

No. 620,358.

Patented Feb. 28, 1899.

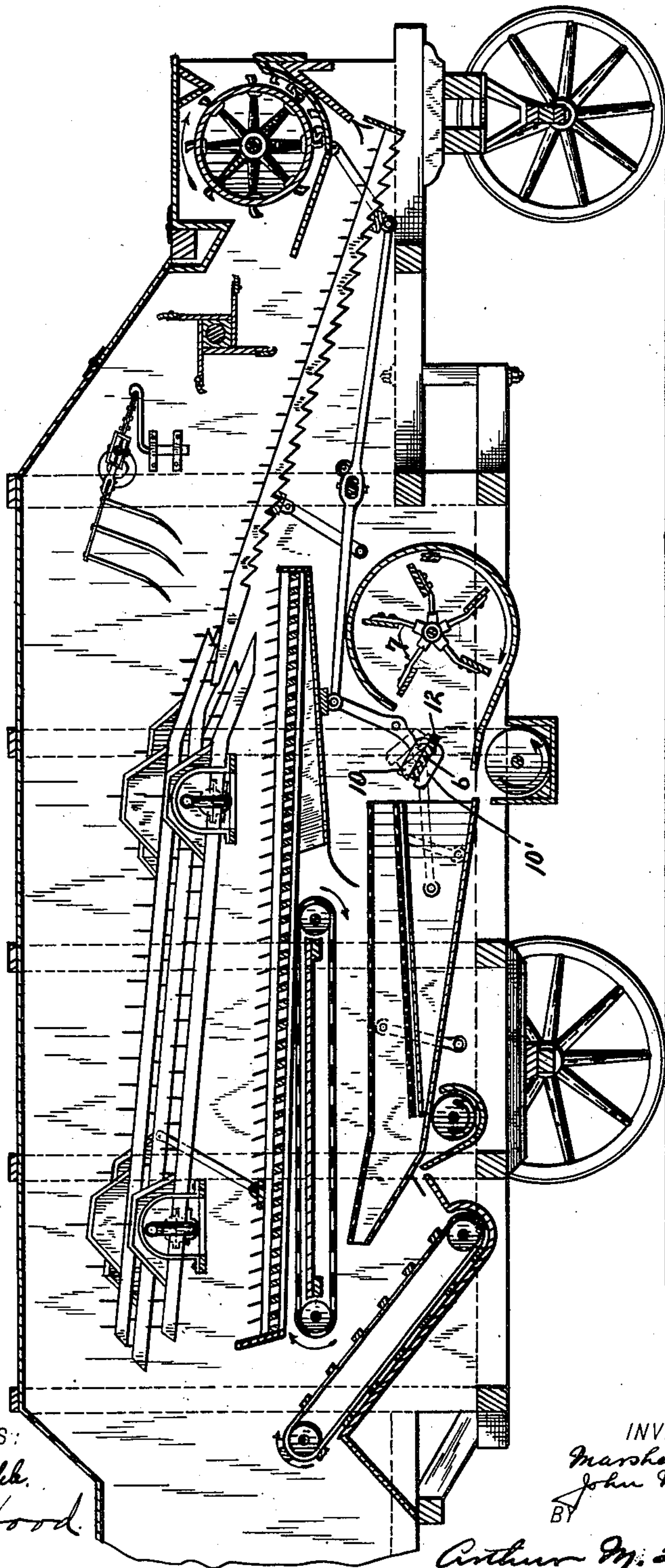
M. T. REEVES & J. N. KAILOR.
WIND BOARD.

(Application filed Feb. 28, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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2 Sheets—Sheet 2.

Fig. 2.

