

(No Model.)

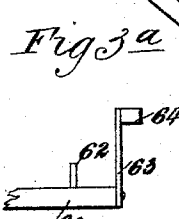
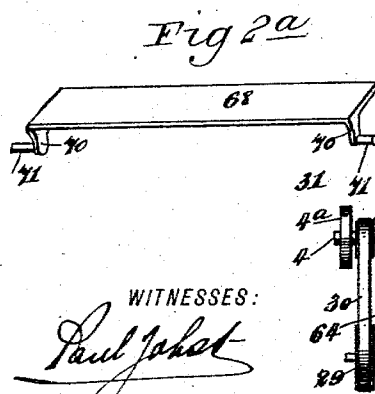
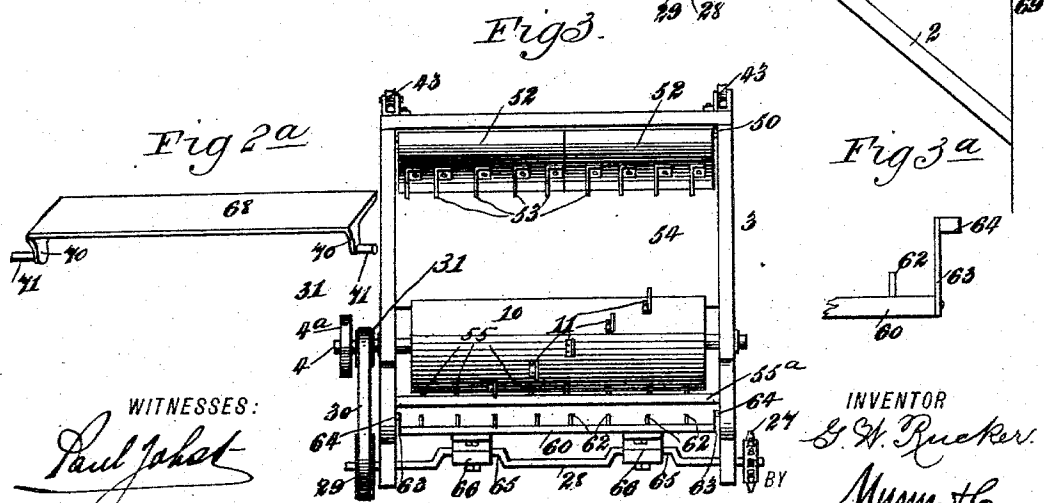
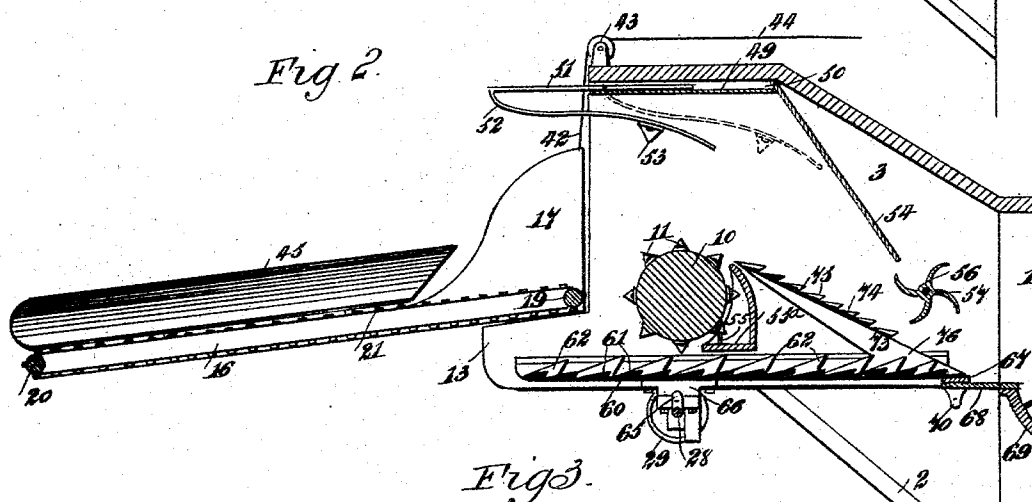
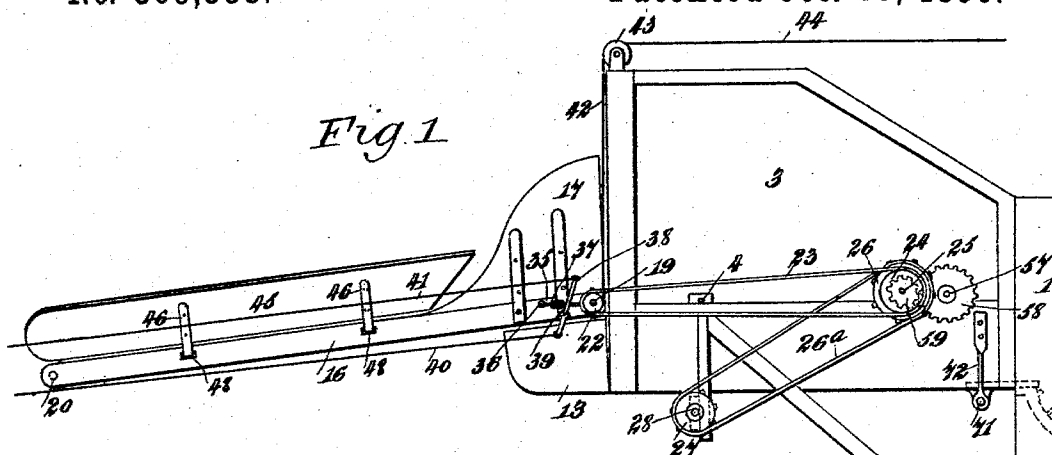
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G. W. RUCKER.

