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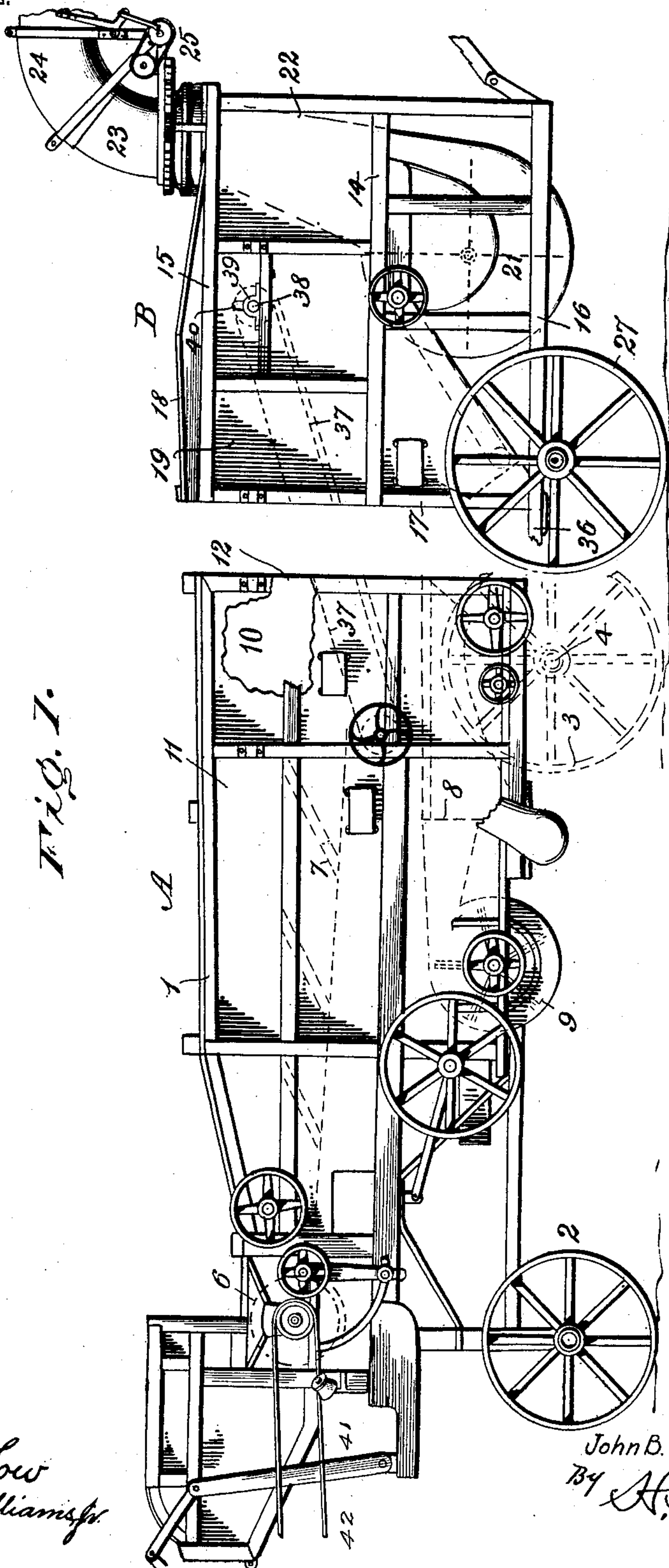
J. B. BARTHOLOMEW.
STRAW STACKER.

APPLICATION FILED MAY 4, 1900.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.



