No. 742,392. PATENTED OCT. 27, 1903.

F. M. CARTER.

GRAIN SEPARATOR FOR THRESHING MACHINES.

APPLICATION FILED APR. 24, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

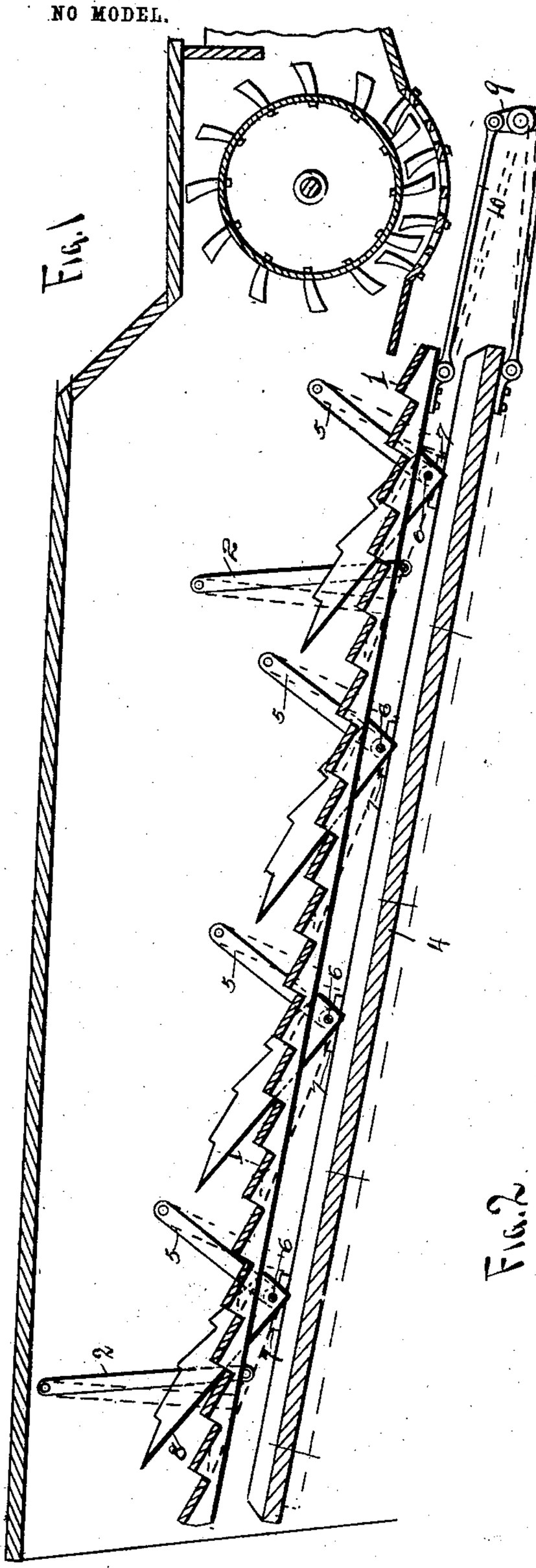
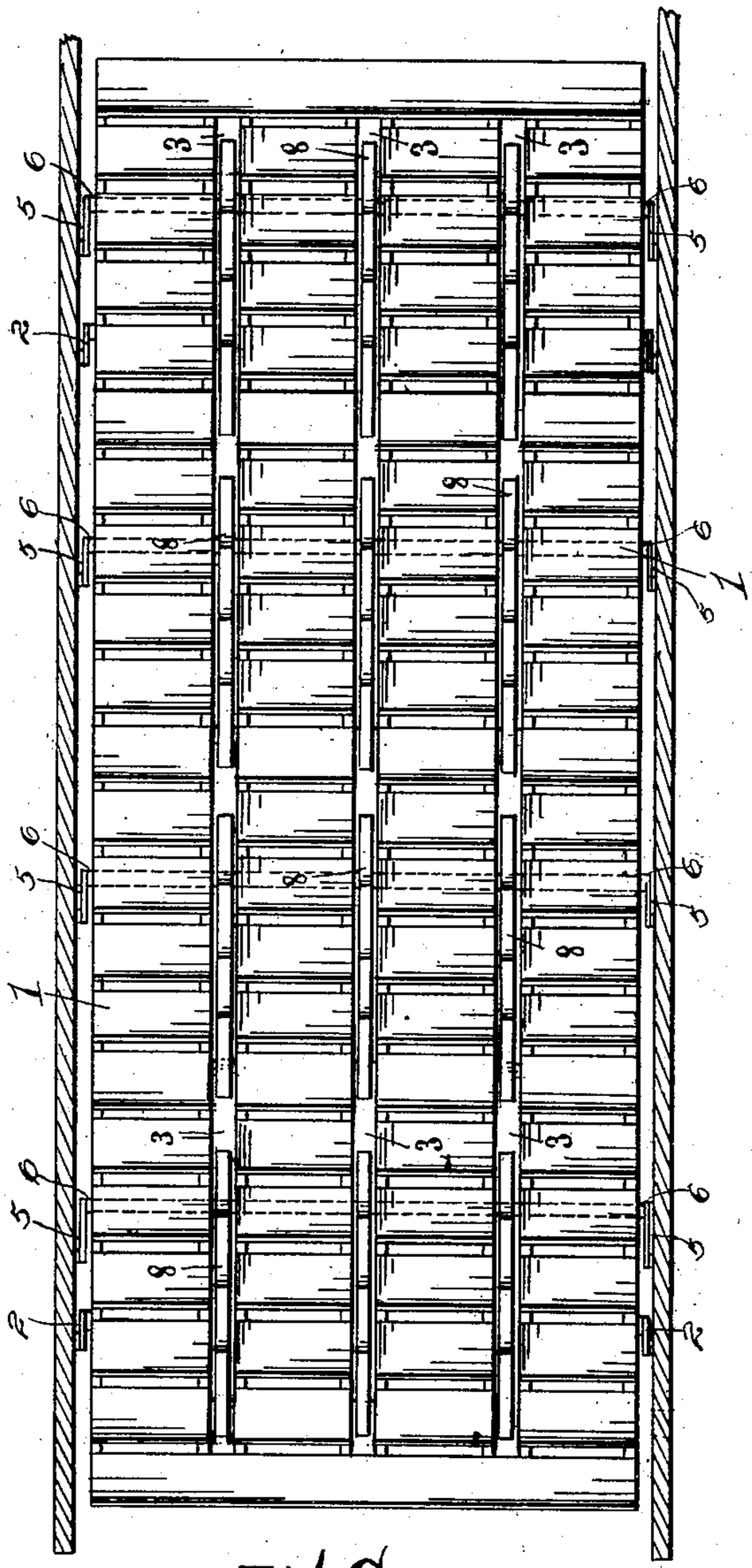