FEEDING ATTACHMENT FOR THRESHING MACHINES.

No. 569,588.

Patented Oct. 13, 1896.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

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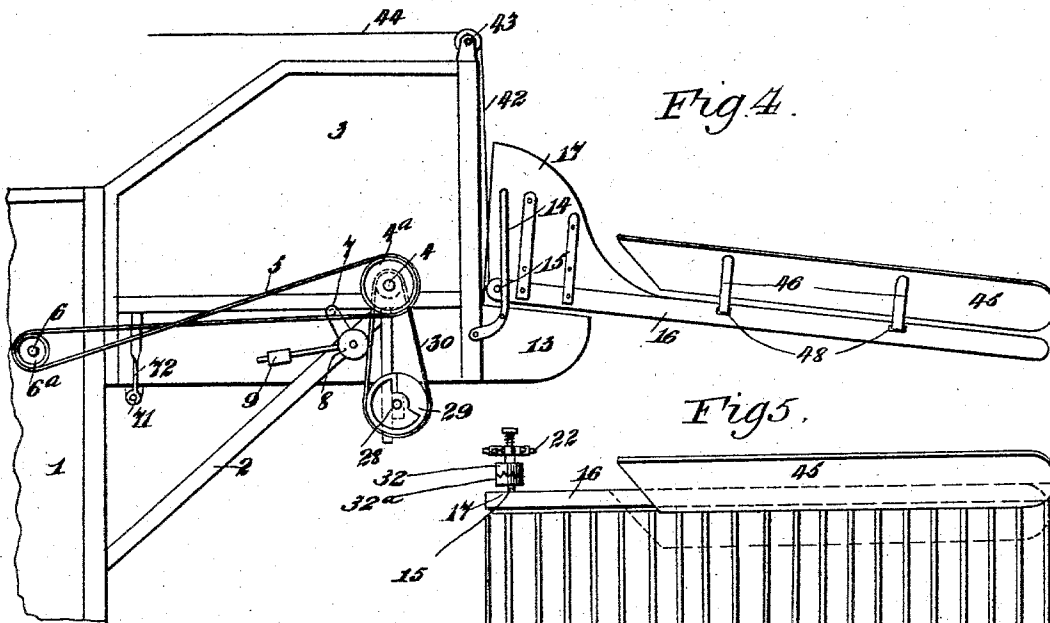


Fig. 4.

