

No. 652,363.

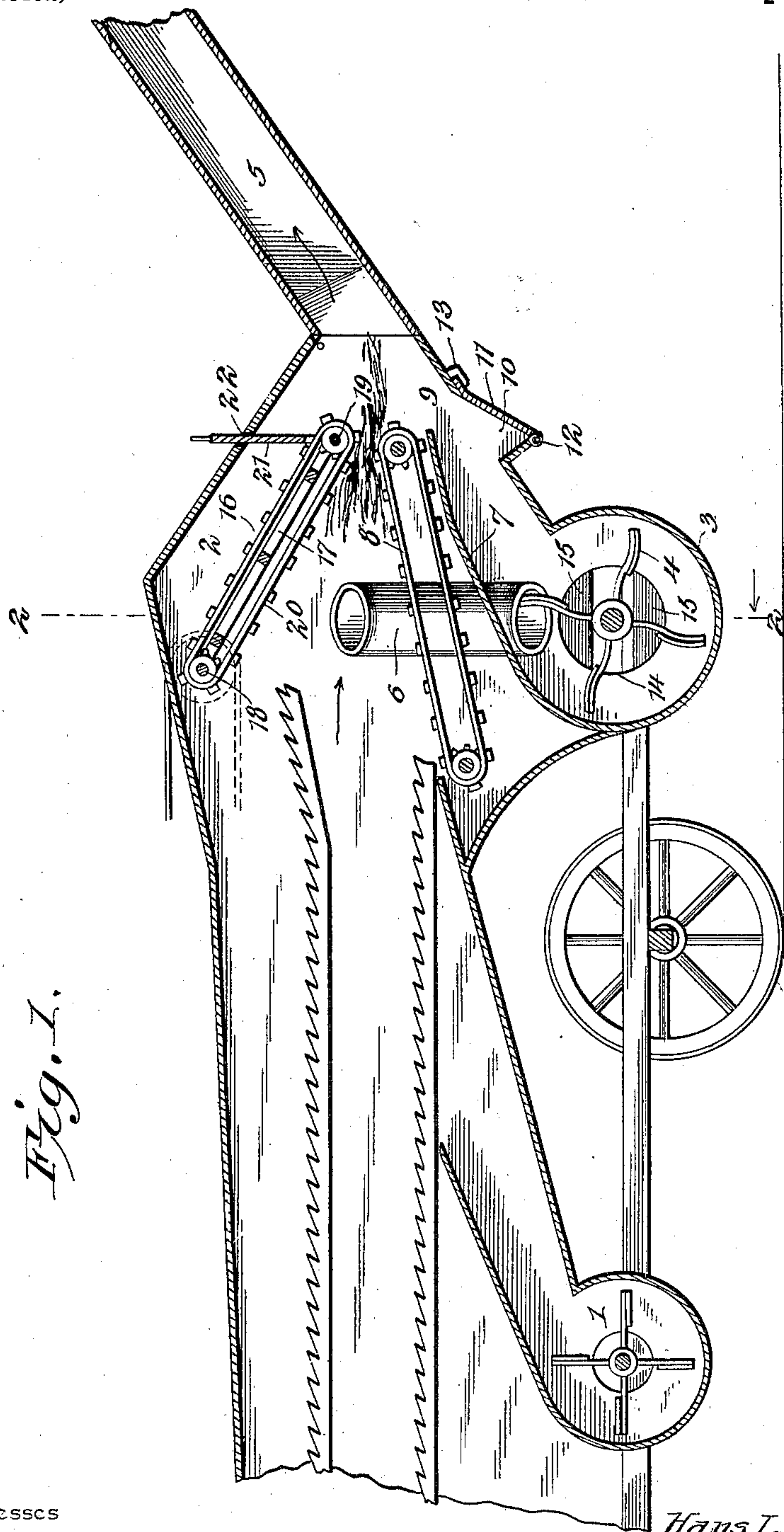
Patented June 26, 1900.