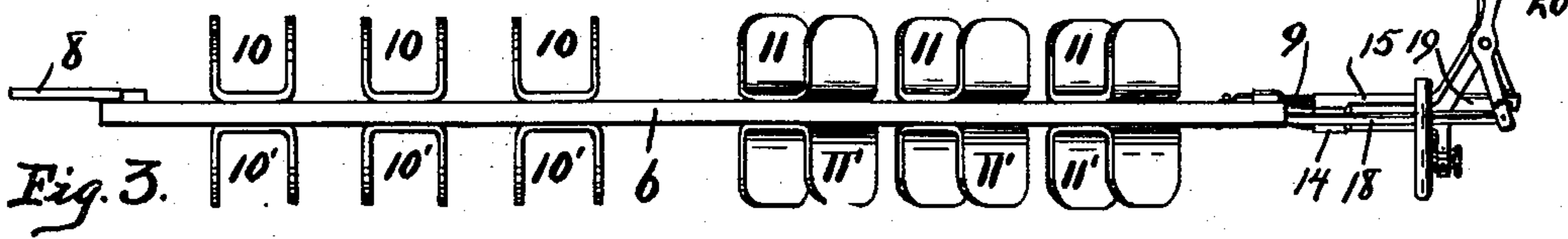
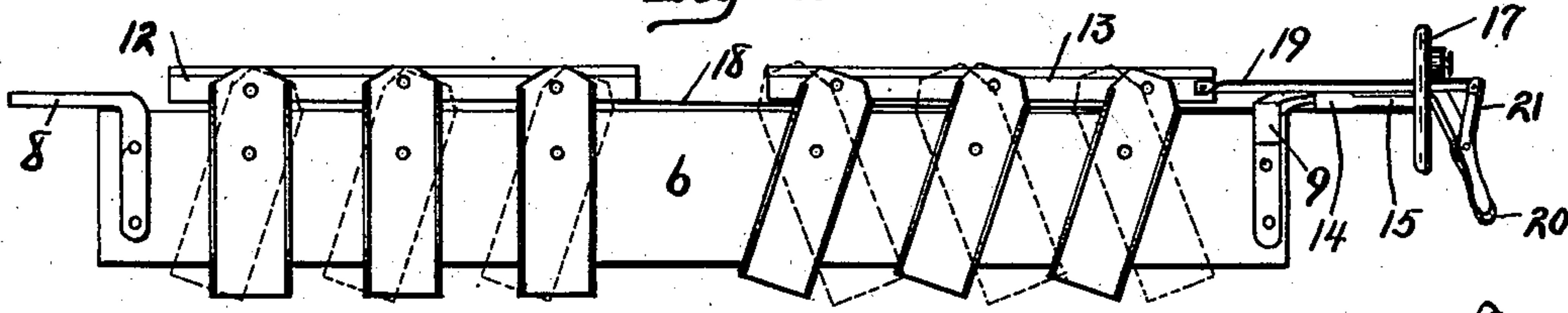


Fig. 4.

