No. 617,402. Patented Jan. 10, 1899.

D. S. LONG.

THRESHING MACHINE.

(Application filed Dec. 21, 1896.)

(No Model.) 2 Sheets—Sheet 1.

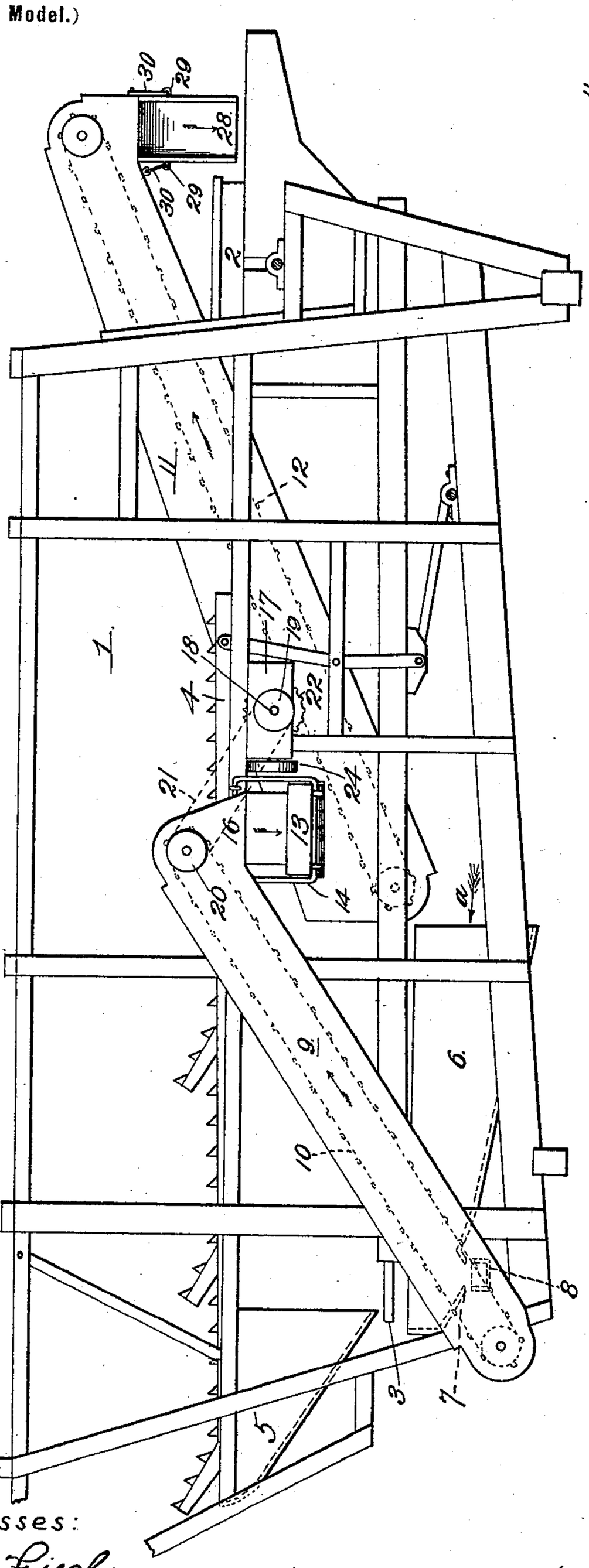

Fig. 1.

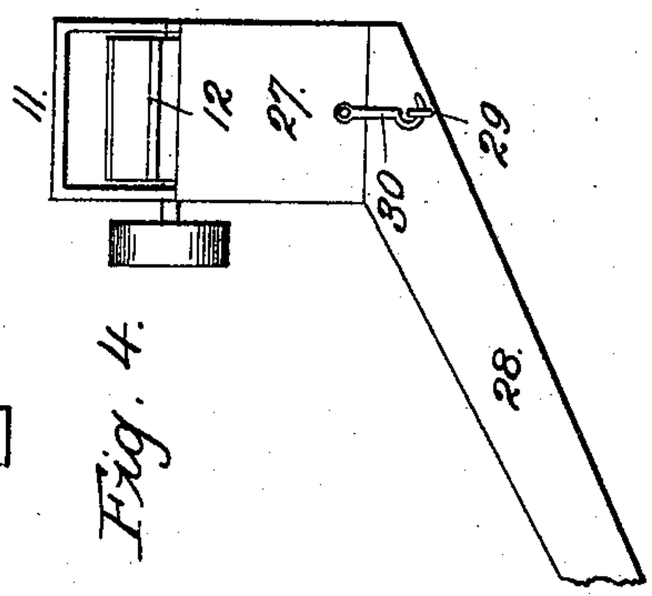

Fig. 4.

