

No. 682,516.

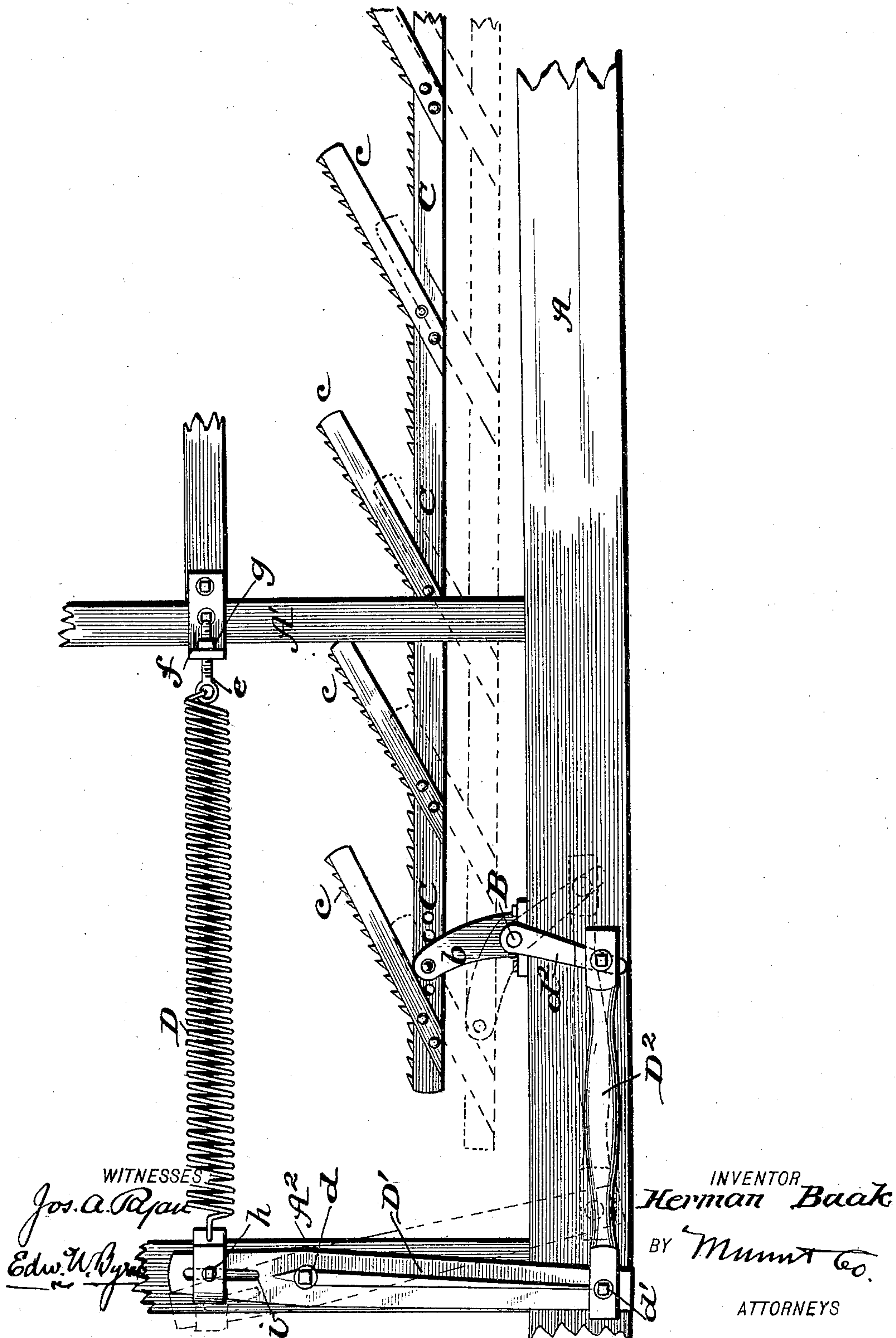
Patented Sept. 10, 1901.

H. BAAK.

THRESHING MACHINE STRAW CARRIER.

(Application filed Jan. 12, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

HERMAN BAAK, OF CHARTER OAK, IOWA.

THRESHING-MACHINE STRAW-CARRIER.

SPECIFICATION forming part of Letters Patent No. 682,516, dated September 10, 1901.

Application filed January 12, 1901. Serial No. 43,006. (No model.)

To all whom it may concern:

Be it known that I, HERMAN BAAK, of Charter Oak, in the county of Crawford and State of Iowa, have invented a new and useful
5 Improvement in Threshing-Machine Straw-Carriers, of which the following is a specification.

