

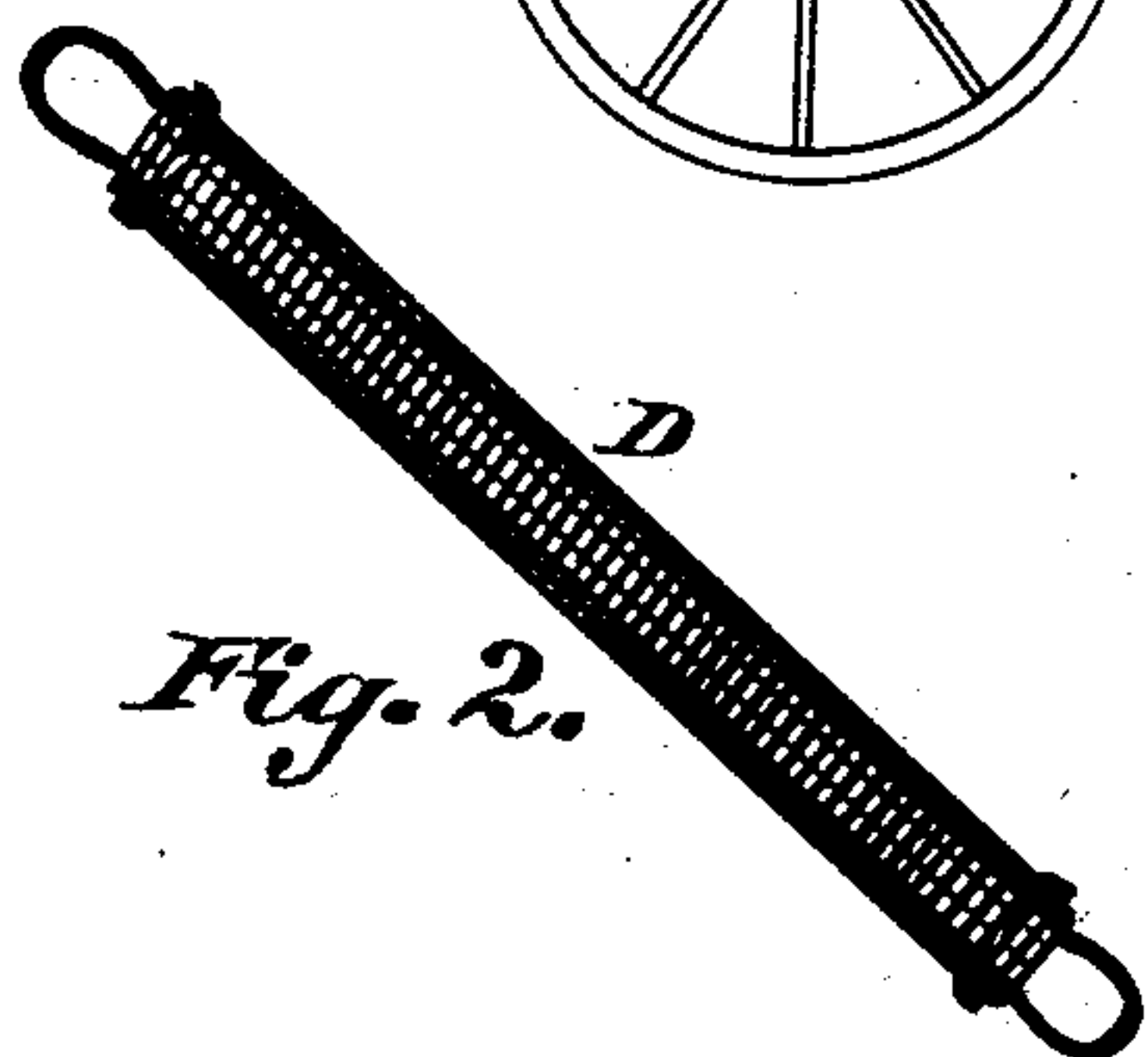
