

No. 891,239.

PATENTED JUNE 23, 1908.

H. J. FOLTS.
SCREEN FOR GRAIN SEPARATORS.
APPLICATION FILED MAR. 19, 1906.

Fig. 1.

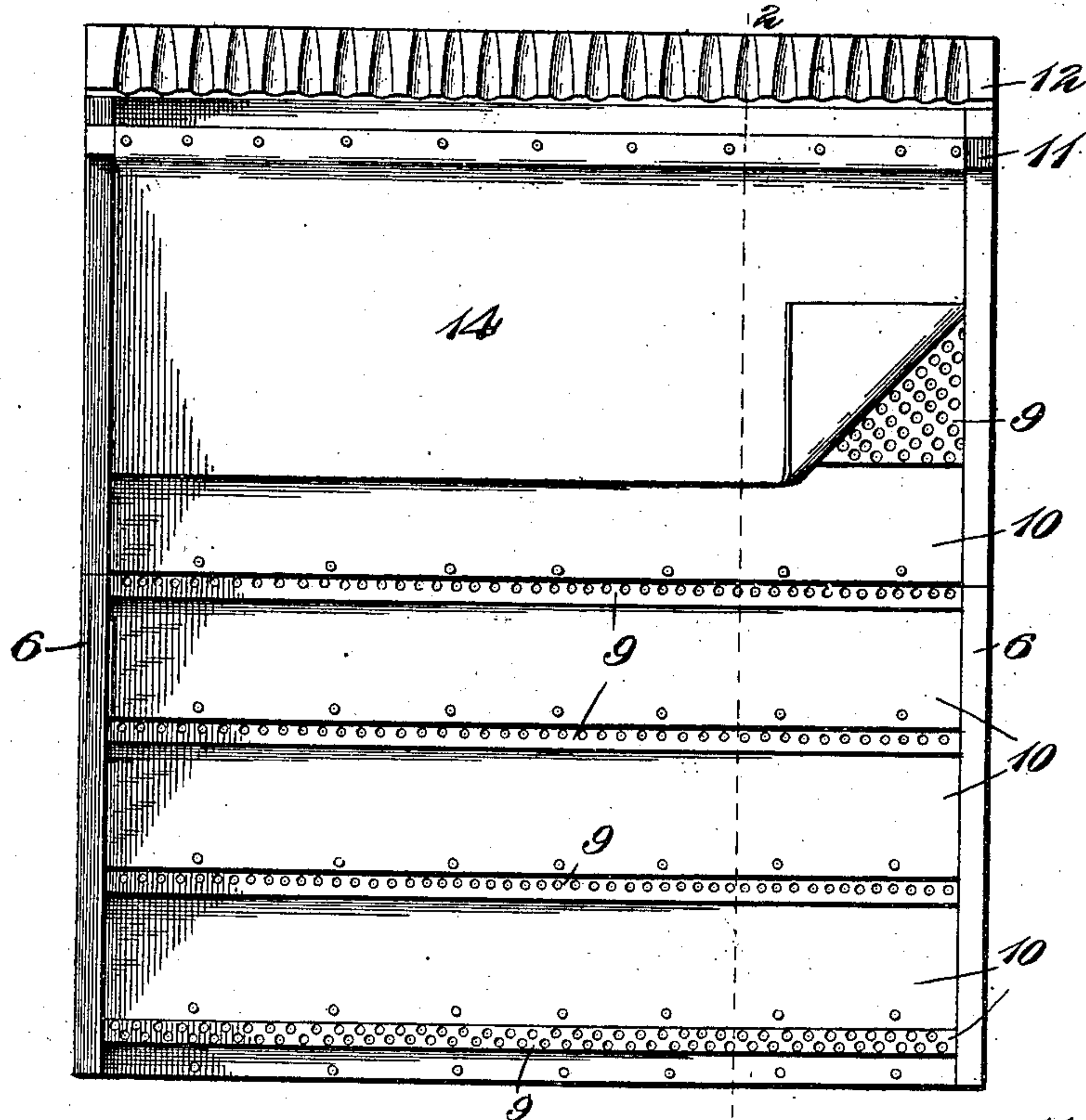


Fig. 2.