Fig. 5.

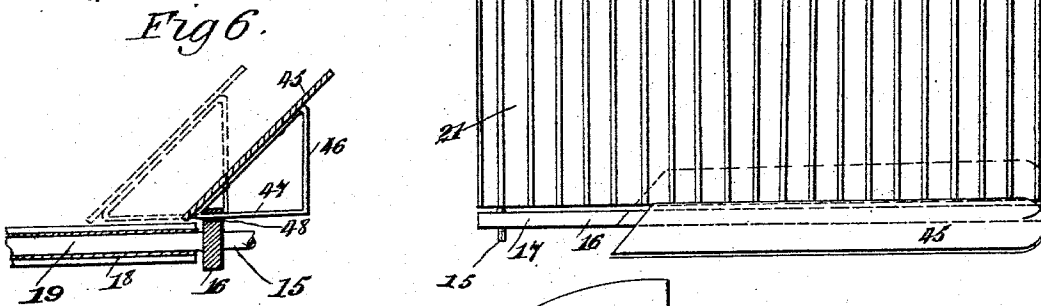


Fig. 6.

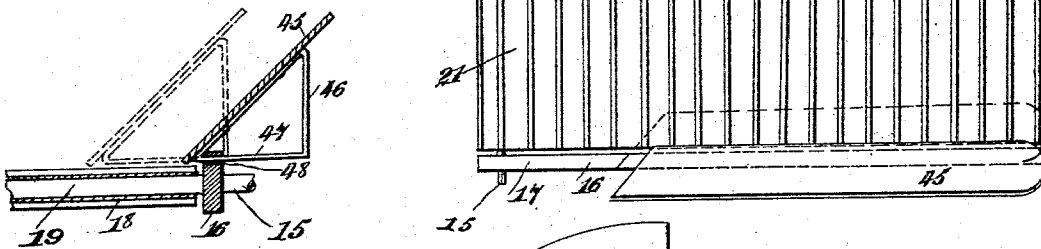


Fig. 7.

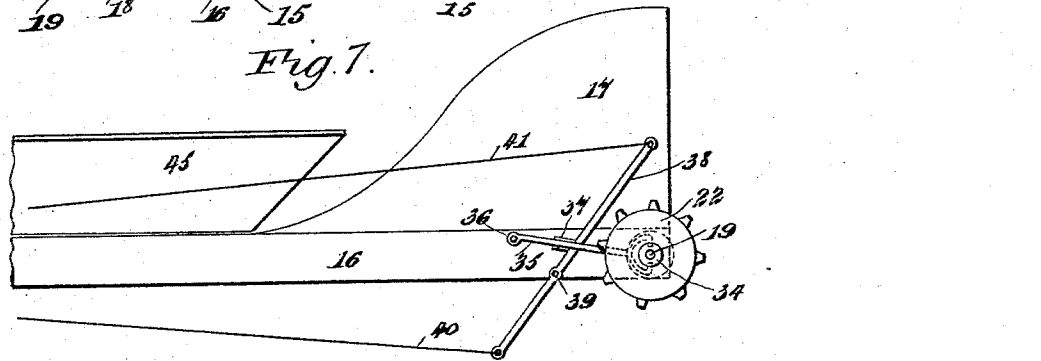


Fig. 8.

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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON RUCKER, OF BELLE PLAINE, IOWA.

FEEDING ATTACHMENT FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 569,588, dated October 13, 1896.

Application filed October 18, 1895. Serial No. 566,130. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON RUCKER, of Belle Plaine, in the county of Benton and State of Iowa, have invented certain new and useful Improvements in Feeding Attachments for Threshing-Machines, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in feeding attachments for threshing-machines and the like, and has for its object to provide a device of this character of a simple and inexpensive construction having means for cutting the bundles and feeding the grain to the separator, the construction being such that the device is increased in capacity and better results than heretofore attained.