H. L. HEGLAND.
PNEUMATIC STRAW STACKER.

(Application filed Feb. 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

Howard D. Orr,
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By his Attorneys,

Hans L. Hegland, Inventor,
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2 Sheets—Sheet 2.

Fig. 2.

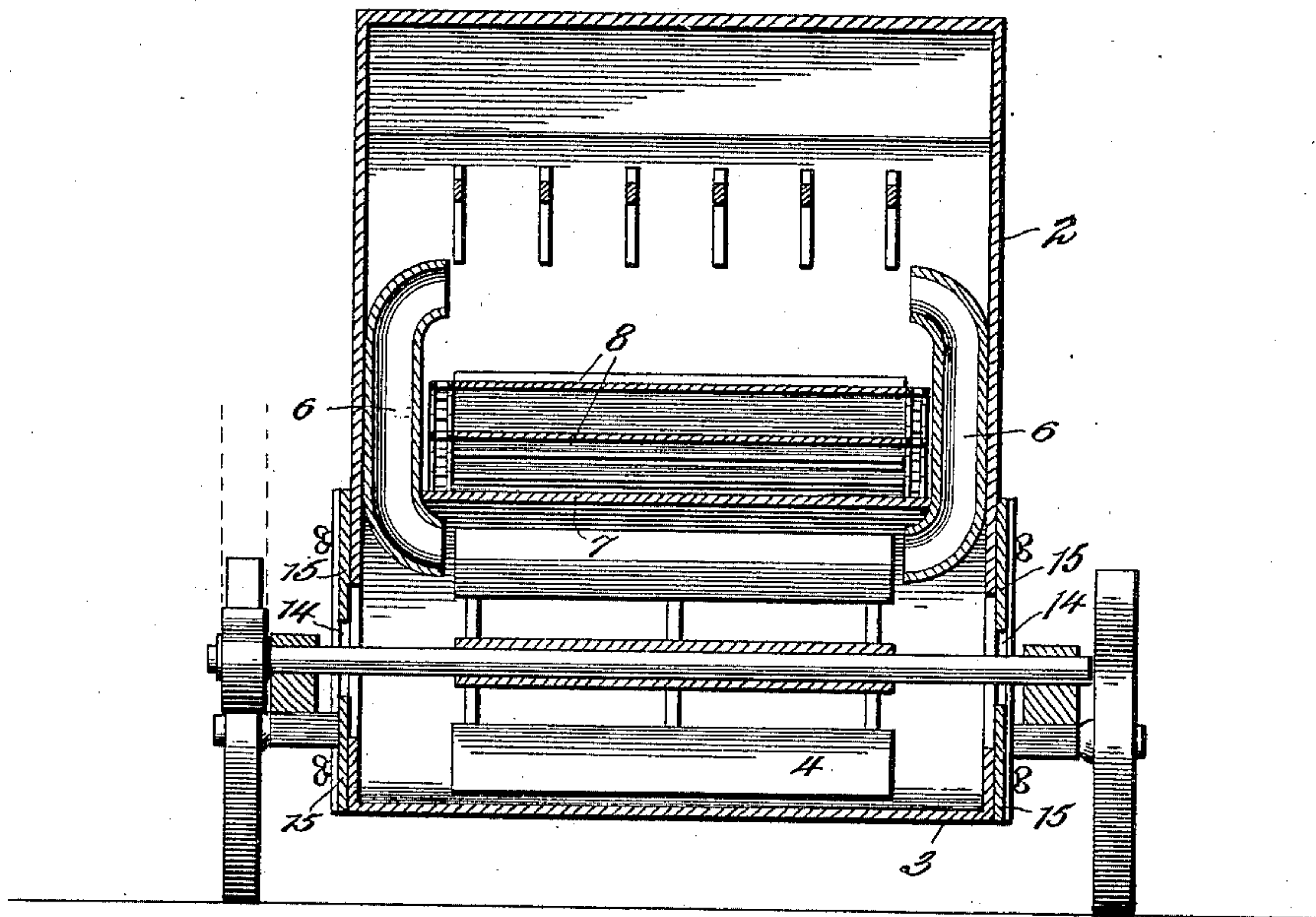
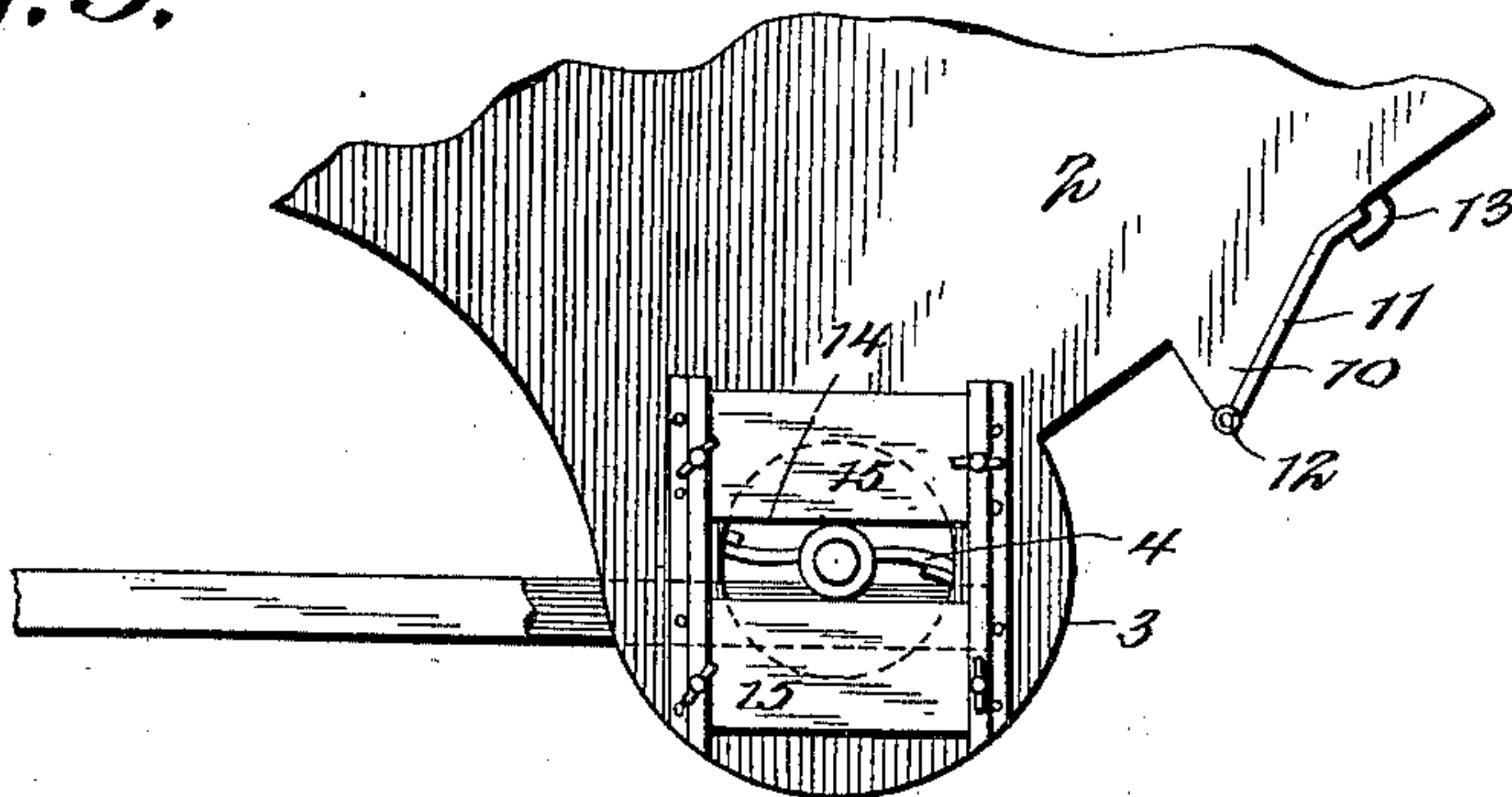


Fig. 3.



