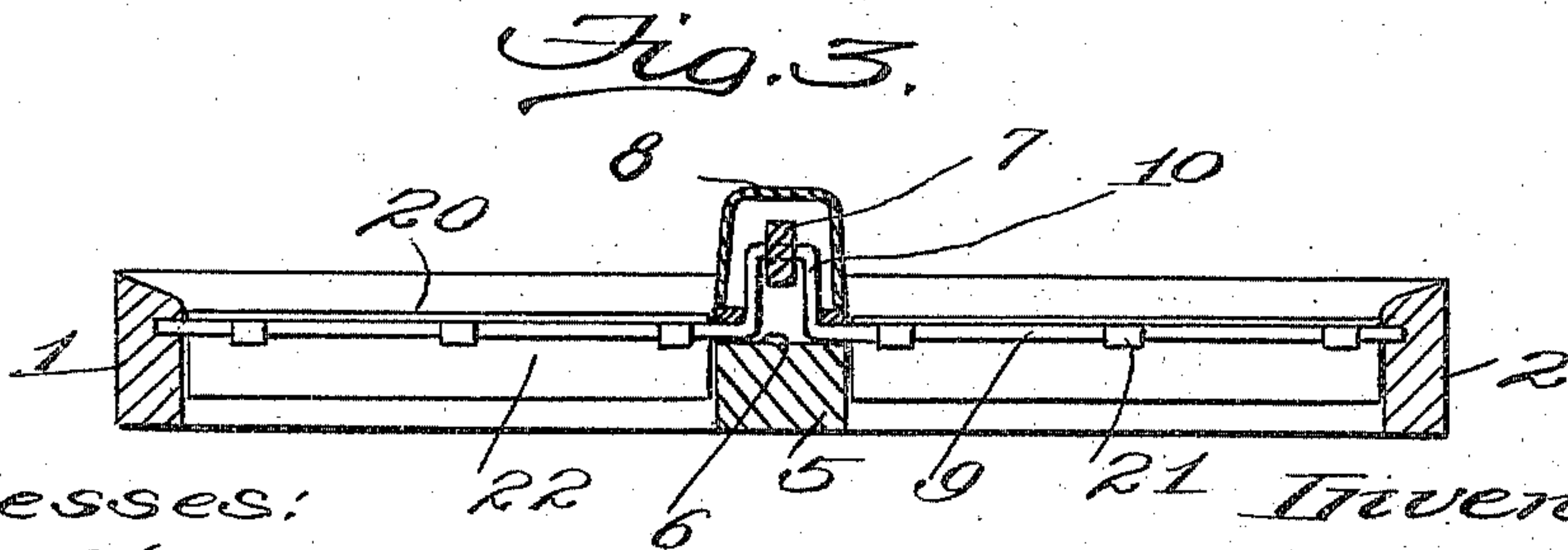
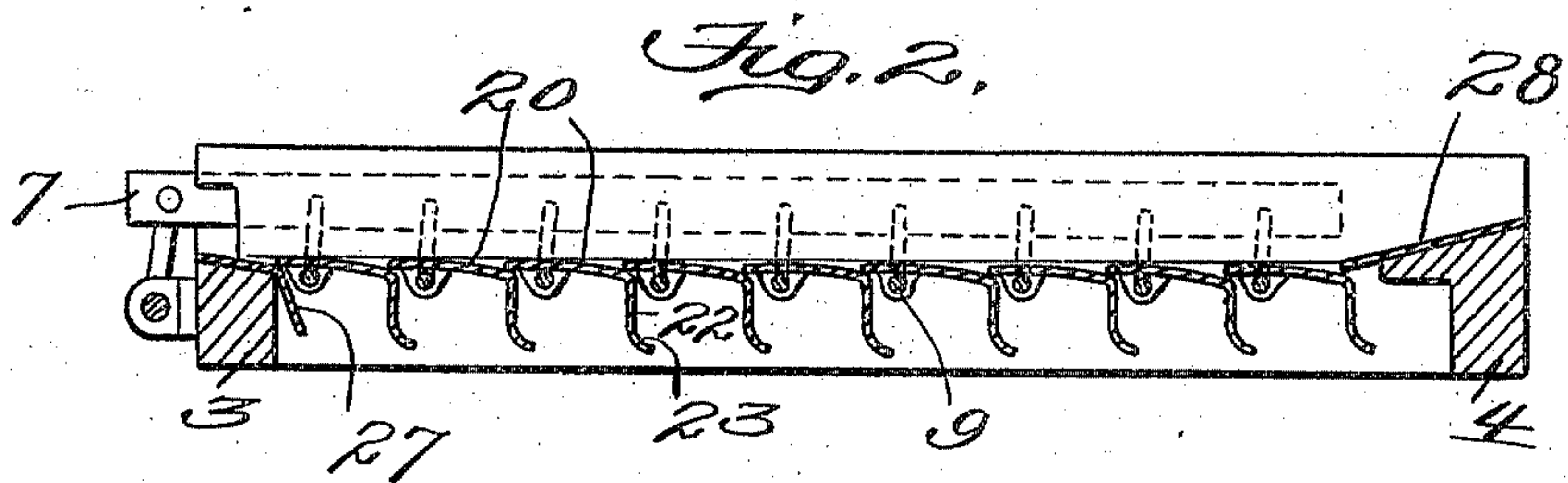