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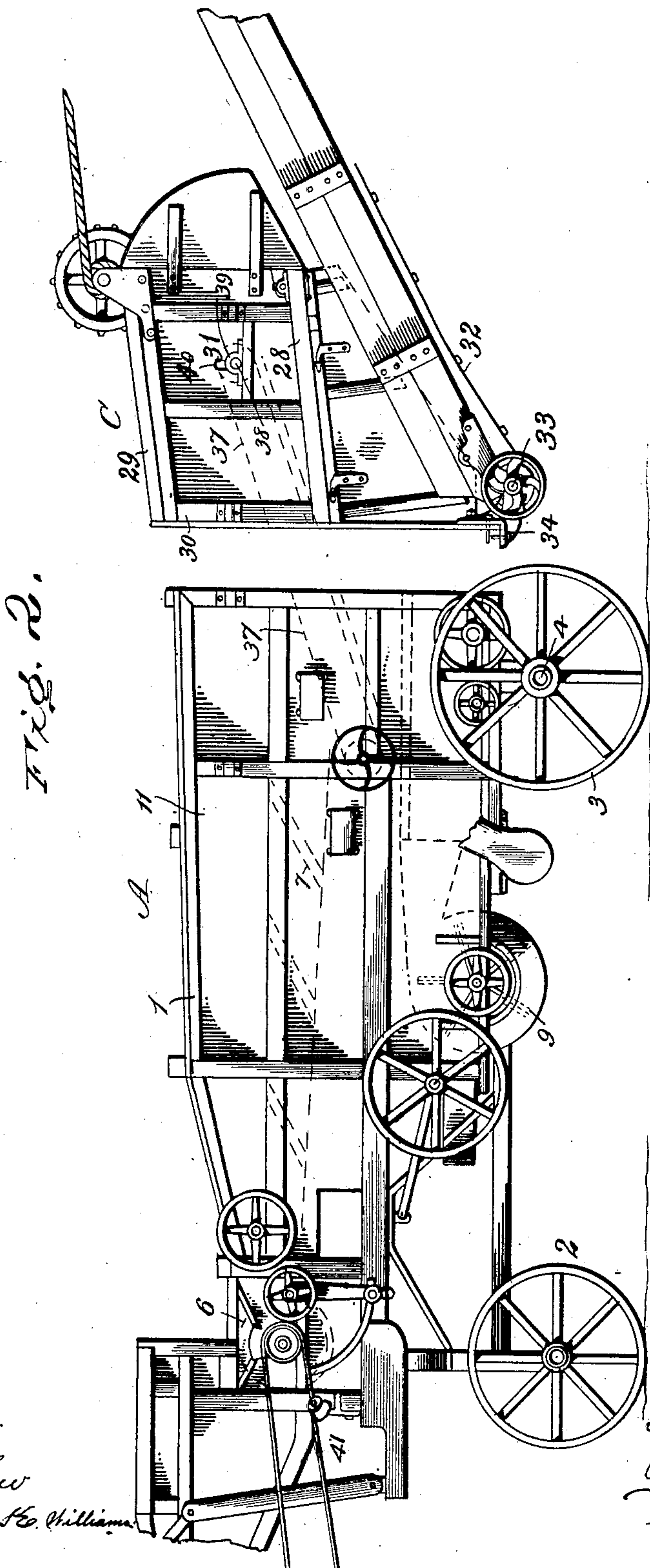
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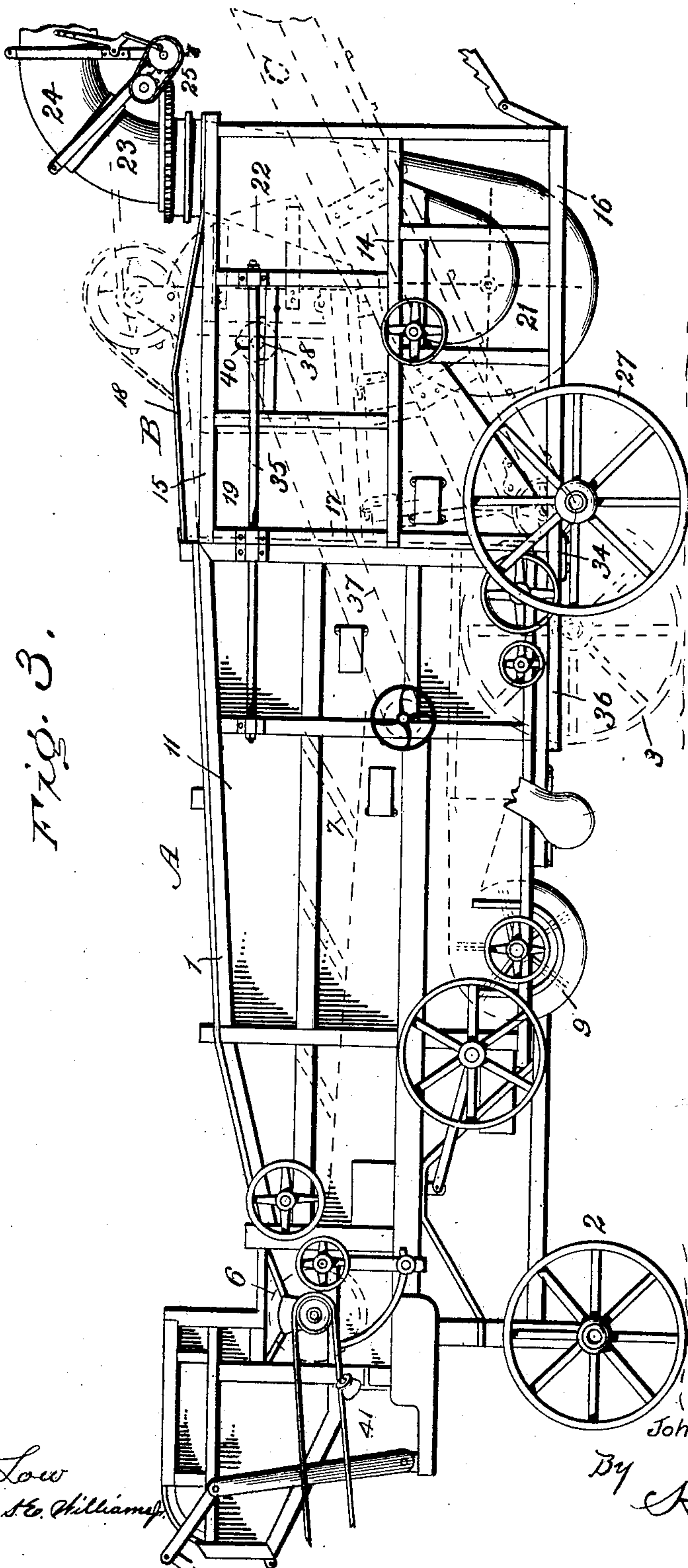
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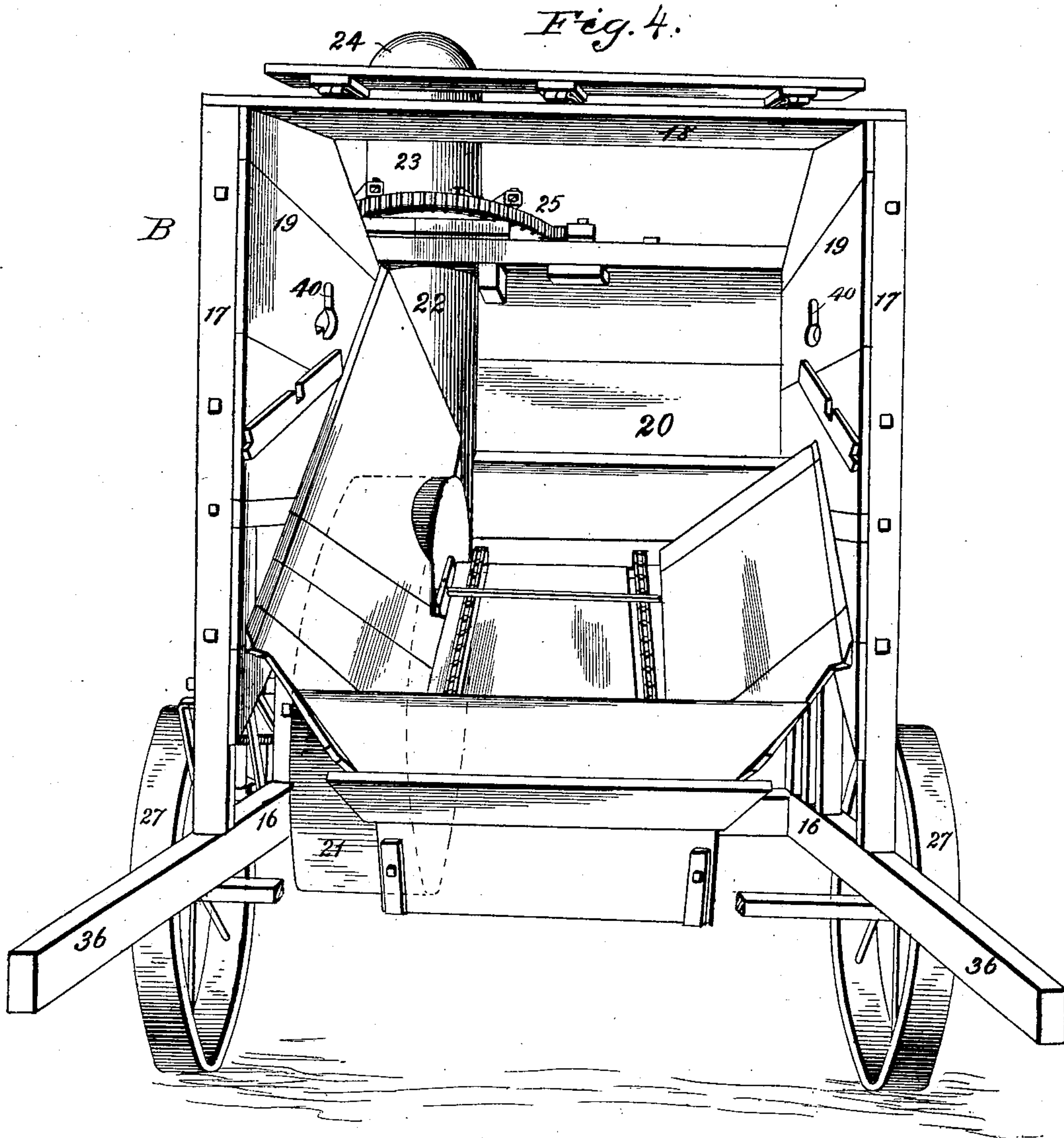
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JOHN B. BARTHOLOMEW, OF PEORIA, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE SATTLEY STACKER COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF MAINE.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 762,463, dated June 14, 1904.

