

No. 707,836.

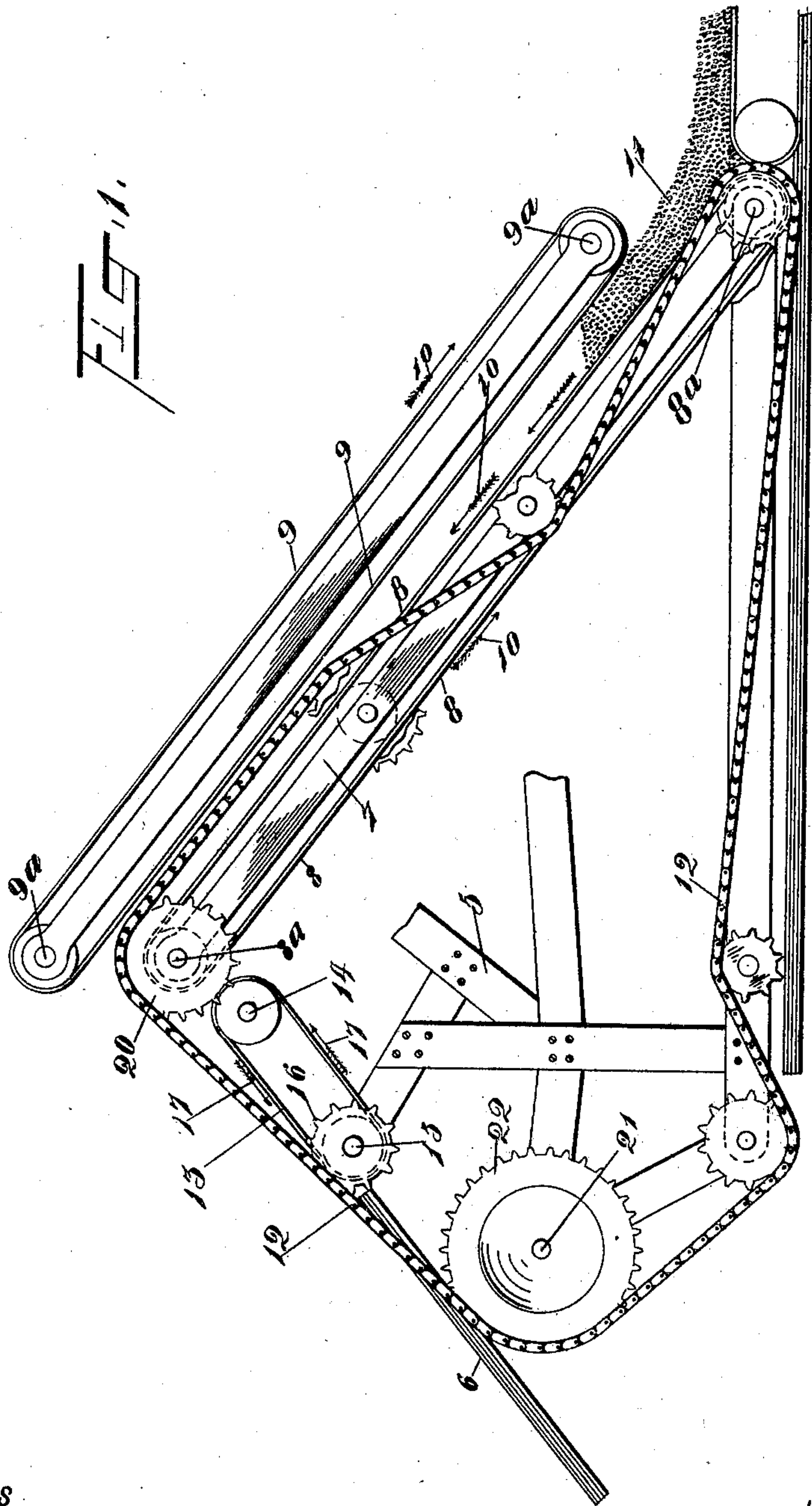
Patented Aug. 26, 1902.