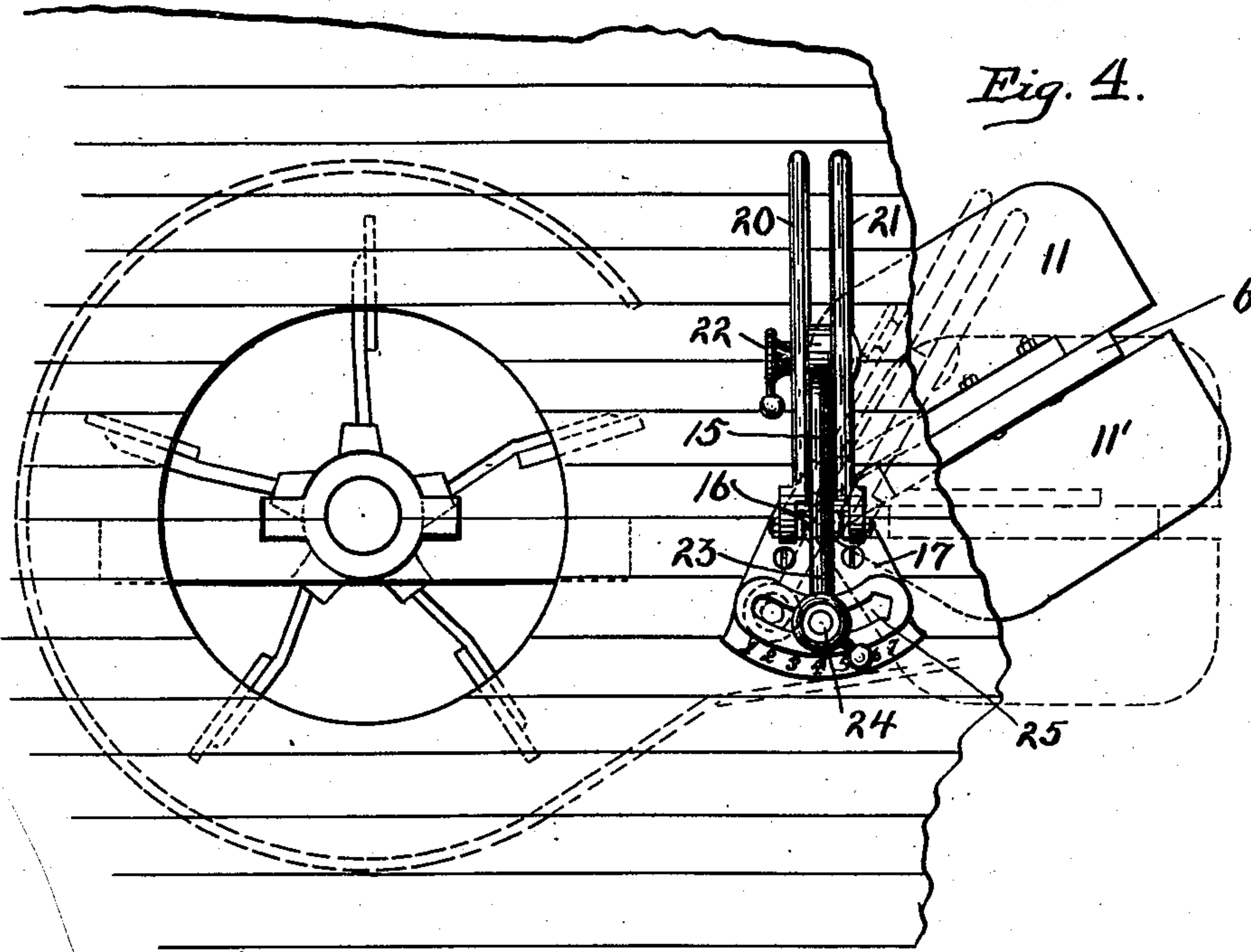
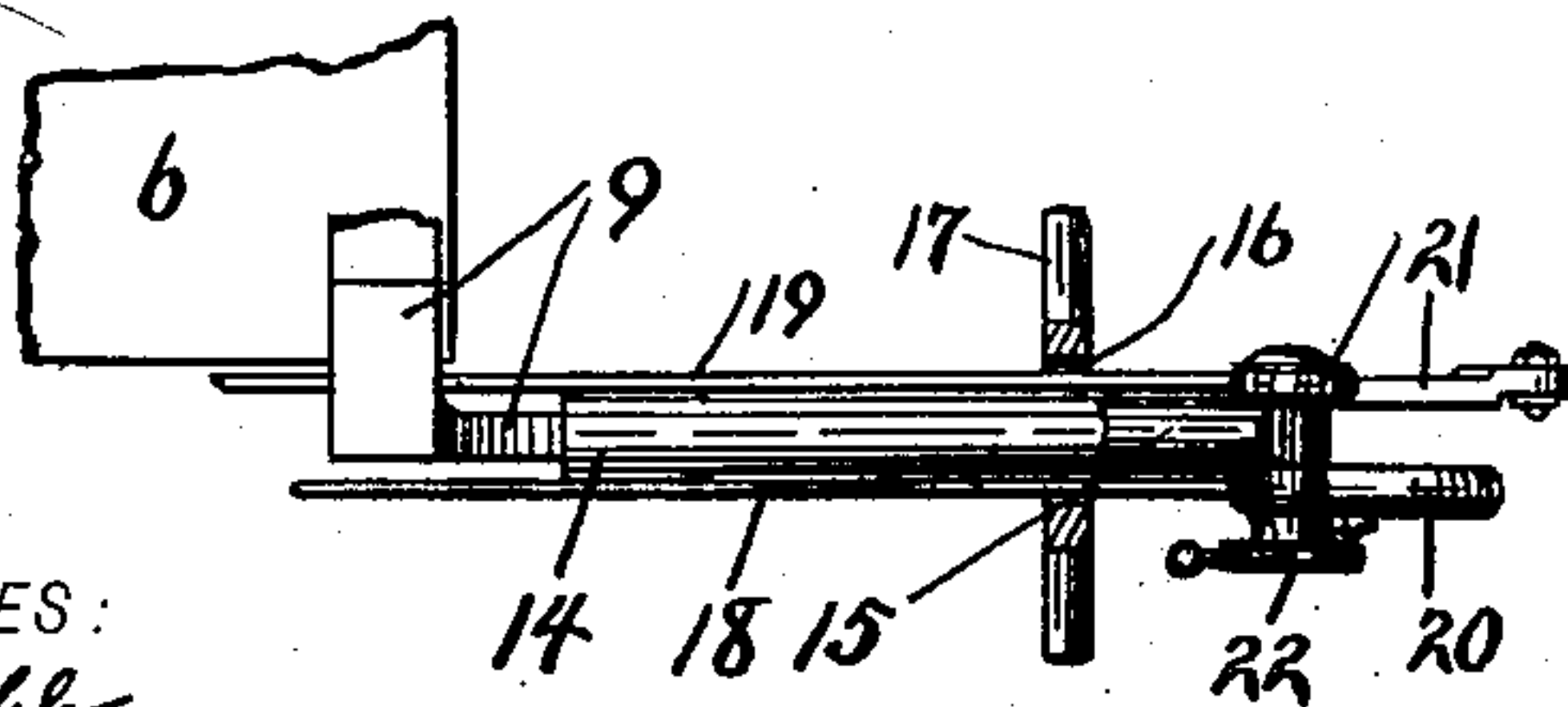