Fig. 2



Witnesses
C. H. Woodward.
J. W. Garner

F. M. CARTER, Inventor,
By C. A. Snow & Co.
Attorneys

No. 742,392. PATENTED OCT. 27, 1903.

F. M. CARTER.

GRAIN SEPARATOR FOR THRESHING MACHINES.

APPLICATION FILED APR. 24, 1901.

NO MODEL. 2 SHEETS—SHEET 2.

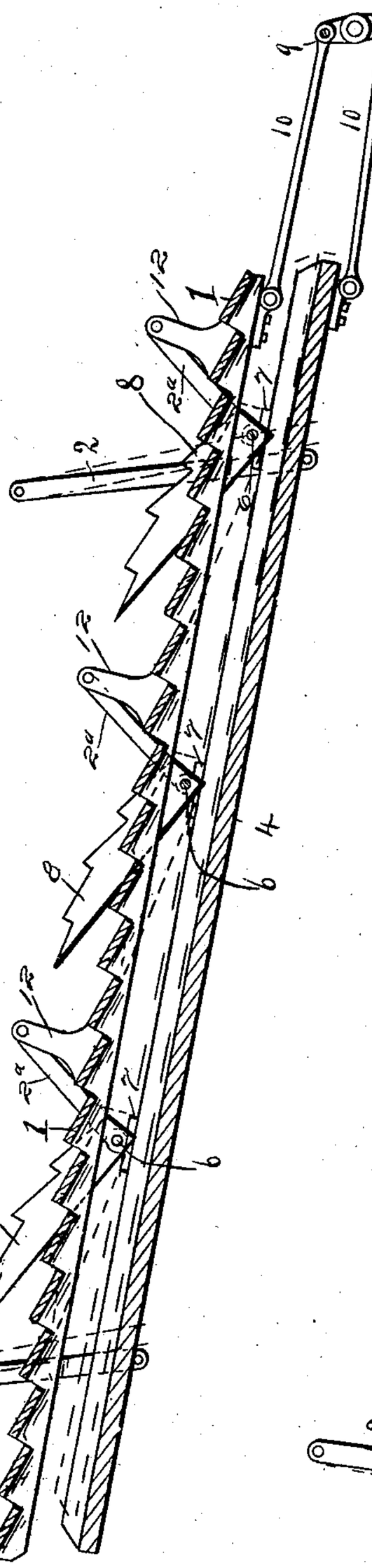


FIG. 3.

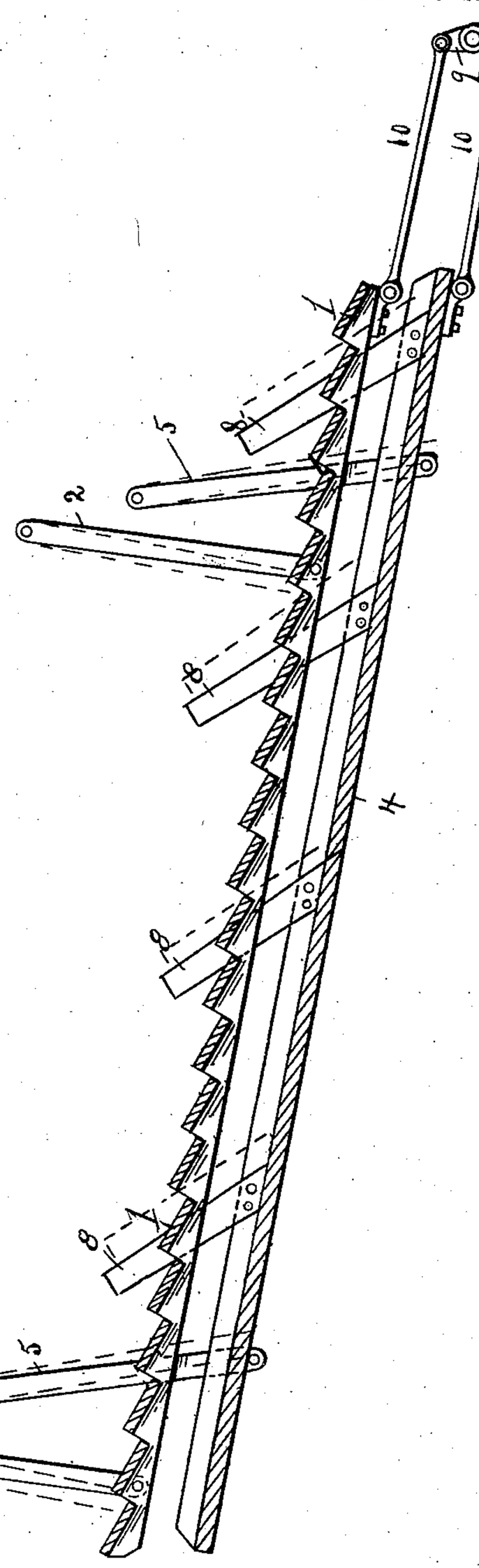


FIG. 4.

Witnesses
C. N. Woodward.
J. W. Garner

F. M. CARTER, Inventor
By C. A. Snow & Co.
Attorneys

No. 742,392. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

FRANKLIN M. CARTER, OF HULL PRAIRIE, OHIO.

GRAIN-SEPARATOR FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 742,392, dated October 27, 1903.

