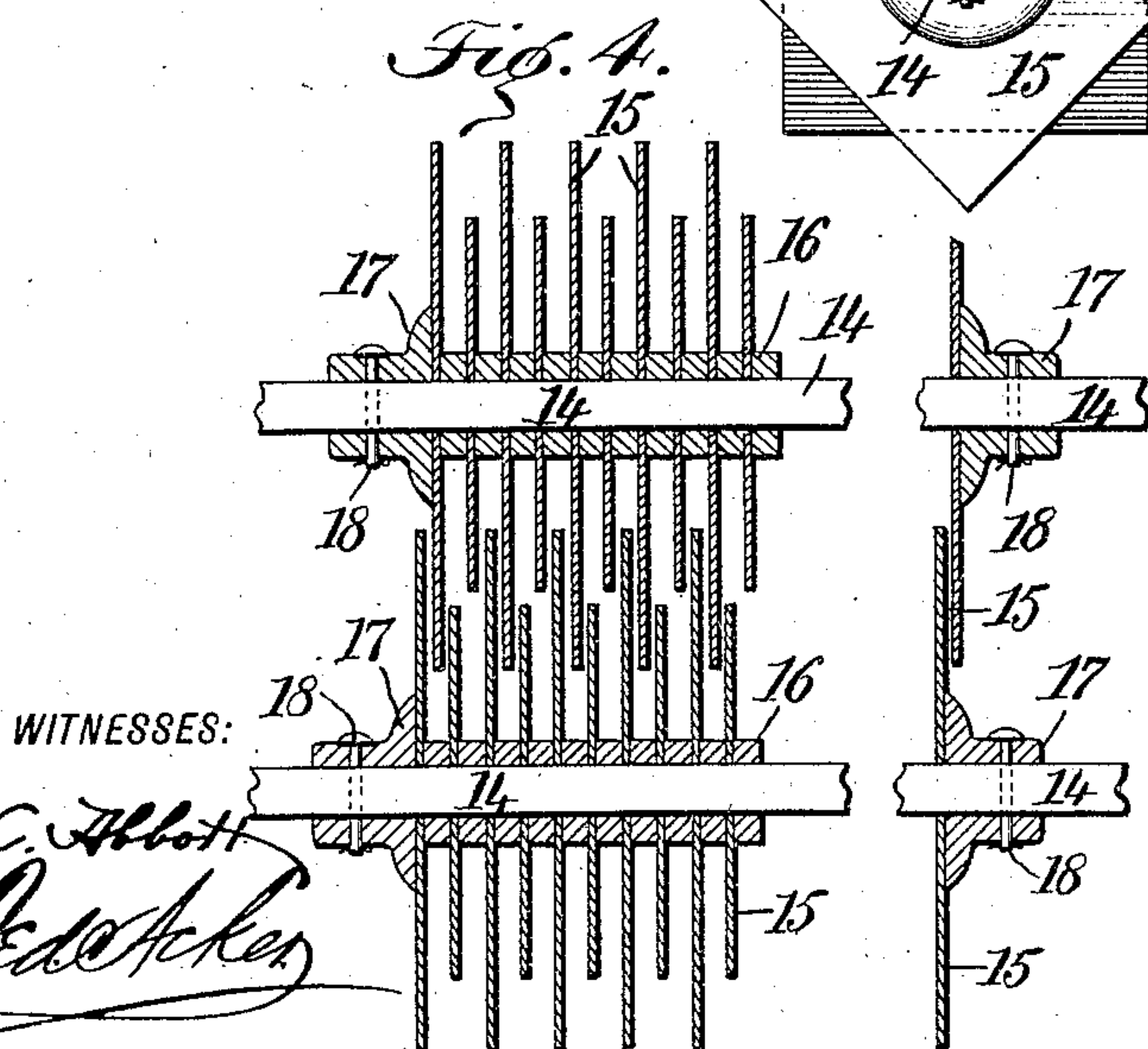
