(Model.)

J. H. & D. H. HOUSTON.

HURDLE FOR FANNING MILLS.

No. 248,178. Patented Oct. 11, 1881.

Fig. 1.

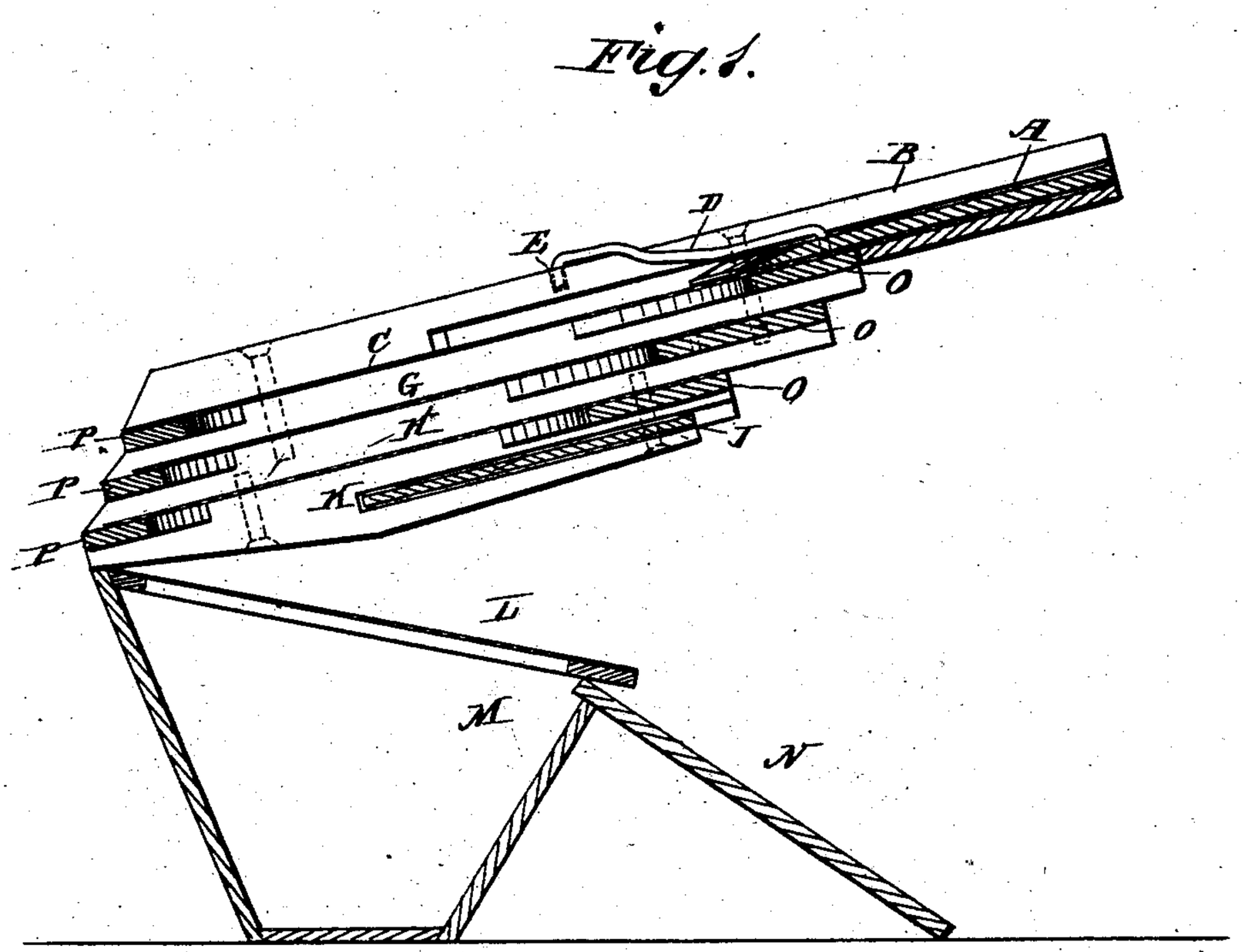
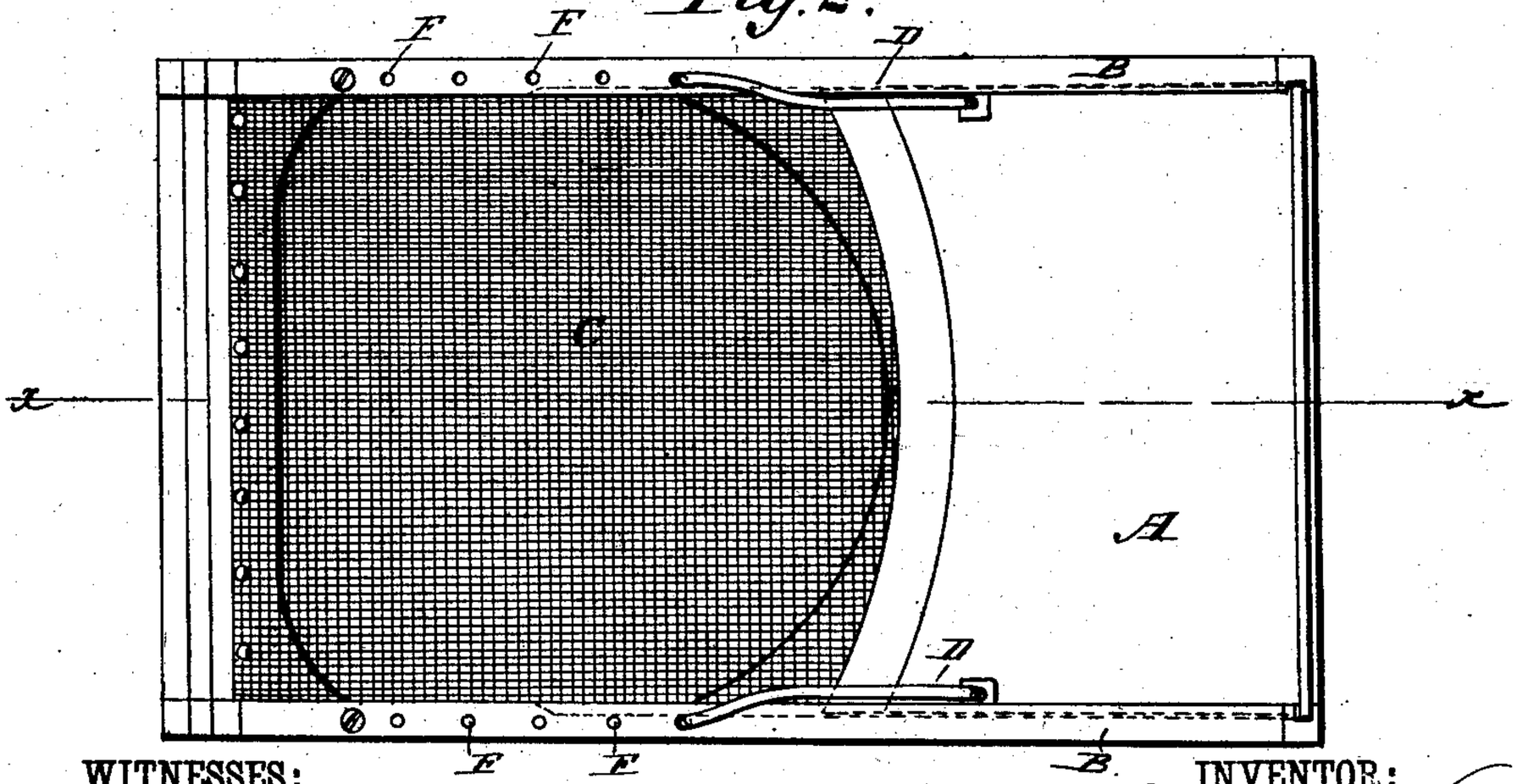


Fig. 2.



