Sheet No. 1.
2 Sheets.

C. Tompkins.

Mower.

No. 53057 Patented Mar. 6, 1866.

Fig. 2.

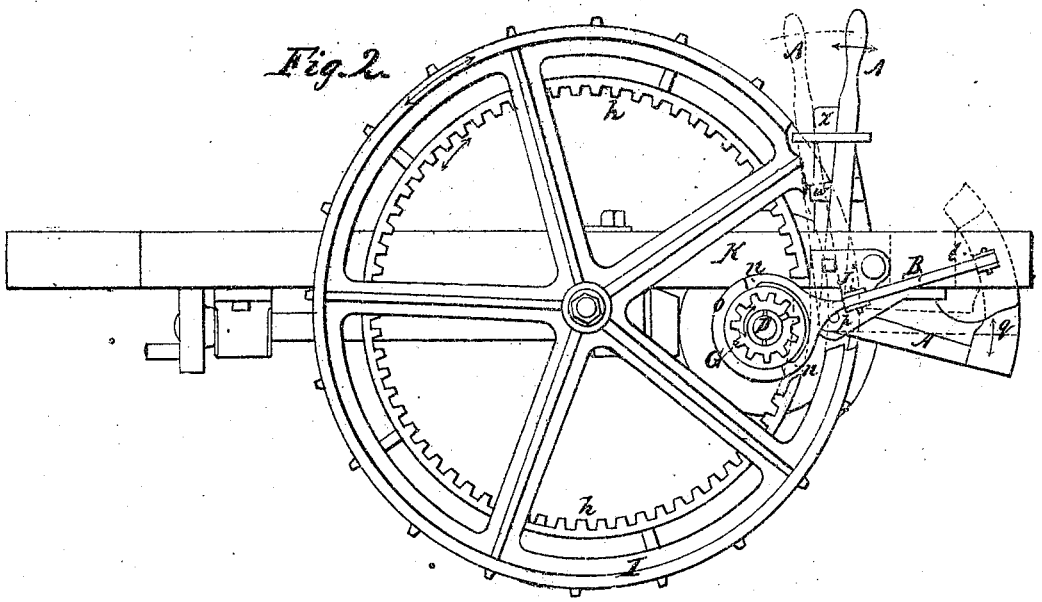
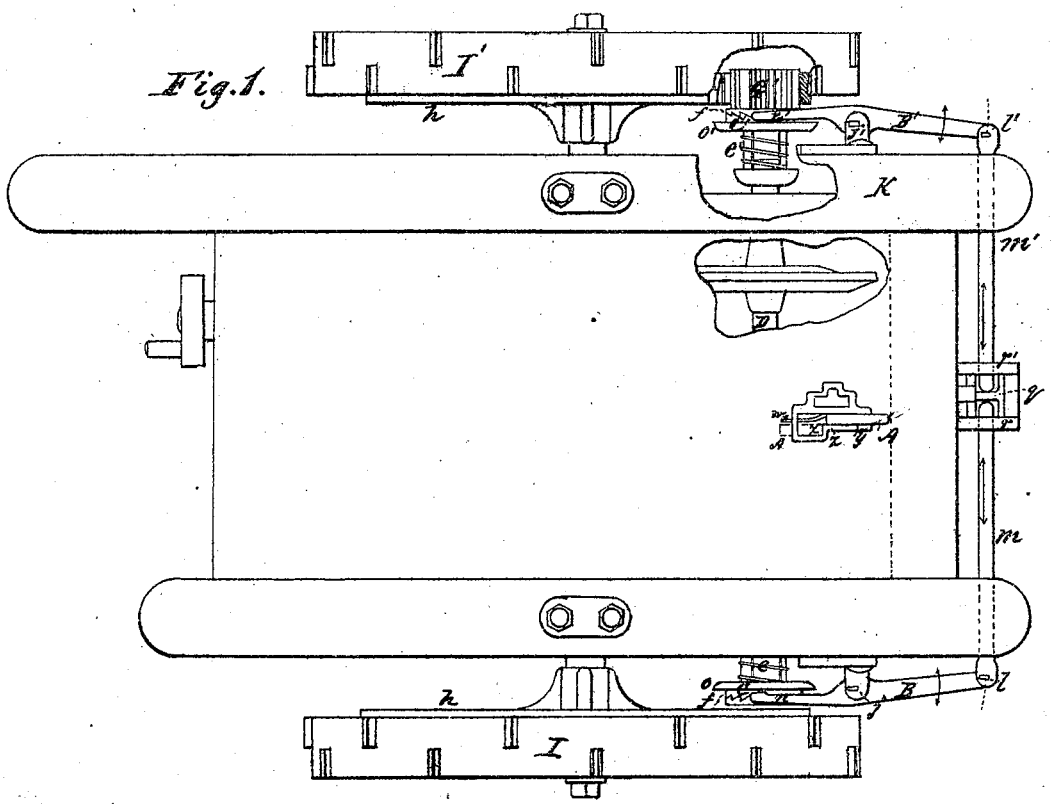


Fig. 1.