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UNITED STATES PATENT OFFICE.

HANS L. HEGLAND, OF CYRUS, MINNESOTA.

PNEUMATIC STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 652,363, dated June 26, 1900.

Application filed February 19, 1900. Serial No. 5,832. (No model.)

To all whom it may concern:

Be it known that I, HANS L. HEGLAND, a citizen of the United States, residing at Cyrus, in the county of Pope and State of Minnesota, have invented a new and useful Pneumatic Straw-Stacker, of which the following is a specification.

My invention is an improvement in pneumatic straw-stackers, the object of my invention being to provide means for preventing back currents of air through the separator and to exhaust the dust and chaff from the separator and blow the same through the stacker-tube, together with the straw.

My invention consists in the peculiar construction and combination of device hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view through a portion of a threshing and separating machine provided with an apparatus embodying my improvements. Fig. 2 is a vertical transverse sectional view of the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a detail exterior elevation showing a fan drum or casing provided with adjustable wind-boards at the intakes thereof.

The separating mechanism here shown is of the usual construction, in which the blast-fan 1 is adapted for discharging a rearward and upward current of air under the riddles and into the casing 2 at the rear of the machine. In the existing machines of this class a serious objection is that currents of air are caused to circulate through the casing and to carry out the dust and other impurities with them through the feed end of the casing to the annoyance of the attendants. It is the purpose of my present invention to avoid this difficulty, and I herein show an embodiment of my said invention, described as follows:

The housing, casing, or drum 3 of the blast-fan 4 for creating a blast of air upward and outward through the stacker-tube 5 is provided near its ends on the inner sides of the casing 2 and near the ends or sides of the fan with intakes which communicate with the space below and in rear of the separating mechanism, said intakes, as herein shown, comprising the pipes 6, which open at their upper and lower ends and communicate, re-

spectively, with the interior of the casing of the separator mechanism and with the drum or fan casing 3. It will be observed by reference to Fig. 1 of the drawings that the upper side of the fan casing or drum is extended rearward, as at 7, and interposed between the fan and the interior space below and in rear of the separating mechanism, so as to cut off direct access of air from the interior of the separating mechanism to said drum and to cause the air to be sucked or exhausted from the interior of the separator-casing into the drum or casing 3 through the intakes 6. The air thus exhausted from the separator into the drum or casing 3 is discharged from the latter outward and upward through the stacker-tube, together with the dust, chaff, and other impurities and with the straw.

Over the extension 7 of the fan-casing 3 I provide an endless carrier 8, onto which the straw from the separating mechanism is discharged, and the said carrier, being operated by any suitable means (not shown) and caused to travel in the direction indicated by the arrow in Fig. 1, discharges the straw into the contracted throat 9 at the intake end of the stacker-tube, said contracted throat being formed between the upper extension 7 of the fan-casing and the rear upwardly-inclined portion of the separator-casing.

The stacker-tube may be of any preferred construction and adapted for operation in the manner usual in machines of this class. Below the intake end of the stacker-tube, between the latter and the blast-fan 4, is a pocket 10, which is transversely disposed, depends below the plane of the lower side of the stacker-tube, and is provided with the hinged lower side 11, which is adapted to be opened and closed, 12 being the hinged joint thereof and 13 indicating a suitable device for fastening said hinged side when the same is closed. The function of this pocket is to receive small stones, spike-teeth, and other foreign substances which are liable to be fed with the grain into separating and threshing machines and to collect the same and prevent the same from being discharged into the fan casing or drum 3 and injuring the fan. When desired, such foreign substances as are caught and accumulate in the pocket 10 may be dis-

charged therefrom by opening the hinged side thereof, as will be understood.