WITNESSES:

Francis McArdle

C. Sedgwick

INVENTOR:

J. H. Houston

D. H. Houston

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN H. HOUSTON AND DAVID H. HOUSTON, OF CAMBRIA, WISCONSIN.

HURDLE FOR FANNING-MILLS.

SPECIFICATION forming part of Letters Patent No. 248,178, dated October 11, 1881.

Application filed May 17, 1881. (Model.)

To all whom it may concern:

Be it known that we, JOHN H. HOUSTON and DAVID H. HOUSTON, of Cambria, in the county of Columbia and State of Wisconsin, have invented a new and Improved Hurdle for Fanning-Mills, of which the following is a specification.

The object of our invention is to insure a more thorough separation of the grain and the chaff in a fanning-mill.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of our improved hurdle for fanning-mills and of the screenings-box. Fig. 2 is a plan view of the same.

Similar letters of reference indicate corresponding parts.

A slide, A, with an inner concave edge, slides in side grooves in the cleats B of the upper sieve, C, of a hurdle, and is provided with two pivoted rods or arms, D, with rectangularly bent or hooked ends E fitting in apertures F of the cleats B, for the purpose of holding the slide A in any desired position.

The hurdle is provided with a series of sieves, G H, &c., in the ordinary manner. A plate or slide, J, slides in grooves in the side plates, K′, of the lower sieve, H, below this sieve, as shown in Fig. 2.

From the sieve H the grain drops upon the inclined sieve L of the screenings-box M, and slides down this sieve and down the inclined platform N. The end-supporting boards O and P of the several sieves are all provided with concave edges.

The fault of the hurdle with straight edges in use heretofore has been that the grain passes down the sieve on a curved line or front—that is to say, the grain moves more rapidly in the middle than at the sides, and the corners of the sieve are not properly filled, thus permitting the light grain and chaff to drop through the hurdle among the clean grain. In our improved hurdle the grain passes down the sieve on a straight line—that is to say, all the grain moves with the same rapidity, and the sieve is completely covered. This is caused by the concave inner edges of the screen-frames and of the slide A, because where a straight-edged slide or feed board is used the grain passing over such an edge will necessarily be thrown farther forward at the center than at the sides, owing to the fact that the volume of grain fed is greater at the center than at the sides; but by making the said edge of the slide concave instead of straight the grain that passes over at the sides will be thrown forward on a line with the central portion of the volume, by reason of the fact that the central portion is allowed to fall through with less resistance. In other words, by diminishing the resistance to the volume at the center its progress down the sieve will be correspondingly checked while by increasing the resistance at the sides the grain will move more rapidly at the sides, and thus the entire surface of the sieve will be covered. It is often necessary that the area of the upper sieve be decreased in case the quantity of grain cannot completely cover the sieve. This can easily be accomplished by means of the slide A. In the hurdles in use heretofore the grain dropped from the upper edge of the sieve H upon the lower part of the sieve L of the screenings-box, whereas the slide J of our improved hurdle conducts the grain to the upper part of the screen or sieve L of the screenings-box, causing it to pass over the entire width of the sieve, whereby it is more thoroughly cleaned than if it drops upon the lower part of the sieve and passes over a small part of the screen only.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a hurdle for fanning-mills, the inclined sieve-frames constructed substantially as herein shown and described, with concave edges adjoining the sieve, in combination with a slide feed-board having a concave edge, as and for the purpose set forth.

2. In a hurdle for fanning-mills, the combination, with the sieves, of a slide with concave or straight edge above the uppermost sieve, substantially as herein shown and described, and for the purpose set forth.

3. In a hurdle, the combination, with the upper sieve, C, and its cleats B, provided with apertures F, of the concave-edged slide A and the rods or arms D, pivoted to the slide A, substantially as herein shown and described, and for the purpose set forth.

JOHN H. HOUSTON.
DAVID H. HOUSTON.

Witnesses:
H. W. THOMAS,
E. W. LLOYD.