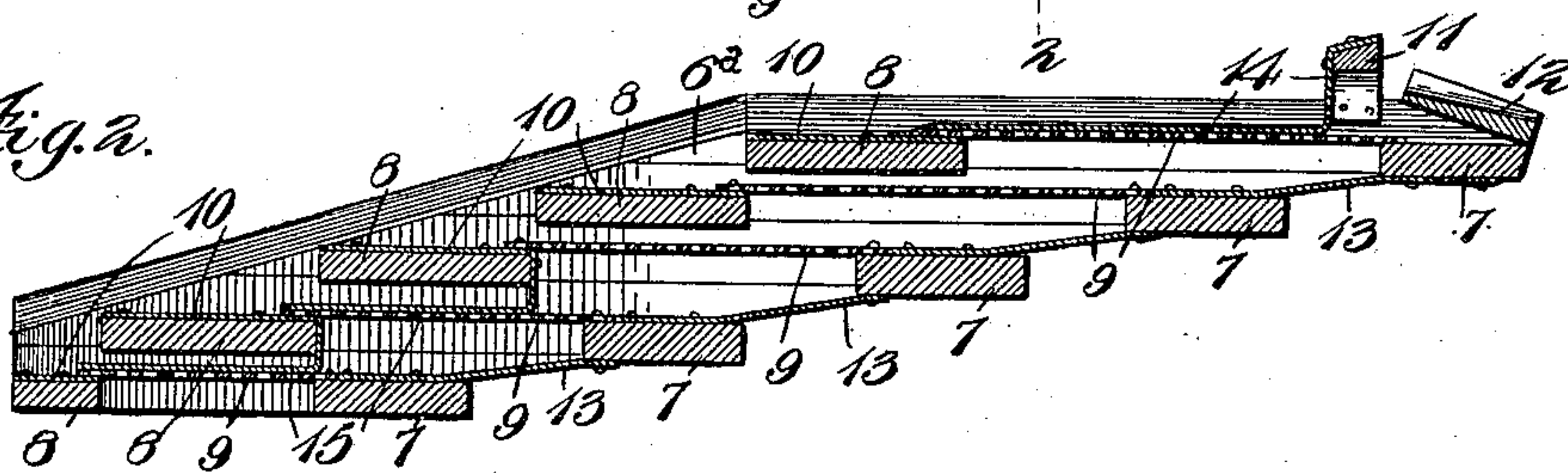
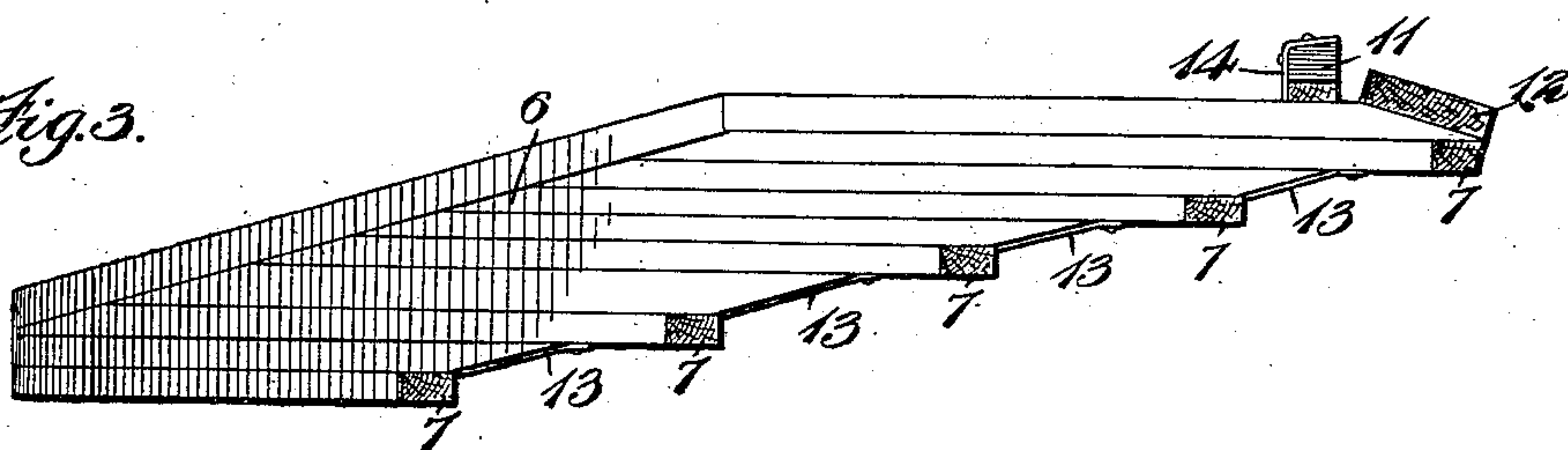


Fig. 3.



