(No Model.) 2 Sheets—Sheet 1.

A. R. McMULLEN.

FOLDABLE STRAW CARRIER FOR THRESHING MACHINES.

No. 605,327. Patented June 7, 1898.

Fig. 1.

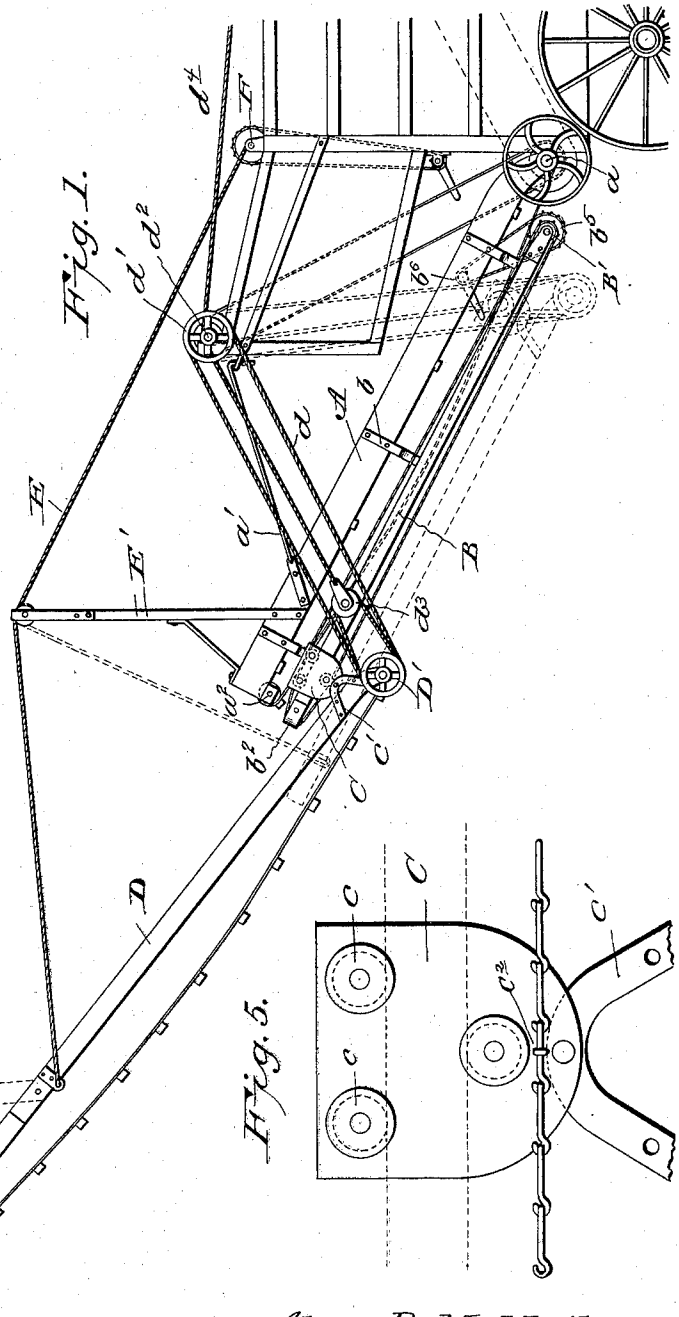


Fig. 4.