H. P. FINLEY,
GRAIN HARVESTER.

(Application filed Nov. 1, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

L. A. Stewart
H. J. Leller

INVENTOR

BY *Homer P. Finley*
Edgar Sater & Co
ATTORNEYS

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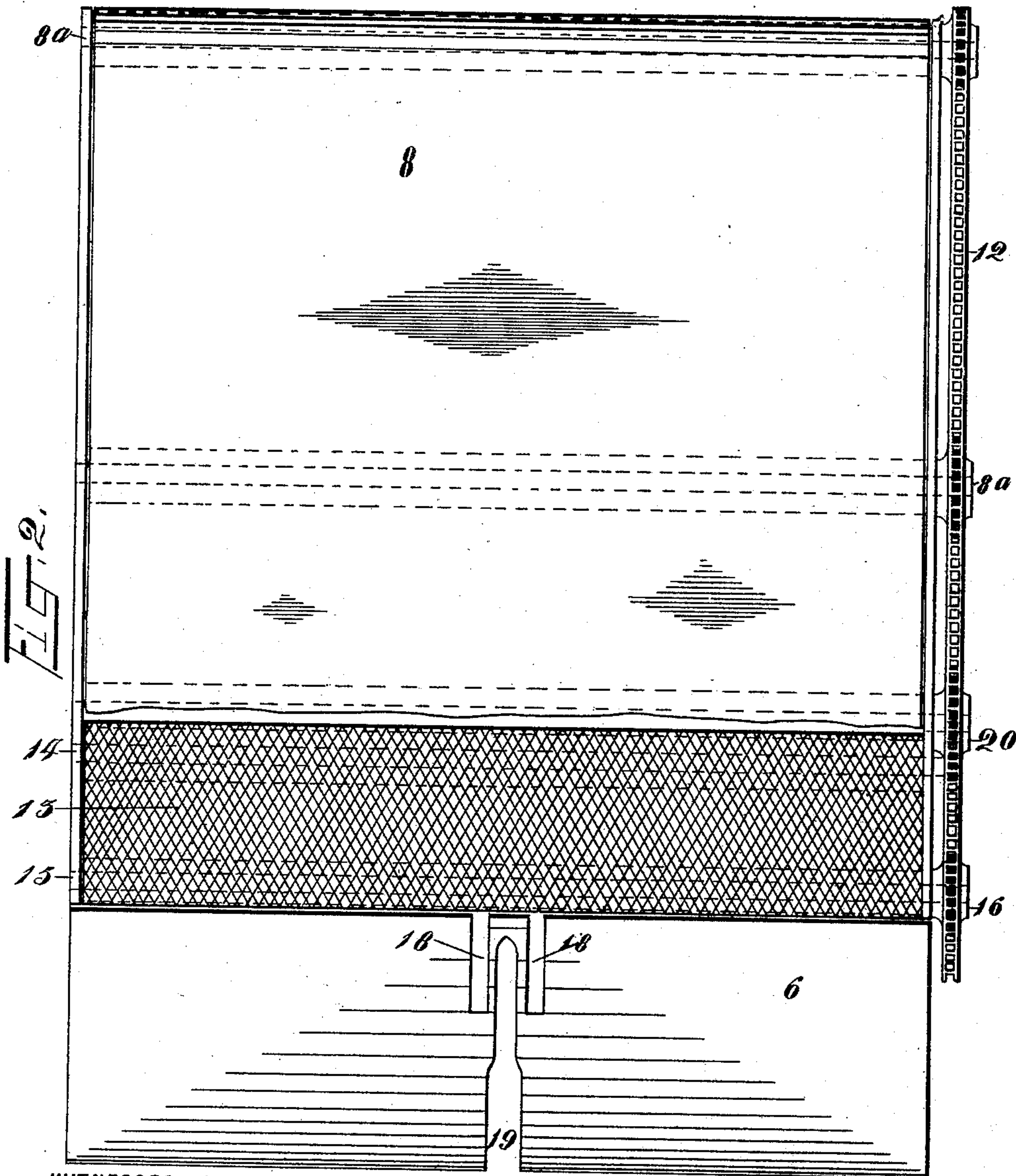
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3 Sheets—Sheet 2.



