C. B. Garlinghouse,

Pitman.

No. 39,094. Patented June 30, 1863.

Fig. 3.

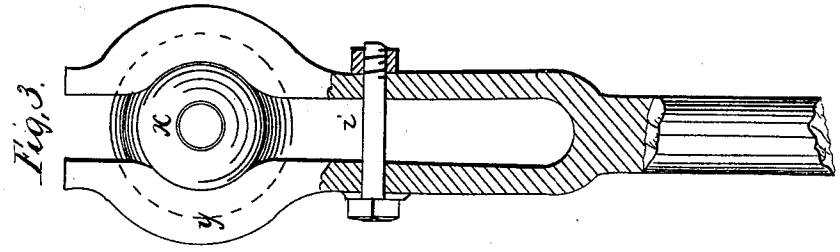


Fig. 2.

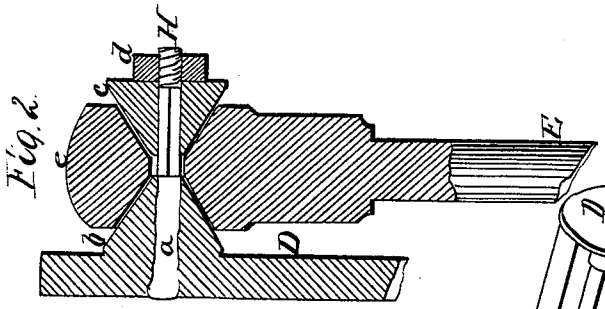
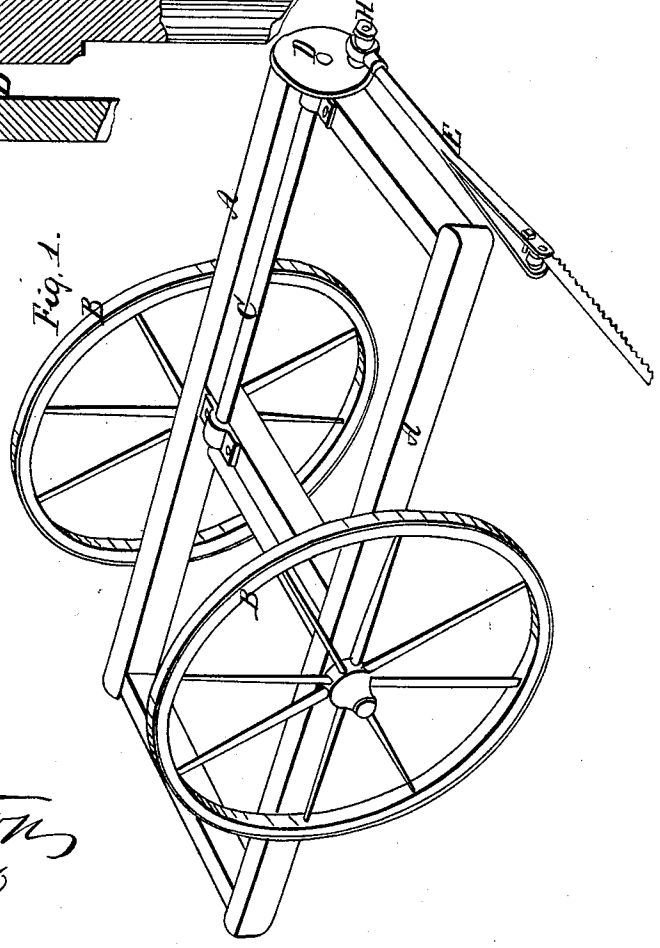


Fig. 1.



Witnesses,

H. Sorton

D. L. Reid

UNITED STATES PATENT OFFICE.

C. B. GARLINGHOUSE, OF ALLENSVILLE, INDIANA, ASSIGNOR TO HIMSELF, GEO. B. GARLINGHOUSE, AND J. DICKASON, OF SAME PLACE.

IMPROVEMENT IN CRANK-WRISTS.

Specification forming part of Letters Patent No. **39,094**, dated June 30, 1863.