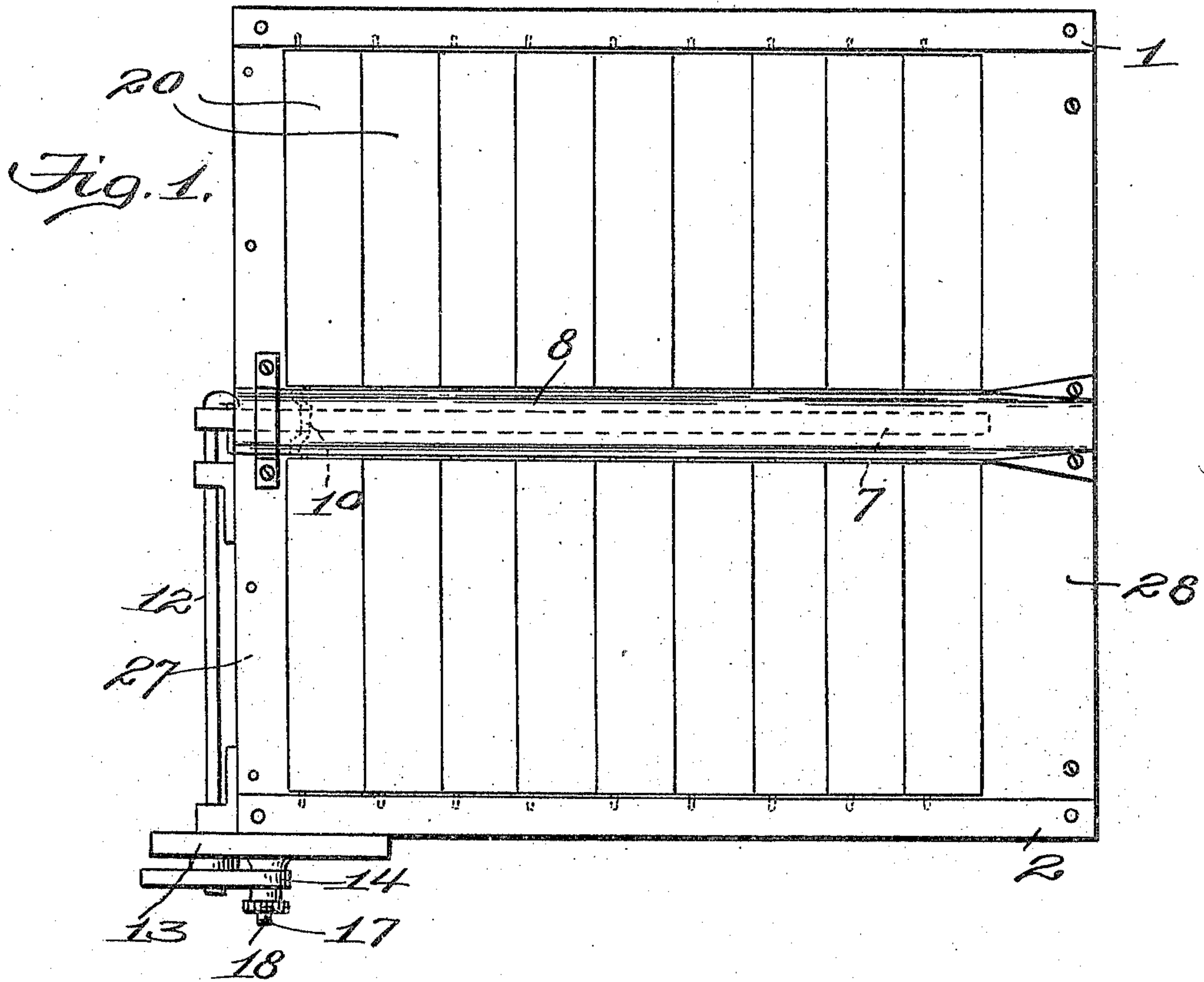