The invention contemplates certain novel features of the construction, combination, and arrangement of the various parts of the device, whereby certain important advantages are secured, and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use than prior devices of the class to which it relates, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view showing the device in position for use. Fig. 2 is a vertical section taken longitudinally through the device. Fig. 2^a is a perspective view showing the pivoted plate which engages the concave and supports the rear end of the conveyer. Fig. 3 is a rear end view of the device. Fig. 3^a is an enlarged fragmentary view showing the means employed for taking up looseness between the sides of the conveyer and casing. Fig. 4 is a view similar to Fig. 1, but showing the opposite side of the attachment. Fig. 5 is a plan view showing the carrier detached. Fig. 6 is a fragmentary sectional view taken vertically through one side of the carrier and showing the adjustable side board thereof, and Figs. 7 and 8 are respectively a fragmentary side view and plan view showing on

an enlarged scale the means for actuating the carrier.

In the views, 1 represents the separator to which my improved attachment is applied, said attachment being supported by means of inclined supports or braces 2 and comprising a casing 3 of suitable construction, as clearly shown in the drawings.

In the casing 3 is journaled a transverse shaft 4, having at one end a pulley 4^a to be engaged by a belt 5, passing over a pulley 6^a on a shaft 6 of the separator. On the shaft 4, within the casing 3 and extending across the same, is a drum 10, having knives 11 mounted on its periphery to engage and cut the bands.

The rear end of the casing 3 is provided at its lower part with projections or brackets 13 at opposite sides, having vertical guide-rods 14, forming guides wherewith engage the ends 15 of a shaft 19, extending transversely across the carrier, between the side rails or sills 16 thereof. At its forward end the sides 16 of the carrier are provided with upturned brackets or side pieces 17, and at opposite ends of the bottom 18 of the carrier are journaled the shafts 19 and 20, over which passes the endless carrier 21, which may be of any construction, being preferably formed of an endless flexible apron having transverse strips secured on its face, as seen in Fig. 5.

On the shaft 19 is mounted a sprocket-wheel 22, over which passes a chain or link belt 23, geared to a sprocket-wheel 24 on a short shaft 25, journaled on one side of the casing 3, and on said shaft is mounted a second sprocket-wheel, 26, geared by a chain or link belt 26^a to a sprocket-wheel 27 on a crank-shaft 28, journaled below the casing 3 at the rear part thereof and extending transversely across the said casing to the opposite side thereof, where it is provided with a pulley 29, over which extends a belt 30, passing around a pulley 31 on the adjacent end of the drum-shaft 4. In this way the crank-shaft 28, the cranks of which actuate the conveyer, and the shaft 19, which actuates the carrier, are driven from the drum-shaft 4, and in order that said parts may be conveniently thrown into and out of operation I provide a belt-tightener 7, having a roller 8 normally

pressed by a weighted arm 9 against belt 30, so as to hold the same tight. When said belt-tightener is thrown out of operation, the conveyer and carrier are stopped.

5 The sprocket-wheel 22 is loose on the shaft 19, being capable of both rotative and longitudinal movement thereon, and said wheel is integrally formed or secured to a clutch member 32, arranged, when slid along said shaft, to engage a similar clutch member 32^a,
10 fixed on said shaft, so that the carrier will be positively driven.

The end of shaft 19 is provided with a head or enlargement 34, and between the same and
15 the adjacent side of the sprocket-wheel 22 is held a spring 33, coiled on said shaft and tending to hold the clutch members 32 and 32^a normally engaged. The clutch member 32 is grooved around its periphery to receive
20 forks on the end of a lever 35, pivoted or hung loosely at 36 on the carrier-frame and arranged to be engaged on its inner side or that side next said carrier-frame by a wedge 37, carried on a lever 38, fulcrumed at 39 on
25 the said frame and connected at its ends with shifting ropes or the like 40 and 41, extending along the side of the carrier in position to be conveniently manipulated by an attendant to move the wedge into and out of engagement with the said lever or rod 35, so as
30 to engage or disengage the clutch members and stop and start the carrier, as will be readily understood.