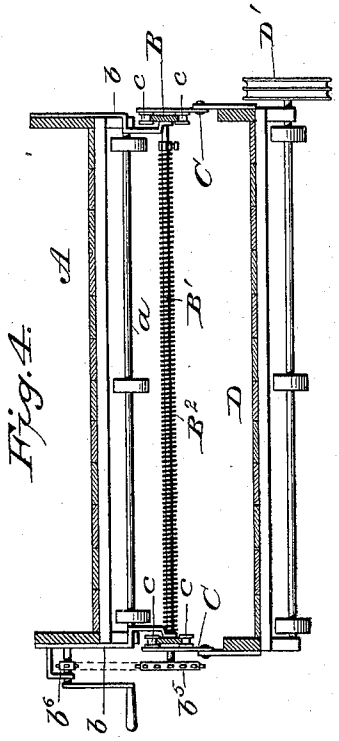


Fig. 5.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

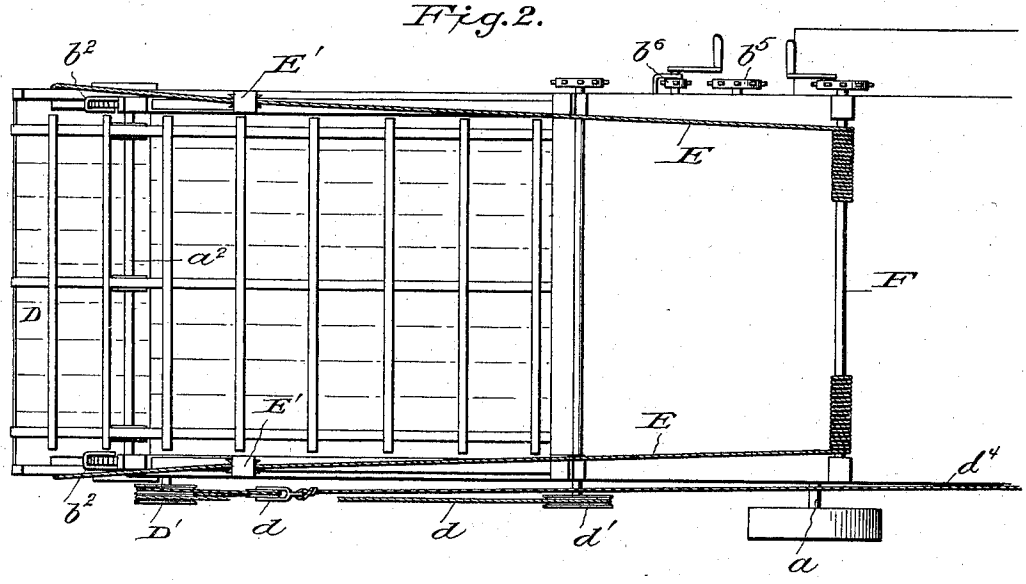
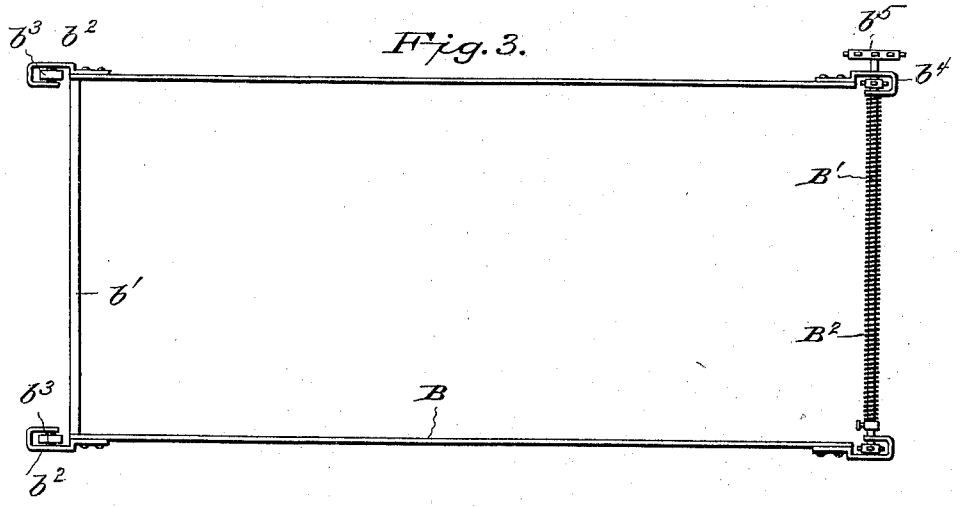


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT ROSS McMULLEN, OF LENNOX, SOUTH DAKOTA.

FOLDABLE STRAW-CARRIER FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 605,327, dated June 7, 1898.

Application filed December 22, 1897. Serial No. 663,015. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ROSS MCMULLEN, a citizen of the United States of America, residing at Lennox, in the county of Lincoln and State of South Dakota, have invented certain new and useful Improvements in Foldable Straw-Carriers for Threshing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in foldable straw-carriers for threshing-machines.

The object of my invention is to provide a straw-carrier the upper or extensible section of which is susceptible of being folded, the upper part upon the lower, and when so folded may be positioned under the section of the carrier which is attached to the threshing-machine, so that it will occupy but little space when not in use.