Application filed April 24, 1901. Serial No. 57,284. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN M. CARTER, a citizen of the United States, residing at Hull Prairie, in the county of Wood and State of Ohio, have invented a new and useful Grain-Separator for Threshing-Machines, of which the following is a specification.

My invention is an improved grain-separator for threshing-machines; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

The object of my invention is to effect improvements in the construction of the grain-pan and straw-rack, whereby the straw while being shaken to dislodge the grain therefrom is carried rapidly over the straw-rack to avoid clogging the machine.

In the accompanying drawings, Figure 1 is a sectional view of a portion of a threshing-machine provided with an improved grain-separator embodying my improvements. Fig. 2 is a horizontal sectional view of the same, showing the straw-rack in top plan. Figs. 3 and 4 are detail sectional views of modified forms of my invention.

The straw-rack 1 is suspended within the casing of the machine by links 2 and is adapted to be swung longitudinally in the casing in the usual manner. The straw-rack may be either of the construction here shown or of any other suitable construction and is provided with longitudinal slots or openings 3.

The grain-pan 4 is located below the straw-rack and is adapted to be swung backward and forward independently of the straw-rack and simultaneously in the reverse direction. The grain-pan is suspended by links 5, the lower ends of which are attached to rock-shafts 6, that are journaled in bearings 7 on the sides of the grain-pan. Agitators 8, preferably having their upper faces serrated, with these serrations so located that their substantially vertical faces operate rearwardly, are attached to the said rock-shafts and are oscillated thereby, the said agitators operating in the openings 3 in the straw-rack, with their upper ends elevated above the said rack and spaced from the following agitator and being adapted by the swinging motions of the straw-rack and the grain-pan to alternately rise and fall through and also move longitudinally with respect to their own axes in the said openings. The front ends of the said agitators are attached to the said rock-shafts 6, and hence as the rear free ends of the series of agitators rise above the straw-rack said agitators are caused by the movement of the grain-pan to move longitudinally, so that they successively urge the straw rearward up their inclined serrated faces, over which it is tossed from the straw-rack in such manner as to thoroughly shake out the grain, and at the same time the straw is prevented from clogging in the machine and is discharged therefrom as rapidly as it is supplied thereto by the threshing mechanism. It will be observed that said agitators incline upwardly and rearwardly in the direction of movement of the straw on the straw-rack to facilitate the passage of the straw over said agitators. Any suitable means may within the scope of my invention be employed to swing the straw-rack and grain-pan. I have here shown the usual double-cranked axle 9 and pitmen 10 for this purpose.

In the modified form of my invention shown in Fig. 3 the grain-pan is suspended below the straw-rack by links 2^a, the upper ends of which are pivoted to standards 12, that rise from the sides of the straw-rack and are carried by the latter. The links 2 are also employed to suspend the grain-pan. Hence the straw-rack is carried by the grain-pan. The operation of this form of my invention is the same as that hereinbefore described.

It will be understood from an inspection of the drawings that the agitators move endwise while moving the straw on the straw-rack, the thrusts of the agitators on the straw being delivered longitudinally and not transversely of the agitators, and that the latter owing to their endwise or longitudinal movement serve to deliver their blows end on, and thus kick the straw, as it were, and said agitators owing to their rearward inclination offer no obstruction during their reverse movement with the grain-pan to the passage of the straw over the straw-rack. The agitators in delivering their thrusts on the straw

move upwardly and in the direction of the movement of the straw on the rack during the retrograde movement of the latter.

Having thus described my invention, I claim—

In combination with a swinging straw-rack having longitudinal openings and a swinging grain-pan under said rack, of means for simultaneously moving the straw-rack and grain-pan in opposite directions, a series of agitators provided with serrations having their substantially vertical faces operating rearwardly, said agitators being pivoted to the grain-pan and extending through the openings in the straw-rack with their upper ends elevated above said rack and spaced from the following agitator, and connectors between the agitators and some element moving relatively to the grain-pan, whereby the agitators are moved rearwardly and upwardly through the openings and in an opposite direction to the movement of the straw-rack.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANKLIN M. CARTER.

Witnesses:
C. A. WATTS,
E. B. HOLST.