G. W. HARRISON.

KNIFE-HEADS FOR HARVESTERS.

No. 169,696. Patented Nov. 9, 1875.

Fig. 1.

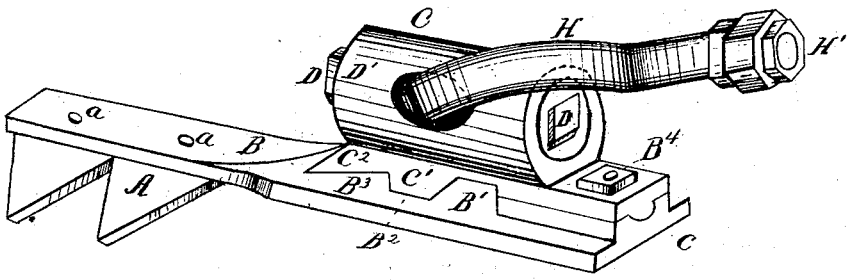


Fig. 2.

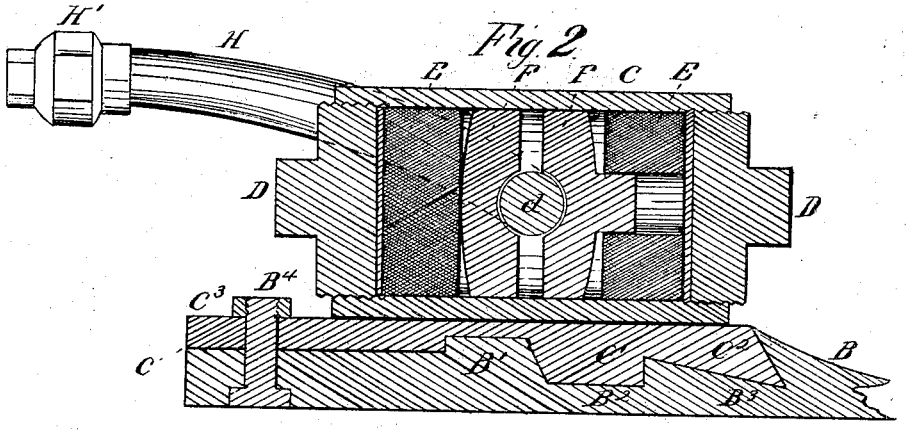


Fig. 3.

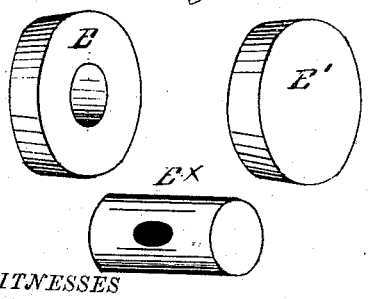
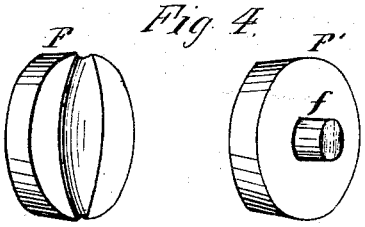


Fig. 4.



WITNESSES

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GEORGE W. HARRISON, OF LANSING, MICHIGAN.

IMPROVEMENT IN KNIFE-HEADS FOR HARVESTERS.

Specification forming part of Letters Patent No. **169,696**, dated November 9, 1875; application filed September 29, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. HARRISON, of Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Knife-Heads for Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to reapers, mowing-machines, and others of the class of harvesters; and consists in a novel construction and arrangement of the knife-head or pitman connection or coupling for connecting the pitman to the cutting-knife.

The object of my invention is to so construct the coupling-head by which the pitman is united to the cutter-blade of harvesters as to adapt the head to be applied to the knives of any and all harvesters now in use, and be changed from one knife to another without cutting the rivets used to secure the head to the knife, or remove the head base-plate from the knife.

In order to accomplish this, instead of making the coupling-head or boxes square and united to, and a permanent part of, the heel or base plate, as shown in the patent granted to me September 26, 1871, No. 119,356, I make the head of a hollow cylinder, and separate and detachable from the head-plate, and unite the two by a peculiar varied joint, as hereinafter more fully set forth and shown.

In the drawings, Figure 1 is a perspective view of my coupling or head as secured to the knife and pitman; Fig. 2, a vertical central longitudinal section of same; Fig. 3, detached views of the two forms of rubber bearings or packing; and Fig. 4, detached views of the two forms of metal bearings or boxes for the end of the pitman-connection.

