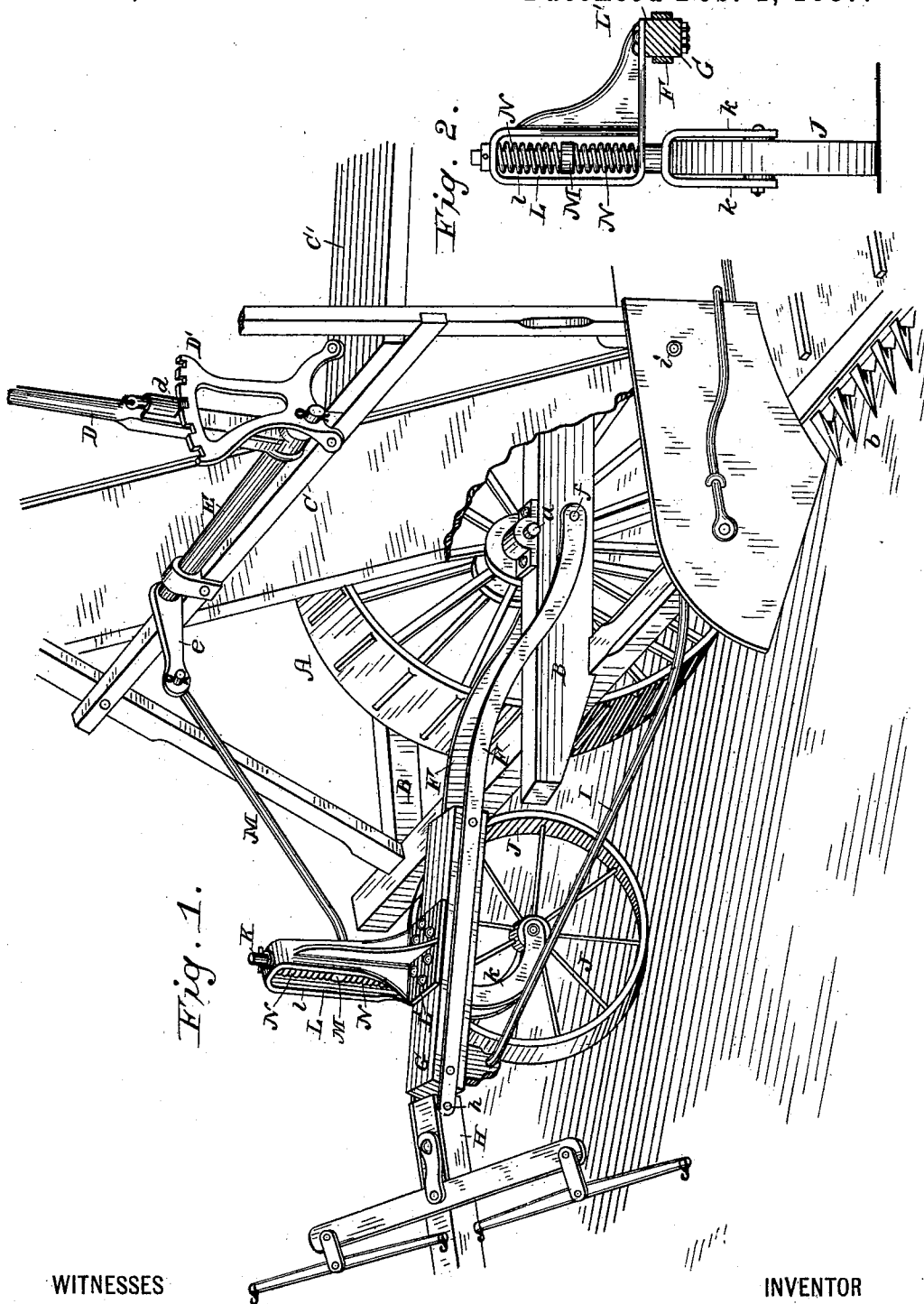


(No Model.)

F. SAVAGE.
HARVESTER.

No. 357,102.

Patented Feb. 1, 1887.



WITNESSES

E. A. Newman,
C. M. Newman.

INVENTOR

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UNITED STATES PATENT OFFICE.

FRANK SAVAGE, OF WAKELEE, MICHIGAN.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 357,102, dated February 1, 1887.

Application filed October 2, 1886. Serial No. 215,171. (No model.)

To all whom it may concern:

Be it known that I, FRANK SAVAGE, of Wakelee, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Harvesters, of which the following is a specification.

My invention relates to improvements applicable to grain-harvesting machines, especially binders, of the class having single drive-wheels, main frames rocking about the axles of the drive-wheels, cutting apparatus and grain-platforms connected with and partaking of the rocking movements of the main frame, draft-frames jointed at rear to the main frames and supported upon caster-wheels, and tongues pivoted to said draft-frames; and my improvements consist in certain combinations of devices, hereinafter pointed out by the claims, whereby side draft is lessened, the draft-animals relieved from weight upon their necks and from the unnecessary jars and strains due to violent vibrations of the tongue, the adjustment of the height of cut by rocking the main frame and cutting apparatus facilitated, and the jarring or jolting of the machine lessened.

In the accompanying drawings my improvements are shown as adapted for use in connection with a harvesting-machine known to the trade as the "Champion light binder;" but obviously my improvements may be used in connection with the various well-known machines of the class to which the one referred to belongs.

Figure 1 is a view in perspective showing those parts of the machine illustration of which is needed to convey a proper understanding of a suitable adaptation of my improvements; and Fig. 2 is a view, partly in front elevation and partly in section, showing details of the caster-wheel and its connections.