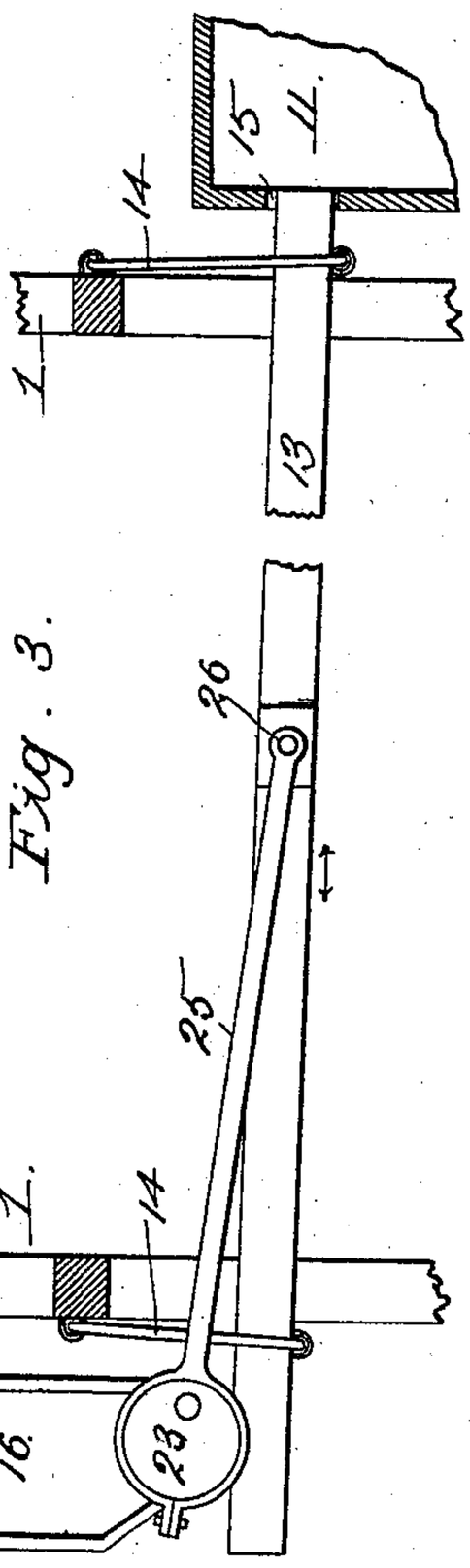

Fig. 3.

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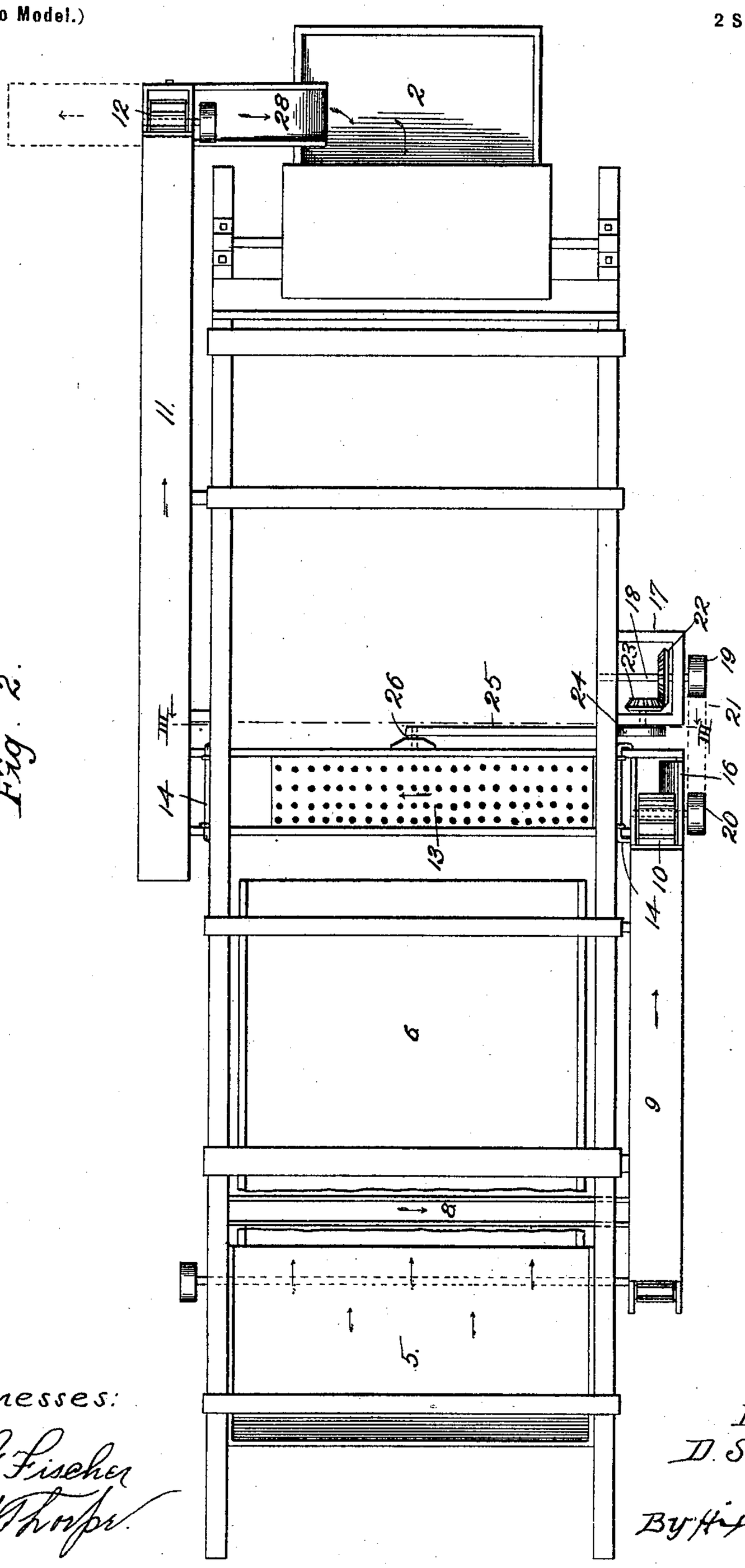