F. W. HASCH.
GRAIN SEPARATING SCREEN.
APPLICATION FILED JUNE 16, 1908.

947,697.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.



Witnesses:

G. S. Hester
J. B. Cooper

Inventor
Frederick W. Hasch

James L. Norris

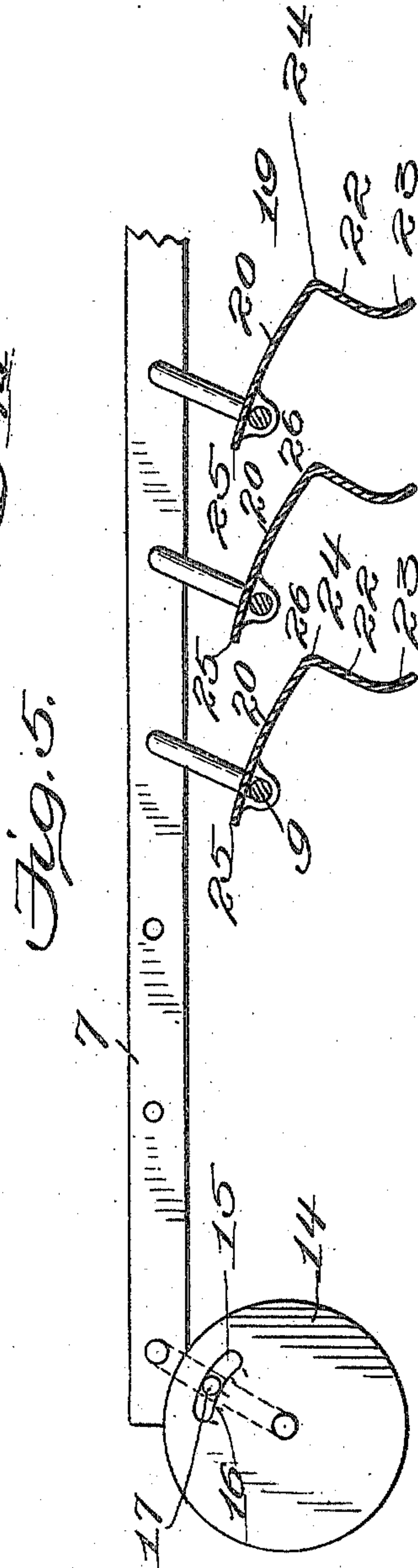
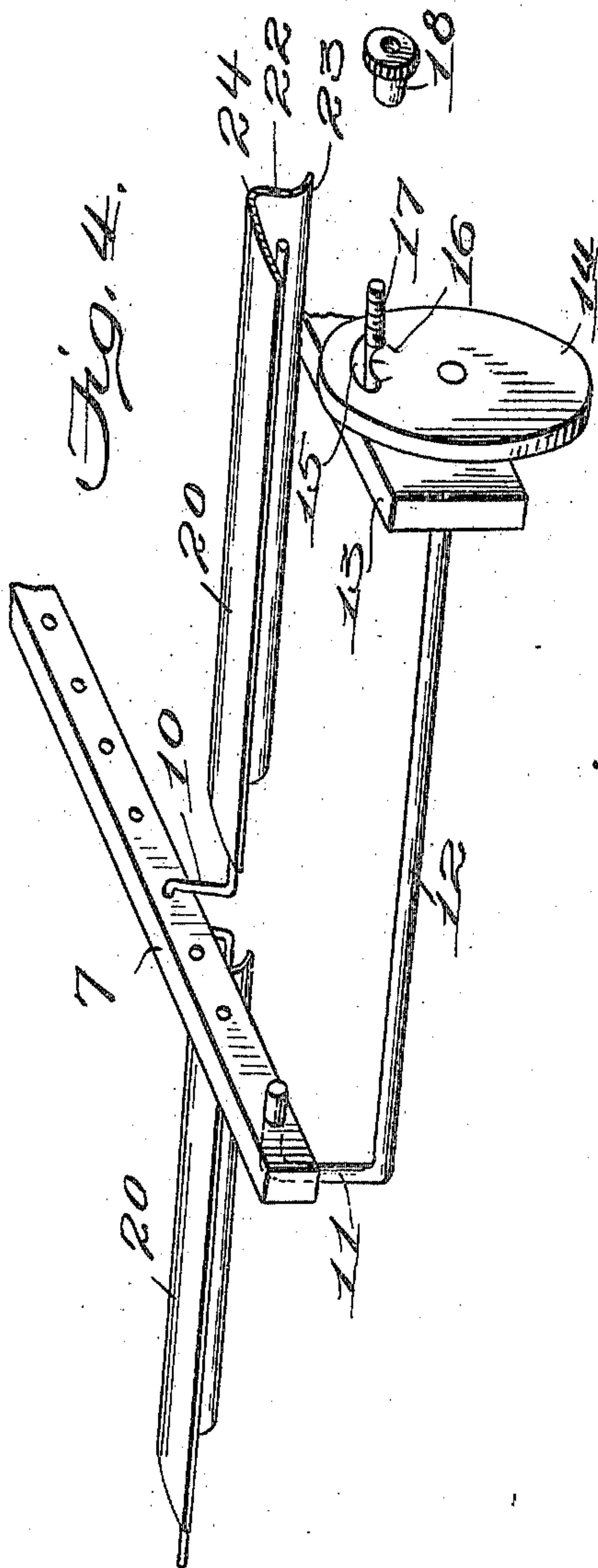
Attest

