

S. C. COBB.
Harvester.

No. 213,494.

Patented Mar. 25, 1879.

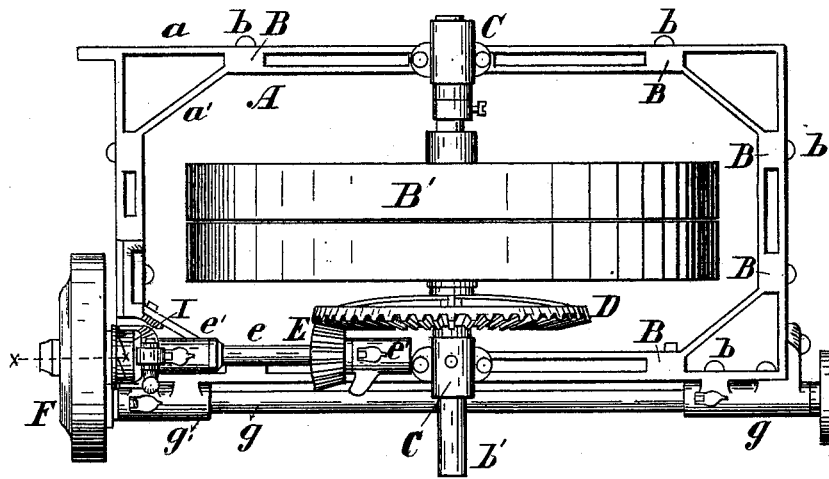


Fig 1

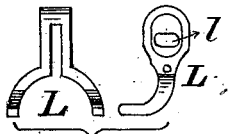


Fig 3

Fig 2

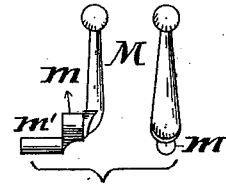


Fig 4

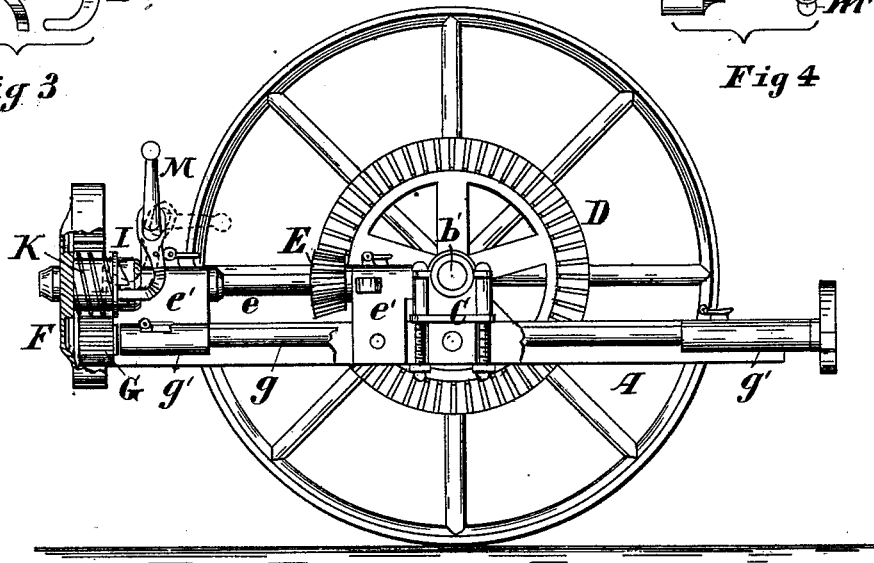
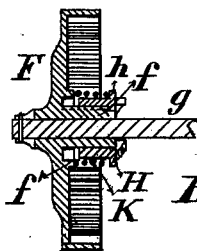


Fig 5

Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL C. COBB, OF JANESVILLE, WISCONSIN, ASSIGNOR TO HARRIS
MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **213,494**, dated March 25, 1879; application filed
February 14, 1878.

To all whom it may concern:

Be it known that I, SAMUEL C. COBB, of Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Improvement in Harvesters, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of the carriage portion of a harvesting-machine embodying my improvements; Fig. 2, a side elevation of the same; Fig. 3, detail views of the forked clutch-lever; Fig. 4, similar views of the cam-lever for operating the clutch-lever; and Fig. 5, a detail sectional view of the internal gear-wheel, taken on the line *x x*, Fig. 1.

The invention consists in special devices and combinations thereof, all of which will be hereinafter fully described, and pointed out specifically in the claims.

