

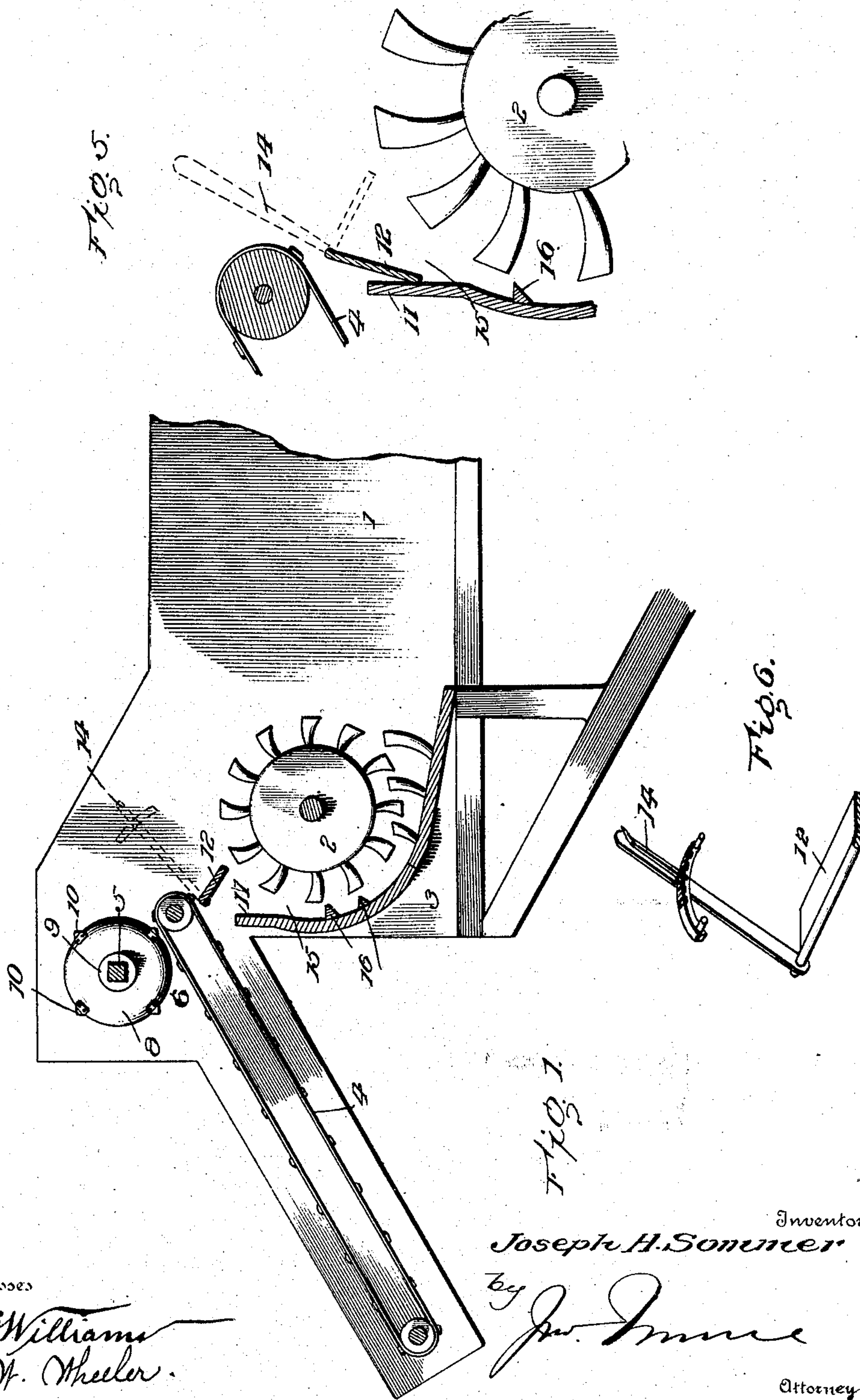
No. 782,363.

PATENTED FEB. 14, 1905.

J. H. SOMMER.
THRESHING MACHINE.

APPLICATION FILED JAN. 20, 1903. RENEWED DEC. 10, 1904.

2 SHEETS—SHEET 1.



Witnesses

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J. H. Wheeler

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Fig. 3.