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2 SHEETS—SHEET 2.



witnesses:
Geo. Hasler
J. B. Keeler

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James L. Norris

UNITED STATES PATENT OFFICE.

FREDERICK W. HASCH, OF CECIL, OHIO, ASSIGNOR OF ONE-HALF TO TIMOTHY D. FOXSON, OF LANSING, MICHIGAN.

GRAIN-SEPARATING SCREEN.

947,697.

Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed June 16, 1908. Serial No. 438,774.

To all whom it may concern:

Be it known that I, FREDERICK W. HASCH, a citizen of the United States, residing at Cecil, in the county of Paulding and State of Ohio, have invented new and useful Improvements in Grain-Separating Screens, of which the following is a specification.

My present invention relates to improvements in grain separating screens for threshing machines, and the object thereof is to provide a simple and improved screen of this class embodying slats which are so mounted and related that they may be readily adjusted so that the threshing machine may operate efficiently with grains of different kinds, the slats being provided with deflectors whereby the currents of air are caused to flow in a substantially vertical direction through the spaces between the screens, thereby enabling the grain to pass quickly through the screen and an economy in the amount of air required is effected, there being practically no waste of grain or seed and, moreover, the screen when once set requires practically no further attention.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings:—Figure 1 is a top plan of a grain separating screen in accordance with this invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail of the screen in perspective, showing the means for adjusting the slats, and Fig. 5 is a detail in longitudinal section, showing the slats adjusted.

A screen in accordance with this invention is particularly designed for use in threshing machines and the chaff is adapted to be separated from the grain by the passage of air currents through openings formed by and between the slats. The screen surface, however, is adapted for separating different kinds of grain or seed by the adjustment of the slats.

Referring to the drawings in detail, the screen frame consists of the longitudinally extending side bars 1, 2, transverse end bars 3, 4, and an intermediate bar 5 which extends longitudinally. Upon the intermediate bar 5 is a longitudinally extending bearing 6 upon which is mounted a shiftable member 7. The bearing 5 and shiftable member 7 are inclosed by a longitudinally extending U-shaped cap 8. The bar 5 divides the screen into two sections and as each section is of similar construction, but one will be described as the reference characters applied to that section which is described are also applied to the other sections. Each of the screen sections comprises a series of transversely extending supporting shafts 9 journaled at one end in the side bars of the screen frame and at their other ends journaled upon the bar 5 and provided with crank arms 9, 10, which are journaled in the shiftable member 7. The latter projects from one end of the bearing 6 and has connected to its projecting end the crank arm 11 of an adjusting shaft 12 which extends through a supporting member 13 fixed to the side bar 1. The said shaft 12 projects from said supporting member 13 and carries a disk 14 provided with a segment-shaped slot 15. The disk 14 is formed with a series of graduations 16 for determining the desired adjustment. Extending through the slot 15 is a screw-threaded pin 17 carrying a binding nut 18 for fixing the disk 14 in its adjusted position. By shifting the disk 14, it is evident that the shaft 12 will also be shifted which in turn will slide the member 7 inwardly or outwardly, as the case may be, whereby the shafts 9 will be rocked and the slats to be hereinafter referred to will be adjusted with respect to each other to increase or decrease the openings formed by and between the slats. Each of the screen sections furthermore comprises a series of beveled slats, each of which is referred to generally by the reference character 19 and each of which consists of a slightly curvilinear body portion 20 having depending from its lower face near one edge clips 21 which are adapted to surround the shaft 9 so as to fixedly connect the slat with its respective shaft. The body portion 20 of each of the slats 19 terminates at one end in a depending extension 22 which constitutes a deflector and has the lower portion thereof