The ends of the fan drum or casing 3 are provided with exterior air-intakes 14, which are adapted to be opened, entirely closed, or partly closed to any desired extent by means of adjustable wind-boards 15. Said intakes and said wind-boards permit the supply of exterior air to the blast-fan 4 to be regulated, and hence permit the strength of the air-currents through the interior intakes 6 to be varied, as may be required under varying conditions.

It will be understood that the air-currents which serve to exhaust air from the interior of the separator mechanism and discharge the same into the drum or casing of the blast-fan, which supplies the blast through the stacker-tube, cause the dust, chaff, and other light impurities to be carried with them from the interior of the separating mechanism and discharged through the stacker-tube, the heavier of said substances, as the chaff, descending upon the stack, together with the straw, while the lighter particles, as the dust, float away and are dispersed in the outer air and do not descend upon the stack, and hence the straw is cleaned by being winnowed in the process of stacking the same.

An endless carrier 16 is arranged above the endless carrier 8 and in rear of the separating mechanism and near the rear end of the casing thereof. The said endless carrier 16 comprises a frame 17, which is pivoted at its upper end on the roller-shaft 18, has a roller-shaft 19 at its lower end, and the usual endless belts and cross-slats, as at 20, connecting said roller-shafts. The said endless carrier is free at its lower end and bears upon the upper rear portion of the endless carrier 8, and said endless carrier 16 is operated by a suitable pulley and endless belt, (not shown,) said pulley being keyed on the projecting end of its pivotal upper roller-shaft 18. Said endless carrier 16 coöperates with the endless carrier 8 in feeding the straw from the separator to the intake end of the pneumatic stacker-tube, and inasmuch as the frame of said endless carrier 16 is pivoted, so that the lower end thereof is free to rise and fall upon the mass of straw carried by the carrier 8, there is no possibility of the straw becoming clogged between the two carriers.

A screen-board 21 is pivotally connected to the free lower side of the endless carrier 16, said screen-board extending across said car-

rier and above the intake end of the pneumatic stacker-tube and having its upper side projecting through and adapted to move vertically in a transverse opening 22 in the top of the casing of the separator, said screen-board thereby being adapted to rise and fall with and to accommodate itself to the motion of the free side of the endless carrier 16. The said screen-board effectually cuts off communication between the interior of the separator-frame and the intake end of the pneumatic stacker-tube, thereby effectually cutting off any back pressure of air-current from the fan to the interior of the separator-casing, and hence correspondingly increasing the strength of the air-blast through the stacker-tube, thereby greatly increasing the efficiency of the stacking apparatus.

Having thus described my invention, I claim—

1. In threshing and separating mechanism, the combination with a stacker-tube and a blast-fan therefor, of tubular air-intakes communicating with the interior of the separator and with the interior of the drum or casing of the blast-fan, to exhaust air from the interior of the separator, substantially as described.

2. In a pneumatic stacker, for threshing and separating mechanisms, the combination with a blast-fan of the drum or casing therefor and tubular intakes communicating with the interior of the separator and with the interior of said drum or casing and located on opposite sides of the blast-fan, substantially as described.

3. In a pneumatic stacker, the combination with a separating mechanism, a stacker-tube and a blast-fan for the purpose set forth, of the endless carriers arranged one above the other and located between the separating mechanism and the intake of the stacker-tube the uppermost endless carrier being adapted to rise and fall at its rear end, and a screen-board above said endless carrier to cut off communication between the interior of the separator-casing and the intake of the stacker-tube, substantially as described.

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

HANS L. HEGLAND.

Witnesses:

WM. C. BICKNELL,
FRED E. SMITH.