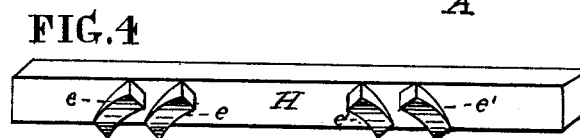
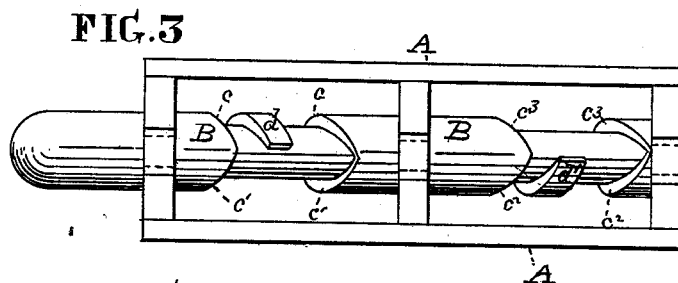
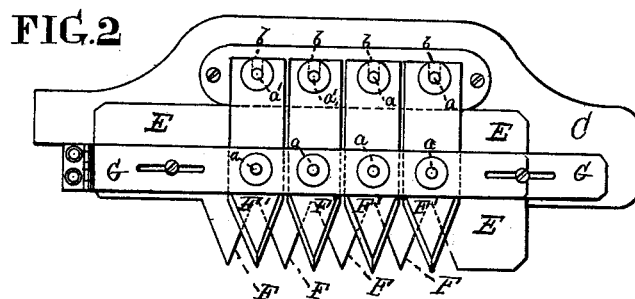
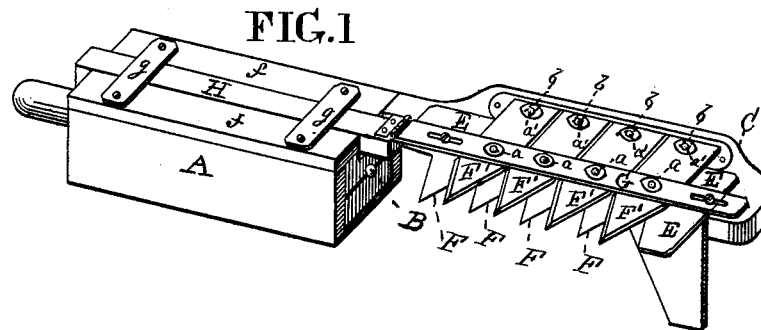


T. E. PAGE.  
Cutting Apparatus for Harvesters.  
No. 219,756.      Patented Sept. 16, 1879.



*Witnesses.*  
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# UNITED STATES PATENT OFFICE.

TRUMAN E. PAGE, OF GENOA, ASSIGNOR OF ONE-HALF HIS RIGHT TO  
CHRISTOPHER C. FLETCHER, OF LA CROSSE, WISCONSIN.

## IMPROVEMENT IN CUTTING APPARATUS FOR HARVESTERS.

Specification forming part of Letters Patent No. 219,756, dated September 16, 1879; application filed  
May 19, 1879.

*To all whom it may concern:*

Be it known that I, TRUMAN E. PAGE, of Genoa, in the county of Vernon and State of Wisconsin, have invented a new and useful Improvement in the Cutting Apparatus for Harvesters, of which the following is a specification.

The invention consists in the combination of a connecting-bar with a revolving shaft having screw-shaped cams at each end, which engage with inclined ribs on the under side of the bar, for giving a reciprocating movement to the sickle-bar, as hereinafter fully described.

In the accompanying drawings, which make a part of this specification, Figure 1 is a perspective view of my improved cutting apparatus for harvesters. Fig. 2 is a plan view of the sickle-bar G, upper cutters, F', and lower cutters, F, and bed-plate, on an enlarged scale. Fig. 3 is a top view of the frame A with the guide-strips *f f* removed. Fig. 4 is a perspective view of the connecting-bar H.

Like letters of reference in all the figures indicate the same parts.

A is a supporting-frame for the driving-shaft B and parts connected therewith. C is a bed-plate for supporting the sickle-bar and cutters. E is a plate, having the lower cutters, F, at one edge; and G, the sickle-bar, which is permanently connected at its ends with said plate, there being a slot formed in the middle part of the bar, between it and the plate, for the reception of the shanks of the sickles, F', which are connected with the bar and plate by means of the pivots *a*. The heel ends of the shanks have slots *b*, which turn freely on the pivots *a'* in the usual manner. H is a connecting-bar, which has a joint-connection at one end with the sickle-bar, as seen in Fig. 1, for giving a reciprocating movement thereto. It is operated by means of the driving-shaft B, which is provided at one end with screw-shaped cams *c c*, which run around one-half the circumference of the shaft in one direction, and from these cams proceed like cams *c' c'*, which run around the other half of the circumference in the other direction to the place of beginning, as represented in Fig. 3. Between the cams *c c* there is a sectional screw-thread or cam, *d*. At the other end of

the shaft there are cams *c<sup>2</sup> c<sup>2</sup>* at the opposite side to that having the cams *c c*, and continued from them are cams *c<sup>3</sup> c<sup>3</sup>*, completing the cam form around the whole circumference of the shaft; and between the cams *c<sup>2</sup> c<sup>2</sup>* there are sectional screw-threads or cams *d'*. The connecting-bar H is provided at one end with inclined lugs *e e*, adapted to engage with the cams *c c* and *d*, and at the other end with lugs *e' e'*, which are inclined in the other direction and adapted to engage with the cams *c<sup>2</sup> c<sup>2</sup>* and *d'*. The connecting-bar has guide-strips *f f* at its edges, and is held down in its place by means of the cross-plates *g g*, that are confined to said strips.

The operation is as follows: The driving-shaft B, being revolved in either direction, so as to alternately engage the cams *c c* and *d* at one end of the shaft B with the inclines *e e* of the connecting-bar H, and the cams *c<sup>2</sup> c<sup>2</sup>* and *d'* at the other end of the shaft with the inclines *e' e'* at the other end of the bar, and the cams at one end of the shaft running in the reverse direction to those at the other end, a reciprocating motion is given to the connecting-bar, and through it to the sickle-bar, for operating the lower cutters, F, and the upper cutters, F', to give a reciprocating movement to the lower and upper cutters simultaneously in the longitudinal direction of the sickle-bar, and an oscillatory movement to the upper cutters as they are caused to turn upon their pivots by the longitudinal movements of the bar.

In consequence of the shanks of the sickles or upper cutters, F', being pivoted to the sickle-bar G, and the lower cutter-plate, E, and oscillating on the pivots *a'*, the sickles are caused to travel much faster than the lower cutters, whereby a shearing operation is produced.

I claim as my invention—

The driving-shaft B, having cams *c c d* and *c' c'* at one end, and cams *c<sup>2</sup> c<sup>2</sup>* and *c<sup>2</sup> c<sup>2</sup>* and *d'* at its other end, in combination with the connecting-bar H, having inclined lugs *e e* and *e' e'*, substantially in the manner and for the purpose set forth.

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Witnesses:

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