Witnesses.
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Austin F. Park

Inventor.
Clark Tompkins

Sheet No. 2
2 Sheets.

C. Tompkins.

Mower.

No. 53057 Patented Mar. 6, 1866.

Fig. 4.

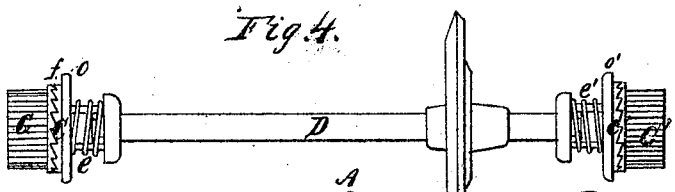


Fig. 3.

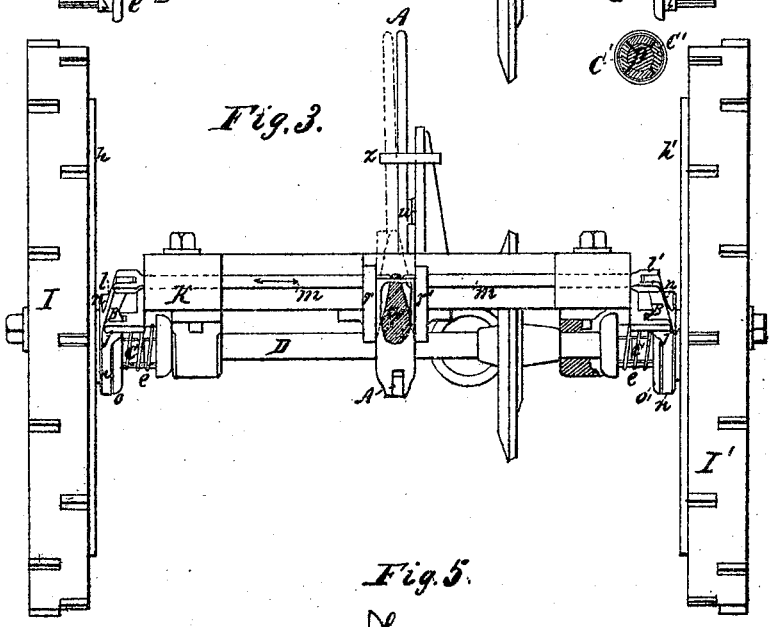
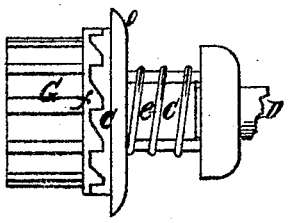


Fig. 5.



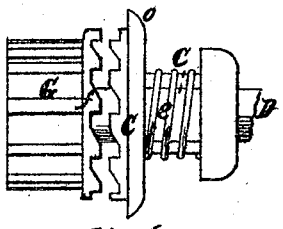


Fig. 6.

Witnesses.
James A. Wood
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Inventor.
Clark Tompkins

UNITED STATES PATENT OFFICE.

CLARK TOMPKINS, OF TROY, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **53,057**, dated March 6, 1866.

To all whom it may concern:

Be it known that I, CLARK TOMPKINS, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Harvesters for Cutting Grain or Grass; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a broken plan; Fig. 2, a broken side elevation; Fig. 3, a broken end elevation, and Figs. 4, 5, and 6 views of parts on various scales, all of a portion of a mowing-machine embodying my said invention, like parts being marked by the same letters in all the figures.

My invention relates to that well-known class of grain or grass harvesters or reaping or mowing machines wherein each machine has a main driving-shaft, D, from which motion is communicated to the cutting apparatus of the machine, and which is turned in a frame, K, by two separate rotary wheels or pinions, G G′, which are loose on that shaft, and have right and left ratchet-teeth *f f′*, which engage with corresponding left and right ratchet-clutches C C′, that turn with and are movable endwise upon the said cutter-driving shaft D; and my invention consists in the combination and arrangement, in a machine of the aforesaid class, of a hand-lever, A, wedge or cam *q*, two connecting-rods, *m m′*, two clutch-levers, B B′, and springs *e e′* with the ratchet-clutches C C′, substantially as follows, viz: The lever A has one arm extended upward above the platform or frame K of the machine, and has its fulcrum so located that a person riding on the machine, in using the latter, can then readily take hold of and vibrate that arm of the lever to and fro with one hand. The wedge or cam *q* is mounted on or connected to and vibrated or rocked by the lever A, and the rods *m m′* are movable endwise to and fro in and crosswise of the frame K, and have their inner ends on opposite sides of the cam or wedge *q*, and their outer ends connected to the clutch-levers B B′, which are pivoted to and arranged on the lateral sides of the said frame, and so as to be capable of pressing the clutches C C′ only inward or toward each other. The springs *e e′*, Figs. 1, 4, 5, 6, are mounted wholly upon that shaft D, so that they turn with that shaft when it is revolved, and those springs constantly press outward against the ratchet-clutches C C′, and keep the latter engaged with the corresponding ratchet-teeth *f f′* of the wheels or pinions G G,′ except when the clutch-levers B B′ are made to press inward against the said clutches C C′, so as to overcome the outward pressure of the springs *e e′* and disengage those clutches from the ratchet-teeth *f f′*; and the clutch-levers B B′ are so arranged that they do not bear or press against the clutches C C′, or any other rotary part of the machine while those clutches are engaged with the wheels or pinions G G′, except for the instant when the clutch-levers are in the act of disengaging those clutches from the said wheels or pinions; and the aforesaid parts are all so combined that upon moving the upward arm of the lever A in one direction—as, for example, from its position in full lines to the one in dotted lines in Fig. 2—the lever A will then move the wedge or cam *q*, and thereby move the rods *m m′* endwise, and make them move the levers B B′, and thereby cause the latter to press against and move the clutches C C′ inward, so as to disengage those clutches from the ratchet-toothed wheels or pinions *f* G *f′* G′, and thereby stop or prevent the shaft D from turning; and that upon moving the upward arm of the lever A in the opposite direction, as from its position in dotted lines to the one in full lines in Fig. 2, the lever A will then move back the wedge or cam *q*, and thereby release the rods *m m′* and levers B B′, so as to let the springs *e e′* move the clutches C C′ outward into the teeth *f f′* of the wheels or pinions G G′, and thereby make the latter turn the shaft D when those wheels or pinions revolve.