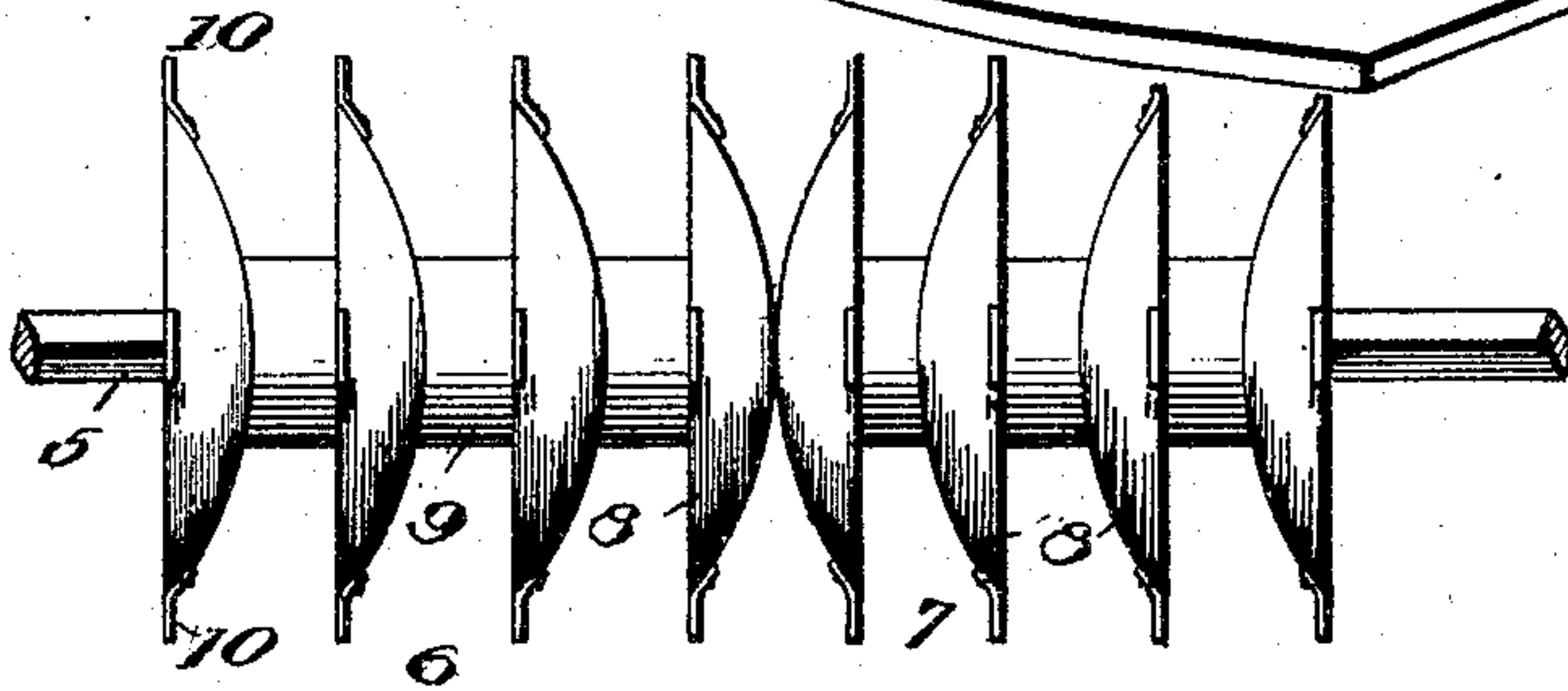
