

No. 646,708.

Patented Apr. 3, 1900.

W. N. RUMELY.  
STACKER FAN FOR THRESHERS.

(Application filed Jan. 2, 1900.)

(No Model.)

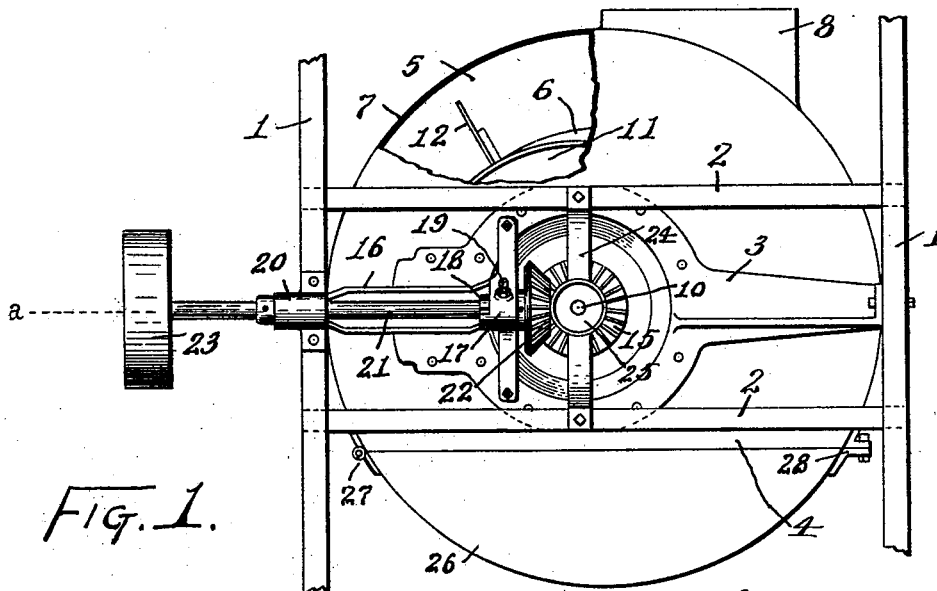


FIG. 1.

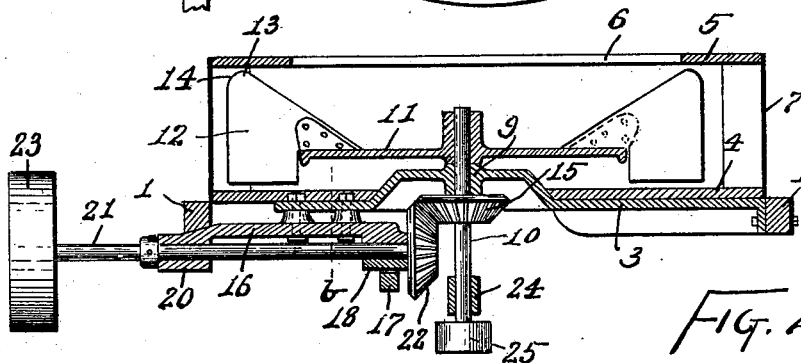


FIG. 2.

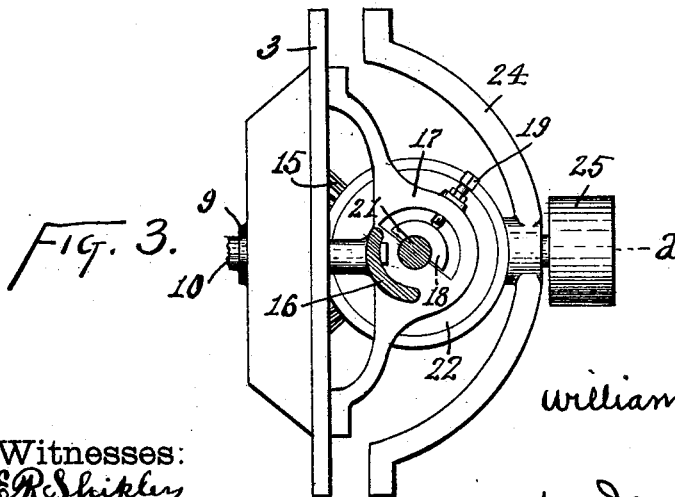


FIG. 3.

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# UNITED STATES PATENT OFFICE.

WILLIAM N. RUMELY, OF LA PORTE, INDIANA.

## STACKER-FAN FOR THRESHERS.

SPECIFICATION forming part of Letters Patent No. 646,708, dated April 3, 1900.

Application filed January 2, 1900. Serial No. 9. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM N. RUMELY, a citizen of the United States, residing at La Porte, La Porte county, Indiana, (post-office address La Porte, Indiana,) have invented certain new and useful Improvements in Stacker-Fans for Threshers, of which the following is a specification.

This invention pertains to improvements in fans for the pneumatic stackers of threshing-machines; and the improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is an elevation of the outer face of the fan; Fig. 2, a horizontal section thereof in the plane of line *a* of the other figures; and Fig. 3 a side elevation of the main bridgetree, a portion appearing in vertical section in the plane of line *b* of Fig. 2. Fig. 3 is upon an enlarged scale.

