(No Model.)

H. M. WEAVER.

GRAIN FEEDER AND PACKER.

No. 363,867. Patented May 31, 1887.

Fig. 1

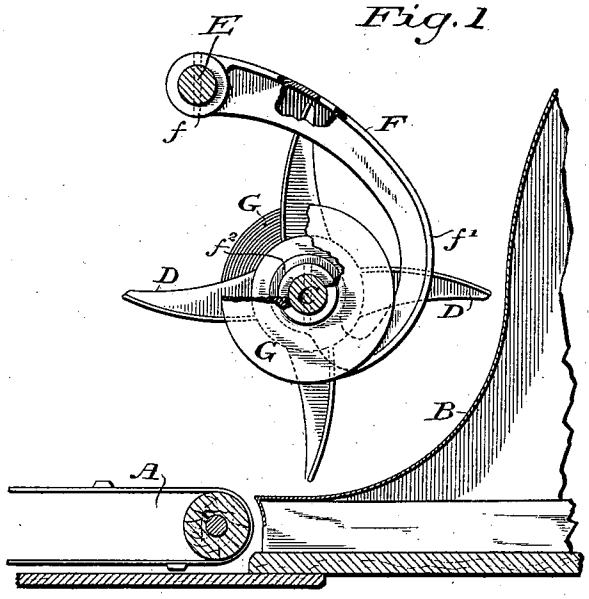


Fig. 2.

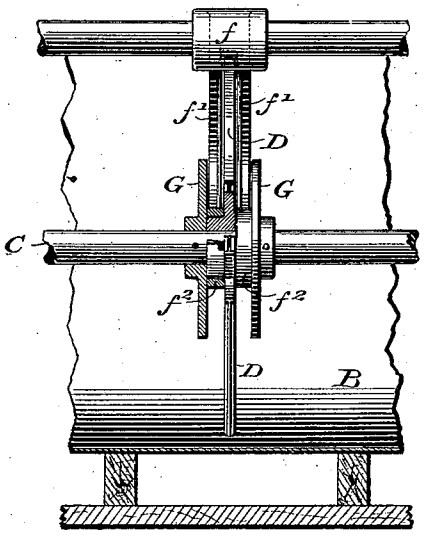
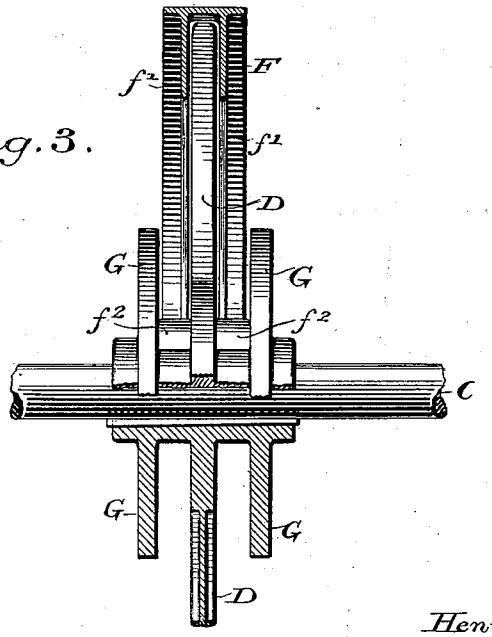


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY M. WEAVER, OF MANSFIELD, OHIO.

GRAIN FEEDER AND PACKER.

SPECIFICATION forming part of Letters Patent No. 363,867, dated May 31, 1887.

Application filed February 27, 1886. Serial No. 193,475. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. WEAVER, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Grain Feeders and Packers, of which the following is a specification.

In some types of grain-binders, whether "low-level" or "standard" machines, as the terms are commonly applied nowadays, packers are used to feed the grain into the receptacle or against a tripping device consisting of a series of star-wheels attached to a rotating shaft and forcing the grain forward from the receiving-point in wisps or bunches into a passage-way or packing-chamber, where it accumulates by regular increments and under a constantly-increasing compression until the tripping devices are started or the binding apparatus otherwise set in motion. Such star-wheels are also occasionally used in harvesters at the foot of the elevator to carry the grain from the platform to the elevator aprons or carriers, or to lift it themselves to the head of such elevator. In order to strip the grain from these packers their teeth have sometimes been caused to act through slots in a broad metallic apron constituting one side or decking of the passage-way or chamber or of the elevator. At other times stripper-bands have been employed supported at one end upon the rotating shaft, which carries the wheels, and at the other end upon an overhead support. The shield or apron is objectionable on account of its weight and expensive character and the necessity for entirely replacing it if broken at any point, while the independent stripper-bands have been found to increase the danger of clogging as the packers crowd the straw in underneath the strippers and wind it in the interstices between such strippers and their own hubs, spreading the strippers, and finally themselves ceasing action. These defects I propose to remedy by the employment of fending-disks secured to the packer-shaft at a fixed distance from each of said star-wheels, and either independently secured to the shaft or forming part of the hub of the adjacent star-wheel, between which and the wheel one of the strippers or a prong therefrom is embraced, making the disks of such diameter as to lift or press the straw away from contact with the shaft or with the strippers at any point immediately adjacent to the shaft. Incidentally, also, I prefer to employ pronged strippers having an integral hub or butt piece, which embraces or is secured to the upper support, and projecting from this two parallel arms, just sufficiently far apart to receive the star-wheel between them, and of such diameter that they are closely embraced by the fending-disk on either side of the star-wheel.