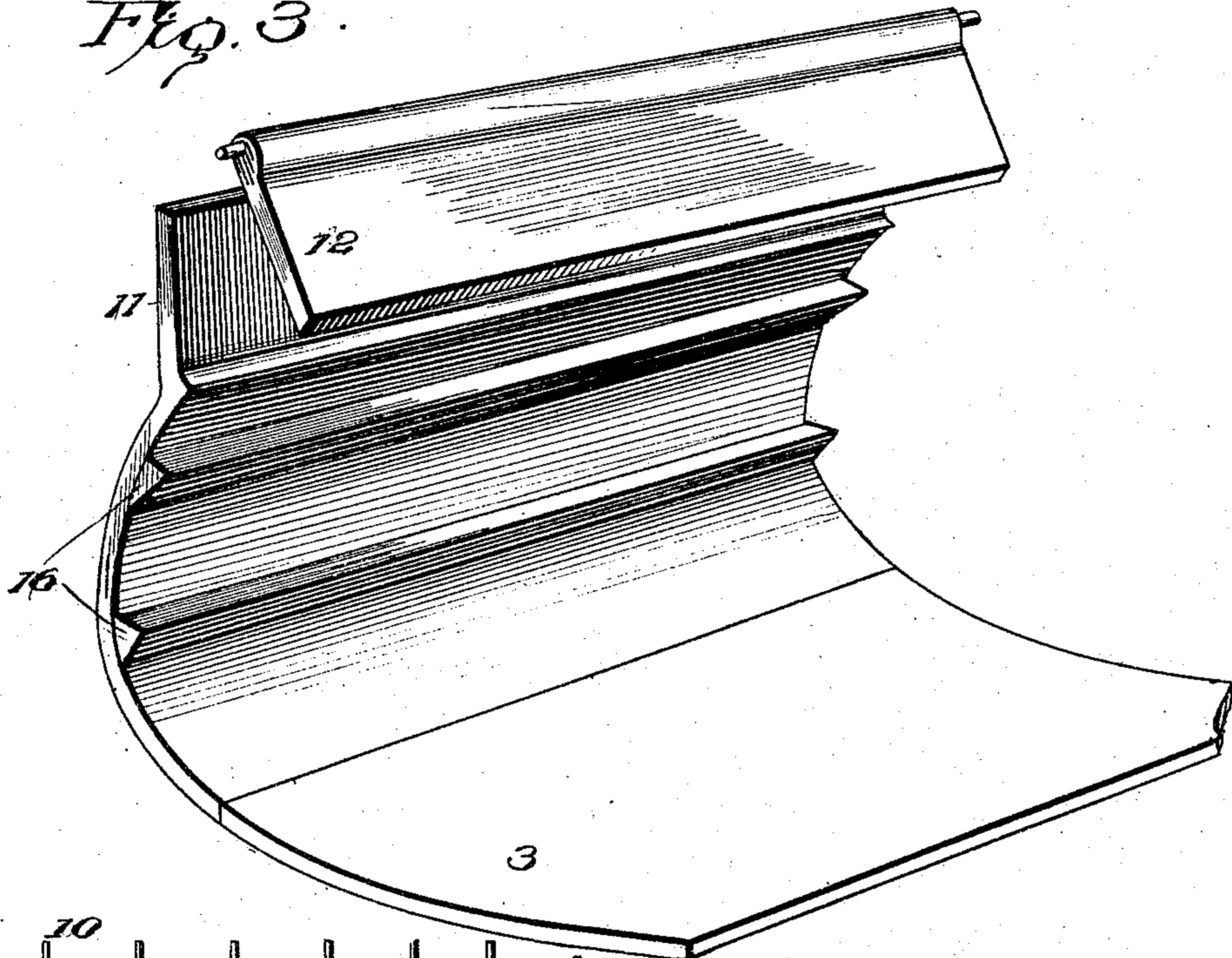