A further object of my invention is to provide a straw-carrier with means which will store power as the upper section of the carrier is lowered, and which will be utilized in raising the same, said means also serving as a brake; also, to generally improve the construction of the parts, as will be hereinafter fully set forth.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation showing my improved straw-carrier attached to a threshing-machine, it being shown in position for use in full lines, the dotted lines indicating the position of the parts when folded. Fig. 2 is a plan view. Fig. 3 is a plan view of the frame with which the extensible section of the straw-carrier engages. Fig. 4 is a vertical sectional view, and Fig. 5 is a detail view, of one of the guides and pivotal connection attached to the extensible section for engagement with the frame which is attached to the fixed section of the carrier.

The threshing-machine is of the usual type, and beneath the end through which the straw is discharged is attached the section A of the straw-carrier, the side pieces of the same having downward-extending plates attached thereto, through which passes a shaft a, which carries a drive-pulley on one end.

The carrier A is normally maintained in an inclined position, as shown, (see Fig. 1,) by rods a', which are attached to the side pieces of the carrier-frame and engage with eyes in the ends of bars which are connected to the frame of the threshing-machine. The conveyer-belt of the carrier-frame A passes over pulleys on the shaft a and over similarly-disposed pulleys or rollers on a rod or shaft a^2, which is journaled in suitable bearings, and the straw from the threshing-machine is delivered upon the conveyer-belt in the usual manner.

Beneath the carrier A is suspended by means of hangers b a frame B, and said hangers are bent, as shown in Fig. 4, so that the sides thereof will be out of line with the edges of the longitudinal side bars of the frame to permit the grooved rollers carried by the slides C to pass the hangers. The upper ends of the side bars of the frame B are connected by a cross-bar b', and to said side bars are attached roller-supports b^2, constructed to carry rollers b^3, which are positioned on a line with the side bars, and the lower ends of said side bars carry similarly-shaped fixtures, through which passes a shaft B', having sprocket-wheels rigidly attached thereto on a line with the side bars, and beyond one of the fixtures b^4 on the end of the shaft is a larger sprocket-wheel b^5, over which passes the chain for engagement with a smaller sprocket-wheel b^6, carried by a shaft attached to one of the side pieces of the carrier-frame A, which shaft may be key-ended to receive a crank-handle, or the handle may be formed integral with the shaft.

The shaft B' has coiled about the same a spring B^2, one end being held in fixed engagement with the shaft, while the other end engages with one of the shaft supports or fixtures b^4.

Over the rollers b^3 and sprocket-wheels on the shaft B' pass endless chains, to which are connected the slides C C by staples or eye-bolts c^2, the side plates of the slides carrying flanged rollers c c, arranged as shown, which engage with the edges of the side bars of the frame B, and these slides have pivotally con-

nected thereto bracket-arms c', which are connected or bolted to the lower end of the extensible carrier D.

The frame of the carrier D is made up of two sections, which are hinged or pivotally connected together, so that the upper section may fold upon and within the lower section, and said upper section is of less length than the lower section, so that when folded the slack of the slatted carrier-belt or conveyer will lie within the side pieces of the lower section and upon the floor thereof. When it is desired to fold the upper section, the carrier D may be lowered or brought to a nearly horizontal position, so as to be easily accessible. The section D is lowered by paying out a flexible connection, which passes over a drum carried by the threshing-machine.

The slatted belt or conveyer of the carrier D passes over suitable guide pulleys or rollers positioned on shafts journaled to the upper and lower ends of the carrier-frame, and the driven shaft at its lower end has a pulley D′, constructed with a pair of grooves in its face, with which engages the looped or doubled section of an endless belt d, which also engages a grooved pulley d', attached to one end of a shaft d^2, the other end having a pulley which is in gear with the driving-shaft a, attached to the frame of the threshing-machine. The belt d may be of rope, leather, or rawhide, and it is looped between the pulleys over which it is passed, said looped portion engaging with a pulley d^3, which has a bail to which is fastened a rope, said rope being suitably guided and connected to a fastening means attached to the threshing-machine, which means may be a spring or cleat. When a spring is used, the belt-tightener will exert the desired degree of tension and permit the belt to be lengthened or shortened as the position of the carrier-section D is changed.

The angle of the carrier D may be varied by drawing upon or paying out the flexible connection E, the ends of which are attached to a drum or windlass F on the threshing-machine, and said connection passes over standards E′, which project upward from the frame A, the flexible connection E passing over rollers carried by the standard and being attached or connected with the upper portion of the lower section of the foldable carrier.