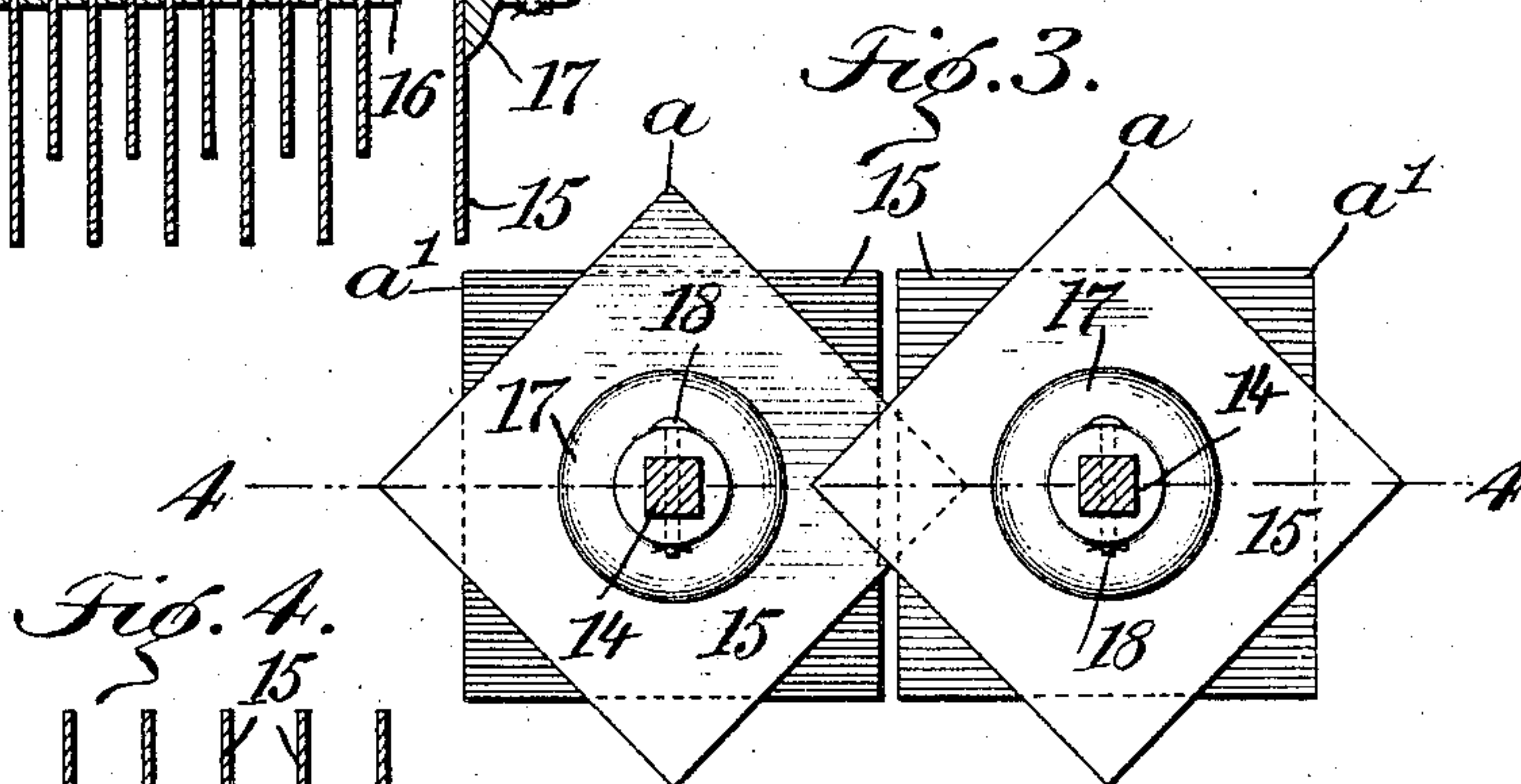