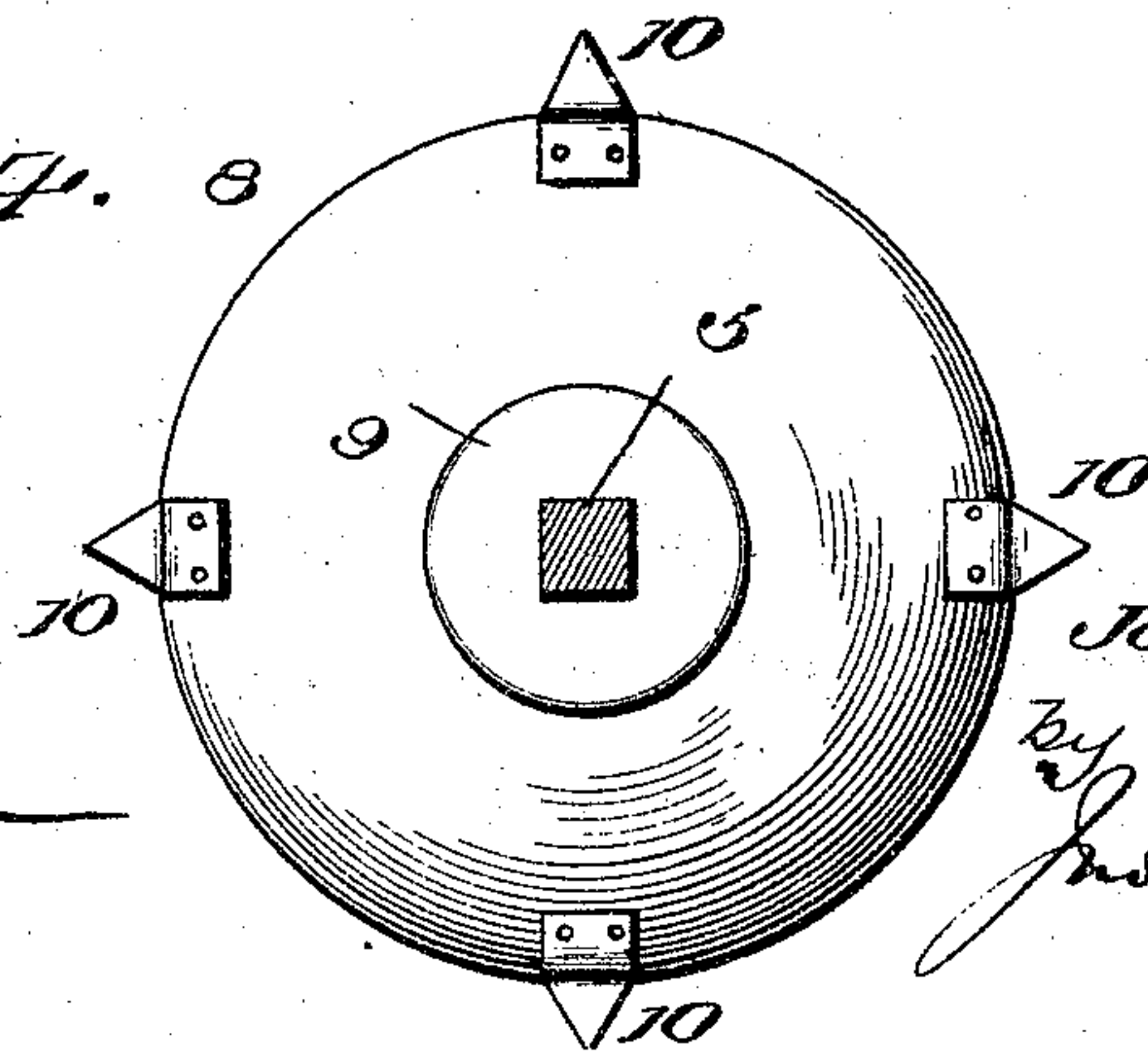


Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH H. SOMMER, OF DAYTON, KANSAS.

THRESHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 782,363, dated February 14, 1905.

Application filed January 20, 1903. Renewed December 10, 1904. Serial No. 236,393.

To all whom it may concern:

Be it known that I, JOSEPH H. SOMMER, a citizen of the United States, residing at Dayton, in the county of Dickinson and State of Kansas, have invented certain new and useful Improvements in Threshing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in grain-separators for band-cutters, self-feeders, or the like.

The object of the invention is to provide a combined cutter and separator adjacent to the threshing-cylinder and a specific arrangement of means coacting with the cutting mechanism and the said cylinder to effectively and thoroughly thresh the grain.

I propose to position a shaft in the elevator and mount thereon a series of concave disks bearing knives at their peripheries at determined intervals. The disks are beveled at their peripheries to an edge, which penetrates and separates the bundles of grain, while the knives sever the ties. Then when the grain passes from the separating-disks it is delivered to the top of the threshing-cylinder; but instead of passing directly between the beaters or knives of the cylinder and like knives of the concave I extend the concave and pivot opposite thereto a shoe to control the grain delivered to the threshing-cylinder. Moreover, lateral breaking-bars are placed between the extension and the cylinder to break the grain before the knives of the concave are reached.

The construction and arrangement of the parts will be more fully described, and particularly pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a sectional view of my improvement as applied to a thresher. Fig. 2 is an enlarged detail top plan view of the combined cutter and separator. Fig. 3 is a detail perspective view of the threshing-concave and its extension. Fig. 4 is a detail elevation of one of the disks and its knives. Fig. 5 is a detail view showing the open position of the regulating-shoe. Fig. 6 is a broken perspec-

tive showing the means for adjusting the position of the feed-regulating shoe.

The same numerals refer to like parts in all the figures.

1 represents a thresher of ordinary construction; 2, the threshing-cylinder; 3, the concave therefor, and 4 the elevator.

At or near the upper end of the elevator 4 and in proximity therewith is a shaft 5, suitably revolved, on which are mounted two sets of concave disks 6 and 7, the sets being oppositely disposed from the center. The disks 8 of the sets are mounted to rotate with the shaft and are spaced from each other by spacing-blocks 9. The inner disks of the two sets are not spaced, so that at the center of the bundle of grain being carried by the elevator the greatest resistance may be applied to cut the bands to insure the grain being spread out before the threshing-cylinder is encountered.

10 indicates a series of knives fastened near the outer edge of the disks and projecting outwardly therefrom, as clearly shown in Fig. 4.

The concave 3 is extended up to substantially the top of the cylinder 2, at which point it is arranged vertically at 11, and, if desired, this vertical portion may be made adjustable toward the elevator 4. A shoe 12 is hinged opposite the top of the extension and is adapted to be locked in any fixed position with relation to the cylinder by the operation of a hand-lever 14, fixed to the shoe and coöperating with the usual dog and notched segment 14'. The function of the shoe is to regulate the grain coming from the elevator to the cylinder. If the shoe is located in the position shown in Fig. 1, obviously the space between it and the cylinder will be of such proportions that but a limited supply of grain will pass into the space 15. This is primarily used when the grain is damp, and if when in this condition it be permitted to pass freely into the space it would soon choke the machine. When feeding dry grain, the shoe is thrown up against the vertical portion 11 of the extension, as shown in Fig. 5. Hence the opening to the space 15 is large enough to permit the free and unlimited supply of grain com-

ing from the elevator to enter. A pair of parallel beating-bars 16 extend across the extension and project into the space 15, and below these bars are the usual knives or
5 breakers, which coact with like knives on the threshing-cylinder.

In operation the bundles of grain are placed on the elevator 4, and when they contact with the disks the knives thereon sever the ties,
10 whereupon the disks segregate the straw and spread it on the elevator, so that by the time the upper end of the elevator is reached the straw falls uniformly to the top of the threshing-cylinder. The grain in being spread out
15 toward both sides of the elevator is so loosened that the knives pass freely between the particles thereof and prevents them cutting the straw into short sections.

I place great stress on the relative position
20 of the threshing-cylinder, the shoe, and the elevator in that by delivering the grain to the top of the cylinder the quantity of grain introduced to the space 15 may be conveniently and inexpensively controlled.

25 What I claim as new is—

1. In a thresher, the combination with a conveyer, a rotary shaft, a series of concave disks mounted on the rotary shaft arranged near the delivery end of said conveyer, the
30 central disks of the series being parallel and

abutting and knives projecting from the edges of the disks.

2. In a thresher, the combination with a conveyer, a rotary shaft, concave disks mounted on the rotary shaft and arranged near the
35 delivery end of the conveyer, said disks being arranged in two series, the disks of one series being parallel with the disks of the other and the contiguous disks of the two series abutting, and knives projecting from the edges of
40 the disks.

3. In a thresher, the combination with a conveyer, concave disks mounted on a rotatable shaft near the driving end of the conveyer, knives carried by each of the disks, a
45 threshing-cylinder, a concave therefor, the upper end of which extends toward the conveyer, and a shoe hinged opposite the extended portion of the concave, and means connected with said shoe and operative from
50 outside the conveyer to alter the inclination of said shoe, whereby to regulate the grain-supply to the cylinder, as and for the purpose described.

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

JOSEPH H. SOMMER.

Witnesses:

PAUL HURD,
D. E. JOHNS.