Application filed May 4, 1900. Serial No. 15,526. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BARTHOLOMEW, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Straw-Stackers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side view of a mechanism constructed to embody my improvements, it illustrating in elevation a two-part machine, one part comprising the mechanism for threshing, separating, and winnowing the grain, together with the framework for supporting and the casing for inclosing these devices, and the other part comprising the devices which receive the straw and chaff from those aforesaid, together with the devices which supply an air-blast for ejecting the straw and chaff, the horizontally-rotary, vertically-adjustable, and longitudinally-extensible trunk or chute through which they are ejected, the framework for supporting them, and the casing which incloses more or less of them. Fig. 2 is a side elevation showing the same threshing, separating, and winnowing mechanism, but, instead of the pneumatic stacker mechanism, illustrating the interchangeable-belt stacker or endless-elevator stacker which can be applied to the thresher and separator in lieu of the pneumatic stacker. Fig. 3 is also a side elevation showing the threshing and separating machine and also the two stacker mechanisms, the pneumatic stacker being illustrated in full lines and the belt-stacker or endless-belt stacker being indicated by dotted lines. Fig. 4 is a view from the inner end of the pneumatic-stacker part of the machine as it appears when removed from the thresher and separator.

This invention relates to improvements in mechanisms for threshing grain and also improvements in the parts for stacking or piling the straw after the removal of the grain therefrom. The mechanism here illustrated embodies all the matters of improvement, and I will first describe it as a whole and then refer to the details of some of the parts separately. It is now well known that under

many circumstances the straw which is delivered from a threshing and separating machine can be stacked or piled to the greatest advantage by means of a blast of air supplied through suitable mechanism, while at the same time it is true that under other circumstances it is desirable to carry the straw backward and upward by means of a positively-acting carrier, such as an endless belt or the like.

One of the objects of this invention is to provide the user with a machine of such nature that he can employ either of these agencies for the carrying away and the stacking of the straw in accordance with the varying conditions which he may meet. The straw of wheat, for instance, under some conditions can be rapidly and effectively carried away and piled by an air-blast, while under other conditions the straw of the same cereal cannot be advantageously so disposed of, but requires that it should be removed by a positively-acting carrier or elevator, and, again, it is well known that the straw of one cereal can be taken from the thresher and separator by the pneumatic mechanism, while that of another cannot be effectively so removed.

I have succeeded in so constructing a machine that the user will be able to apply to the threshing, separating, and winnowing devices either of the two styles of stacker as he may see fit and as occasion demands.

I provide a two-part mechanism, one of whose parts is substantially constant, it comprising a framework, a casing or housing, a contained threshing-machine, a separator, and a winnower, together with supporting and transporting wheels, and in connection therewith two interchangeable stackers—to wit, a pneumatic stacker and a belt-stacker. Each of the latter has a framework, a housing, and a set of stacker devices. The framework and the housing are adapted to fit to and be rigidly connected with the framework and housing of the thresher and separator and form an extension thereof, the framing and housing of one stacker differing in details from those of the other to correspond to the differing requirements.