In the drawings, A represents the main frame of a harvesting-machine, which is composed of metal plates *a a'*, arranged with their edges uppermost, and bent so as to give the desired shape to the frame. The plate *a'* is arranged within the plate *a*, with a little space between them, and running parallel to the outer plate, except at the corners, where it is bent so as to cross from one side to the other in a diagonal direction, as shown in Fig. 1 of the drawings, whereby it forms a brace at each corner of the frame. Between the plates stay-blocks B are arranged at suitable intervals, through which and the plates bolts or rivets *b* are passed, thereby fastening the plates together and giving rigidity to the frame. Instead of bolting these parts together, they may be welded, if desired, and thus securely joined.

The main wheel B' is mounted in the usual way, its axle *b'* being supported in journal-boxes C on each side of the frame, which are constructed to extend down between the plates composing the main frame, to which they are fastened, as shown in Fig. 1 of the drawings, this extension of the boxes serving also to stay the main frame.

The main gear-wheel D is secured to the main axle in the usual way. This wheel is a bevel-gear, and meshes with a beveled pinion, E, on a shaft, *e*, mounted in journal-boxes *e'*,

which are constructed with extensions, so as to be secured to the main frame in the same manner as the journal-boxes of the main axle.

On the outer end of the bevel-pinion shaft an internal spur-gear wheel, F, is mounted, which meshes with the pinion G on the counter-shaft *g*, supported on journal-boxes *g'*, that are constructed so as to be readily bolted or riveted to the main frame of the machine at the front and rear corners thereof, as shown in Fig. 1 of the drawings.

The spur-wheel F is constructed with a sleeve, *f*, on its inner face, and is mounted loosely upon the shaft *e*. A thimble, H, is arranged upon the sleeve *f*, and secured thereby by a spline and groove. The inner end of this sleeve passes under a short circular flange, *f'*, on the inner face of the wheel F. The outer end is serrated, so as to form a clutch, adapted to engage with a clutch-pin, I, arranged just in front of the thimble, and secured to the shaft *e*. The clutch-piece H is provided with a narrow flange, *h*, just back of the teeth, at its front end, behind which is a coiled spring, K, held between the flanges *h* and the flange or boss *f'* on the gear-wheel F, as shown in Fig. 5 of the drawings. This spring, arranged as described, is operated to hold the clutch out, and keep it engaged with the clutch-pin on the shaft, thereby connecting the internal spur-gear with the shaft on which it is mounted, so as to be driven thereby.

A forked lever, L, is pivoted to a post rising from the outer journal-box of the shaft *e*. The lower end of this lever is forked, the prongs being turned outward, and arranged to embrace the serrated portion of the clutch H, and rest against the flange *h* thereon, so that when vibrated in the proper direction the clutch will be pushed back against its spring and released from the clutch-piece on the shaft.

The upper end of this forked lever is provided with a slot, *l*, and a cam-lever, M, is pivoted to the same post as the forked lever, and arranged so that its cam *m* will lie within the slot in the upper end of the latter. This cam-lever is constructed as shown in Fig. 4 of the drawings, with its pivotal pin *m'* at right

angles to the handle, the cam *m* being arranged just outside and above the pivot portion *m'*, and in the same plane as the upper or handle portion, so that when the latter is perpendicular, as shown in Fig. 4 of the drawings, the cam will be in a position to hold the forked lever perpendicular also; but whenever the lever is vibrated so as to turn the cam one side or the other, the forked lever will be vibrated in a corresponding manner, thereby moving up the prongs of the fork against the clutch, and pushing it back to throw the mechanism out of gear whenever desired. In order to do this, the lever *M* must be turned inward, as shown in dotted lines in Fig. 2 of the drawings, and when turned back in the opposite direction the spring behind the clutch will force it forward to engage again with the clutch on the shaft.

I do not limit myself to the precise construction and arrangement of the devices herein described and shown, for modifications may be made therein without materially changing the nature of my invention.

With my improvements I obtain a light, cheap, and strong metal frame for a harvester.

The peculiar construction and arrangement of the internal spur-wheel, sliding clutch, and spring are such that the spring has a support against the boss on the face of the wheel, under which the end of the clutch slides, so that there is no danger of displacement of the spring, which might interfere with the free movement of the clutch.

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

1. In the main frame of a harvester, an outer metal plate, *a*, in combination with a similar plate, *a'*, arranged within the former, and crossing from side to side diagonally at the corners, thereby forming braces for the frame at these points, substantially as described.

2. The internal spur-gear *F*, provided with a sleeve, *f*, and a boss-flange, *f'*, in combination with the clutch *H*, having a flange, *h*, and the spring *K*, substantially as described.

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Witnesses:

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