When it is desired to lower the foldable carrier from the position shown in full lines of Fig. 1 of the drawings, the upper section thereof is folded upon the section below and the shaft B′ is turned so that the chains which pass over the sprocket-wheels carried thereby will draw upon the slides or hold them so that the carrier will be lowered with an easy sliding movement, and as said carrier is being lowered the spring is coiled about the shaft, so as to give a constantly-increasing resistance, which serves as a brake, and the power stored up by the spring may be effectively used to assist in elevating the carrier. The suspension-cable, which passes over the standards as the carrier is being lowered, has the slack taken up by properly operating the windlass, and the rope or connection d^4, attached to the pulley d^3, is drawn in until the carrier D passes the center of the frame A. If a spring is attached to said connection d^4, it will maintain the desired tension on the belt.

The construction and arrangement of the parts as shown and described may be modified or changed without departing from the spirit and scope of my invention. When the parts are positioned for use, the angle of the outer carrier may be varied as desired, and said carrier may be positioned with its lower end at any desired point below the fixed carrier and be operated so that as the threshing progresses the upper section may be raised or extended. When the parts are folded and lowered, the several flexible connections may be tightened to prevent movement of the parts upon each other.

Having thus described my invention, what I claim is—

1. In a conveyer for threshing-machines, the combination of a carrier attached to and supported from the threshing-machine, a frame suspended beneath said carrier, a pair of slides mounted on the suspended frame, a second carrier pivotally attached to the slides, an end section hinged to the second carrier and adapted when folded to lie over the same so that it may be housed beneath the suspended frame, substantially as shown.

2. In a conveyer for threshing-machines, a carrier held in fixed engagement with the threshing-machine, a frame suspended beneath said fixed carrier and provided with side bars, slides having rollers for engagement with the side bars, means for moving the slides upon the side bars of the suspended frame, in combination with an adjustable carrier of greater length than the fixed carrier, the adjustable carrier being pivotally attached to the slide and provided with an end section which is hinged thereto so as to be folded upon the lower section and when so folded to be housed between the lower section thereof and the suspended frame.

3. In a conveyer for threshing-machines, a carrier held in fixed engagement with the threshing-machine, a frame suspended from said carrier, slides mounted on the side bars of the suspended frame, a second carrier pivotally attached to the slides, chains attached to the slides, a shaft with sprocket-wheels over which the chains pass, a spring attached to the shaft so as to be coiled thereon when the slides are moved toward the same and means for manually rotating the shaft, substantially as shown and for the purpose set forth.

4. In combination with a carrier-section, a frame suspended therefrom, slides mounted on said frame, a second carrier-section piv-

oted to the slides, of means for moving the slides on the suspended frame comprising endless chains which are connected to the slides, a shaft having sprocket-wheels over which the chains pass, means for turning the shaft and a spring attached to the shaft so as to exert a tension thereon and retard its rotation when the slides are moved toward said shaft, substantially as set forth.

5. In a straw-conveyer for threshing-machines, the combination with a fixed section, its conveyer-belt, a frame suspended from the fixed section, slides mounted on the suspended frame, chains attached to the slides, a shaft having sprocket-wheels with which the chains engage, a second carrier-section pivotally attached to the slides, a drive-pulley for the conveyer-belt of the second section, a belt which passes over said pulley and a driven pulley on the threshing-machine, said belt being looped as shown, a pulley which engages with the loop of the belt and a flexible connection attached to said pulley, substantially as shown and for the purpose set forth.

6. In a straw-conveyer for threshing-machines, the combination with a fixed carrier, of a frame attached thereto, slides mounted on the frame, means for moving the slides, a pair of standards with rollers carried by the fixed carrier, an extensible conveyer-section the lower end of which is held in pivotal engagement with the slides, a flexible connection attached to the extensible conveyer, a drum mounted on the threshing-machine with which the flexible connection engages, a looped driving-belt between the threshing-machine and the extensible carrier, a pulley mounted on the looped portion of said belt and a flexible connection attached to the pulley, substantially as shown and for the purpose set forth.

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

ALBERT ROSS McMULLEN.

Witnesses:
WILLIE HAMPTON,
his
ASA × HAMPTON.
mark