Fig. 2.

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UNITED STATES PATENT OFFICE.

DANIEL S. LONG, OF MAYSVILLE, MISSOURI.

THRESHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 617,402, dated January 10, 1899.

Application filed December 21, 1896. Serial No. 616,453. (No model.)

To all whom it may concern:

Be it known that I, DANIEL S. LONG, of Maysville, De Kalb county, Missouri, have invented certain new and useful Improvements in Threshing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to threshing-machines, and more particularly to recleaner attachments; and it consists in certain novel and peculiar features of construction and combinations of parts, which will be hereinafter described and claimed.

It is customary in the threshing-machines at present in use to conduct the tailings back into the cylinder to be rethreshed in order that no grain may be wasted. This operation is objectionable in that additional work is entailed upon the cylinder, as such tailings, comprising heads, grain, and short pieces of straw, are mixed with the unthreshed product, being fed continually to the cylinder, and must be separated again from the same. In other words, a great deal of unnecessary work is done in such operation, which is obviated entirely by the use of my improvement. Furthermore, it is obvious that the capacity of the cylinder is diminished by compelling it to reseparate material which has once passed through it, as such material necessarily takes the place of a corresponding volume of unthreshed straw, which might otherwise be fed into the cylinder.

Therefore the object of my invention is to increase the capacity and render the operation of the cylinder more effective by preventing the grain from passing through the cylinder a second time.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a skeleton side elevation of a threshing-machine embodying my invention. Fig. 2 represents a top plan view of the same with the upper and lower decks omitted. Fig. 3 represents, on an enlarged scale, a cross-section taken on the line III III of Fig. 2. Fig. 4 represents, on an enlarged scale, the front end of the forward elevator and the spout for conducting the tailings to the cylinder-box or the waste to one side and upon the ground or into a receptacle to receive it.

In the said drawings, 1 designates a threshing-machine of the type shown or of any other suitable or preferred type. It is provided with a threshing-cylinder (not shown) in the cylinder-box 2 at its front end, and extending horizontally for nearly the full length of the machine is the lower deck 3, adapted to receive the grain and heads which are separated from the straw as the latter is elevated by the customary crank-shaft or elevator (not shown) up and upon the front end of the upper deck 4, which preferably projects beyond the rear end of the lower deck in order that the straw may be reliably deposited upon the ground in the rear of the machine. Carried by said upper deck at its rear end is a chute 5, comprising a downwardly and forwardly inclined bottom and vertical sides. This is adapted to receive any grain or heads which may be carried by the straw beyond the rear end of the lower deck and conduct them safely back into the grain-shoe 6, arranged below the lower deck in the customary manner, having its open end adjacent to the fan (not shown) in order that husks and other light particles may be blown rearward in said shoe, as indicated by the arrow *a*, and separated from the grain. Any light grain which is blown back with such particles passes with the heads and other tailing products and the grain deposited in the shoe by the guide 5 through the opening 7 of the shoe into the grain-spout 8, which is adapted to reciprocate back and forth in the customary manner in order that the passage of the grain will be facilitated. The upper and lower decks also are reciprocated longitudinally in the customary manner, the means for accomplishing such action being immaterial in the present connection, as my invention proper will work in connection with grain-decks operated in any manner or by any means.