To all whom it may concern:

Be it known that I, C. B. GARLINGHOUSE, of Allensville, in the county of Switzerland and State of Indiana, have invented a new and useful Improvement in Crank-Wrists; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon.

My invention applies more particularly to short cranks that are operated at a high speed, where the connection of the pitman with the wrist requires to be snug and free from play or "lost motion," and it affords the means of connecting the pitman with the wrist without the use of the ordinary "strap-joint," including the gib and key. It may, however, be used with advantage on cranks of any dimension, its simplicity of construction and facility of tightening being important features, and it may be made of any required strength.

I will now proceed to describe my invention, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of a frame mounted on wheels, representing several parts, including the crank-shaft, crank, and pitman of a harvester. Fig. 2 is an enlarged sectional representation of the crank, crank-wrist, and pitman in which my improvement is shown. Fig. 3 is a representation of a ball-wrist, which will be referred to hereinafter.

Like letters of reference indicate like parts so far as the same are represented in Figs. 1 and 2.

A is the frame; B, the wheels or driver; C, the crank-shaft; D, the crank; E, the pitman; F, a serrated cutter. These parts illustrate corresponding parts of an ordinary harvester.

H is the crank-wrist, to which pitman E is attached. The construction of the wrist is as follows: *a* is a bolt passing through the crank in the place of an ordinary wrist, and through the center of a conical projection, *b*, which either rests with its base against the face of the crank D or is attached thereto and made a part thereof, as represented. *c* is a conical piece carried by bolt *a*. It is made with a square central eye adapted to and nicely fitting a squared part upon that portion of bolt *a* which projects beyond the apex of *b*. The bolt *a* receives a nut, *d*, at its outer end, which acts against the base of *e* with a purpose and effect which will presently appear. The end of pitman E, instead of being fitted with a cylindrical hole to receive the wrist, or being made with a "stub end" for a strap-joint, is made with a round eye enlarged outwardly in both directions from the center, affording conical spaces, one upon each side, into which the conical parts *b* and *c* are received, the latter being nicely fitted to the spaces. It will now be apparent that by turning up the nut *d* the cone *c* is compressed into the conical recess, to which it is adapted, in the end of the pitman, confining the latter as closely as may be necessary between the conical pieces or parts *b* and *c*. As the parts become worn and loose, they may be readily tightened by again turning up screw-nut *d*. The cone *c*, it will be noticed, being fitted by a square eye to bolt *a*, is not permitted to rotate thereon; hence the nut *d* is not liable to become loose. It may, moreover, be rendered additionally secure, if necessary, by an extra nut on the same thread. The small area *e* in the center between the apexes of the cones *b* and *c* affords a convenient receptacle for oil, which can only escape by passing through between the surfaces of contact, thereby lubricating them perfectly. An obvious equivalent for the device which I have described could be made by projecting the conical part *b* through or nearly through the pitman, and employing a plain fixed washer on the outer face of pitman, set up by a nut similar to the nut *d*.

The inner cone, *b*, may be made a part of the crank D, and finished to receive the pitman in the manner herein shown; or it may be made separately and slip into its place on bolt *a;* or it may be forged as a part of said bolt. I prefer the construction herein described, when the cone can be conveniently finished on the crank, as more rigidity and strength are afforded.

Fig. 3 is an illustration of a crank-wrist in which an enlargement is formed on the wrist, and the end of the pitman being bifurcated, the two parts are recessed to receive the enlarged part of the wrist, which they inclose in the manner represented, being tightened and caused to retain their hold upon the wrist by a screw-bolt. In this drawing *x* is the wrist, an outline of the enlargement being represented in dotted lines. *y* is the pitman, bifurcated, as

above stated, and *z* is the screw-bolt, the operation of which will be readily understood.

Having fully described my invention in crank-wrists, what I claim as new, and desire to secure by Letters Patent, is the following:

In the construction of crank-wrists, the cones *b* and *c*, adapted to the pitman E, and arranged in reference thereto substantially in the manner and for the purpose herein shown and described.

CYRUS B. GARLINGHOUSE.

Witnesses:

JOHN DICKASON,

F. A. BROCK.