The drive-wheel A, its axle *a*, the rocking main frame in bearings attached to the bars B B, on which the axle is mounted, the cutting apparatus *b* and grain-platform connected with the main frame, the main-frame cross-bar C, the seat-beam C' of the main frame, the lever D for rocking the main frame about the axle of the drive-wheel, the detent devices D' *d* for this lever, and the cranked rock-shaft E *e*, with which the lever is rigidly connected, are all of usual and well-known construction, and do not here require detailed description.

The draft-frame consists of the two curved metal bars F F and the block G, firmly secured between them and extending from about midway their length to near their front ends. The draft-frame is jointed at its rear end to the main frame directly beneath the axle of the drive-wheel, a pivot-bolt, *f*, passing through the rear ends of the bars F F and through the inner bar, B, of the main frame, serving to make the jointed connection between the main and draft frames. The block G and rear end of the tongue H are of corresponding transverse dimensions, and the tongue is jointed to the draft-frame by a pivot-bolt, *h*, passing through the heel of the tongue and through the front ends of the bars F F. The draft-frame has suitable bracing connection with the grain-platform by the inclined brace-bar I, the rear end of which is suitably jointed, as at *i*, in line with the pivot *f*.

A large caster-wheel, J, supports the draft-frame, with which it is connected by means of its spindle K and a bracket, L, so as to run in line with the drive-wheel. The caster-wheel is mounted as usual in the spindle-forks *k k*, and the bracket L is strongly secured by its base L' to the draft-frame, near its front end. The bracket projects laterally to the draft-frame, so as to locate the caster-wheel in the line of tread of the drive-wheel, and the spindle K has its bearing in the upper and lower ends of the bracket, and is left free to turn therein, while prevented from moving vertically, as will readily be understood.

The cranked rock-shaft E is connected by a strong rod, M, with the spindle of the caster-wheel J, so that by means of the rocking lever D the main frame may be rocked and the cutting apparatus raised or lowered for adjusting the height of cut. The connecting-rod is jointed at its rear end to the crank *e* of the rock-shaft, and is formed with an eye, *m*, at its front-end, loosely embracing the spindle of the caster-wheel about midway its length. Coiled springs N N, encircling the spindle K above and below the eye of the connecting-rod in the loop or opening *l* of the bracket L, bear in opposite directions upon this rod, which is thus yieldingly held in position. These springs, which may be replaced by rubber cushions, if preferred, serve, as will be obvious, to deaden shocks, by lessening the violence of the jars

transmitted to the draft-frame from the caster-wheel as it passes over obstructions, rough ground, &c.

From the above description it will be seen 5, that the driver of the machine, when occupying the seat (not shown) on the seat-beam C', can quickly and easily rock the main frame by way of the lever D, cranked rock-shaft, connecting-rod, and draft-frame, a forward movement of the lever serving to tilt the platform, 10 so as to raise the cutting apparatus, and a backward movement of the lever serving to depress the cutting apparatus. It will also be seen that side draft is lessened and the team relieved from unnecessary neck-weight, as well 15 as protected to a considerable extent from blows such as would be inflicted by the vibrations of the tongue were the draft-frame not employed.

I am aware that it is not new, broadly considered, to combine a rocking main frame, a 20 draft-frame in advance thereof and jointed thereto, a caster-wheel supporting the draft-frame, a rocking lever, and connections between it and the draft-frame to provide for 25 rocking the main frame about the axle of its supporting-wheel, and I do not unqualifiedly claim such combination.

I claim as of my own invention—

1. The combination of the drive-wheel, its 30 axle, the main frame rocking about the axle, the draft-frame jointed to the main frame, the tongue jointed to the draft-frame, the caster-wheel, its spindle, the bracket secured to the

draft-frame and in which said spindle has bearing, the cranked rock-shaft of the main frame, 35 the rod connecting it with the spindle of the caster-wheel, and the rocking lever connected with the cranked rock-shaft, substantially as and for the purpose set forth.

2. The combination of the rocking main 40 frame, its rocking lever, the cranked rock-shaft to which the lever is connected, the connecting-rod, the draft-frame jointed to the main frame, the tongue jointed to the draft-frame, the bracket of the draft-frame, the caster-wheel 45 having its spindle mounted in said bracket and embraced by the connecting-rod, and the springs about the spindle of the caster-wheel above and below the connecting-rod, substantially as and for the purpose set forth. 50

3. The combination of the drive-wheel, its axle, the rocking main frame, the draft-frame provided with the curved metal bars F F, pivoted to the main frame at the innerside of the 55 drive-wheel and beneath the axle, the laterally-projecting bracket secured upon the draft-frame, and the caster-wheel supporting the draft-frame and mounted by its spindle in said bracket, substantially as and for the purpose set forth. 60

In testimony whereof I have hereunto subscribed my name.

FRANK SAVAGE.

Witnesses:

F. W. BROWN,
W. J. SAMPSON.

It is hereby certified that in Letters Patent No. 357,102 granted February 1, 1887, upon the application of Frank Savage, of Wakelee, Michigan, for an improvement in "Harvesters," errors appear in the printed specification requiring correction, as follows: In line 42, page 1, a comma should be inserted after the word "frame;" in line 43, the comma after the reference letters "B B," should be stricken out, and the following word should read *of* instead of "on;" and that the Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 8th day of February, A. D. 1887.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

R. B. VANCE,
Acting Commissioner of Patents.