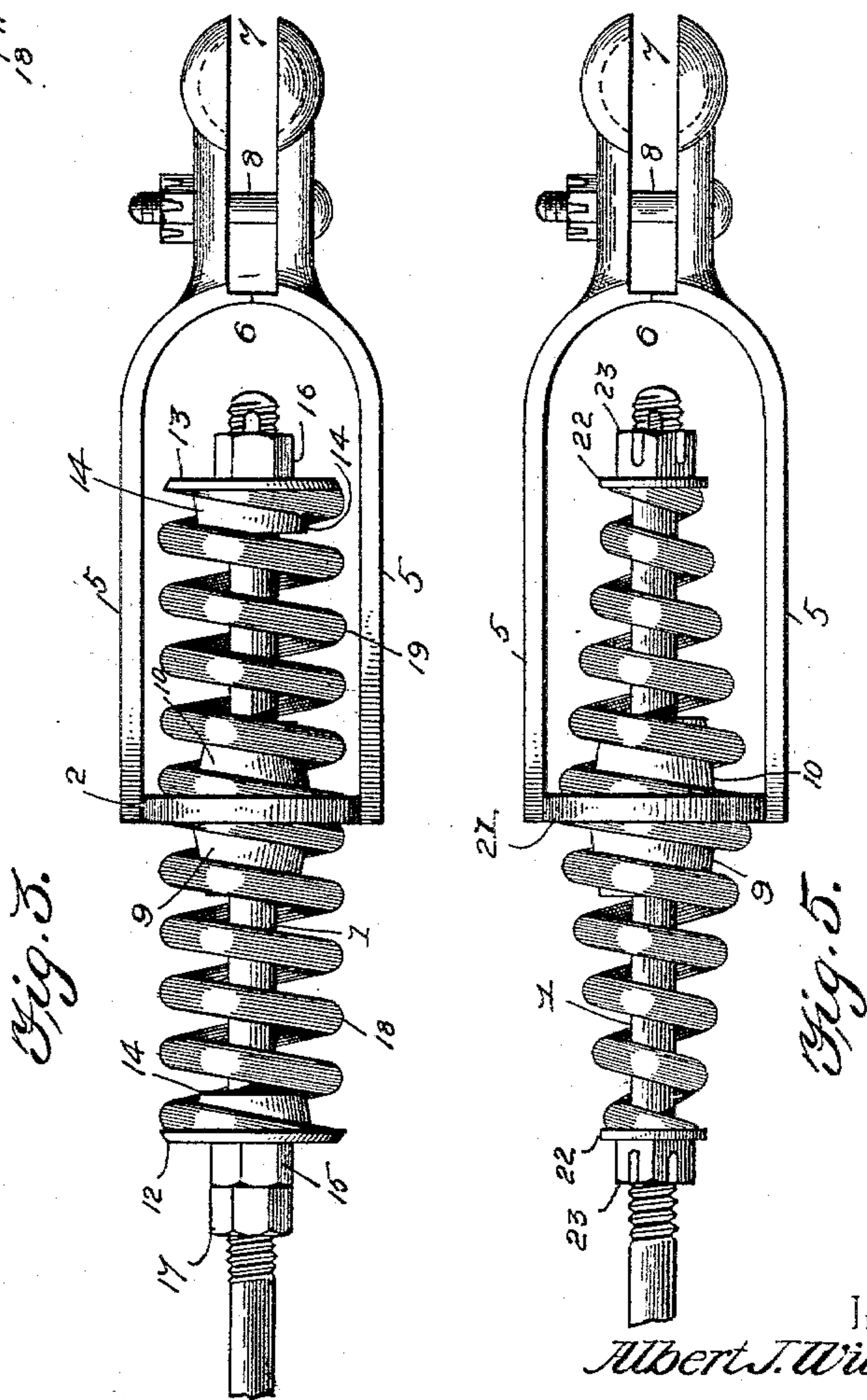
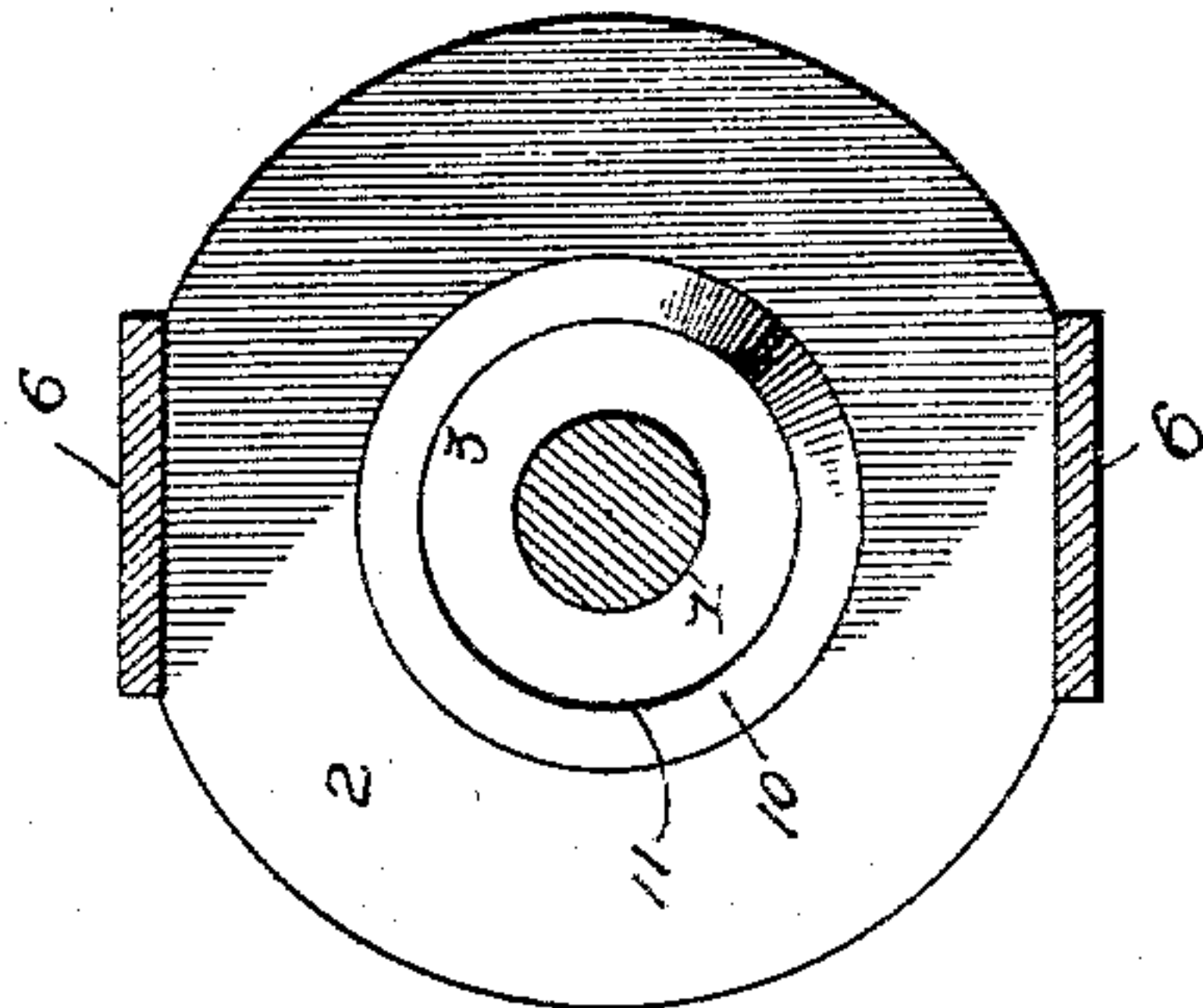
