H. L. HOPKINS.

PITMAN.

No. 190,860. Patented May 15, 1877.

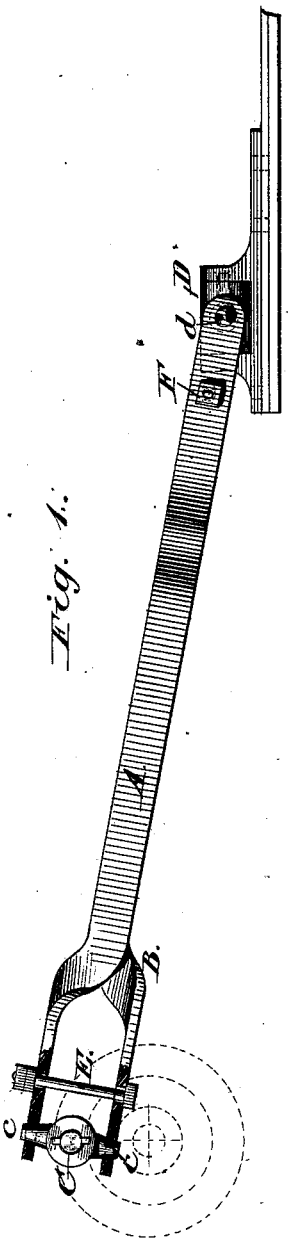

Fig. 1.

Fig. 3.

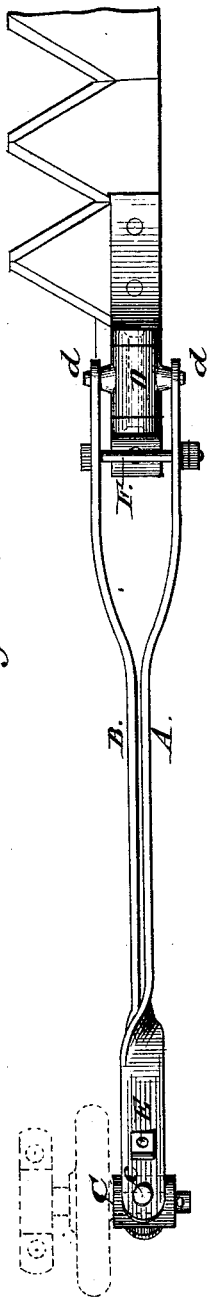

Fig. 2.

Attest:
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UNITED STATES PATENT OFFICE.

HARVEY L. HOPKINS, OF MANCHESTER, IOWA.

IMPROVEMENT IN PITMEN.

Specification forming part of Letters Patent No. **190,860**, dated May 15, 1877; application filed April 24, 1877.

To all whom it may concern:

Be it known that I, HARVEY L. HOPKINS, of Manchester, in the county of Delaware and State of Iowa, have invented a certain new and useful Improvement in Harvester-Pitmen, of which the following is a full, clear, and exact description:

This invention relates to harvester-pitmen, which are bifurcated at the ends to take hold of journals on opposite sides of the boxes, by which the connection is made with the crank-pin and the knife-heel.

Notwithstanding that the pitman-joints are of the character of universal joints, the cutting apparatus, by reason of being pivoted at a point different from the point where the pitman is pivoted to the crank-pin, has certain motions which are not provided for by these joints, and the consequence is, that in making these motions the pitman, as now commonly made, binds on its journals, and rapid wear of the joints ensues. To obviate this difficulty, and provide for all possible motions of the parts, I make the pitman of two separate bars, held together near the ends only by the tie-bolts usually employed to draw the bifurcated ends together for making a snug fit on the journals, the tie-bolts being so fitted to the bars of the pitman that the said bars may have endwise motions, thus accommodating themselves to the journals, and in such a manner that the strain will always be equally divided between the bars.

In the annexed drawing, Figure 1 is a side elevation of my improved pitman. Fig. 2 is a plan view of the same. Fig. 3 illustrates a mode for thickening the pitman at the ends, to form wide bearings for the journals of the boxes.

The same letters of reference indicate like parts in all the figures.

A and B refer, respectively, to the two bars of the pitman, which are preferably made of low-tempered steel, running parallel to each other, being suitably bent to form bifurcations at the ends, when arranged side by side, as shown, one end being twisted at a right angle, or thereabout, so that the journals *c c* of the box C, which connects onto the crank-pin, will stand at a right angle, or thereabout, to the journals *d d* of the box D, which connects onto the knife-heel.

The journals of the boxes are made tapering, fitting tapering eyes or bearings in the ends of the pitman-bars, so that any wear of the parts may be taken up by drawing the bars of the pitman together at the ends, which may be accomplished by setting up the nuts of the tie-rods E and F, whereby the bars of the pitman are held together, and clamped onto the journals of the boxes.

These tie-rods have an ordinary manufacturer's fit with the holes in the pitman-bars through which they pass, such a fit being loose enough to provide for the required slight independent endwise motions of the bars.

The bars should be so formed that they will hug each other closely from fork to fork, so as to give support to each other, and thus provide for lateral stiffness of the pitman.

Since the bars are made rather thin, it will probably be advisable to thicken them at the ends to increase the bearing-surface for the journals of the boxes. This may be done by upsetting; but I prefer to double the ends for this purpose, as shown in Fig. 3.

The journals may be formed on the pitman-bars, and fitted to countersinks on the boxes.

What I claim as my invention, and desire to secure by Letters Patent, is—

A pitman, substantially such as described, composed of two separate bars, bent to form forks at the ends, where they are connected together, so that the bars can independently adjust themselves to compensate for deviations in the alignments of the journals and bearings.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

HARVEY L. HOPKINS.

Witnesses:

MARTIN CONNOLLY,

CHAS. A. NEALE.