

E. F. HERRINGTON.
MOWER.

No. 175,091.

Patented March 21, 1876.

Fig 1.

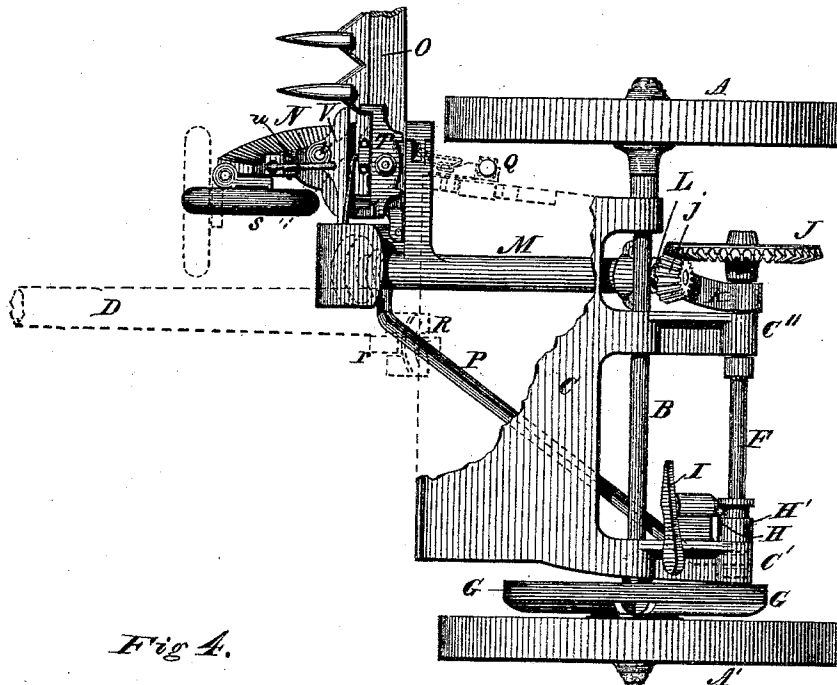


Fig 4.

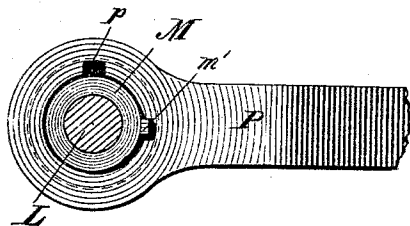
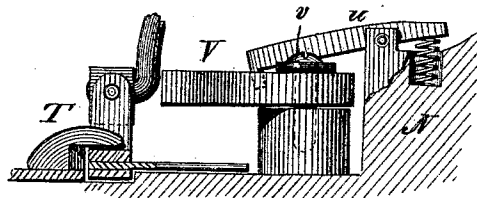


Fig 5.