A is the harvester-knife, to the heel of which is secured, by bolts or rivets *a*, the head or coupling base plate or bar B. C is the coupling-head, and H the pitman-arm, united to the pitman by the screw-coupling H′. The coupling-head is constructed of a hollow cylinder, C, constructed on its under side with peculiar and varied undercut portions, C^1 C^2, and a rear tongued portion, C^3 *c*, which fit into correspondingly formed or recessed portions B^1 B^2 B^3 in the plate B, the cylinder and base-plate being held in place together at the rear by a screw-bolt, B^4, which passes through both base-plate B and rear projection C^3. These projections, notches, &c., on the base of the cylinder and in the base-plate may be varied, or of any particular or desired form or construction, and be varied in different machines, and the cylinder may be so formed as to adapt it to fit any base-plate, no matter what the particular form the intermediate notch or slot may be. Within the cylinder C, at each end, are screw-plugs or heads D D, which abut against rubber blocks E E. F F are metal boxes, between which the projecting end *d* of the coupling-arm H of the pitman is housed. These rubber blocks or packings may be made solid, as shown at E, or with a central hole, *e*, as shown at E′, Fig. 3, or it may be one solid block, just fitting within the cylinder, with a hole in the side, as shown at $E^{\times}$; and the metal bearings or boxes F F may also be solid—that is, with a plain curved back, as shown at F, which fits against the solid packing E, or with a projection, *f*, at the back, as shown at F′, Fig. 4, which fits into the central hole *e* in the rubber packing E′, whereby the metal bearing is always held secure in position. The cylinder C is formed with an oblong hole, D′, at one side, through which the arm H of the pitman passes.

By this construction and arrangement it will be seen that the head may be readily and quickly removed from the knife, and without removing the heel or base plate, and applied to another knife, and the coupling-head is of such small size and shape that it may be applied to any machine without interfering with the other parts.

The rubber packing within the coupling-head, surrounding the arm of the pitman, is compressed or driven against the pitman by screwing up the screw-heads D D as the packing wears away. Thus all noise, jar, and rattling of the parts are prevented, and all jar of the driving mechanism is received thereby, and not transmitted to the knife; but an easy elastic motion is communicated thereto.

I have described the head as being of a cy-

lindrical external shape; but I do not confine myself to this particular form, the gist of the invention being in the screw-heads, to compress the journals.

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

1. In combination with the knife A, the base or heel plate B, secured to the knife by rivets *a*, and constructed at its top rear edge with undercut varied projections or joints B^1 B^2 B^3, and for the purposes described.

2. In combination with the plate B, constructed with projections and recesses B^1 B^2 B^3, the coupling-head C, constructed with varied recessed and notched base C^1 C^2 C^3 fitting therein, as and for the purposes described.

3. A coupling-head or pitman-connection for harvesters, made in two separate and distinct parts, whereby the head may be removed from the base-plate, by which it is secured to the heel of the knife and applied to different blades of different harvesters, substantially as and for the purposes described.

4. The coupling-head or pitman-connection for harvesters, composed of separate and removable head C and base-plate B, the two united by a joint between the two and bolt B^4, and to the knife by rivets or bolts passing through the knife and plate, substantially as and for the purposes described.

5. The hollow coupling-head C, constructed with varied notched base C^1, and provided at each end with screw-plugs D D, as and for the purposes described.

6. In combination with the hollow coupling-head C, constructed with varied notched base C^1, and screw-plugs D D at each end, the rubber packing E E, and metal boxing F F, placed at each side of the pitman-arm and adapted to be adjusted independently of each other by the screw-heads D D, as and for the purposes described.

7. In combination with the hollow head C and screw-heads D D, the rubber packing $E^\times$ fitted within the head C and adapted to be adjusted at either end by the plugs D D, as and for the purposes described.

8. In combination with the head C and packing E F, the bent arm H, entering the cylinder through oblong opening D^2, and connected to pitman by screw-coupling H′, as and for the purposes described.

9. The combination of knife A, cylinder C, base-plate B, made separate therewith, and pitman-arm H, entering the cylinder only at one side, as and for the purpose described.

10. The pitman-connection for harvesters, composed of separate base-plate B and cylinder C, screw-heads D D, rubber packing E E, metal boxes F F, and pitman-arm H, all constructed and united substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of September, 1875.

GEORGE W. HARRISON.

Witnesses:

SCHUYLER S. OLDS,

CHARLES J. OLIN.