Fig. 5.



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UNITED STATES PATENT OFFICE.

MARSHAL T. REEVES AND JOHN N. KAILOR, OF COLUMBUS, INDIANA,
ASSIGNORS TO THE REEVES & COMPANY, OF SAME PLACE.

WIND-BOARD.

SPECIFICATION forming part of Letters Patent No. 620,358, dated February 28, 1899.

Application filed February 28, 1898. Serial No. 671,989. (No model.)

To all whom it may concern:

Be it known that we, MARSHAL T. REEVES and JOHN N. KAILOR, citizens of the United States, residing at Columbus, in the county of Bartholomew and State of Indiana, have invented a new and useful Wind-Board, of which the following is a specification.

Our invention relates to an improvement in wind-boards for separators, clover-hullers, and other machines in which a blast or current of air is used to separate one material from another.

In the separation of grain from chaff it has been found that the various conditions of the same kinds of grain and the various kinds of grain require blasts of different character and of different strengths in different portions of the machine. It has heretofore been customary for manufacturers to obtain an average blast in strength and distribution by changing the number or shape of the fan-wings or of the fan eye or casing, &c. In every case of this kind the attempt has resulted merely in an approximation which would be efficient with grain of a certain kind or condition. In some cases a blast which is substantially uniform across the entire machine is the most efficient, in others a heavier blast through the center and a lighter blast along the sides is required, while in still other cases a light blast along the center and a heavier current of air at each side is more efficient. With the usual arrangements it is impossible in the same machine to obtain all these various effects, so that a separator which is very efficient in handling wheat is very inefficient in handling lighter seed, or a machine efficient in handling dry grain might be very wasteful in its handling of wet or damp grain.

The object of our present invention is therefore to produce a wind-board of a peculiar construction for use in all machines in which a separation is produced, either in whole or in part, by a blast of air, by means of which these various distributions of air-currents may be effected.

The accompanying drawings illustrate our invention.

Figure 1 is a central vertical section of a separator, showing the relative position of our

improved wind-board. Fig. 2 is a plan of the board. Fig. 3 is an end elevation thereof. Fig. 4 is a side elevation upon a larger scale. Fig. 5 is a detail.

In the drawings, 6 indicates a board which extends transversely across the machine in front of the fan 7 and is pivotally mounted upon the arms 8 and 9, so as to swing about an axis substantially parallel with the axis of the fan. Pivotally mounted upon the upper face of and extending across board 6 are two series of vanes 10 and 11, and pivotally mounted upon the under face of said board are two similar series of vanes 10' and 11'. These vanes are shown in the drawings as being trough-shaped; but they may be single, triple, or of any desired form. The front ends of the vanes are projected beyond the board 6, and the front ends of vanes 10 and 10' are pivotally connected with a connecting-bar 12, while the front ends of the vanes 11 and 11' are similarly pivotally connected with a connecting-bar 13, the arrangement being such that the several vanes of the series 10 and 10' and the vanes of the series 11 and 11' may be simultaneously swung about their pivots by a movement of the connecting-bars 12 and 13, respectively. For the purpose of swinging the board 6 about its axis and for holding it in any desired position the arm 8 is pivotally held within any suitable bearing secured to one side of the separator-casing, while the arm 9, preferably "squared," is received within a socket 14, formed in the inner end of a bar 15, which extends out through an opening 16, formed through a plate 17, secured to the outside of the separator-casing. Bar 15, or that portion which lies within the opening 16, is preferably flattened, so as to allow the rods 18 and 19 to pass through the said opening, one upon each side of the bar, the bar at the same time fitting the opening and forming a bearing for the board 6.

