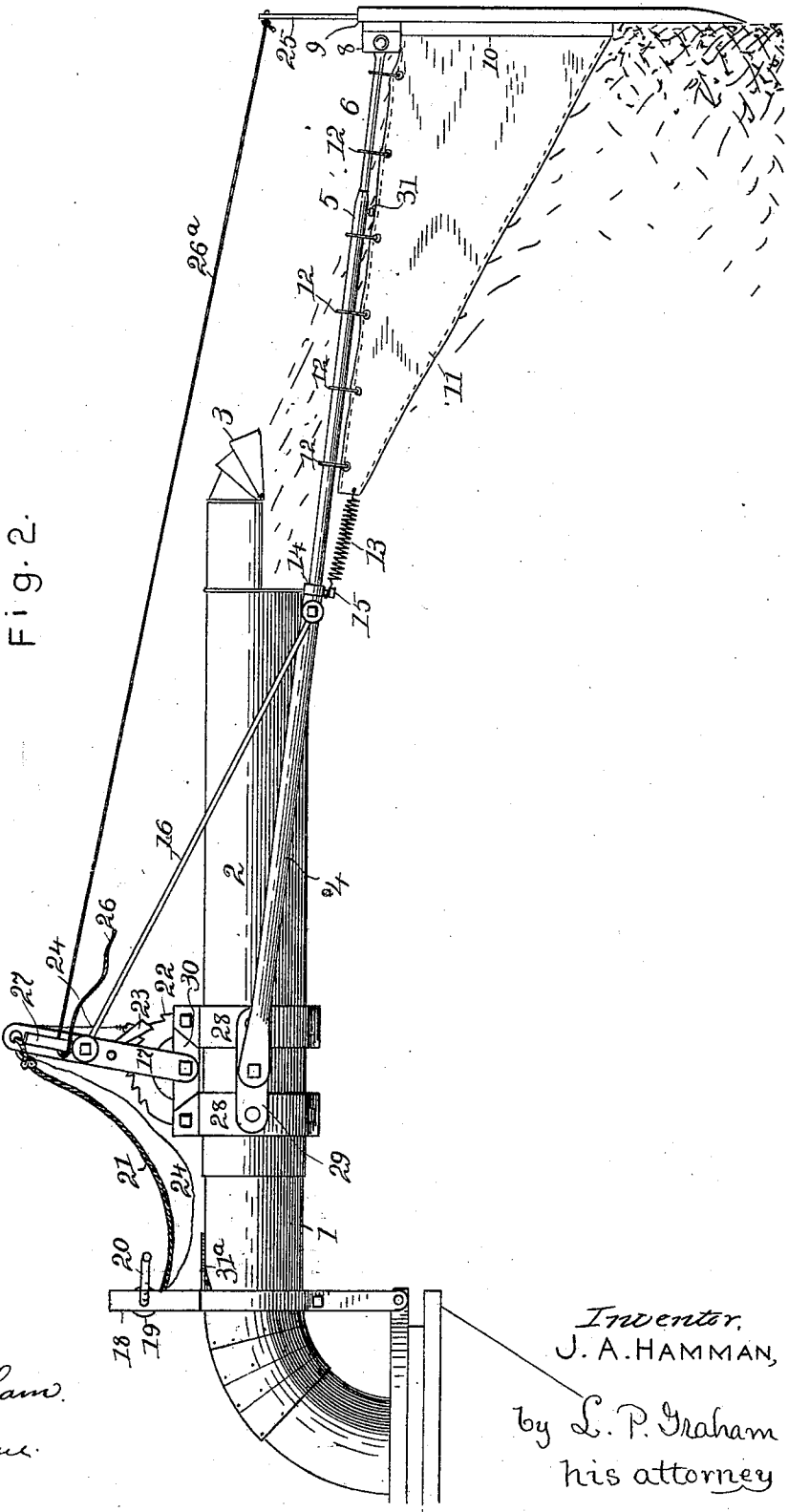


J. A. HAMMAN.
STACK FORMER.

(Application filed Jan. 22, 1900.)

(No Model.)

2 Sheets—Sheet 2.



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Ana Graham.

Inventor,
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UNITED STATES PATENT OFFICE.

JOSEPH A. HAMMAN, OF BEMENT, ILLINOIS.

STACK-FORMER.

SPECIFICATION forming part of Letters Patent No. 649,051, dated May 8, 1900.

Application filed January 22, 1900. Serial No. 2,398. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. HAMMAN, of Bement, in the county of Piatt and State of Illinois, have invented a certain Improved
5 Stack-Former to be Used with Wind-Stackers, of which the following is a specification.

This invention comprises a straw-barrier attached to the tube of a wind-stacker and adjustable with relation thereto to an extent
10 to enable the side of the stack farthest from the thresher to be positively outlined and compactly built. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

15 Wind or pneumatic stackers are built to swing both laterally and vertically, and they are provided with adjustable hoods on their discharging ends, by means of which the direction taken by the discharged straw may
20 be controlled. They are also usually made extensible, so that their discharge ends may be at different distances from the thresher at the will of the operator; but while they are capable of directing the discharge of the straw
25 quite completely they fall short of building perfect stacks on account of the fact that after the straw leaves the stacker it is beyond the control of the operator, the far side of the stack is formed loosely and unsymmetrically,
30 and it is difficult to save even a moderate percentage of the straw so stacked. This condition is well known to users of wind-stackers. Some attempts have been made to overcome the difficulty, and this invention is in that
35 line.