WITNESSES

Harry King

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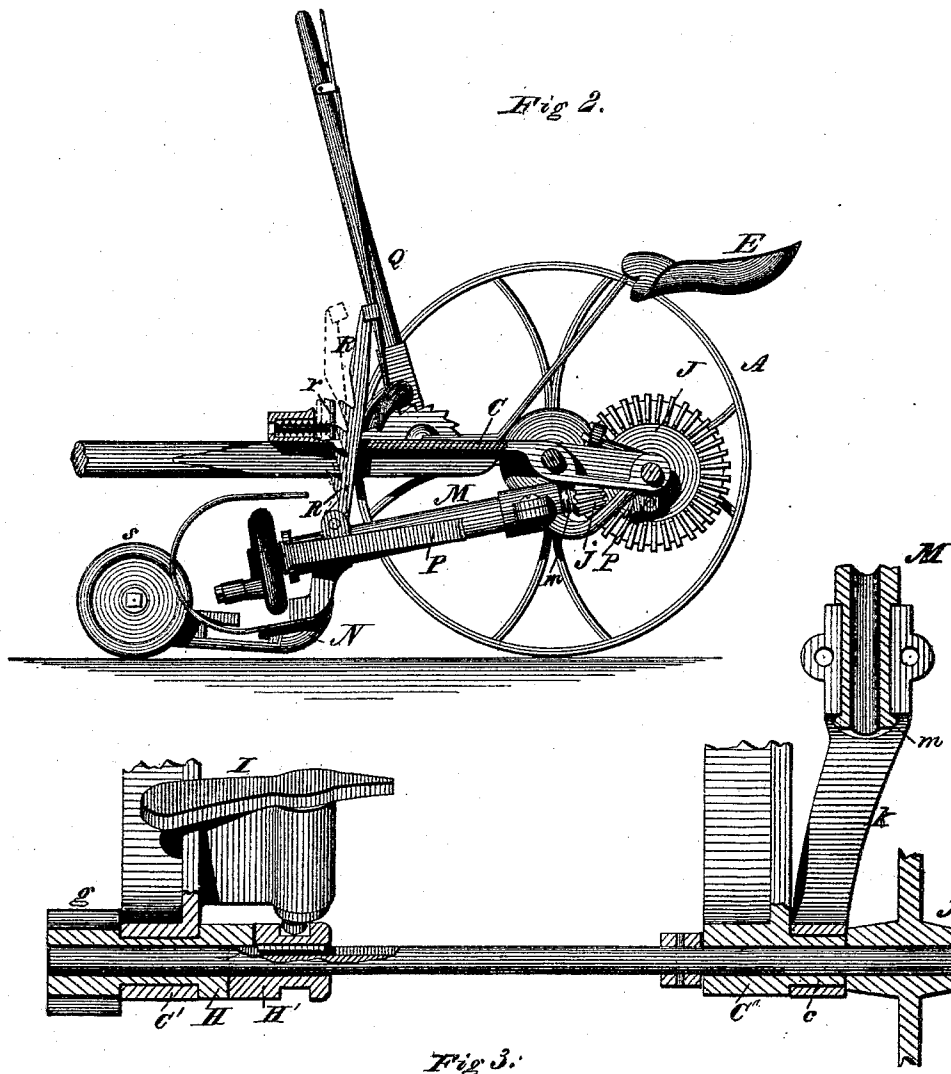
INVENTOR

Wm. D. Baldwin, his Attorney

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UNITED STATES PATENT OFFICE.

EPHRAIM F. HERRINGTON, OF WEST HOOSICK, NEW YORK.

IMPROVEMENT IN MOWERS.

Specification forming part of Letters Patent No. **175,091**, dated March 21, 1876; application filed July 11, 1874.

To all whom it may concern:

Be it known that I, EPHRAIM F. HERRINGTON, of West Hoosick, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Harvesters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings which make part of this specification, and in which—

Figure 1 represents a plan view of so much of a mowing-machine, embodying my improvements in the best way now known to me, as is necessary to illustrate the subject-matter herein claimed. Fig. 2 represents a vertical section therethrough on the line *xx* of Fig. 1. Fig. 3 represents a longitudinal vertical section through the counter-shaft on the line *yy* of Fig. 1, showing certain details of the gearing. Fig. 4 is a detail view, showing the method of connecting the coupling-arm and thrust-bar. Fig. 5 is a view showing the details of the pitman-holder and guide.

My invention relates to the shipping-clutch on the counter-shaft; to the connection of the crank-shaft with the counter-shaft; to the method of forming the thrust-bar and shoe; to the method of interlocking the coupling-arm and thrust-bar, and to the swinging clip, pitman-guide and holder.

The subject-matter claimed is hereinafter specified. The parts of the machine not hereinafter specifically described are of well-known forms of construction common in hinge-joint harvesters.

Two driving-wheels, *A A'*, turn freely on an axle, *B*, with which they are connected by the usual backing-ratchets. A frame, *C*, is pivoted on this axle, provided with a tongue, *D*, and supports a seat, *E*, for the driver. Arms *C¹ C²* projecting from the frame afford bearings in which a counter-shaft, *F*, turns. An internal spur-wheel, *G*, fixed on the main axle *B*, drives a corresponding pinion, *G*, Fig. 3, on a sleeve, *H*, through which the counter-shaft passes, and in which it turns freely, the sleeve itself also revolving in its bearing in the arm *C¹*. The inner end of this sleeve is provided with a clutch interlocking with a corresponding one on a collar, *H'*, capable of sliding freely endwise on and of turning with the counter-shaft, being connected therewith by the usual groove