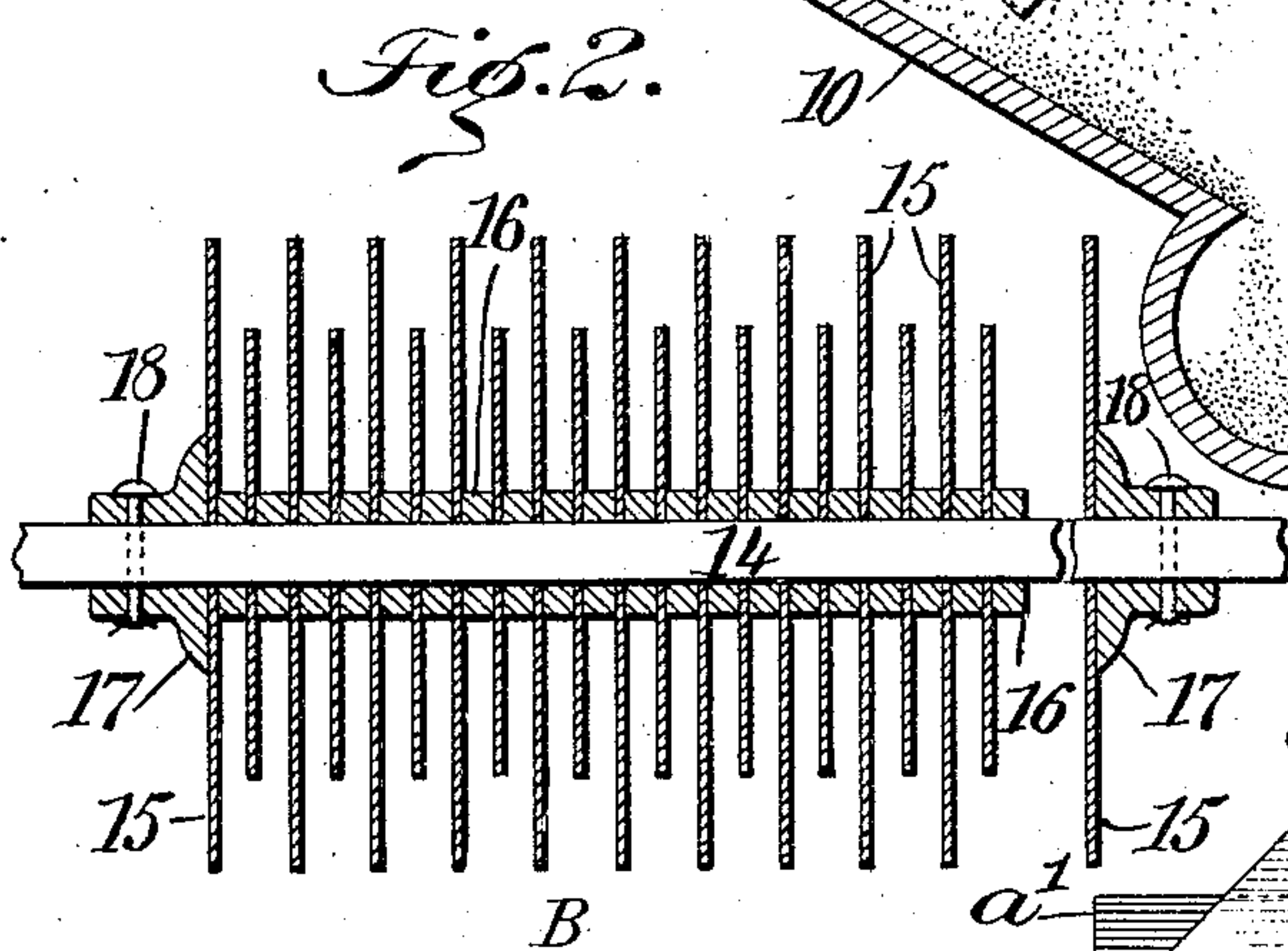