There can be numerous differences of detail in the construction of each of these three several main parts; but for the purpose of presenting clearly structures which will illustrate the manner of embodying my invention I have shown and will describe the following:

A indicates the threshing, separating, and winnowing mechanism as a whole; B, the pneumatic stacker and devices forming parts thereof; and C, the belt-stacker, interchangeable with the pneumatic stacker B.

1 is the frame of the threshing-machine, which, excepting at the rear end, where it may be specially adapted for the attachment of the supplemental parts B and C, can be of any usual or preferred construction. The frame 1 is carried at its forward end by wheels 2 and at its rear end by wheels 3, the latter, with their axle 4, being preferably readily attachable or removable.

The frame 1 contains and carries the usual mechanism, with their actuating devices constituting a threshing, separating, and winnowing machine, such as the cylinder 6, the shaker 7, and the shoe 8, with its fan 9.

10 is a chamber formed by a suitable casing 11, carried by the frame 1, leading longitudinally of the machine and open at its rear end, as at 12. Through this chamber the straw is carried by any usual or preferred means and delivered through said end at 12 into the pneumatic stacker B or the belt-stacker C.

The pneumatic-stacker mechanism B is formed of the framework, having the bottom sills 16, the upper horizontal frames 14 15, the vertical inner frame-bars 17, and the cover 18, together with the casing-walls or housing 19. The framework thus provided for the stacker is adapted to form a continuation of and be rigidly secured to the frame of the threshing and separator, and the housing of the stacker incloses a chamber 20, adapted to register with and form a continuation of the chamber within the housing of the threshing and separator. The stacker-frame carries a fan or blast mechanism at 21, an uptake straw-duct 22, and a horizontally-rotary duct 23, with the usual outwardly and upwardly extending extension-duct at 24.

At 25 is shown a portion of the mechanism for causing the movements of the parts of the delivery-duct. The details of this part of the mechanism are preferably similar to those which I have shown in the patents for pneumatic straw-stackers heretofore granted to me, Nos. 633,559 and 633,560, dated September 26, 1899, and No. 652,452, dated June 26, 1900; but in this respect there can be modification, if desired.

The pneumatic stacker B is provided with its supporting-wheels 27, which in order to the better sustain it when attached to the threshing and separator are situated comparatively near the inner end of the frame.

The belt-stacker C is formed with frame-

bars 28 29, arranged horizontally, and vertical bars, as at 30, the latter being adapted to fit against and be secured to the frame-bars of the threshing and separator. The casing-walls 31 of this stacker form, substantially, a continuation of the walls of the separator, and the chamber which they inclose registers with that in the threshing and separator. 32 indicates the belt-stacker or endless carrier. It is adjustably mounted at 33, its framework being so arranged that the straw which is carried through the chamber shall drop upon the carrier and be propelled backward and upward therefrom.

When the stacker C is fastened against the threshing and separator, it is held by means of the bolting angle-plates 34 34 and the long bolting-rod 35, the latter extending across two or more bars of each of the separate frames, to which several bars the rod is connected, so that it not only serves to hold the frames together, but also to brace and hold them in line with each other, as shown in Fig. 3. The same joining devices can be used for fastening the pneumatic stacker B, as is also illustrated in Fig. 3. In said figure the full lines show the relation of the pneumatic stacker to the threshing and separator when it is joined to the latter, and the dotted lines show the relation of the belt-stacker.

When the belt-stacker is in use, the wheels 3 are placed beneath the rear end of the threshing and separator, as shown by full lines in Fig. 2 and dotted lines in Figs. 1 and 3. Where, however, the rear supporting-wheels are attached to the detachable supplemental part of the machine, as in Figs. 1 and 3, so that the weight of the rear portion of the machine A is required to be transmitted to such supporting-wheels through the fastening devices which connect the said supplemental part with the machine, I prefer to employ in addition to the fastening devices already described a strong support for the rear end of the machine A, consisting of extensions 36 of the bottom sills 16 of said supplemental part, with the result that said sills with their extensions extend across and are balanced upon the rear axle or its bolster, with the weight of the supplemental part upon the rear ends of said sills 16 and the weight of the rear end of the machine A imposed upon said extensions 36. A very effective support for the machine A, as well as connection between the latter and the supplemental part or frame, which is capable of resisting all the transverse strains due to the weight of said connected parts and their contained mechanisms, is thus provided.