In the drawings, Figure 1 is a rear elevation of so much of one form of harvester-binder embodying my invention as is necessary to an understanding thereof; Fig. 2, a vertical transverse section, seen from the grain side, of the packing mechanism shown in the preceding figure, and Fig. 3 a modification.

A represents a platform apron or carrier; B, the decking of an ascending passage-way at the delivery end of said carrier, which may lead to tripping and binding mechanism or other appropriate instrumentalities. Above this passage-way is a rotating shaft, C, carrying a series of star-wheels or packers, D, the fingers of which sweep the grain received from the apron forward along the passage-way in wisps or bunches and pack it upon or into the accumulating mass beyond.

From a support, E, beyond or above the packer-wheels, project strippers F, preferably made with a hub, *f*, to embrace or afford a means of attachment to the support, and from this prolonged into curved or scroll arms *f'*, parallel with each other, and just sufficiently far apart to embrace a star-wheel between them. At their lower ends they rest upon and are supported by the shaft, or have bearings f^2 to embrace the hub of the star-wheels. As thus far described, these strippers, and, in fact, all strippers of which I am aware that embrace at one end the packer-shaft or the wheel-hubs, afford a dangerous source of clogging, since straw gets in between them and the star-wheels, and is wound about the shaft or wedged in at the angle between the shaft and the strippers, or in the interstices between the strippers and wheels. To avoid this, I pin to the packer-shaft, on each side of the star-wheels, fender-disks G, or form them integral with the hubs of said wheels, as shown in the modification. These fenders are of such diameter that they lift or keep the grain away

from the shaft and from any appreciable proximity to the inner ends of the strippers, and are placed at such a distance from the wheels themselves as to just receive the ends of the strippers in the space between. As thus arranged, they have a twofold function: the first, already stated, of preventing clogging, and, the second, preventing the pronged ends of the strippers from being spread apart as the result of such clogging, or of any untoward accident, while at the same time they allow the grain to bulge up between them so that the packer-teeth penetrate more deeply into and get a better hold upon it than would be the case were said fenders in practical contact with said teeth.

It is evident that one arm of each stripper may be omitted, if desired; or, what is equivalent, that a single stripper not pronged or bifurcated as the one described may be employed in connection with a fender-disk on one side of the star-wheel, or two independent strippers, one on each side of the star-wheel, with fender-disks arranged as shown; also, that the location of the overhead support will be varied according to the exigencies of the machine or type of the machine employed, or the purpose for which the packers are used, and that the platform-apron herein described is taken only as an exemplar or exponent of any suitable delivery mechanism arranged in any suitable relative position; and I do not intend to limit myself to the precise form of star-wheels or rotating-packers shown in the drawings, nor to the employment of the fender-disks and strippers in connection with the packer-wheels having rigid arms or teeth; but

What I claim is—

1. The combination, substantially as hereinbefore set forth, of the packer-shaft, the packer-teeth thereon, disks affixed to the shaft in proximity to the teeth and projecting above the hub which supports said teeth, and strippers supported at one end upon the frame and toward the other entering between the disks and the teeth.

2. The combination, substantially as hereinbefore set forth, of the packer-shaft, packer-teeth carried thereby, fending-disks fixed to the shaft in proximity to the teeth, and stripper-bands supported at one end upon the shaft between the disks and the teeth and at the other end upon the frame-work.

3. The combination, substantially as hereinbefore set forth, of the packer-shaft, the packer-teeth carried thereby, fending-disks fixed to the shaft in proximity to the teeth, and pronged strippers supported by their shank from the frame, embracing the packer-teeth with their forks, and at the extreme end of said forks supported upon the packer-shaft between the teeth and fenders.

4. The combination, substantially as hereinbefore set forth, of the packer-shaft, the packer-teeth supported thereon, fending-disks integral with the hubs of the packer-teeth, and strippers supported at one end upon the frame-work and at the other embracing the necks of the hubs between the teeth and the fending-disks.

5. The combination, substantially as hereinbefore set forth, of the star-wheel packers, the fending-disks formed integral with the hubs of said packers, the shaft upon which the packers are mounted, and the pronged strippers having their shanks secured to a bar of the frame-work, and the ends of their forks embracing the diminished necks of the hubs of said packers between the latter and the fending-disks.

6. A packer-wheel formed in one integral body, having teeth projecting radially from the center of the hub, and fending-disks at each side of said teeth, but a little removed therefrom, so as to leave diminished necks upon said hubs.

HENRY M. WEAVER.

Witnesses:
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JOHN M. JOLLEY.