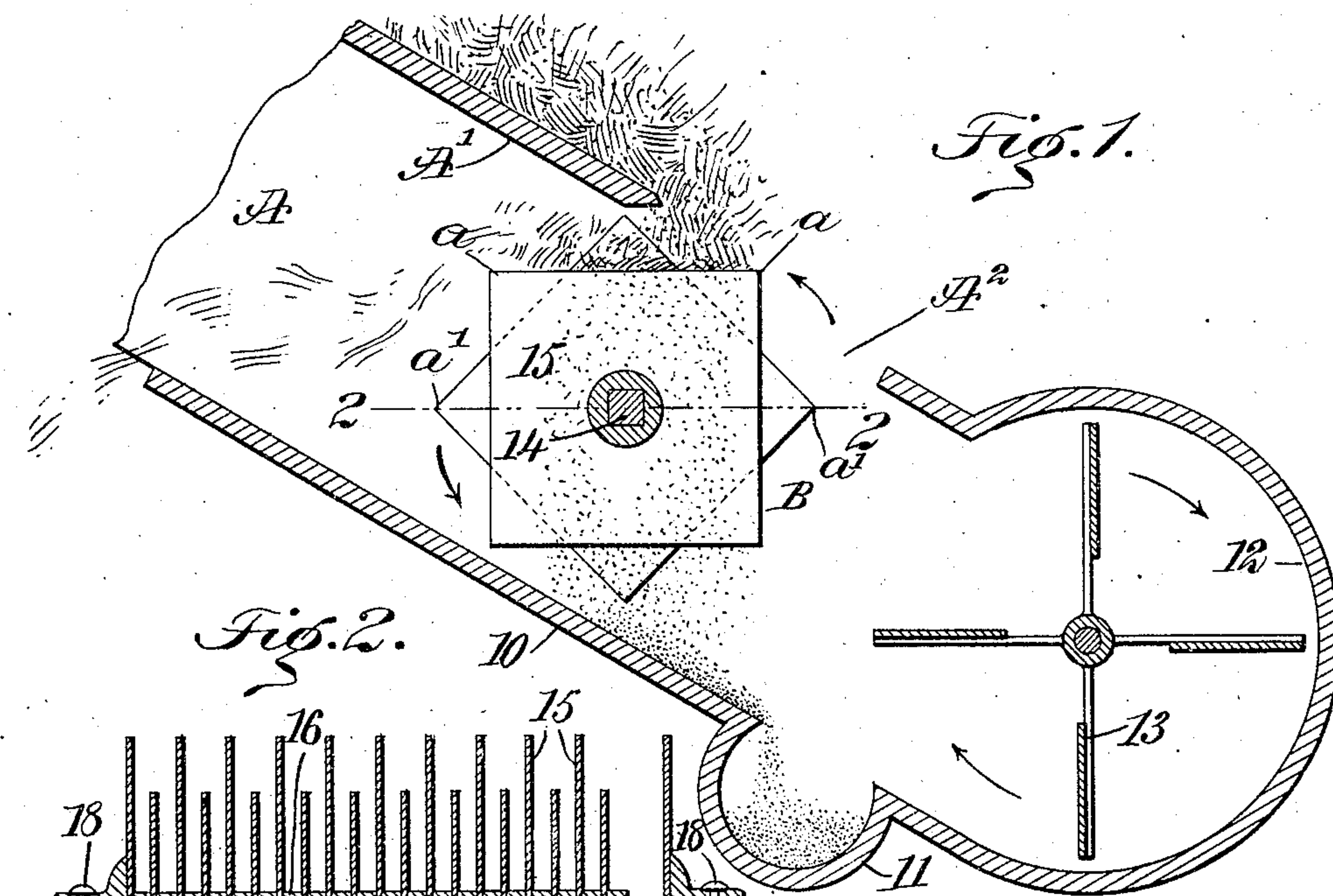


