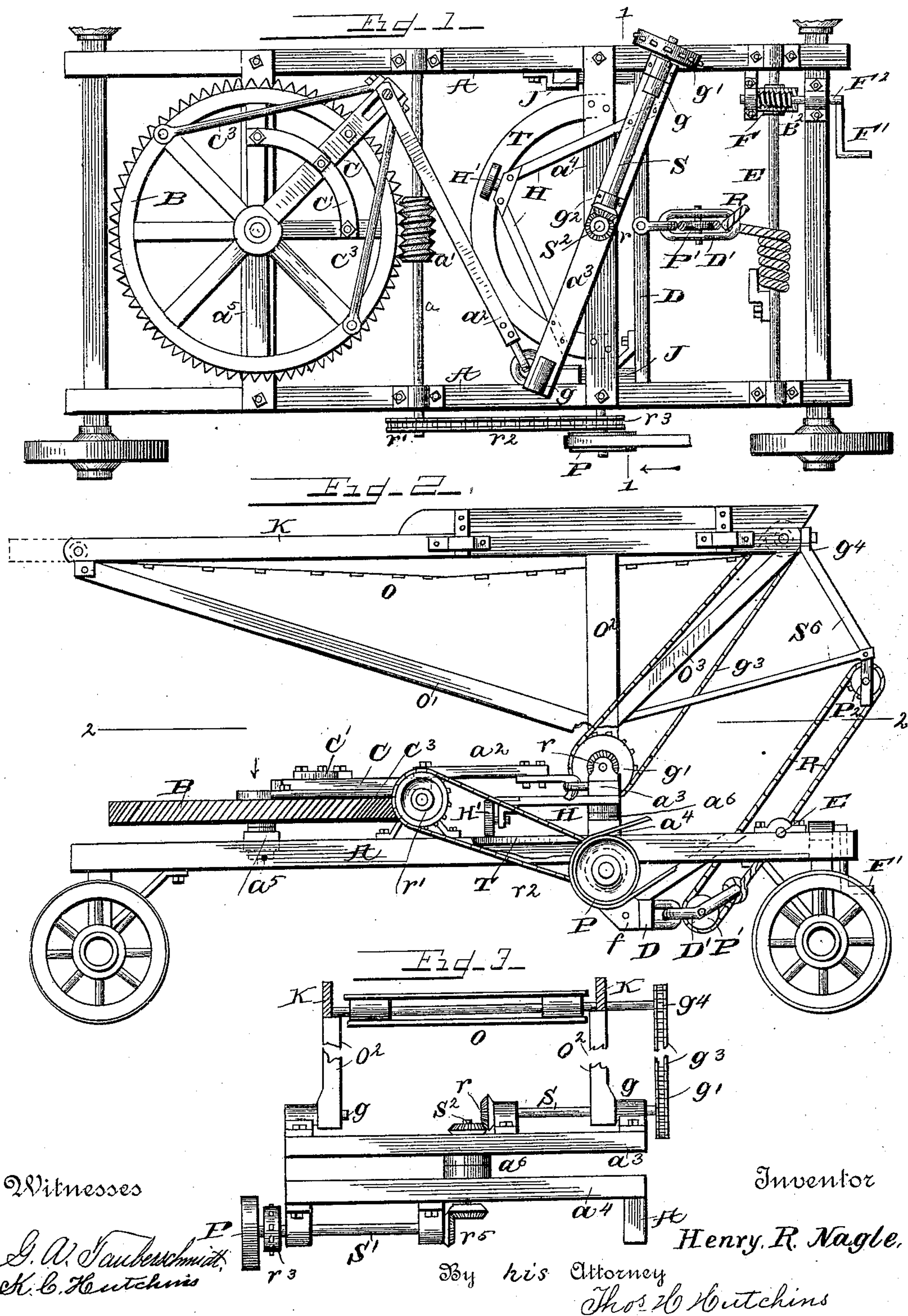


(No Model.)

H. R. NAGLE.
AUTOMATIC SWINGING STRAW STACKER.

No. 420,952.

Patented Feb. 11, 1890.



UNITED STATES PATENT OFFICE.

HENRY R. NAGLE, OF GRAND RIDGE, ILLINOIS.

AUTOMATIC SWINGING STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 420,952, dated February 11, 1890.

Application filed September 5, 1889. Serial No. 323,036. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. NAGLE, a citizen of the United States of America, residing at Grand Ridge, in the county of La Salle, in the State of Illinois, have invented certain new and useful Improvements in Automatic Swinging Straw-Stackers, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a plan view on the top of the bed-frame of the straw-stackers, looking down from line 2 of Fig. 2. Fig. 2 is a side elevation of the straw-stackers; and Fig. 3 is a cross-section of the bed-frame, taken on line 1 of Fig. 1, looking in the direction of the arrow.

This invention relates to certain improvements in straw-stackers of the class designed to be attached to the rear end of a separator and receive the straw therefrom to convey it to the stack, and arranged to vibrate laterally continuously while conveying straw to the stack and distribute the straw along the length of the stack.

