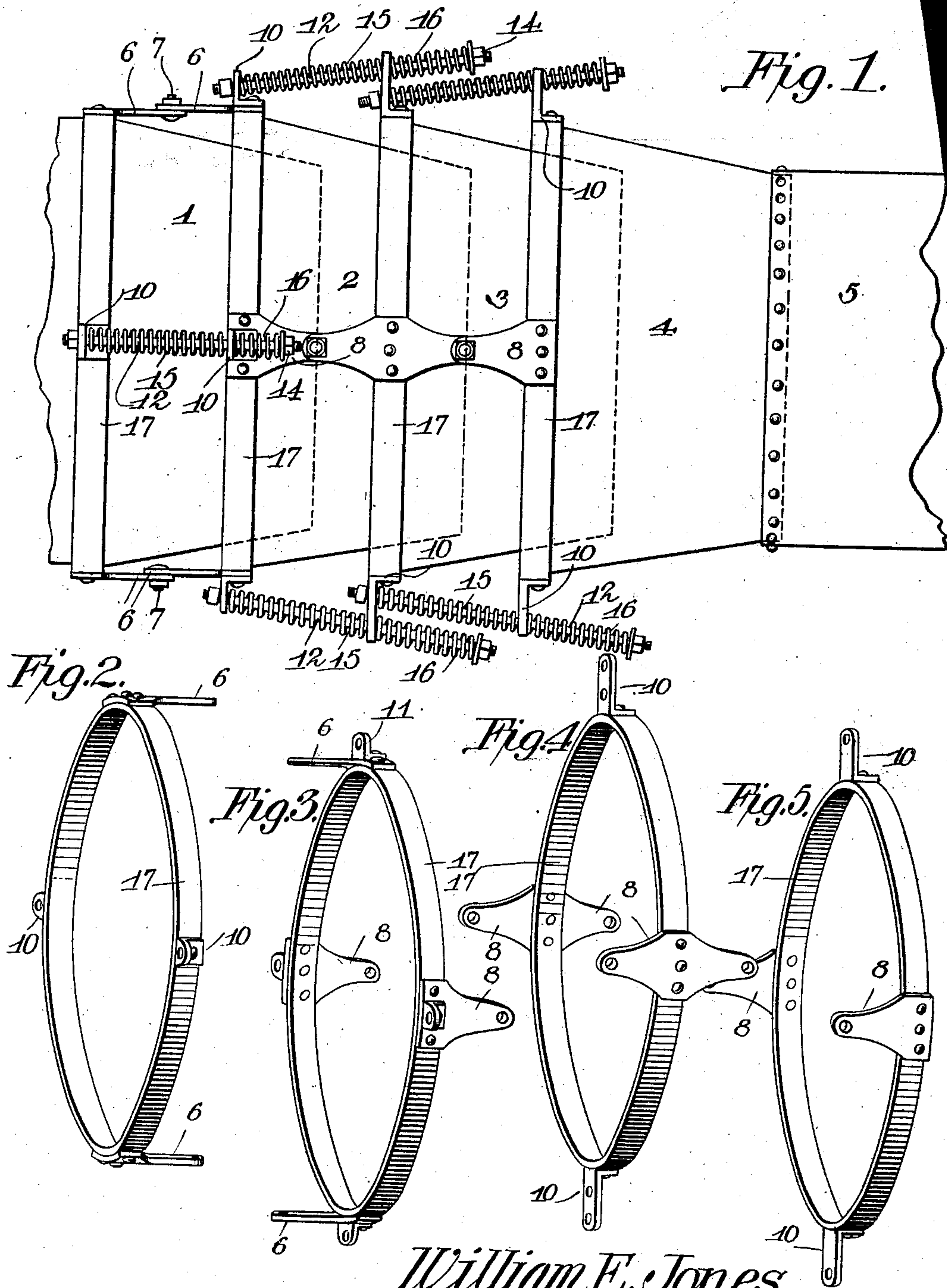


W. E. JONES.
CHUTE FOR PNEUMATIC STACKERS.

APPLICATION FILED JAN. 4, 1904.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM E. JONES, OF FARGO, NORTH DAKOTA.

CHUTE FOR PNEUMATIC STACKERS.

SPECIFICATION forming part of Letters Patent No. 763,101, dated June 21, 1904.

Application filed January 4, 1904. Serial No. 187,691. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. JONES, a citizen of the United States, residing at Fargo, in the county of Cass and State of North Dakota, have invented a new and useful Chute for Pneumatic Stackers, of which the following is a specification.

This invention relates to pneumatic stacking devices; and it has special reference to the chute for conveying the material discharged at the tail end of a threshing-machine to the point of deposit.

The invention has for its object to provide a chute which shall be simple in construction and effective in operation and which shall to a large extent relieve the threshing-machine or separator upon which it is supported from the excessive and injurious vibration caused by the weight of the discharge-chutes as ordinarily constructed.

With these and other ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings I have shown a simple and preferred form of embodiment of my invention, it being understood, however, that I do not limit myself to the detailed construction therein exhibited, but reserve the right to such changes and alterations, especially with regard to size, proportion, and exact manner of assemblage, which properly come within the scope of my invention and which may be resorted to without departing from the spirit or sacrificing the utility of the same.

