J. PERKS.