No. 667,694. Patented Feb. 12, 1901.

# T. GOODALE.

## PNEUMATIC STRAW STACKER.

(Application filed Jan. 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.

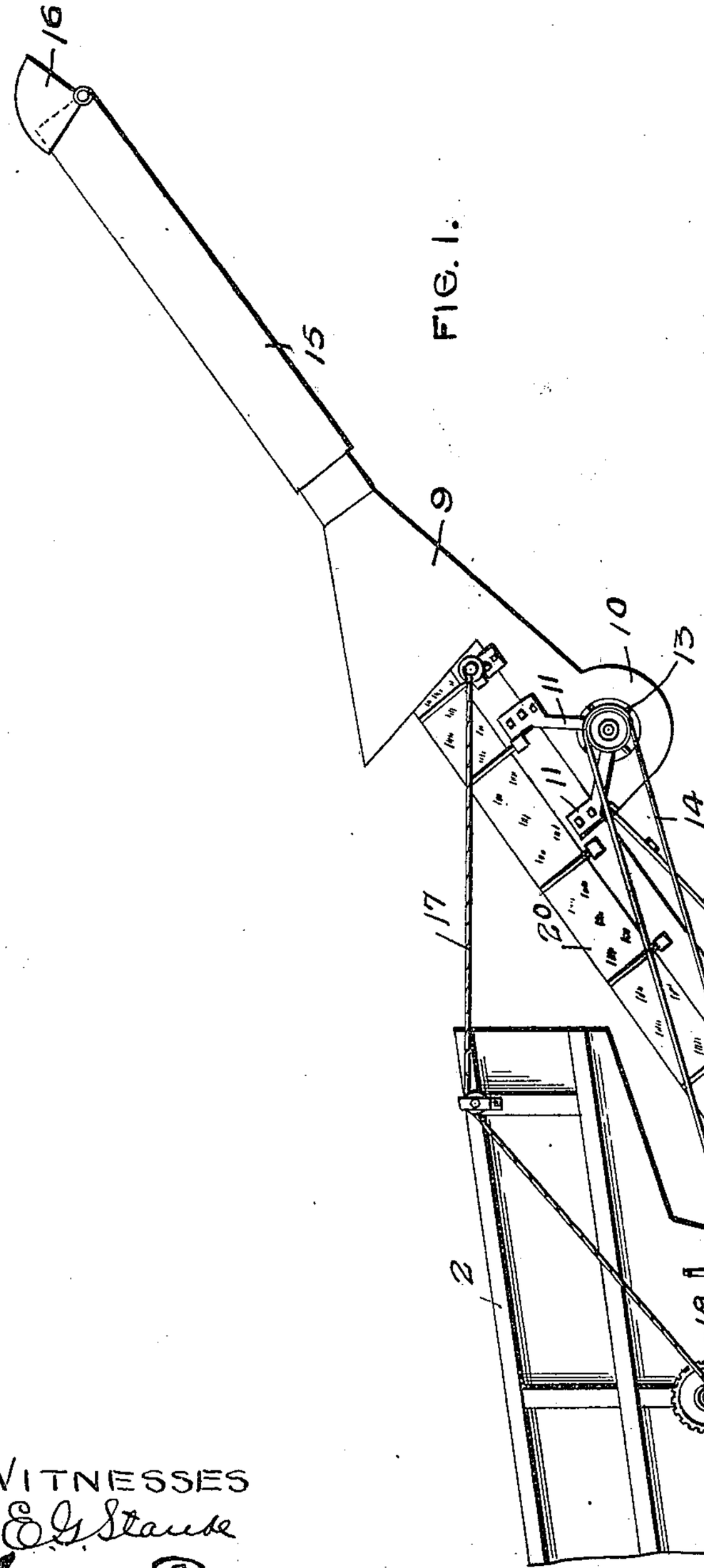


FIG. 1.