In said drawings, Figure 1 is a top plan view of a portion of a chute to which my invention has been applied. Figs. 2, 3, 4, and 5 are detail views illustrating members which enter into the construction of the device.

Corresponding parts in the several figures are indicated by similar numerals of reference.

In carrying out my invention I employ a plurality of tapering or frustum-shaped tubular members, of which in the accompanying drawings four have been shown, said members being designated, respectively, 1, 2, 3, and 4. One of these members, 1, is to be

connected by a hinge at the base thereof with a straw-receiver, which straw-receiver is connected to the discharge end of the threshing-machine or separator. Neither the straw-receiver nor the threshing-machine has been shown in the drawings, however, inasmuch as they form no part of the present invention. The discharge end of the outermost member 4 is connected with a discharge-tube 5, only a portion of which has been shown in the drawings and which may be of any desired length.

The members 1, 2, 3, and 4 are hingedly connected with each other by means of bracket members which extend rearwardly or outwardly from the base of the first member 1, forwardly and rearwardly from the intermediate members 2 and 3, (or as many intermediate members as may be employed,) and forwardly from the last or outermost member 4, the word "rearwardly" being employed with reference to the direction of the discharge of material through the chute. The bracket members 6, which connect the first and second members 1 and 2, are disposed at the sides of said members, and the pivotal pins 7, by which said bracket members are connected, are disposed approximately in a horizontal plane. The bracket members 8, which connect the members in rear of the first member, are disposed, respectively, at the upper and lower sides thereof, and the pins whereby said members are pivotally connected are disposed in planes at right angles to the connecting-pins 7 or in an approximately vertical plane. It follows that while the movement of the member 2 with relation to the member 1 is in an approximately vertical plane the members 2, 3, and 4 are capable of swinging relatively to each other in approximately horizontal planes. By this means the entire discharge-chute may be described as being universally jointed, and the discharge end of the tube 5 may be adjusted to any desired position within the limits of the size of the device.

The members 1, 2, 3, and 4 are provided at the bases thereof with outwardly-extending lugs 10, having slots or perforations 11 for the reception of connecting-rods 12, which are disposed intermediate the hinge-joints which connect the several members, the said lugs

being connected in pairs by the said connecting-rods. Each of the latter is extended rearwardly of the rear of the lug through which it passes and is provided at its outer end with a nut 14. Tension-springs 15 are coiled upon said rods between the lugs through which they extend, and additional springs 16 are coiled upon the rods between the nuts at their outer ends and the adjacent lugs.

10 The brackets 6 and 8 and the lugs 10 may be secured directly to the bases of the respective members 1, 2, 3, and 4; but by the preferred construction herein shown said brackets and lugs are attached to reinforcing-rings 15 17, which are riveted or otherwise secured to the bases of the frustum-shaped tubular members. It is obvious that, if preferred, the said brackets and lugs may be cast integral with the reinforcing-rings; but inasmuch as such a change would be within the scope of ordinary mechanical skill it has not been specially illustrated.

It is obvious that in any position of the chute the springs upon the connecting-rods 25 serve to take up slack and to prevent rattling and vibration of the hingedly-connected parts. This has been discovered to be of the utmost importance, inasmuch as it vastly relieves the body of the machine to which a device of this kind is usually attached for operation from the strain incurred by the vibration of the chute supported thereon, which in practice has been found to rack the machine to such an extent as to cause frequent injuries. With 35 my improvement the ordinary vibration of the machine while transmitted to the discharge-chute of the stacker will be taken up by the springs, and the obnoxious effects thereof will be reduced to a minimum.

40 It is obvious that the number of the hingedly-connected frustum-shaped sections with the spring connections herein described may be increased or reduced at will, provided that means are supplied whereby the proper adjustment of the chute shall be provided for.

45 Having thus described my invention, I claim—

1. In a chute for pneumatic stackers,

hingedly-connected members having laterally-extending lugs, rods extending through 50 and connecting said lugs in pairs, and tension-springs upon the said rods.

2. In a device of the class described, tapering tubular members hingedly connected and having laterally-extending lugs, rods extending 55 through and connecting said lugs in pairs, tension-springs coiled upon said rods between said lugs and upon extended ends of the rods, and spring-adjusting nuts upon the latter.

3. In a device of the class described, tapering 60 tubular members having brackets, pins hingedly connecting said brackets, lugs extending laterally from the bases of the tubular members, rods connecting said lugs in pairs, springs upon said rods between the 65 lugs connected thereby, springs upon the extended ends of said rods, and spring-regulating nuts upon the latter.

4. In a device of the class described, tapering tubular members, reinforcing-rings at the 70 bases of said members, brackets and lugs extending from said rings, said lugs being disposed intermediate the brackets, pivotal connecting means for the brackets, rods connecting the lugs in pairs, springs upon said 75 rods between the lugs, springs upon the extended ends of the rods, and means for confining said springs.

5. In a device of the class described, a plurality of tapering tubular members, hingedly- 80 connected brackets extending from said members and connecting the latter to swing in planes at right angles to each other, lugs extending from said tubular members intermediate the hinge connections, rods connecting 85 said lugs in pairs, springs upon said rods between the lugs, and springs upon the extended ends of the rods, and securing means.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 90 the presence of two witnesses.

WILLIAM E. JONES.

Witnesses:

AUGUST SWANSON,
LEWIS T. HAMILTON.