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HARRY J. FOLTS, OF ST. CLOUD, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MAPLE-BAY MANUFACTURING COMPANY, OF CROOKSTON, MINNESOTA, A CORPORATION.

SCREEN FOR GRAIN-SEPARATORS.

No. 891,239.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed March 19, 1906. Serial No. 306,834.

To all whom it may concern:

Be it known that I, HARRY J. FOLTS, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented new and useful Improvements in Screens for Grain-Separators, of which the following is a specification.

This invention is a screen structure designed for use in grain separators of the shaking screen type in which the screens are carried by a reciprocating shoe for the purpose of effecting the separation of the grain.

The object of this invention is to provide improved means for supporting a series or plurality of screens in proper position with respect to each other, and for carrying the grain from one screen to another.

A further object of the invention is to connect a set of screens rigidly together to form a single structure, capable of being cheaply constructed as compared to the cost of separate screens, and also capable of being quickly and easily placed in or removed from the shoe.

A further object of the invention is to provide a screen having an improved separating action, particularly for the separation of wheat and oats, for which grains the device is particularly intended and adapted.

In the accompanying drawings, Figure 1 is a top plan view of the invention. Fig. 2 is a section thereof on the line 2—2 of Fig. 1. Fig. 3 is a side elevation of the structure.

The screen or separator as a whole is composed of a plurality of individual screens connected and supported as a unitary structure and as such capable of being set in or removed from the shoe as desired. The structure is built up of frames securely attached together at the sides and head, each frame consisting of side pieces 6 of wood and head and tail cross pieces 7 and 8, respectively, with spacing pieces 6^a between the side bars 6. Each frame carries a screen of perforated metal indicated at 9 which is secured at the head to the cross piece 7 and at the tail has an unperforated piece of metal 10 covering the cross piece 8. Instead of the unperforated piece of metal, the screen may have an unperforated portion or extension at the tail thereof to cover the tail piece 8. The series of frames and the screens carried thereby are stepped down below each other as clearly shown in the sectional view. The

frame of the top screen has an upper cross piece 11 and a head piece 12 between which the grain is fed from a hopper onto the upper screen. Five screens in all have been shown, as it has been found by actual experience that this number is sufficient to effect the complete separation desired.

The head pieces 7 of the screen frames are also connected together by the sheet iron plates 13 which are tacked at their lower and upper edges to the respective head pieces and are secured at their side edges or ends in the side frames 6. These sheet iron plates serve to carry the grain from one screen to the next and they also serve to bind the parts together and form a strong and rigid structure. The sheet metal plates 13 cover the head bars 7 and extend to or join with the upper edges of the perforated plates 9, and in connection with the plates 10, which cover the tail bars, form a continuous metallic flow surface from one end to the other of the structure, which serves to cause a rapid flow and prevents clogging and also prevents wear of the wooden bars. Oil cloth aprons are used to assist in the separation. One shown at 14 is tacked to the cross piece 11 and lies upon the upper screen. For the second and third screens these aprons may be omitted, but they are preferably applied to the fourth and fifth screens, as indicated at 15, by tacking the same to the inner edge of the tail pieces 8 of the screen above, so that the cloth will cover the screen below. The purpose of the cloth is to hold oats flatwise, so that they cannot drop through the perforations, and also to insure a smooth and even feed over the metal.

In use, the screen is set and fastened in the shoe in any suitable manner. Inasmuch as this screen is a rigid unitary structure it may be held in the shoe by simply clamping the same between the sides thereof by a tie bolt connecting said sides and provided with a thumb screw to draw the same against the sides of the screen. When the grain is fed to the screen the wheat will drop through the perforations and the oats will tail off the ends, the sheet iron flow plates 13 serving to conduct the stock from one screen to the next until perfect separation is effected.

I claim:

A screen structure for grain separators, comprising a succession of spaced screens, consisting of screen frames having head and

tail bars, and side frames, perforated metal
plates upon the frames, imperforate metal
flow plates leading from one screen to the
next, the upper and lower edges of the plates
5 being fastened to the head bars of the suc-
cessive screen frames and the side edges of
the plates being secured in the side frames,
and the lower ends of the plates covering the
head bars and extending to junction with the
10 perforated plates, and imperforate plates

10 covering the tail bars, whereby a continu-
ous metal flow surface is provided.

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

HARRY J. FOLTS.

Witnesses:

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GEO. E. TEW.