No. 785,508.

PATENTED MAR. 21, 1905.

S. J. MASON.
GRAIN SEPARATING DEVICE.
APPLICATION FILED NOV. 7, 1904.



WITNESSES:

H. C. Abbott

[Signature]

INVENTOR

Samuel J. Mason

BY

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ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL JASPER MASON, OF LINCOLN, NEBRASKA.

GRAIN-SEPARATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 785,508, dated March 21, 1905.

Application filed November 7, 1904. Serial No. 231,766.

To all whom it may concern:

Be it known that I, SAMUEL JASPER MASON, a citizen of the United States, and a resident of Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and Improved Grain-Separating Device, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a very simple form of grain-separating device which can be advantageously used in connection with any threshing-machine or grain-separator and which will act quickly and effectively to separate grain from straw, chaff, cobs, or any other foreign substances and which will permit the cleaned grain to pass to any suitable outlet therefor which may be employed, while all of the foreign matter, which is thoroughly removed from the grain, will be conducted in a contrary direction and find an outlet from the machine by the assistance of a fan.

Another purpose of the invention is to provide a device of the character described which will be of simple and economic construction and readily applied and which will be practically automatic in its action.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section through a portion of the separating-chamber of the threshing-machine and a transverse section through the improved cleaning or separating device. Fig. 2 is a horizontal section through the cleaning or separating device, the section being taken practically on the line 2 2 of Fig. 1. Fig. 3 is a transverse vertical section through two of the devices arranged for cooperative action, and Fig. 4 is a horizontal section taken practically on the line 4 4 of Fig. 3.

A represents a portion of the separating-chamber of a threshing-machine, at the top of which the ordinary chute-board A' is located,

and in the bottom board 10 of the said chamber near its lower end a delivery-chute 11 is located, adapted to carry off the cleaned grain, or a casing is provided to receive this grain.

The said separating-chamber A is given the usual downward inclination, and at its lower end a fan-casing 12 is formed, in which an under-blast fan 13 is mounted to revolve, and between the upper portion of the delivery end of the fan-casing and the lower or delivery end of the chute-board A' a space A² is provided, and below this space a cleaning or separating device B is mounted in the said chamber A, and the said fan 13 delivers the blast to the bottom and adjacent portion of the cleaning devices. This cleaning or separating device B consists of a shaft 14, polygonal between its ends, and the shaft is mounted to revolve in the side walls of the said separating-chamber A and is driven in any approved manner and by any suitable means. Any desired number of metal plates or sheets 15 are mounted on the polygonal portion of the shaft 14. These metal plates 15 may be of any desired shape—as, for example, they may be square, triangular, elliptical, or polygonal and are held to turn with the said shaft 14. In the drawings these metal plates are shown square, and the plates are so mounted on the shaft that predetermined points in the area of one plate will extend beyond the adjoining plate—as, for example, when square plates 15 are employed the corners α of one plate will extend beyond the straight edges of the next or opposing plate, as is clearly shown in Figs. 1 and 3. The plates 15 are held a suitable distance apart by means of spacing-washers 16, which may be slid on the shaft 14, but turn with the shaft, and the space between opposing plates is such as to permit of the ready passage of the cleaned grain between them, while the upper edges of the plates receive and hold the foreign material—such as straw, cobs, and the like—so that such material may be acted upon by the fan and blown out at the delivery end of the separating-chamber A as the top of the cleaning device B rotates in the direction of the blast from the fan, and the cleaned grain dropping between the plates will fall to the bottom of the separating-chamber

and will travel down its inclined bottom and enter the delivery chute or spout 11, the grain in its passage to the delivery-spout being under the influence of the blast of air from the fan. The metal plates 15 are held in firm position on the shaft by means of collars 17, which are likewise fitted to the shaft and engage with the outer faces of the outermost plates, and these collars 17 are secured to the shaft 14 by means of cotter-pins 18 or their equivalents.

I desire it to be understood that the devices may be used in pairs or in series, as is indicated in Figs. 3 and 4, and when so used the plates on one shaft are made to enter the spaces between the plates of the opposing shaft.

This device is exceedingly simple and is very efficient in operation, since the grain and foreign matter upon sliding down the chute-board A' will strike the upper edges of the revolving plates 15 and the foreign matter will be held more or less in suspension on the edges of the plates, while the grain will drop down between the plates; but the chaff and other foreign matter will rest but temporarily on the plates, being blown off therefrom by the action of the current of air from the fan 13. In order to derive the best results, in practice it has been found that the dimensions of the plates should be such as that the angles there-

of will just clear the edges of the parts of the structure forming the space A², as otherwise some of the grain is liable to be blown out through the separating-chamber by the fan-blast.

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

The combination in a threshing-machine, of a grain-separating chamber having its bottom inclined downwardly and provided at its lower end with a chute to catch the cleaned grain, a chute-board located above and parallel with said bottom, a casing and a fan therein also located at the lower end of the bottom, said casing having its mouth directed into the chamber, and terminating short of the adjacent end of the chute-board, forming a space leading to the chamber, the said fan delivering a blast of air through the chamber, and rotatable cleaning devices for the grain, mounted within the chamber before said space, comprising a plurality of plates having edges intersecting each other in angles which just clear the edges of the space,

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL JASPER MASON.

Witnesses:

S. H. KING,

P. J. WOHLBERY.