Referring to the drawings, A represents the bed-frame of the machine, rectangular in form and supported on traveling wheels at each corner. The cross-beam a^5 is provided about centrally with a stub-spindle, upon which is placed the large worm-wheel B. The said worm-wheel is intended to be toothed all around and arranged to mesh with the worm a' on shaft a , by which it is driven continuously. The said worm-wheel has secured on its upper side the arm c , braced laterally by means of the braces c' and c^3 . These braces c^3 are bolted at their inner ends to the top of the rim of wheel B and at their outer ends to the outer end of arm c . The said arm c is bolted to the upper side of the rim of said wheel B and to the upperside of the segment-brace c' , and the said segment-brace is secured to the upper side of said wheel B by means of having its ends bolted, respectively, to the upper side of the spokes of said wheel, as shown. The outer end of said arm is connected by means of the pitman a^2 to one outer end of the bolster a^3 , which is pivoted at its center on the cross-beam a^4 in such manner that when the worm-wheel B is rotated it will, through the medium of its said connection

with said bolster, continuously oscillate it. The said bolster rests on said cross-beam a^4 through the medium of the circular plates a^6 , respectively secured to said bolster and beam. A shaft S^2 passes centrally through said bolster and beam and through said plates a^6 , and forms a king-bolt upon which the bolster turns. Said shaft is connected at its upper end with the horizontal shaft S, boxed on the upper side of the bolster by means of the bevel-gears r , and is also connected at its lower end with the horizontal shaft S' , boxed on the under side of beam a^4 by means of the bevel-gear r^5 , as shown more particularly in Fig. 3.

The outer end of shaft S' has secured on it the drive-pulley P, to which the power is applied to drive the machine by means of a belt connecting it with a pulley on the separator. (Not necessary to be shown.) At the side of said pulley P on said shaft is secured the sprocket-wheel r^3 , which is connected with the sprocket-wheel r' on shaft a by means of sprocket-chain r^2 to drive said shaft.

The outer end of shaft S has secured on it the sprocket-wheel g' , which is connected through the medium of the sprocket-chain g^3 with the sprocket-wheel g^4 , fixed on the outer end of the drive-shaft of the endless straw-carrier O, and through the medium of such connection drives the said straw-carrier.

H H are brace-arms secured, respectively, at their inner ends to the under side of the bolster near each end, and are connected at their extending ends by a securing-plate having a stub-axle, upon which is placed a friction-roller H', for supporting the outer ends of said arms on the segmental track T, secured at its ends to beam a^4 , and for preventing a rolling motion of the said bolster.

The straw-carrier consists of an ordinary floor having shafts at each end, over which the endless carrier O travels in the ordinary manner. K shows the sides between which the said floor is placed. The said carrier is supported by means of the posts O^2 on the bearings $g g$ on the upper side of bolster a^3 and properly secured to said bearings, so the carrier cannot be easily thrown off. The ends of the carrier-sides are supported by means of braces O' and O^3 . The inner end of the carrier-frame has secured to it the brace-frame S^6 for supporting the sheave-wheel P^2 .

D is a cross-beam connected at each end, through the medium of the arms J, with the bed-frame A above.

P' is a sheave-wheel arranged in a clevis 5 D', connected with beam D at about its center. A rope R has one end connected to clevis D', and from thence passes up over sheave-wheel P², from thence down under sheave-wheel P', and from thence to shaft E, upon 10 which it is secured and winds, as shown in Fig. 1. Said shaft E has secured on it near one end a worm-wheel B², arranged to mesh with a worm F on the counter-shaft F². F' 15 is a crank on the outer end of said counter-shaft, by means of which said shaft may be rotated for the purpose of winding or unwinding said rope on shaft E, for the purpose of elevating or lowering the outer end of the carrier-frame.

20 The carrier may have an extension, as shown in broken lines in Fig. 2, in order to convey the straw to any desired height or distance, which extension may be hinged thereto and adapted to fold over thereon or be detachable, as may 25 be desired. In operation the machine is intended to be secured to the rear end of a thrashing - machine (not necessary to be shown) in such position that it may be driven thereby and receive the straw on the carrier 30 to be thereby conveyed to the stack, and while delivering the straw to the stack vibrate the carrier laterally continuously, so as to de-

liver the straw along over the entire length of the stack.

Having thus described my invention, what I 35 claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination of the bed-frame A, having the cross-beams a^4 a^5 , the worm-wheel B, worm a' , shaft a , having sprocket-wheel r' , 40 arm c , pitman a^2 , bolster a^3 , sprocket-chain r^2 , and shaft S', having the sprocket-wheel r^3 and pulley P, substantially as and for the purpose set forth.

2. In the straw-carrier shown and de- 45 scribed, and in combination with its bed-frame, the worm-wheel B, shaft a , worm a' , arm c , pitman a^2 , segment-track T, and bolster a^3 , having arms H and friction-wheel H', substantially as and for the purpose set forth. 50

3. In the straw-stacker shown and de- scribed, in combination with the bed-frame, the driven wheel B, having the arm c , the os- cillating bolster a^3 , the pitman a^2 , connecting 55 the outer end of said arm with one outer end of said bolster, and the straw-carrier and its frame arranged to be supported and vibrated by said bolster, substantially as and for the purpose set forth.

HENRY R. NAGLE.

Witnesses:

EDWARD J. MCCORMICK,
PATRICK H. MCCORMICK.