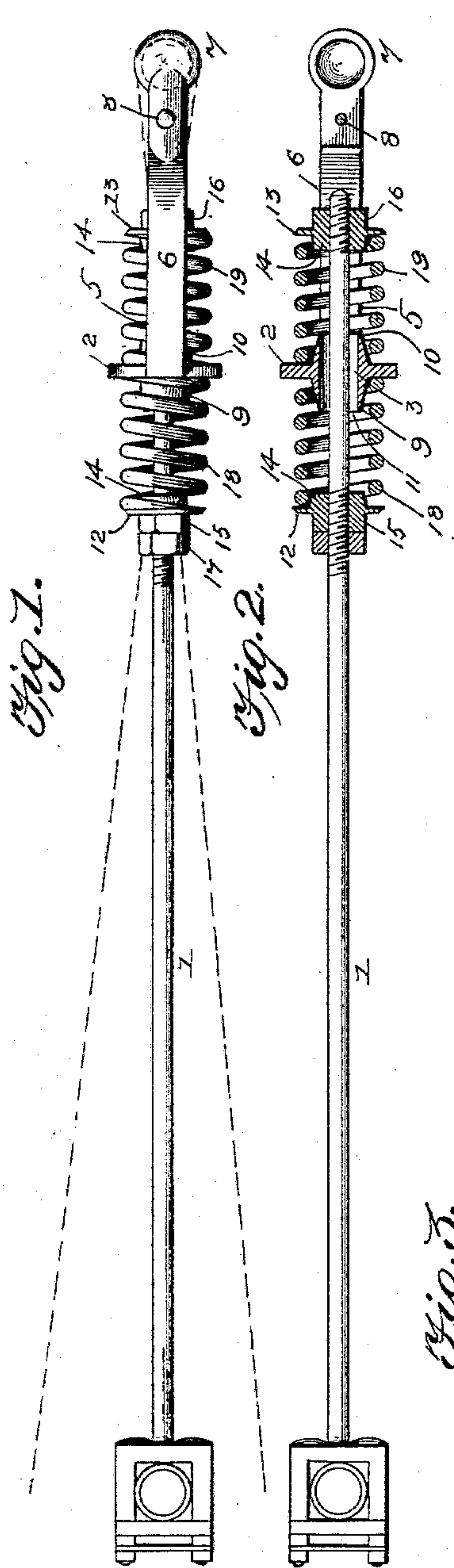