My invention is in the nature of an equalizer for the straw-carrier of threshing-machines. In such machines the reciprocating straw-rack has forwardly-inclined teeth, and on the back movement the straw-rack slides under the straw, while on the forward movement it does all its work of urging the straw
10 forward. The result is that the straw-rack has much more work to do on the forward movement than it does on the backward movement. My invention is designed to reinforce the power of the driving machinery
15 for the straw-rack on the forward movement; and to this end it consists in the special arrangement of a lever and spring and mechanism for connecting them to the vibrating straw-rack, in which the spring is put under
20 tension on the back movement of the straw-rack and expends its energy on the forward movement of the straw-rack to force the latter forward while the maximum amount of work is being done, thus equalizing the strain
25 on the machine and giving an energetic forward feed, also rendering the motion more steady and requiring less power to advance the rack, as will be hereinafter more fully described with reference to the drawing, in
30 which the figure is a side view of the straw-rack of a threshing-machine with my equalizing attachment applied to the same.

In the drawing, A A' A² represent portions of the stationary threshing-machine frame in which is contained the reciprocating or oscillating straw-rack C, having forwardly-inclined arms or steps and forwardly-inclined teeth on the upper edges of the same. This rack is mounted at one or both of its ends
35 upon upwardly-projecting crank-arms *b*, rigidly fixed to rock-shafts B, journaled in bearings in the frame-timbers A. To these rock-shafts is imparted an oscillatory motion in any suitable way, so as to cause the straw-rack to advance and retreat alternately, as
40 shown by the full lines and dotted lines, respectively. The straw is fed upon the rack

at the left-hand end from the threshing-cylinder and beater in the usual way.

To the end of the rock-shaft B is rigidly
55 fixed a downwardly-projecting crank-arm *d*², which is jointed at its lower end to a horizontal pitman D². This pitman at its other end is jointed at *d'* to the lower end of a vertical lever D', that is fulcrumed at *d* to the
60 upright member A² of the threshing-machine frame. The upper and shorter end of this lever is jointed at *h* to a long helical spring D, which is anchored at its opposite end to the upright A' of the main frame. The op-
65 eration of this spring and its attached parts is as follows: When the straw-rack is moved backward and has but little work to do, the crank-arm *d*² is moved forward and is made
70 to pull on the pitman D² and deflect lever D', stretching out and putting under tension the spring D. Then on the forward motion of the rack the tension of spring D asserts itself, pulling the lever D' in the opposite direction
75 and by a transmitted pull on pitman D² and crank-arm *d*² aids in the forward movement of straw-rack C during the time that it has its greatest work to do. In this way on the backward movement of the straw-rack when there
80 is little work to do the mechanism is made to put the spring D under tension, and on the forward movement of the rack when it is doing its greatest work the tension of the spring in asserting itself reinforces the power required to advance the straw, thus equalizing
85 the power, rendering the action more uniform, and requiring a smaller amount of power and getting a more energetic feed. To regulate the leverage exerted by the spring D, its bolt
90 *h*, which connects it with the lever D', is arranged to have an adjustment in a slot *i* in the upper end of the lever, by which the power of the spring may be applied closer to or farther from the fulcrum of the lever. For anchoring the other end of the spring an eye-
95 bolt *e* connects with the spring and has a screw-threaded end that passes through an angle-plate *f*, bolted to the upright A', and is retained therein and adjusted as to tension by nuts *g* behind the flange of the angle-
100 plate.

My attachment may be applied to the reciprocating or oscillating straw-rack of any kind of thresher, and the spring D, lever D',

pitman D^3 , and crank-arm d^2 are preferably arranged on the outside of the casing of the thresher.

I do not claim, broadly, a spring applied to the straw-rack for urging it forward, as I am aware that this is not new.

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

- 10 1. The combination with the vibrating straw-rack in a thresher; of a horizontal helical spring, a vertical lever attached at its upper end to said spring, a pitman connected to the lower end of said lever, and a rock-shaft having a crank-arm attached to the other end of said pitman and having also upwardly-projecting supporting-arms for sustaining and oscillating the straw-rack substantially as described.
- 20 2. The combination with the vibrating straw-rack in a thresher; of a horizontal spring, a vertical lever, and connecting mechanism for connecting it to the straw-rack, whereby the spring is put under strain through the backward movement of the rack and is made to expend its force to advance the rack through its advance movement, and a connection between the spring and the le-
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ver made adjustable to or from the fulcrum of the lever for varying the leverage and influence of the spring substantially as shown and described. 30

3. The combination with the vibrating straw-rack in a thresher; of a horizontal spring, a vertical lever, and a horizontal pitman with crank and rock-shaft for connecting the lower end of the lever to the straw-rack, whereby the spring is put under strain throughout the backward movement of the rack and is made to expend its force to advance the rack through the advance movement, and means for regulating the tension of the spring substantially as described. 40

4. The combination with the vibrating straw-rack in a thresher, its rock-shaft and supporting-arms; of a horizontal helical spring, a vertical lever connected at its upper end to said spring, a horizontal pitman connected to the lower end of said lever, and a crank-arm rigidly fixed to the rock-shaft and connected to the said pitman substantially as described. 50

HERMAN BAAK.

Witnesses:

J. A. O'DOHERTY,
THEO. DRAKE.