formed in a curvilinear manner as at 23. The edge 24 of the body portion 20 is uninterrupted from end to end and the same is true of the edge 25. Rounding edge 24 and the providing of the extension 22 stiffens one terminus of the body portion, consequently increasing the durability of the body portion, while the securing of the shafts 9 to the body portions in proximity to the edge 25 also stiffens the body portions and increases the durability thereof. When the slats 19 are in normal position the edge 25 is adapted to overlap the edge 24 and the openings for the passage of air currents are formed between the slats 19 by adjusting the members 7 so as to change the position of the slats in a manner as shown in Fig. 5. Such adjustment separates the slats and forms the air passages 26. The width of the openings 26 can be as desired.

Upon the end bar 3 an angular slat 27 is mounted and upon the end bar 4 an inclined plate 28 is provided. The plate 28 overlaps the slat 19 at one end of a series and the slat at the other end of the series overlaps the slat 27. When the slats are adjusted a passage for air is formed between the slat at the end of the series and the plate 28 and also between the slat 27 and the slat at the other end of the series.

The extensions 22 constitute means for deflecting the air currents upwardly through the openings formed between the slats and owing to the arrangement of the adjusting means to increase or decrease the width of the openings, it is evident that such adjustment can be had whether the screen is in operation or not, as the disk 14 is arranged exteriorly of the screen frame. Cap 8 prevents foreign matter interfering with the adjustment of the cranks 10 and the shifting of the member 7.

By providing the screen frame with a single longitudinally extending intermediate member, it is evident that the capacity of the frame would be greater than if two or more divisional members were employed. By connecting the slats at one end in a manner as shown to the shaft 9, it is evident that such arrangement will facilitate the adjusting of the slats with respect to each other and especially when the material is carried by the slats as it will allow of easier adjustment, as will be evident. The forming of each of the slats with the body portion having the elongated edges thereof uninterrupted will prevent the possibility of the passages formed between the slats being choked by the material, for the reason that if the edges were scalloped or serrated, there would be a possibility of the material lodging in the serrations and such action would be liable to cause the choking of the air passages.

What I claim is:—

1. A grain separator comprising a suitable frame, and a set of slats pivoted therein and arranged in coöperative relation, each slat having a supporting surface for the material, one edge of said surface being substantially in alinement with the pivotal axis of the slats, and an angularly arranged air deflector having a flat portion depending from the opposite longitudinal edge of said surface and having its lower edge curved transversely in a direction toward the next slat for directing the air through spaces between the slats.

2. A grain separating screen comprising a suitable frame and a set of slats pivotally mounted in coöperative relation therein, each slat having a supporting surface for the material, the supporting surface of one slat being overlapped by the supporting surface of an adjacent slat and a depending air deflector which has a flat portion extending downwardly substantially at right angles to said surface, said flat portion of the deflector having its lower edge curved transversely in a direction toward the next adjacent slat.

3. A grain separating screen comprising a suitable frame, and a set of slats mounted pivotally and in overlapping relation therein, each slat having a supporting surface for the material to be separated, one edge of which surface is straight and parallel to the axis of movement of the slat and a depending air deflector having a flat portion which extends downwardly from the opposite longitudinal edge of said surface and substantially at right angles to the plane thereof, its lower edge being directed toward the adjacent slat, the angular corner formed between said surface and deflector being straight and continuous and adapted to be overlapped by a straight and continuous surface on the next adjacent slat.

4. A grain separating screen comprising a suitable frame, a set of slats mounted in coöperative relation therein, each slat having a supporting surface for the material to be separated, one edge of which surface is straight, each slat also having an air deflector comprising a flat portion which depends angularly with respect to the supporting surface, the lower edge of said flat portion being curved toward the adjacent slat for directing air through the screen, a shaft secured to that edge of each slat opposite to the edge carrying the deflector, each shaft being pivotally mounted in the frame and provided with a crank, and a reciprocable member coöperative with the crank of each shaft whereby the slats may be simultaneously adjusted to vary the area for the passage of air between the coöperating edges of the slats.

5. A grain separating screen comprising a suitable frame, a set of slats pivotally mounted therein, a reciprocable member operatively connected to the slats for simultaneously adjusting them, a rock shaft operatively connected to said member, a member provided with a curved slot fixed to said shaft and operable from the exterior of the screen, and a bolt extending through said

slot and coöperative with said part for locking the latter in different adjusted positions. 10

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK W. HASCH.

Witnesses:

C. A. DICKISON,
M. A. SAUMEIN.