(No Model.)

A. J. WILLIAMS.
PITMAN.

No. 561,639.

Patented June 9, 1896.



Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT J. WILLIAMS, OF FULTON, NEW YORK.

PITMAN.

SPECIFICATION forming part of Letters Patent No. 561,639, dated June 9, 1896.

Application filed April 13, 1895. Serial No. 545,637. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. WILLIAMS, a citizen of the United States, residing at Fulton, in the county of Oswego and State of New York, have invented a new and useful Pitman, of which the following is a specification.

My invention relates to pitmen adapted for use in connecting parts of machinery, and the objects in view are to provide a device capable of a limited movement or lateral elasticity, as well as cushion the same longitudinally to prevent jarring and straining common to unyielding pitmen and connecting-rods.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is an edge view of a pitman constructed in accordance with my invention. Fig. 2 is a section of the link and contiguous portions of the pitman. Fig. 3 is a detail side view of the same. Fig. 4 is a transverse section on the line 4 4 of Fig. 2. Fig. 5 is a view of a slightly-modified form of the pitman.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the drawings I have shown my invention applied to a pitman adapted for use in connection with mowing-machines for communicating motion from a crank-disk to a cutter-bar, for, although its use is not limited to machines of this class, such illustration will be sufficient to indicate the nature of the improvements.