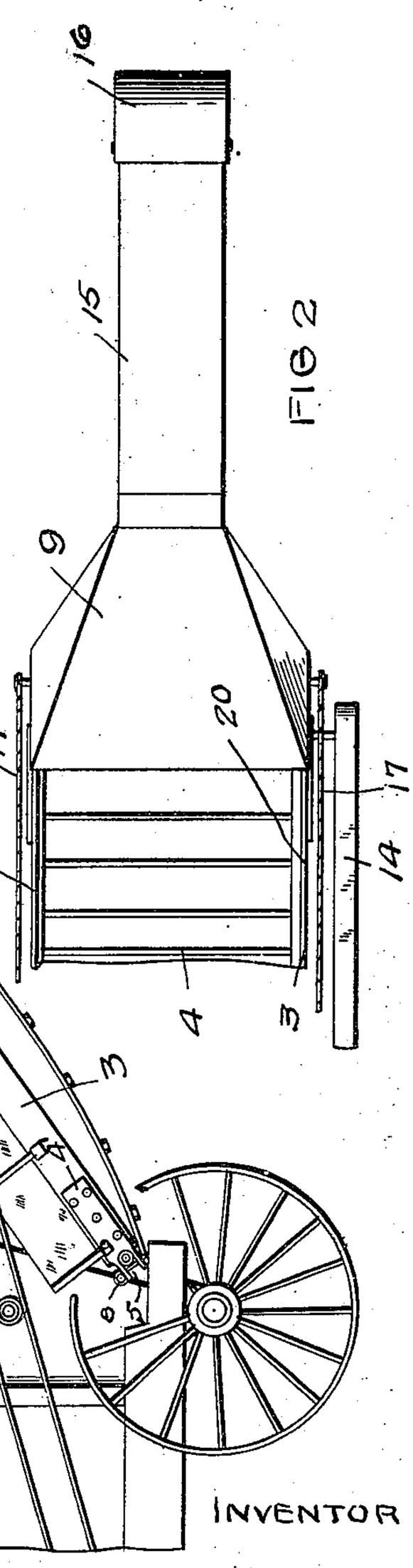


FIG 2

WITNESSES
E. G. Staude
Richard Paul.

INVENTOR
THOMAS GOODALE
BY Paul & Hawley
HIS ATTORNEYS

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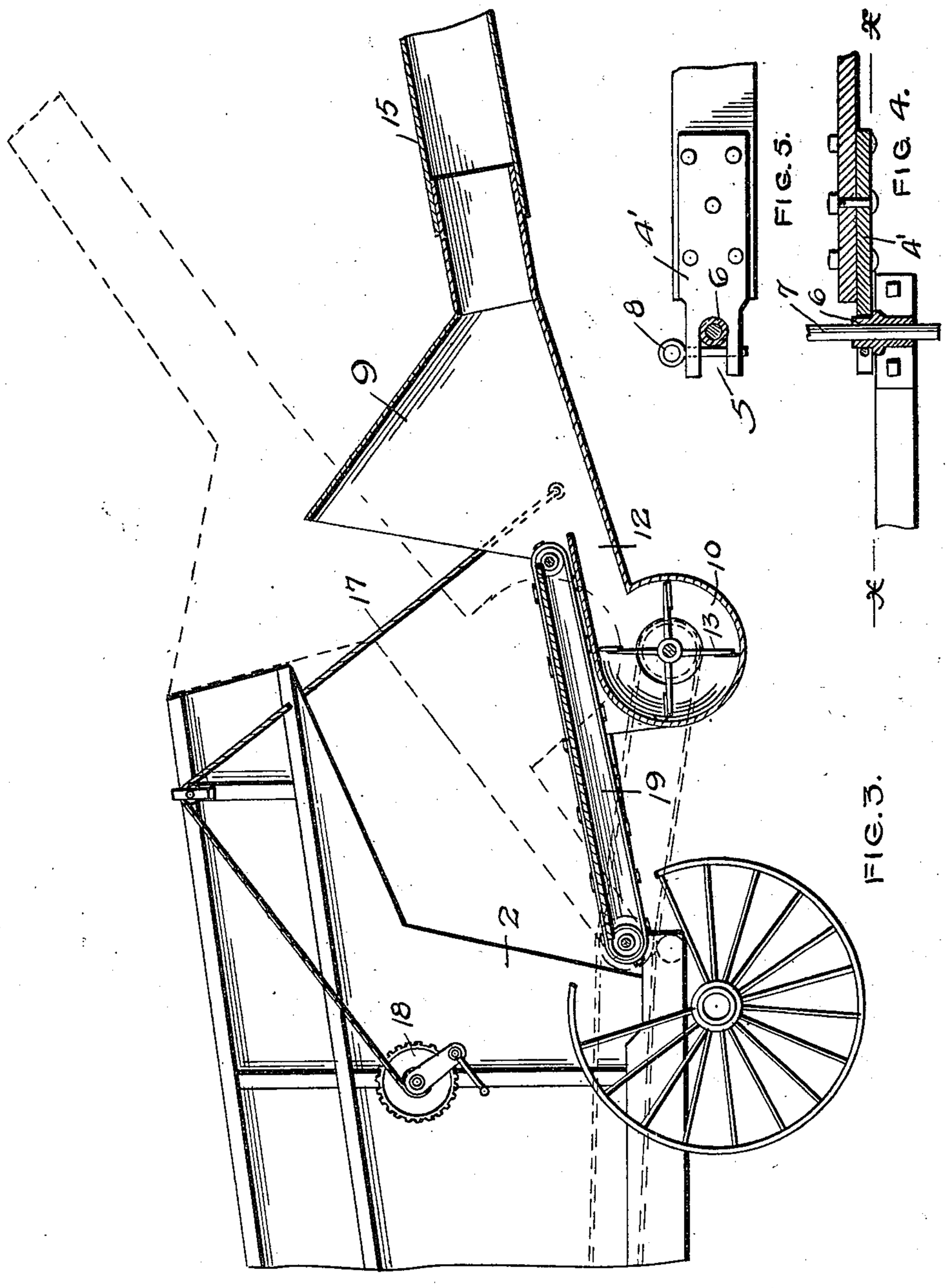