In the drawings, 1 indicates the frame-posts usually found at the rear of threshing-machines fitted for pneumatic stackers; 2, the usual horizontal frame-pieces connected therewith; 3, a cast-iron bridgetree with its center in disk form, secured against frame-pieces 2, a sidewise-projecting arm being bolted to one of the frame-posts 1; 4, the outer head of the fan-casing, secured against the inner surface of bridgetree 3; 5, the inner head of the fan-casing; 6, the usual inlet-opening in the inner head of the fan-casing; 7, the usual peripheral shell of the fan-casing; 8, the usual discharge-nozzle of the fan-casing; 9, a bearing formed in bridgetree 3 at the axis of the fan; 10, the fan-shaft, journaled in this bearing and projecting into the fan-casing; 11, a disk secured upon the fan-shaft within the fan-case; 12, the fan-wings, secured to the disk 11 and adapted, as usual, to sweep within the casing, the horizontal width of the wings being somewhat less than that of the casing; 13, pointed rear extremities of the fan-wings, the edges of the wings tapering from these extremities toward the disk and fan-shaft; 14, the curved outer corners of the wings, extending from points 13 to the outer margins of the wings; 15, a bevel-gear fast on fan-shaft 10, the central portion of bridgetree 3 being somewhat dished inwardly

to make room for this gear; 16, a trough-shaped housing bolted against the face of bridgetree 3 and forming a rigid sidewise-projecting arm opposite the arm previously mentioned, the housing 16 being also bolted to one of the frame-posts 1; 17, a narrow arch across the front of housing 16 at the inner end of the hub; 18, a half-box disposed within arch 17 and matching a half-bearing formed in the inner end of the housing, the axis of the bearing thus formed being horizontal and intersecting the axis of fan-shaft 10; 19, a set-screw in arch 17 and impinging against half-box 18; 20, a bearing formed upon the outer end of housing 16; 21, a driving-shaft journaled in bearing 20 and in the capped bearing at the inner end of the housing; 22, a bevel-gear fast on the inner end of shaft 21 and engaging gear 15; 23, a driving-pulley on the outer end of shaft 21 and serving as a means for transmitting motion to the fan by belt from any appropriate part of the thresher mechanism; 24, a vertical bridgetree secured to bridgetree 3 and cross-pieces 2 and supporting a bearing for the outer portion of fan-shaft 10; 25, a pulley on the outer end of fan-shaft 10 to serve in transmitting motion from the fan to such adjuncts of the stacker as may call for the use of such pulley; 26, a lower segment of the fan-casing; 27, a hinge uniting segment 26 to that portion of the fan-casing above it, and 28 a typifying construction of bolted latchment for the free end of segment 26 to secure the same to the major portion of the fan-casing.

The fan and its adjuncts form a self-contained structure supported by the framing, the bridge-tree construction stiffening the outer fan-head and tying it to the framing and stiffening the framing and furnishing the bearings for the fan-driving mechanism. By withdrawing shaft 10 outwardly from the fan-disk and lowering segment 26 the fan may be removed downwardly from the casing without the necessity for removing the casing.

Straw, &c., entering opening 6 in the fan-casing, under the influence of the suction produced by the fan, tends to move outwardly under the influence of centrifugal force, and as soon as it reaches points 13 on the wings of the fan it becomes at once freed from the

inner wall of the fan-casing, thus avoiding the chafing of that wall and the choking of the fan.

I claim as my invention—

- 5 1. In a stacker-fan, the combination, substantially as set forth, of a horizontal bridge-tree adapted to be attached to the framing of the machine and having an inner vertical face provided with a horizontal bearing, a fan-casing having its outer head secured fixedly  
10 against the inner vertical face of said bridge-tree, a fan-shaft journaled in said bearing, a fan secured upon said fan-shaft within the fan-casing, and means for transmitting rotary  
15 motion to said fan-shaft.
2. In a stacker-fan, the combination, substantially as set forth, of a horizontal bridge-tree adapted to be attached to the framing of the machine and provided with a vertical inner  
20 face and horizontal bearing, a fan-casing having its outer head secured fixedly against the inner face of said bridge-tree, a fan-shaft journaled in said bearing, a fan secured upon said fan-shaft within the fan-casing, a hous-  
25 ing secured to said bridge-tree and to the framing of the machine and carrying a pair of bearings, a driving-shaft journaled in said housing, and bevel-gearing connecting said driving-shaft and fan-shaft.
- 30 3. In a stacker-fan, the combination, substantially as set forth, of a horizontal bridge-tree adapted to be attached to the framing of the machine and provided with a vertical inner face and horizontal bearing, a fan-casing  
35 having its outer head secured fixedly against the inner face of said bridge-tree, a fan-shaft journaled in said bearing, a fan secured upon said fan-shaft within the fan-casing, a housing secured to said bridge-tree and to the

framing of the machine and carrying a bearing at its outer end and a half-bearing at its inner end, an arch at the inner end of said housing over said half-bearing, a half-box engaging said half-bearing, a set-screw in the arch engaging said half-box, a driving-shaft  
40 journaled in the bearings of the housing, and bevel-gearing connecting said driving-shaft and fan-shaft.

4. In a stacker-fan, the combination, substantially as set forth, of a horizontal bridge-tree adapted to be attached to the framing of the machine and provided with a vertical inner face and horizontal bearing, a fan-casing having its outer head secured fixedly against the inner face of said bridge-tree, a fan-shaft  
50 journaled in said bearing, a fan secured upon said fan-shaft within the fan-casing, a vertical bridge-tree secured to the first-mentioned bridge-tree and the framing of the machine and carrying an outer bearing for said fan-shaft, and means for rotating said fan-shaft.

5. In a stacker-fan, the combination, substantially as set forth, of an outer head for the fan-casing, an inner head for the fan-casing provided with an inlet-opening, a shell  
60 for the fan-casing, a fan-shaft journaled at the axis of the casing, and fan-wings connected with said shaft and extending transversely across the casing and having the outer portions of their rear edges provided with  
70 points 13 contiguous to the inner head of the casing and with outer-corner curves 14 retreating from said points.

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