By my aforesaid combination and arrangement of a hand-lever, A, wedge or cam *q*, connecting-rods *m m′*, clutch-levers B B′, and springs *e e′* with the ratchet-clutches *c c′*, shaft D, ratchet-toothed wheels or pinions *f* G *f′* G′, and frame K, a person riding on the machine when using the latter can then operate the wedge or cam *q* by moving the upper end of the lever A to and fro in a different and more convenient direction than that in which the wedge itself moves, and can thereby operate the wedge or cam *q* more easily or with less difficulty than he could if the

lever A were entirely absent and he was obliged to take directly hold of the wedge or cam itself, and thereby push and pull it up and down to move the rods *m m'* and levers B B', even though the wedge should be extended above the frame of the machine to within reach of the person riding thereon; and by having the levers B B' press against the clutches C C' only while the latter are being disengaged from and held stationary out of the teeth *f f'* of the wheels or pinions G G', as above described, those levers do not rub or wear or make frictional resistance against the clutches C C', as they would do if they pressed against and thereby held those clutches engaged with the wheels or pinions *f* G *f'* G' while the clutches *c c'* revolved; and by having the clutches *c c'* pressed into and held engaged with the ratchet-toothed wheels or pinions *f* G *f'* G' by springs *e e'*, mounted on the shaft D, as above described, such springs do not cause wear or produce any such injurious friction against the clutches *c c'* when the latter revolve as would be caused by having those clutches pressed into and held engaged with the said wheels or pinions by springs fastened to the frame of the machine or to the clutch-levers or not revolved with the said shaft D.

In carrying my invention into operation I make the aforesaid elements thereof in any suitable shape and connect them together and retain the hand-lever in the two different positions wherein it will keep the ratchet-clutches engaged with and disengaged from the ratchet-toothed wheels or pinions by any suitable means, whereby all of the conditions and advantages hereinbefore specified as attending my invention will be secured. Thus, for example, in the machine shown in part by the aforesaid drawings the hand-lever A is of an L form, and is pivoted at *p*, Fig. 2, to the frame K, and the wedge or cam *q* is of a V form, and is kept in place with the inner ends of the rods *m m'* by guides *r r'* on said frame, and the rods *m m'* are pivoted at *l l'* to the clutch-levers B B', and the latter are pivoted at *j j'* to the frame K, and have their ends *n n'* forked, so as to bear properly against the outer lateral sides of flanges or collars *o o'* on the clutches *c c'*, while the springs *e e'* are in the form of spirals around the shanks of the clutches; and the upward part of the hand-lever A is capable of being moved a little sidewise, as indicated by the full and dotted lines in Fig. 3, and a guide-holder, *z*, with a catch, *x*, Fig. 1, and a spring, *w*, is arranged so as to retain the lever A in either of the two positions (shown in full and dotted lines in Figs. 1, 2, and 3) required to keep the clutches *c c'* engaged with or disengaged from the ratchet-teeth *f f'* of the wheels or pinions G G'; and my invention is equally applicable, whether the ratchet-teeth *f f'* are fast on spur-toothed pinions loose on the shaft D and gearing into and turned by toothed rings *h h'*, fast on two separately-turning driving-wheels, I I', or fast on two such driving-wheels loose on the shaft D in the place of the pinions.

What I claim as my invention in grain or grass harvesters or reaping or mowing machines, and desire to secure by Letters Patent, is—

The combination and arrangement of a hand-lever, A, wedge or cam, *q*, rods *m m'*, clutch-levers B B', and springs *e e'* with the shaft D, ratchet-clutches *c c'*, ratchet wheels or pinions *f* G *f'* G', and frame or platform K, substantially as herein set forth.

CLARK TOMPKINS.

Witnesses:

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AUSTIN F. PARK.