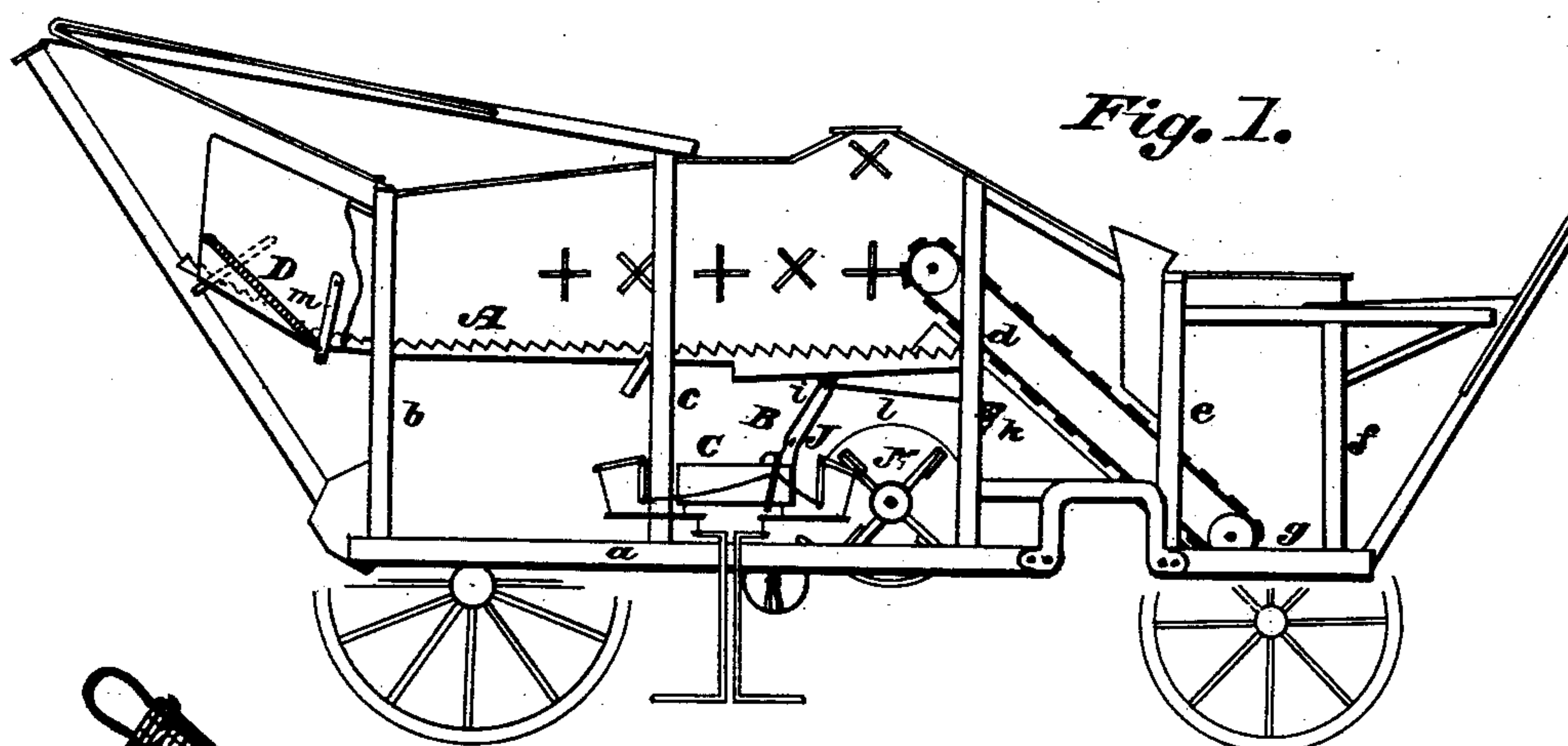
(No Model.)