The inner ends of bars 18 and 19 are secured to the connecting-bars 12 and 13, respectively, while the outer ends thereof are connected, respectively, with the lower ends of levers 20 and 21, which are pivoted upon the same bolt to an extending arm of the bar 15 outside the separator-casing. Said levers may

be clamped in any desired position by means of a clamping-nut 22. Bar 15 is provided with an arm 23, through the lower end of which passes a clamping-bolt 24, which also passes through an arc-shaped slot 25, formed in the plate 17, the arrangement being such that the bar 15, together with the board 6, may be held in any desired angular position by said bolt. For convenience in indicating the angular position of the wind-board a scale is mounted upon the plate 17 opposite the end of arm 23. The operator by loosening nut 22 may swing either of the levers 20 and 21, thus swinging the vanes 10, 10', 11, and 11' into any desired position, and by loosening bolt 24 the board 6 may be swung about its axis, thus making it possible to direct the various portions of the blast to any desired place within the separator-casing.

20 We claim as our invention—

1. An adjustable wind-board having a series of transverse vanes movably mounted thereon, means for moving said vanes, and means for adjustably holding said vanes in any desired position with relation to the wind-board.
2. An adjustable wind-board having a series of vanes pivoted thereon means for swinging said vanes, and means for positively holding said vanes in any desired position with relation to the wind-board.
3. A wind-board having a transverse axis, means for swinging it about said axis, a series of vanes movably mounted on said board, means for moving said vanes, and means for positively holding said vanes in any desired position with relation to the wind-board.
4. A wind-board having a transverse axis, means for swinging it about said axis, a series of vanes pivotally mounted on said board, means for swinging said vanes, and means for positively holding said vanes in any desired position.
5. A wind-board having two series of vanes movably mounted thereon, means for independently adjusting each series, and means for positively holding said vanes in any desired position.
6. A wind-board having two series of vanes pivotally mounted thereon, and means for independently swinging each of said series of vanes.
7. A wind-board having two series of vanes pivotally mounted upon the upper face thereof, and having also two series of vanes pivotally mounted upon the under face thereof, a connecting-bar connected with one of the upper series and with one of the lower series of

vanes, a second connecting-bar connected with the other two series of vanes, and means for independently moving each of said connecting-bars.

8. A wind-board having two series of vanes pivoted thereon, and a pair of levers supported by said wind-board and connected one to each of said series of vanes.

9. A wind-board having a pair of arms 8 and 9 forming a transverse axis therefor, a bar 15 engaging one of said arms and forming a portion thereof, a pair of levers 20 and 21 pivoted to said bar, two series of vanes movably mounted upon said board, intermediate connecting means between each of said levers and one of said series of vanes, means for holding said levers in any desired position, and means for holding the bar 15 in any desired angular position, substantially as described.

10. In a separator, the combination with the casing and a blast-fan mounted therein, of an adjustable wind-board extending across the outlet of the fan, a series of vanes movably mounted on said wind-board, means for moving said vanes, and means for positively holding said vanes in any desired position.

11. In a separator, the combination with the casing and a blast-fan mounted therein, of a wind-board extending across the outlet of the fan, means for swinging said wind-board upon a transverse axis, a series of vanes movably mounted upon said wind-board, means for moving said vanes, and means for positively holding said vanes in any desired position.

12. In a separator, the combination with the casing and a blast-fan mounted therein, of a wind-board extending across the outlet of the fan, two series of vanes pivotally mounted upon said wind-board, means for independently swinging each of said series toward and from each other, and means for holding said vanes in any desired position.

13. In a separator, the combination with the casing and a blast-fan mounted therein, of a wind-board pivotally mounted across the outlet of the fan, two series of vanes pivotally mounted upon said wind-board, means for independently swinging each of said series toward and from each other, means for holding said vanes in any desired position, and means for swinging the wind-board as a whole.

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