Cords 42 or equivalent flexible connections
35 are secured to the forward end of the carrier-frame at the ends of the shaft 19, and said cords pass over sheaves or rollers 43 at opposite sides of the top of the casing 3, and are carried forward to a suitable connection with
40 the separator. By drawing on said cords the carrier may be raised and lowered to any desired position, so that the carrier may be loaded to the top of the feeder for convenience in moving.

45 The carrier-frame is provided along its opposite sides with adjustable side boards 45, held in inclined positions by means of triangular braces or brackets 46, secured to their
50 outer sides, as clearly seen in Fig. 6, the lower horizontal members 47 of said braces being arranged to slide through apertures 48 in the side bars 16 of the carrier-frame, so that said
side boards may be conveniently adjusted in or out to give the carrier more or less width.

55 In the interior of the casing 3 is arranged a shelf 49, forming above it a transverse guideway 50, extending across the upper part of the casing and adapted to receive a sliding plate 51, to which are secured two or more spring-
60 plates 52, the ends of which are bent down and provided with knives 53, held over the drum 10 in position to cut the material passing over the same into the separator, and said casing is provided behind said knives with a
65 downwardly-inclined deflecting-wall 54, arranged to deflect said material and deliver the same to pickers 56, mounted on a shaft

57, extending transversely across the casing and provided outside the same with a gear 58, meshing with a pinion 59 on the shaft 25,
70 whereby said pickers are driven.

60 represents a conveyer located in the lower part of the casing 3 below the drum 10 and comprising a board provided with transverse serrations 61 in its upper face, said serrations having their forward walls made vertical and their bottoms sloped up rearward,
75 so that the shatterings falling thereon will be held against being discharged from the open end of the casing and will be conveyed into the separator.

To opposite sides of the conveyer 60 are secured spring-metal plates 63, the upper edges of which are secured to strips 64, of wood or the like, extending along the inner sides of
85 the casing 3. These springs serve to take up all looseness between the sides of the conveyer and casing, so as to prevent the loose grain from falling outside the open bottom of the casing.

The rear end of the conveyer is held on cranks 65 on the crank-shaft 28, said cranks engaging boxes 66 on the under side of said conveyer, whereby a rocking or shaking movement is imparted to the rear end thereof,
95 while the forward end of the conveyer is supported on a bar 67, resting on a tilting or swinging plate 68, (seen in detail in Fig. 2^a), having its free edge arranged to engage the concave 69 of the separator. Said plate 68 is
100 provided at its rear edge with depending flanges 70, having outwardly-directed lugs 71 to engage perforations in the lower end of straps 72 on opposite sides of the casing. In this way the conveyer is always held in position to deliver to the separator, while the concave may be adjusted at will.

At its forward end the conveyer is provided with upwardly and rearwardly extending projections or arms 73, whereon is supported an
110 inclined floor 74 similar to the floor or bottom 60 of the conveyer proper and having its upper end arranged to receive the grain passing over drum 10 and its upper face formed with strips or serrations similar to the serrations 61 in the bottom 60. Plates 75 are also secured on the floor 74, as clearly seen in the drawings, and said plates serve to carry forward the straw to the separator-cylinder. A series of cleaners 55 are mounted on a support 55^a below the rear upper edge of the floor 74, and serve to clean the straw from the knives 11 on drum 10.

In operation the carrier is arranged at a proper elevation to feed the material into the casing, and is adapted to be operated by four men, two on either side. The sheaves when thrown on the carrier will be straightened out automatically in case they strike with one end on the inclined side pieces 45, so that
130 little care is required in feeding the sheaves to the carrier.

The sheaves are delivered to the drum 10, over which they pass, being cut by the knives

11 thereon and also by the knives 53 on the spring-plates 52, and the cut material is fed to the pickers 56 and thence to the separator. Should any straw adhere to the knives on the drum 10, it will be removed by the cleaning-plates 62, and said plates, together with the serrations 61, serve to hold the loose grain against falling out of the casing and discharge the same through the opening 76 below the floor 74 to the separator.

The device constructed as above described is extremely simple and inexpensive and is well adapted for the purpose for which it is intended, since it effectually prevents the loss of the shatterings and is not liable to get out of order.