J. HAWK.

GRAIN THRASHING MACHINE.

No. 335,753.

Patented Feb. 9, 1886.



WITNESSES:

Harry Trease
Chas. Kelly

INVENTOR

Jacob Hawk
BY
M. K. Miller

ATTORNEY

UNITED STATES PATENT OFFICE

JACOB HAWK, OF CANTON, OHIO.

GRAIN-THRASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,753, dated February 9, 1886.

Application filed July 18, 1885. Serial No. 172,020. (No model.)

To all whom it may concern:

Be it known that I, JACOB HAWK, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Grain-Thrashing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in thrashing-machines, and more particularly to that class known as "vibrators;" and it consists of means to relieve the machine of the jar caused by the movement of the vibrating parts.

In the accompanying drawings, Figure 1 is a side elevation of a thrashing-machine with the side board removed with my improvements attached; and Fig. 2 is a detached view of the spring.

a b c d e f g represent the frame-work of the body of the machine.

A is the vibrator, which may be constructed after any of the well-known plans; or it may consist of a series of notched boards arranged parallel to each other, and of such distance apart as may be best adapted to carry the straw out of the machine, the grain falling through the vibrating table to a return-board, thence to the riddles, in the usual way.

B represents a sway-bar, located preferably at one side of the machine, and connected to the under side of the vibrating table at *i*. This bar is pivoted at J, and is connected at its lower end to the shoe C. The crank-shaft *k*, which may extend across the machine and be supported in boxes on the upright timbers *d*, is rotated by a pulley-and-belt connection actuated by the cylinder-shaft. The rod *l* connects the crank-shaft *k* with the vibrator, and as the shaft *k* revolves the vibrator is moved forward and back. It also has a rising and falling movement, being suspended on links such as shown by letter *m*. These links have one end attached to the side of the frame and the other to the vibrator, and may be placed either above or below the vibrator, but preferably above. The rising and falling movement of the vibrator is essential for speedy handling of the straw and a perfect separation or shaking out of the thrashed grain

from the straw. In this respect machines heretofore have been limited, because of the destructiveness of the movements of the vibrator on the machine, and the great amount of power required to maintain the proper motion. This defect may be overcome by the use of the spring or springs D, (preferably two,) located at one or both sides of the machine. This spring may be constructed in the usual form of coil-springs, preferably of No. 8 or 9 spring-wire, of either steel or brass metal, coiled close, and of about one inch in diameter, and when so constructed should be from twelve to fifteen inches long, the length, however, to be determined by the throw of the crank by which the straw-carrier is oscillated. One end of each spring may be attached to the vibrating straw-carrier, the other end to the side or frame of the machine, and preferably in the following manner: Place the vibrator on the extreme point of the outward throw. Attach one end of the spring to or near the lower edge or bottom of the vibrator, and the other end to the side of the frame or board siding, or other convenient point. This point of attachment should be beyond the throw of the vibrator and about one-half the length of the spring above the attachment to the vibrator, and may rest on a hook or button for convenience of removing, and the other end, if desirable, may be attached to the link *m*, at or near its connection with the vibrator. By this location of the spring, as described, the jar caused by the fall and end movement of the vibrator will be arrested or cushioned so as to relieve the machine of destructive jar and wear by drawing on the spring lengthwise, and the resistance of the spring will also assist in reversing the movements of the parts, but will have exhausted its power before the end of the outward stroke is reached, leaving the weight of the vibrator to check the motion in that direction, thus obtaining a smooth and easy movement of the parts.

The springs may be attached to the sway-bar B and frame, or to the shoe and frame, if the shoe is connected with and vibrated through or by the same mechanism.

I am aware that it is not new to secure one or more coiled springs to a vibrator and vi-

brator - supporting frame; hence I make no claim, broadly, to such construction.

Having thus fully described the nature and objects of my invention, what I claim, and desire to secure by Letters Patent, is—

5 In a grain-thrashing machine, the combination, with the frame, the links *m*, pivoted to the sides of the frame and to the vibrator suspended from the links, of the coiled springs, substantially as described, secured to the machine-
10 frame at a point above and in rear of the point

of attachment of the links, and to the links at or near the attachment of the latter to the vibrator, whereby the downward and end movement of the vibrating parts is resisted by the springs, substantially as set forth. 15

In testimony whereof I have hereunto set my hand this 13th day of July, A. D. 1885.
JACOB HAWK.

Witnesses:

CHAS. R. MILLER,
W. K. MILLER.