WITNESSES

L. A. Stewart
J. B. Fuller

INVENTOR

BY *Horner P. Finley*
Edgar Tate & Co
ATTORNEYS

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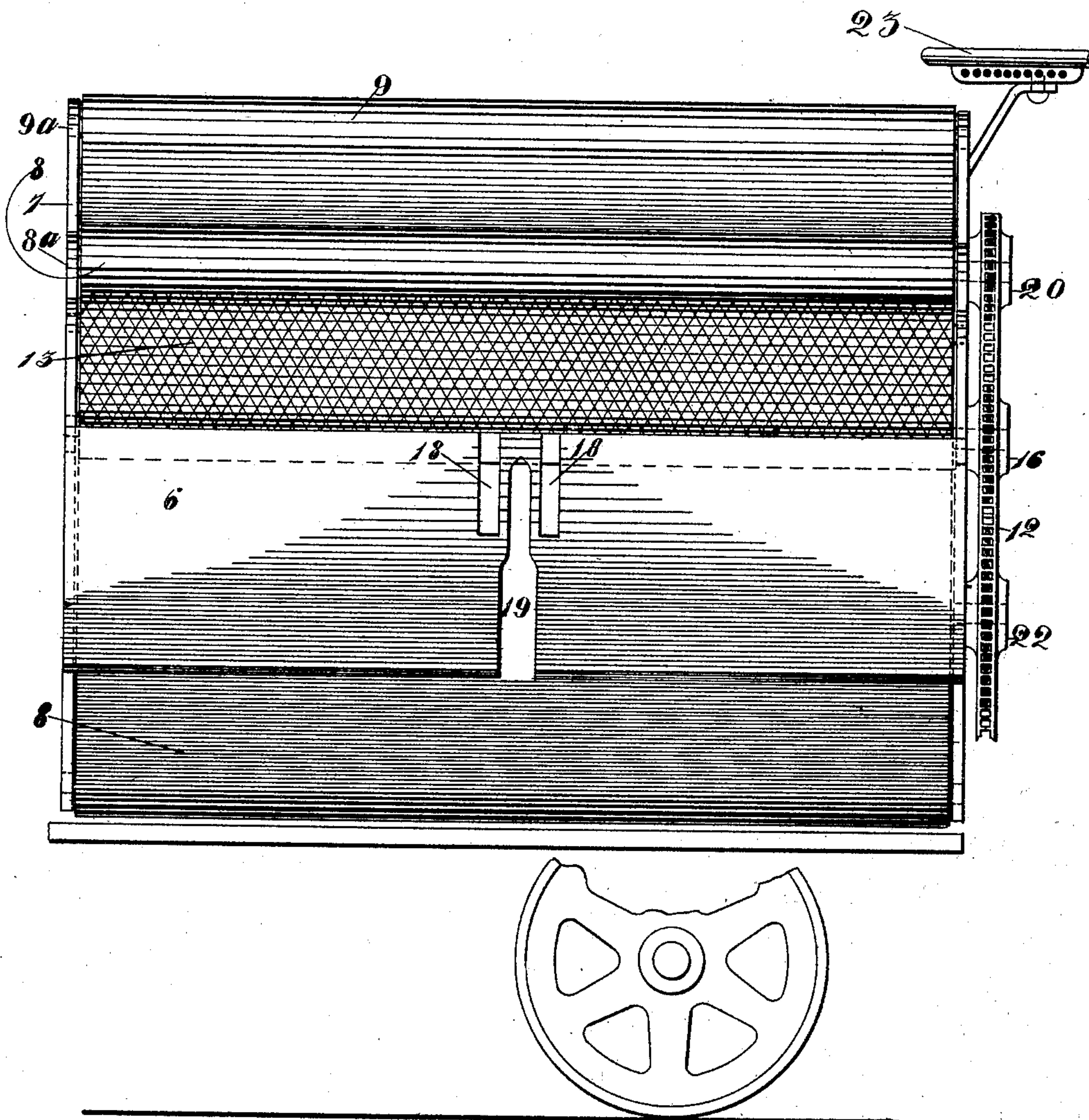
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3 Sheets—Sheet 3.

FIG. 3.



WITNESSES

F. A. Stewart
J. G. Teller

INVENTOR

BY *Homer P. Finley*
Edgar Sater Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

HOMER PHELPS FINLEY, OF ANN ARBOR, MICHIGAN.

GRAIN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 707,836, dated August 26, 1902.

Application filed November 1, 1901. Serial No. 80,724. (No model.)

To all whom it may concern:

Be it known that I, HOMER PHELPS FINLEY, a citizen of the United States, residing at Ann Arbor, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Grain-Harvesters, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved grain-deck for grain-harvesting machines for delivering the grain more freely to the packers and binders, so as to prevent clogging at the point where the grain leaves the elevator-belt and is deposited upon the grain-deck, a further object being to overcome the friction caused by the clogging of the grain where it is delivered to the grain-deck and at the same time to reduce the power necessary to operate the machine, an increase of power being made necessary by the clogging of the grain, as above specified; and with these and other objects in view the invention consists in an improved grain-deck for grain-harvesting machines constructed as hereinafter described and claimed.