The grain-spout 8 communicates with the lower end of the casing 9, which inclines upwardly and forwardly to a point about the middle of the machine, and traveling therein in the customary manner is the endless elevator 10 for conducting said tailings up through said casing. At the opposite side of

the machine and also inclined upwardly and forwardly in the same manner is a second casing 11, and said casing has its lower end opposite, but in a lower plane than the upper or discharge end of the casing 9 and its upper end adjacent to the cylinder-box of the machine, and traveling in said casing in the customary manner is the endless elevator 12.

Extending transversely of the machine is a slightly-inclined sifter 13, and said sifter is supported at its opposite ends upon the swinging bails 14, suspended from the framework of the machine. Its lower end projects into an opening in the side of the elevator-casing 11, as at 15, while its opposite and upper end is arranged vertically below and communicating with the discharge-spout 16 of the elevator-casing 10, as shown clearly. Said sifter reciprocates longitudinally in order to facilitate the passage of certain products composing the tailings from the casing 9 to the casing 11, and this reciprocatory operation is accomplished by the following mechanism:

17 designates a bracket which is secured in any suitable manner to the side of the machine adjacent to the discharge-spout of the casing 9, and journaled transversely therein is a short shaft 18, upon the outer end of which is a belt-wheel 19, connected to the belt-wheel 20 of the elevator 10 by the belt 21. 22 designates a gear-wheel mounted upon said shaft within said bracket, and 23 an intermeshing pinion also mounted upon a short shaft journaled upon said bracket and extending at right angles to the short shaft 18. Said shaft carries operatively an eccentric 24, which is connected in the customary manner to the pitman 25, pivotally connected at its opposite ends, as at 26, to the sifter 13, in order that the operation of the said eccentric may cause the rapid reciprocation of the sieve, to the end that the grain which is discharged upon one end of said sifter may pass through the same and the lower deck below, and consequently avoid a second and unnecessary passage through the cylinder.

27 designates a discharge-spout at the upper and front end of the casing 11, and 28 a connecting-spout whereby the tailings minus the grain may be conducted back to the cylinder, if desired, that the same may be again acted upon by the latter.

As an inconsequential number of heads after being once acted upon contain any grain, it is obvious that it may be of advantage in order to increase the output of the machine to discharge such heads, together with their tailing products, upon the ground instead of taking them back into the cylinder. To accomplish this, I provide a spout 28 with staples 29, and engage them with hooks 30, carried by the discharge end of the elevator-casing, so that by simply disengaging said hooks and staples the spout may be turned from the cylinder-box in the opposite direction and resecured in position quickly and easily. After all of the straw has been threshed this accumulation of tailings may be passed through the cylinder and the few heads containing grain again operated upon.

A recapitulation of the entire operation it is thought is unnecessary, as the operation has been referred to in connection with the details of construction.

Thus it will be seen that I have produced attachments for threshing-machines which will be found to materially increase the output of such machines and which are of such inexpensive construction that they are within the reach of all who need them. It is also obvious that these attachments are practically indestructible, as they are exceedingly simple, strong, and durable.

It is to be understood, of course, that various changes in the form, proportion, detail construction, and arrangement of parts may be made without departing from the spirit and scope or sacrificing any of the advantages of my invention.

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

In a threshing-machine, the combination of an upwardly and forwardly inclined elevator 9, having its lower end adapted to receive the tailings from the feed-spout of the machine, and provided with a depending discharge-spout 16, at its upper end, a second elevator 11, at the opposite side of the machine, and provided with a depending discharge-spout at its upper end, a sifter 13, extending transversely of and suspended from the machine, and adapted to receive the tailings from the spout 16, and discharge them into the lower end of elevator 11, an eccentric 23, linked to the sifter, a rectangular frame 17, carrying the shaft of the eccentric, and a second shaft, intermeshing gear-wheels upon said shafts, and gearing between the first-named elevator and shaft 18, all arranged substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL S. LONG.

Witnesses:
J. I. GIBSON,
C. STAGNER.