In the drawings forming a part of this specification, Figure 1 is a plan of an embodiment of my invention, and Fig. 2 is a side elevation of the same.

40 A laterally and vertically swingable section of a wind-stacker tube is shown at 1, at 2 is shown a telescoping extension of the tube, and an adjustable hood on the discharge end of the stacker-tube is shown at 3. These elements are well known to stacker-men. They
45 are made in various ways, and I have not gone into details in showing and describing them, except so far as is necessary in explaining the mode of operation of my attachment.

50 Broadly considered, my invention consists of a barrier-plate carried from the stacker-

tube in front of the discharge end thereof, whereby the straw may be confined in the limits described by the swing of the plate, and the stack may be firmly and symmetrically
55 shaped by sliding action of the plate. Considered specifically, the barrier-plate 9 has its vertical ends 9^a turned outward or away from the thresher, so as to form inclines that run freely against the straw as the plate is swung
60 from side to side and pack it in place. Lugs 8 are fastened to the upper edge of the plate, near the ends thereof, and they form pivot-bearings for the arms that support the plate. The arms or rods comprise rods 6, which are
65 pivotally connected with lugs 8, tubes 5, into which the rods are extended, and larger tubes 4, which receive tubes 5 and which are pivotally connected one with each side of the slidable section of the stacker-tube. The
70 tubes 5 are preferably fastened permanently in the larger tubes 4, while the rods are held adjustably in the tubes 5 by means of set-screws, one of which is shown at 31 in Fig. 2. Strips 10 are fastened to the inside surface of
75 the plate 9 under lugs 8, rings 12 are slipped over tubes 5 and rods 6, and flaps 11 of flexible material are fastened to the strips and to the rings. The flaps are triangular in outline, they terminate in acute angles adjacent to the discharge end of the stacker-tube,
80 and form guides to conduct the straw toward the barrier-plate. Clamp-rings 14 are secured on tubes 5 near the ends of tubes 4, they are connected with the tubes by means
85 of set-screws 15, and springs 13 connect the ends of the flaps with the collars. Bars 25 are fastened to the rear or outer surface of the barrier-plate, they extend upward above the pivot of the plate, and are provided with
90 lines 26^a and 26^b, which converge toward the thresher and merge into a single line 26. The flaps 11 connect with the plate below the pivot thereof, and the springs tend to pull the lower edge of the plate toward the thresher. The
95 lines 26^a are attached to the plate above the pivot thereof, and a pull thereon tends to swing the lower edge of the plate away from the thresher, and so the lines and the springs provide means whereby an operator may
100 manipulate the lines to vary the position of the plate with relation to the vertical.

Means is provided whereby the plate-carrying arms may be raised or lowered on their pivotal connections with the stacker-tube. Such means may vary to suit different requirements; but I prefer to employ the mechanism shown in the drawings, wherein a rock-lever 17 is mounted pivotally on the front end of the slidable section of the stacker-tube and is connected with the arms that support the barrier-plate through rods 16. An arc-formed rack 22 is placed adjacent to the rock-lever, a pawl 23 is pivoted in the lever in position to engage the rack, and a line 24 is connected with the pawl and run over a bearing in the upper end of the lever. The lever has a clamp-finger 27, between which and the lever line 26 is ordinarily held, and a rope 21 extends from the upper end of the lever to a drum 19. The drum is journaled in a frame 18, which is fixed on the front end of the section 1 of the stacker-tube, and it has a crank-handle 20, by means of which it is turned.

The rack and the lever may be attached to old stackers by means of clamp-straps 28, which in this instance are made each in two parts, which are bolted together and to the rack 22. A bar 30 may be bolted between the upper conjunctions of the clamp-straps to form a pivot for the rock-lever 17, and side bars 29 may be fastened to the sides of the clamp-straps and provide pivots for the side tubes 4.

The specific means used to attach the stack-former to the stacker-tube will vary to suit the different styles of stackers, and it is of little consequence so far as the principle of my invention is concerned. The barrier-carrying arms are to be connected with the slidable section of the stacker, and there are many ways in which this can be effected; but it is essential that the connection shall be near the rear end of the slidable section of the stacker, so that the barrier-plate may be raised and lowered to the desired extent with relation to the discharge end of the stacker-tube without swinging materially toward or from a vertical line drawn through such discharge end.