Referring to the drawings, 1 designates a pitman-rod, 2 a cross-head through which said rod extends, said cross-head being provided with an opening 3 of greater diameter than the pitman-rod, in order to allow sufficient looseness to avoid frictional contact between the pitman-rod and the cross-head and allow the former to assume a deflected or angular position with relation to the latter, as indicated by the dotted direction-lines in Fig. 1. Connected to the opposite sides of the cross-head are the terminals of the link-straps 5, said straps forming part of a link 6, having a terminal ball-socket 7 and an adjusting-bolt 8.

The cross-head is provided upon opposite sides with coaxial centering-bosses 9 and 10, of trunco-conical shape, and with central openings 11, which are equal in diameter with the opening 3 in the cross-head, said bosses being integral with the cross-head, and secured upon the pitman-rod at approximately equal distances from the plane of the cross-head are bearing-disks 12 and 13, each of which is provided with a trunco-conical centering-boss 14, corresponding with those on opposite sides of the cross-head. These bearing-disks are secured in place by means of nuts 15 and 16, the nut 15, which is located contiguous to the bearing-disk 12, being further supported and held in place by means of a lock-nut 17.

Coiled concentric with the pitman-rod, with their extremities bearing respectively against the cross-head and the bearing-disks, are the springs 18 and 19, which are held centered and out of contact with the pitman-rod by means of the centering-bosses upon the cross-head and bearing-disks.

The construction of the improved pitman is such as to cushion the strokes of the mechanism in both directions and at the same time allow a certain degree of lateral elasticity or flexibility without causing frictional contact between the pitman-rod and the cross-head, and in addition to the function of providing the necessary elasticity to hold the pitman-rod longitudinal in its proper position with relation to the link the coiled springs hold the pitman-rod centered with relation to the opening in the cross-head, and thus prevent the unnecessary wearing of the parts as well as the strain due to abrupt jars caused by obstructions.

In Fig. 5 I have shown a slightly-modified form of the pitman, in which spirally-coiled springs 20, instead of the helical coils shown in the other figures of the drawings, are employed. The bases of these spirally-coiled springs bear, as in the construction above described, against opposite sides of the cross-head 21, and the small outer ends of the springs bear against the bearing-disks 22, which are held in place by nuts 23. In this construction the centering-bosses for the outer ends of the springs may be dispensed with, for the reason that the diameter of the

springs at their extremities is but slightly, if any, larger than the pitman-rod.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

10 1. In a pitman, the combination of a cross-head provided with an opening, a pitman-rod extending through said opening and being of smaller diameter than the same to allow lateral and longitudinal movement therein, and
15 a spring coiled around the pitman-rod upon each side of the plane of the cross-head, the inner ends of the springs being seated upon opposite sides of the cross-head concentric with the opening therein and the remote ends
20 thereof being secured to and concentric with the pitman-rod, whereby the pitman-rod is capable of deflection or lateral movement in the opening of the cross-head and is returned to and normally held in a position concentric
25 with said opening and perpendicular to the plane of the cross-head by the springs, substantially as specified.

30 2. In a pitman, the combination of a cross-head provided with an opening, a pitman-rod extending through said opening and being of smaller diameter than the same to allow lat-

eral and longitudinal movement therein, bearing-disks fixed to the pitman-rod upon opposite sides of the plane of the cross-head and provided upon their inner sides with centering-bosses, and a spring coiled around the pitman-rod upon each side of the plane of the cross-head, the inner ends of the springs being seated upon the opposite sides of the cross-head and being held concentric with the opening therein by means of centering-bosses, and the remote ends thereof being seated upon the bearing-disks in operative relation with the centering-bosses carried thereby, said bearing-disks maintaining the remote ends of the springs concentric with the adjacent portions of the pitman-rod, and the centering-bosses on the cross-head maintaining the contiguous ends of the spring concentric with the opening in the cross-head, whereby the pitman-rod is capable of deflection or lateral movement in the opening of the cross-head and is returned to and normally held in a position concentric with said opening by the springs, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT J. WILLIAMS.

Witnesses:

H. L. STOUT,

EMMA J. COATES.