FIG. 3.




FIG. 5.




FIG. 4.

WITNESSES
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Richard Paul

INVENTOR
THOMAS GOODALE
BY Paul & Hawley
HIS ATTORNEYS.

# UNITED STATES PATENT OFFICE.

THOMAS GOODALE, OF WOODSIDE, MINNESOTA.

## PNEUMATIC STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 667,694, dated February 12, 1901.

Application filed January 20, 1900. Serial No. 2,112. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS GOODALE, of Woodside, Otter Tail county, Minnesota, have invented certain new and useful Improvements in Pneumatic Straw-Stackers, of which the following is a specification.

My invention relates to straw-stacking devices; and one object of the invention is to provide a pneumatic straw-stacker that is readily attachable to any style of separator.

A further object is to materially reduce the cost of the apparatus and render it lighter and more convenient to handle by dispensing with the heavy expensive stacker-casing provided on nearly all separators and the straw-conveyers that are usually arranged therein.

The invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of the rear of a separator and the first joint of the straw-carrier with my invention attached thereto. Fig. 2 is a plan view of the outer portion of the straw-stacker. Fig. 3 is a side view of the rear of the separator, showing the stacking apparatus in longitudinal section attached thereto. Fig. 4 is a detail sectional view showing the method of attaching the apparatus to the separator-frame. Fig. 5 is a sectional view on the line $x\,x$ of Fig. 4.

In the drawings, 2 represents the rear of the separator, 3 the frame of the first joint or section of an ordinary straw-carrier, and 4 the straw-conveyer proper mounted therein. At its inner end the frame 3 is provided upon each side with plates 4′, projecting beyond the end of the carrier and having slots 5 to receive bearing-boxes 6, that are mounted in the frame of the separator upon each side of the machine. These boxes are provided with sockets for the ends of the shaft 7 and are held within the slots by pins 8. This is the construction usually employed for pivotally supporting the straw-carrier upon the separator.