With the threshing and detachable interchangeable stackers above described I combine a straw-carrying means which extends through the rear part of the chamber 10 and rear end 12 thereof and into the straw-chamber of the stacker, the rear end of such straw-

carrying means having a detachable support in said straw-chamber on the supplemental stacker-frame. Various devices for carrying the straw from the separator to the stacker may be employed. While a reciprocating table may be used, I have illustrated for this purpose an endless carrier 37, the detachable support for the outer end of which consists of a shaft 38, extending across the straw-chamber of the stacker and removably held in bearings 39. In changing one form of stacker for the other this shaft 38 is preferably removed by loosening its bearings 39 and by aid of the slots 40 in the stacker-casing and transferred with its pulleys to the other stacker. So far as the other features of my invention are concerned, however, each stacker may have a permanent shaft from which the carrier 37 may be removed by unstrapping or disconnecting it.

What I claim is—

1. A threshing and straw-stacking mechanism consisting of the combination of a main frame, threshing and separating devices carried thereby, a separate detachable frame adapted to fit said main frame, straw-stacking devices carried by said detachable frame, supporting-wheels for the front end of the main frame, and rear supporting-wheels attached to said detachable frame and arranged, when the two frames are fitted together, to support the rear portion of the main frame as well as the detachable frame.

2. The combination of the main threshing frame, threshing and separating devices carried thereby, a detachable stacker-frame, stacking devices thereon, and straw-carrying devices common to both of said frames and extending across their plane of union, said straw-carrying devices being arranged in said stacker-frame in a manner to permit the removal of the latter.

3. In a threshing and straw-stacking mechanism, the combination of a main frame having the chamber 10, threshing and separating devices carried by said frame, a separate detachable supplemental frame connected with said main frame and containing a straw-chamber, means for delivering the threshed straw into the straw-chamber extending from said chamber 10 into the chamber of said detachable frame, straw-stacking devices carried by said detachable frame, supporting-wheels for the front end of the main frame, and wheels attached to said detachable frame and carrying the rear end of the main frame and said supplemental frame.

4. A threshing and straw-stacking mechanism consisting of the combination of the main frame, threshing and separating devices carried thereby, a separate detachable supplemental frame adapted to fit said main frame, straw-stacking devices carried by said supplemental frame, supporting-wheels for the front end of the main frame, sills or frame-pieces

carrying said detachable frame and having extensions beneath the rear end of said main frame or attached thereto, and rear supporting-wheels carrying said detachable frame and, through said extensions, the rear end of said main frame.

5. The combination of the main threshing frame, threshing and separating devices carried thereby, a detachable stacker-frame, stacking devices thereon, sills 16 attached to one of said frames and having extensions 36 beneath the other of said frames, and means for holding said frames from longitudinal separation.

6. The combination of the main threshing frame, threshing and separating devices carried thereby, a detachable stacker-frame, stacking devices thereon, suitable ground-wheels supporting said stacker, and means for connecting the frames comprising the long side bolts 35 which extend across two or more of the vertical frame-bars of each of the said independent frames, to which bars they are connected, whereby the said bolts serve also to laterally brace the frames and hold them in line with each other.

7. The combination of the main threshing frame, threshing and separating devices carried thereby, a detachable stacker-frame, stacking devices thereon, sills 16 attached to one of said frames and having extensions 36 beneath the other of said frames, and means for holding said frames from longitudinal separation, comprising the side bolts 35.

8. The combination of the main threshing frame, threshing and separating devices carried thereby, a detachable stacker-frame, stacking devices thereon, straw-carrying devices common to both of said frames and extending across their plane of union, and a detachable support in said stacker-frame for the outer end of the straw-carrying devices.

9. In a threshing and straw-stacking mechanism, the combination of a main frame having a chamber 10, threshing and separating devices carried by said frame, a separate detachable frame connected with said main frame and containing a straw-chamber, means for delivering the threshed straw into the straw-chamber extending from the said chamber 10 into the chamber of said detachable frame, straw-stacking devices carried by said detachable frame, a removable shaft extending across said straw-chamber for supporting the outer end of said straw-delivering means, supporting-wheels for the front end of the main frame, and wheels carrying the rear end of the main frame and said supplemental frame.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. BARTHOLOMEW.

Witnesses:

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RICHARD B. CAVANAGH.