In the drawings forming part of this specification, in which the separate parts of my improvement are designated by the same reference characters in each of the views, Figure 1 is a back view showing the grain-deck of a grain-harvesting machine, the elevator mechanism for depositing the grain on said deck, and the framework on which said parts are supported; Fig. 2, a plan view thereof with part of the elevator apparatus removed, and Fig. 3 a side view thereof.

In the drawings forming part of this specification I have shown at 5 the framework of a grain-harvesting machine, which supports the grain-deck, together with the elevator mechanism connected therewith and by means of which the grain is deposited on the grain-deck. I have also shown at 6 the ordinary grain-deck, and this grain-deck as heretofore constructed extended upwardly to the upper end of the elevator 7. The elevator, as shown in the drawings, consists of two separate endless belts 8 and 9, mounted on rollers 8^a and 9^a, respectively, and these belts move in the direction of the arrows 10, and the operation

thereof is such that the grain, which is indicated at 11, is carried up and deposited on the upper edge of the grain-deck 6. The elevator mechanism is operated by a chain 12 in the usual manner, and all these parts are of the usual construction and form no part of my invention.

In the practice of my invention I remove the upper portion of the grain-deck 6, or that portion thereof adjacent to the upper end of the elevator mechanism and adjacent to the upper roller 8^a, over which the upper belt 8 passes, and in the space thus formed or between the upper edge of the stationary grain-deck 6 at 12 and the upper roller 8^a I place an endless belt 13, which passes over rollers 14 and 15, and the roller 15 is provided with a sprocket-wheel 16, over which the chain 12 of the grain-elevator mechanism passes. The belt 13 fills the space between the upper edge of the grain-deck 6 and the upper roller 8^a of the elevator mechanism, and the grain as it leaves the elevator mechanism is deposited on said belt, and this belt forms a supplemental movable deck over which the grain is removed onto the stationary deck 6.

It is a well-known fact that in operating machines of this class the grain on leaving the elevator frequently clogs on the upper portion of the grain-deck, and this is especially true when the grain is lodged or heavy or damp or green or if it contains grass or is short; but by means of the supplemental movable deck formed by the belt 13 this clogging of the grain is entirely avoided. The movable deck or the endless belt forming the same is movable at a greater speed than the elevator-belt, and the object of this is to prevent the grain from clogging or stopping when it is discharged from the elevator onto the supplemental deck, the increased movement of the supplemental deck or the endless belt forming the same serving to take up the grain or grain-straw and convey it away from the elevator more effectively than if the said supplemental deck moved at the same rate of speed as the elevator-belt.

In Fig. 2 I have shown the usual or stationary grain-deck 6 as provided with two transverse slots 18, through which the "packers" (not shown) pass, and also the slot or opening 19, through which the "needle" (not

shown) passes, and the operation of the machine will be in all respects the same as heretofore, it being understood that the binders and other parts of the harvester which are not shown herein are all of the usual construction, the only alteration made by me being the insertion of the supplemental movable deck formed by the flexible belt 13 and on which the grain is deposited as it leaves the elevator mechanism.

The wheel 16 on the roller 15, by means of which the belt 13 is operated, is one-third smaller than the wheel 20 on the end of the upper roller 8^a of the elevator mechanism and over which the chain 12 passes, and by means of this difference in the size of said wheels it will be apparent that the roller 15 will be turned one-half faster than the upper roller 8^a of the elevator mechanism, and the belt 13 will thus move proportionately faster than the belt 8 of the elevator mechanism, and this construction also operates to prevent the clogging or stoppage of the grain on the belt 13 and facilitates the passage of said grain to the binders, which are not shown.

In the drawings forming part of this specification I have shown at 21 a main power-shaft provided with a gear-wheel 22, over which the chain 12 passes and by means of which the elevator mechanism is operated, and in Fig. 3

I have shown at 23 the usual seat of a grain-harvesting machine; but with the exception of these parts all the rest of the operative mechanism of the machine is omitted, the illustration and description thereof not being necessary for the purposes of this specification.

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

In a grain-harvester the combination with a grain-elevator and a stationary deck arranged stubbleward of the top portion thereof, of a movable grain-deck held between the elevator and the stationary deck and comprising two rollers mounted respectively in proximity to said elevator and the stationary grain-deck, and an endless belt or conveyer mounted on said rollers and of a width equal to the width of the grain-deck and means for moving the endless belt, at a higher speed than the elevator, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 12th day of October, 1901.

HOMER PHELPS FINLEY.

Witnesses:

FREDERICK H. BELSER,
HERBERT A. WILLIAMS.