Under my invention I provide an air-trunk 9 at or near the outer end of the section 3 of the straw-carrier, said air-trunk having an open end projecting above the end of the carrier and connected at its base, beneath the carrier, with a fan-casing 10. The air-trunk and the fan-casing are secured to the frame of the carrier by hangers or brackets 11 or in any other suitable way. The top of the fan-casing extends forward into the air-trunk, as shown in Fig. 3, forming, with the bottom wall of said trunk, a blast opening or passage 12, leading from the fan-casing to said trunk. Within the fan-casing I arrange a fan 13, driven, preferably, by a belt 14 from the cylinder of the separator. At the outer end of the air-trunk is a stacker tube or pipe 15, adapted to swing to and fro to permit the operator to direct the straw to the right or left, as desired. At the outer end of the stacker-pipe is a hood 16, that prevents the straw from being blown out beyond the stack.

To raise and lower the apparatus, I provide a rope 17, connected in any suitable manner to the end of the straw-carrier and passing over pulleys on the separator-frame to the windlass 18, by means of which the stacker may be raised or lowered, according to the height of the stack.

In some instances it may be desirable to remove the straw-carrier entirely from the separator, and in this case I provide a shorter carrier 19, pivoted on the frame of the separator, and to the outer end of which the air-trunk and fan-casing are secured in any suitable manner.

In Fig. 1 I have shown side-boards 20 upon the frame of the carrier to keep the straw in position thereon; but all casings and coverings over the carrier and air-trunk are dispensed with.

The apparatus shown in either Fig. 1 or Fig. 3 can be readily attached to any style of separator, it being necessary simply to adapt the device to the width of the separator-frame. By utilizing the first joint or section of the straw-carrier that is employed in connection with all separators I am able to save considerable time and labor ordinarily required to attach a pneumatic straw-stacking apparatus to a separator. Furthermore, by eliminating so many parts and decreasing the weight of the apparatus I am able to produce a device that can be easily handled and operated.

I am aware that the mechanism which I have described may be modified considerably by any one skilled in the art, and I therefore

do not wish to be confined to the details herein set forth.

It will be observed that I form a straw-stacker comprising a flaring-mouthed air-trunk located at the end of the straw-carrier, the lower wall of the trunk formed to extend under the straw-carrier, a fan located at the lower end of the air-trunk and having its top casing extending under the straw-carrier and above the lower wall of the air-trunk, so as to form in connection with said wall a blast-passage leading from the fan to the air-trunk, the extended top portion of the fan-casing shielding the under side of the straw-carrier from the air-blast, a stacker-tube connected with the discharge end of the air-trunk, and means, consisting in one form of brackets, for securing the fan-casing and air-trunk to the outer end of the straw-stacker. Such construction enables the air-trunk and fan-casing to be made together with a blast-passage from the fan to the trunk and to be attached to the outer end of the straw-carrier by bringing the top wall of the blast-passage under the straw-stacker to shield the latter, as stated, and bringing the flaring mouth of the air-trunk at the end of the straw-carrier, so as to extend some distance above the carrier, thus facilitating and expediting the reception and discharge of the chaff and straw.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pneumatic straw-stacker, comprising a flaring-mouthed air-trunk having a stacker-tube at its outer end and a fan-casing at its inner end, said fan-casing being a continuation of the air-trunk and lying below its inner end and having its top wall extended into the air-trunk to form a blast-passage 12 and shield the straw-carrier from said passage, and means for attaching said stacker to the upper end of a straw-carrier with the flaring mouth of the air-trunk extending above the straw-carrier and the top extending wall of the fan-casing lying beneath the straw-carrier, all substantially as and for the purposes described.

2. The combination with the separator 2 and straw-carrier 3 detachably pivoted thereto, of the pneumatic stacker consisting of the flaring-mouthed air-trunk 9, the stacker-tube 15 and the fan-casing 10, said fan-casing being a continuation of the air-trunk and having its top wall extended into the air-trunk above the bottom of the air-trunk and beneath the under side of the straw-carrier, the brackets for securing the stacker to the straw-carrier, and means for elevating and lowering the straw carrier and stacker, substantially as described.

In witness whereof I have hereunto set my hand this 15th day of January, 1900.

THOMAS GOODALE.

In presence of—
RICHARD PAUL,
M. C. NOONAN.