and pin. A crank-arm, *I*, mounted on a bracket on the frame throws the clutch into and out of gear. When out of gear the sleeve *H* alone turns, while the counter-shaft remains stationary. When in gear both counter-shaft and sleeve turn together. The other end of the counter-shaft turns in a box in the arm *C²* and carries a bevel-wheel, *J*, which is fast thereon and gears into a corresponding pinion, *j*, on a crank-shaft, *L*, from which the cutters are driven by a crank and pitman, as usual. A shoulder is formed on the box *C²*, so as to form a projecting collar, *c*, Fig. 3, on which an arm, *k*, swings. The outer end of this arm forms a bearing in which the thrust-bar or sleeve *M*, in which the crank-shaft turns, is mounted, a neck being formed upon the sleeve so as to form a flange, *m*, on its end, which constitutes a stop, and thus prevent the sleeve from being drawn out of its bearing, while leaving it free to turn. This is quite important, as the tubular sleeve or thrust-bar is cast with or forms part of the usual shoe *N* to which the finger-beam *O* is secured, and consequently the shoe should be free both to rise and fall and to turn on the sleeve. The shoulder formed on the thrust-bar or sleeve at the lower or forward end of the neck provides a thrust-bearing against the end of the arm *k* and prevents a backward or endwise movement of the bar in its bearing, which is made in sections detachably united by bolts or screws, (see Figs. 2 and 3,) to admit of the insertion and removal of the bar. The coupling-arm *P* is pin-jointed at its rear end to a down-hanger from the arm *C¹* of the frame, while its forward end is connected with the sleeve *M* by means of an eye on the coupling-arm, which slips over the sleeve. In order to lock these parts securely together while permitting them to flex freely, and to render them easily detachable, a stud, *m'*, is formed on the sleeve, and a corresponding notch, *p*, Fig. 4, is made in the coupling-arm, the relation being such that these only coincide when the finger-beam is turned down to an unusual position, so that the sleeve and coupling-arm may not become disconnected in the ordinary working of the machine. When the stud and notch coincide the coupling-arm is slipped on the sleeve and locked there by turning the latter until the stud passes in front of the solid

part of the coupling-arm, when the coupling-arm and sleeve or thrust-bar will be securely locked together while free to flex as required. The finger-beam and coupling-frame are raised by the usual lifting-chain and lever Q. Ordinarily the inner end of the finger-beam would be first lifted until the heel struck a stop on the coupling-frame, when both ends would rise. In order to lift the outer end first, when desired, I pivot a swinging detent, R, on the coupling-arm and pass it through a slot or loop in the frame. Ordinarily a spring-stop, r, on the frame holds this detent out of gear, but, when pushed forward, it interlocks with the frame and holds the coupling-frame down while the divider end of the finger-beam is lifted. It will thus be seen that the location of this detent on the coupling-frame is essential.

The leading-wheel S is mounted in a bracket pivoted on the toe of the shoe, so as to allow it to turn (see dotted lines, Fig. 1) to follow changes in the line of draft.

In order readily to connect and disconnect the pitman and sickle, a hook on the former is inserted in an eye in the latter, the two working between a guide, T, and a holder, V. This holder turns on a fulcrum, v, (when the leading-wheel is turned out of the way,) to allow the pitman to be removed or replaced, but ordinarily is held fast by a spring-stop, u, taking into a notch in the holder.

The operation of my improved devices will be apparent from the foregoing description.

I claim as of my own invention—

1. The sleeve H, constructed as described, turning freely on the counter shaft and in its bearings in the main-frame arm, but, having

no endwise movement, and carrying a pinion at one end and a clutch at the other, in combination with the interlocking sliding clutch-collar H', turning with the counter-shaft, the crank-arm I, and the pinion J fast on the counter-shaft, as set forth.

2. The arm k, constructed as described, in combination with the main-frame arm C², through which the counter-shaft passes, its collar c, on which the arm k swings, the tubular sleeve or thrust-bar M through which the crank-shaft passes, swiveled at its rear end in the arm k, and the hinged coupling-arm P interlocking with the thrust-bar, substantially as and for the purposes set forth.

3. The shoe and tubular thrust-bar and crank-shaft sleeve constructed in one piece, having a neck and stop formed at the upper end, and swiveled in the swinging arm k, substantially as and for the purpose set forth.

4. The combination of the tubular sleeve or thrust-bar and coupling-arm, provided with an interlocking notch and stud, substantially as set forth.

5. The combination of the sickle, the pitman, the guide T, the horizontally-swinging holder V, and the spring-stop u, taking into the holder, these members being constructed and operating, substantially as set forth, to permit of the ready connection or disconnection of the pitman and sickle.

In testimony whereof I have hereunto subscribed my name.

E. F. HERRINGTON.

Witnesses:

JOS. T. K. PLANT,
CHARLES F. PLANT.