In operating the device the rods 6 are adjusted in tubes 5 to suit the size of stack in contemplation, and the clamp-rings 14 are shifted and set to give proper tension on springs 13. The drum is turned until the rope is wound up sufficiently to take the weight of the barrier-plate and the arms off the pawl 23, line 24 is pulled to carry the pawl out of engagement with the rack, and the rope 21 is run out until the barrier-plate is near the ground, when the stacker-tube is in its lowest position. Then the shiftable section of the stacker-tube is extended by means of the mechanism with which stacker-tubes are provided or any suitable means, and the line 26 is pulled back until the plate 9 is approximately vertical and then hitched

to the rock-lever. The hood of the stacker-tube is then adjusted to throw the straw toward the barrier-plate, and the stacker is swung from side to side until the far side of the base of the stack is built to near the height of the barrier-plate. When this is done, the plate is raised, the stacker-tube is shortened, and the stack is brought up to the outer line of the base. When so much has been accomplished, the barrier-plate is made to slightly overlap the far line of the stack, is adjusted with relation to the vertical, and another layer of stack is completed in the manner described. This is continued until the stack approaches completion, when the plate is permitted to slant toward the thrasher, so as to properly round off the stack.

The crank-handle of the drum is in easy access of an operator on the thrasher, and the rope 21 may be run out or taken up to permit the section 2 of the stacker-tube to slide freely on section 1. The rope 21 and the line 24 have nothing to do while the stacker is in operation, and as a matter of convenience the line may be run onto the drum with the rope, provided sufficient slack is given to preclude the detachment of the pawl by action of the drum. The line 26 is preferably held caught on the rock-lever; but it may extend to the vicinity of the drum for convenience in manipulation. In this case the drum is attached to a band used to sustain the section 1 of the stacker-tube, and as this band is not so very strong a pair of brace-plates 31^a are made to extend from the band and bear against the upper surface of the tube. These plates take the stress of the rope when the barrier-plate is sustained thereby and aid the band in carrying the load. The flaps 11 form lateral guides, between which the straw is directed against the barrier-plate.

I claim—

1. A stack-former for wind-stackers comprising a barrier-plate with outward-turned vertical edges carried by the stacker-tube beyond the discharge end of the tube.

2. A stack-former for wind-stackers comprising a pair of arms connected with a stacker-tube and extended beyond the discharge end thereof and a barrier-plate with outward-turned vertical edges fastened on the extended ends of the arms.

3. A stack-former for wind-stackers comprising a pair of arms pivotally connected with the slidable section of a stacker-tube near the inner end thereof and extended beyond the discharge end thereof, a barrier-plate carried by the extended ends of the arms and means for raising and lowering the arms.

4. A stack-former for wind-stackers comprising a pair of extensible arms pivotally connected with the slidable section of a stacker-tube near the inner end thereof and extended beyond the discharge end thereof,

a barrier-plate carried by the extended ends of the arms and means for raising and lowering the arms.

5 5. A stack-former for wind-stackers comprising a pair of arms connected with the
slidable section of a stacker-tube near the
inner end thereof and extended beyond the
discharge end thereof, a barrier-plate pivot-
ally connected with the extended ends of the
10 arms, a spring pulling the lower edge of the
plate toward the stacker and a line connect-
ed with the plate above the pivot thereof
whereby the plate may be swung against the
stress of the spring.

15 6. A stack-former for wind-stackers comprising a pair of arms connected with a stacker-
tube and extended beyond the discharge end
thereof, a barrier-plate fastened to the ex-
tended ends of the arms and guide-flaps fas-
tened to the plate and extended along the
20 arms.

7. A stack-former for wind-stackers comprising a pair of arms connected with a stacker-
tube and extended beyond the discharge end
25 thereof, a barrier-plate hinged to the extend-
ed ends of the arms, flaps fastened to the
plate and connected slidably with the arms
and springs hitched to the ends of the flaps
farther from the plate.

30 8. In a stack-former the combination of
telescoping arms attached to a stacker-tube
and extended beyond the discharge end there-
of, a barrier-plate hinged to the extended
ends of the arms, flaps fastened to the plate
35 and to rings mounted loosely on the arms,

clamp-collars adjustable on the arms and
springs connecting the ends of the flaps far-
ther from the plate with the clamp-collar.

9. In a stack-former, the combination of
a pair of arms connected pivotally with a
40 stacker and extended beyond the discharge
end thereof, a rock-lever pivoted on the
stacker-tube and rods extending from the le-
ver to the arms, whereby the arms may be
raised and lowered by rocking the lever. 45

10. In a stack-former the combination of
a pair of arms connected pivotally with a
stacker-tube, a barrier-plate carried by the
arms, a rock-lever pivoted on the stacker-
tube, rods connecting the lever with the arms, 50
a rack on the tube, a pawl on the lever to en-
gage the rack, a rope connected with the lever
and a line connected with the pawl, substan-
tially as described.

11. In a stack-former, the combination of a 55
pair of arms connected pivotally with the
slidable section of a stacker-tube a barrier-
plate carried by the arms, a rock-lever piv-
oted on the slidable section of the stacker-
tube, rods connecting the lever with the 60
arms, a drum on the non-slidable section of
the stacker-tube and a rope connecting the
lever with the drum.

In testimony whereof I sign my name in the
presence of two subscribing witnesses.

JOSEPH A. HAMMAN.

Witnesses:

R. E. DICKINSON,
ROSA VOELCKER.