It will also be obvious from the above description of my invention that the device is susceptible of considerable modification without material departure from the principles and spirit of my invention, and for this reason I do not wish to be understood as limiting myself to the precise form of the parts herein set forth.

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

1. In a feeding attachment, the combination of a casing having at its end means to support one end of a carrier, the said carrier, means for driving the same, and flexible connections secured to the end of the carrier which is supported on the casing, said connections being carried up over the top of the casing, substantially as set forth.

2. The combination of a carrier having a frame and side boards secured to and extending longitudinally along the sides of the frame, said side boards being adjustable toward and from each other and having means to maintain them parallel to each other when moved, substantially as set forth.

3. The combination of a carrier having a frame, and side rails provided with openings, brackets arranged to slide in said openings, and side boards secured to the brackets and adjustable toward and from each other, substantially as set forth.

4. The combination of a carrier having a frame provided with perforated side bars, triangular brackets having horizontal lower sides arranged to slide in said perforations in the side rails of the frame, the inner sides of said brackets being inclined upward and outward, and side boards secured to the inclined sides of the brackets, substantially as set forth.

5. The combination in a feeding attachment, of a casing having vertical guides, a carrier having engagement with said guides, sheaves on the upper part of the casing, and flexible connections secured to the carrier and passing over said sheaves, substantially as set forth.

6. The combination in a feeding attachment, of a frame, shafts journaled therein, an endless carrier on said shafts, a clutch mem-

ber connected to turn with the shaft, a clutch member movable toward and from said first-named clutch member, means for driving the same, a rod connected to the movable clutch member, a wedge arranged to engage under and move said rod to shift the clutch member, means for holding the clutch members normally in engagement, and a lever connected to said wedge, to operate the same, substantially as set forth.

7. In a feeding attachment, the combination of a casing, a drum mounted to turn therein and provided with knives, a guide at the upper part of the casing, a slide in said guide, and knives on said slide, substantially as set forth.

8. In a feeding attachment, the combination of a casing, a drum mounted to turn therein and provided with knives, a guide at the upper part of the casing, a slide in said guide, springs on said slide, and a knife on said spring, substantially as set forth.

9. In a feeding attachment, the combination of a casing, knives operatively mounted therein, a conveyer arranged across the casing below the knives, means for operating said conveyer, and springs arranged at opposite sides of the conveyer to close the spaces between the same and the inner walls of the casing, substantially as set forth.

10. In a feeding attachment, the combination of a casing, knives operatively mounted therein, a conveyer comprising a floor arranged across the casing below the knives, means for operating the conveyer, and springs secured along the sides of the conveyer and projecting above the upper face thereof, said springs having their upper parts arranged to bear against the inner walls of the casing, substantially as set forth.

11. In a feeding attachment, the combination of a casing, a drum therein having knives, a conveyer below the drum, means for operating the conveyer, spring-plates secured to the sides of the conveyer and arranged to bear against the inner side walls of the casing, upwardly and rearwardly inclined portions on said plates, and an inclined floor secured to said inclined portions, substantially as set forth.

12. In a feeding attachment, the combination of a casing, knives operatively mounted therein, a conveyer located in the casing below the knives and having its rear end vertically movable, and a plate loosely secured at its ends to the sides of the casing and extending across the same beneath and adapted to support the rear end of the conveyer, said plate having its edge extending beyond the rear edge of the conveyer, and adapted to engage and rest on the separator-concave, substantially as set forth.

13. In a feeding attachment, the combination of a casing, knives operatively mounted therein, a conveyer located in the casing below the knives and having its rear end vertically movable, a plate extending across the

casing beneath and adapted to support the rear part of the conveyer and lugs at the forward edge of said plate and at opposite ends thereof, said lugs being pivoted to the sides
5 of the casing, said plate having its rear edge adapted for up-and-down movement when the plate is swung pivotally on said lugs, said rear edge of the plate being arranged to ex-

tend beyond the rear edge of the conveyer in position to engage the separator-concave, substantially as set forth.

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Witnesses:

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G. C. F. CANLON.