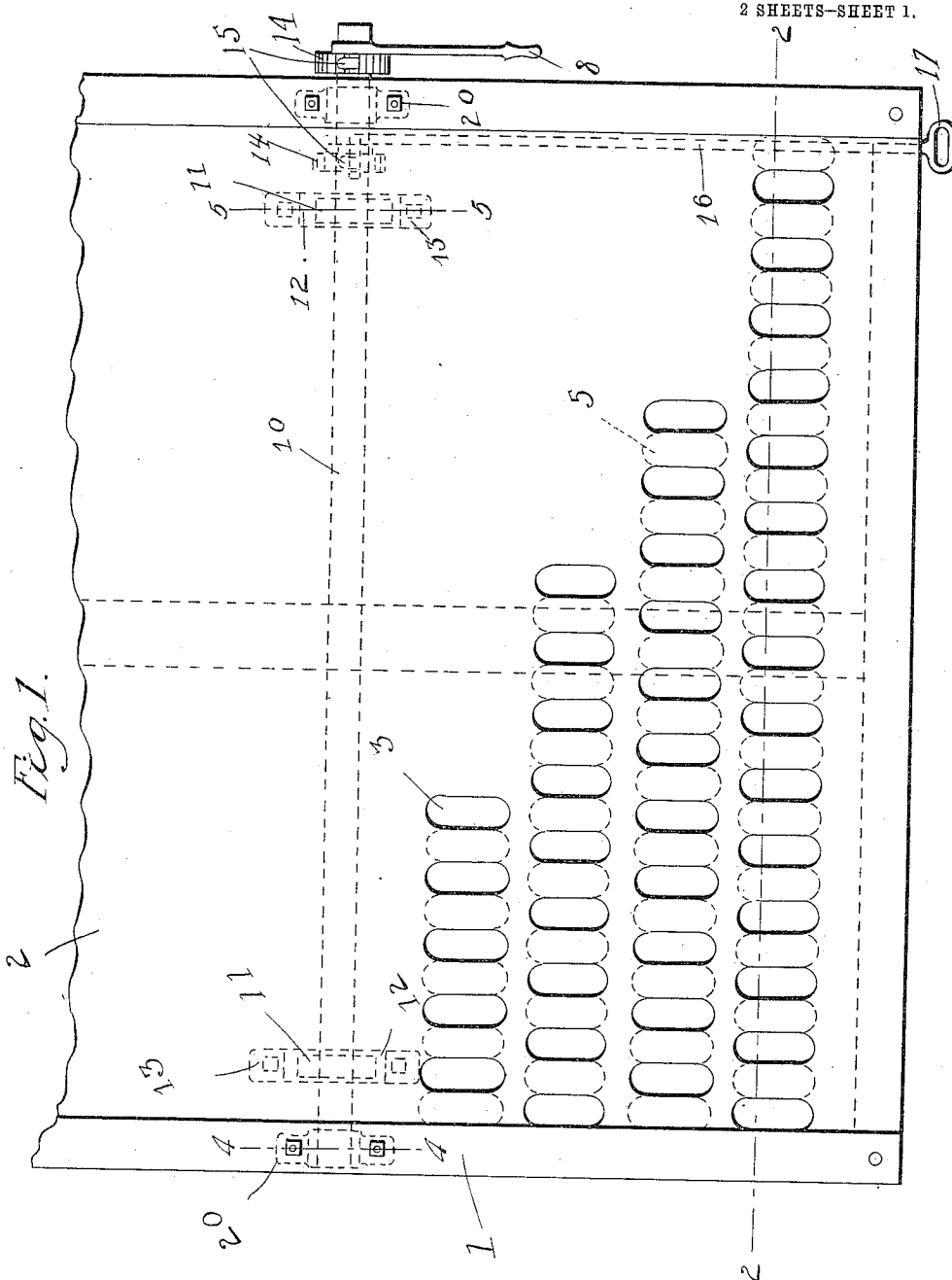


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F. MAYN.
SCREEN OR SIEVE.
APPLICATION FILED JULY 11, 1912.

Patented Aug. 12, 1913.

2 SHEETS-SHEET 1.



Witnesses

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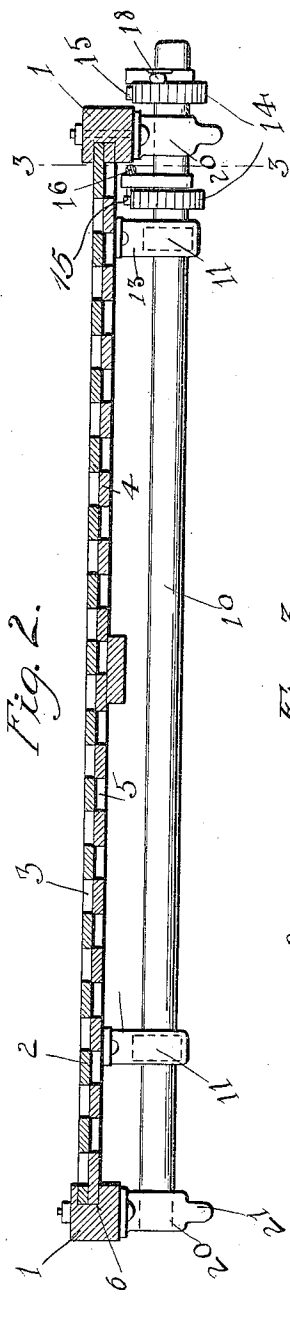


Fig. 2.

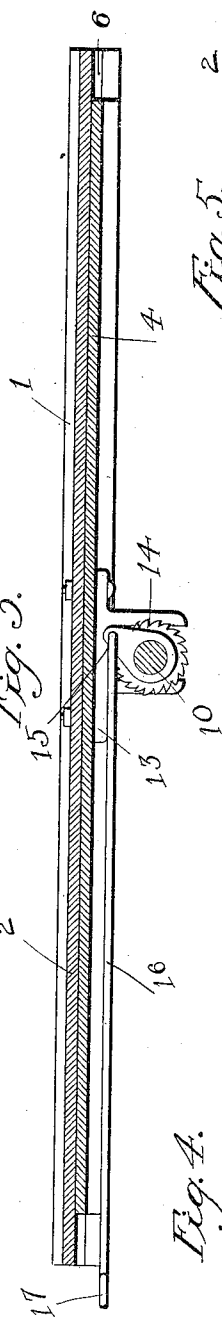


Fig. 3.

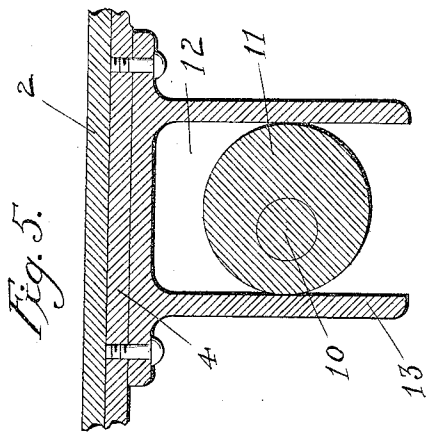


Fig. 5.

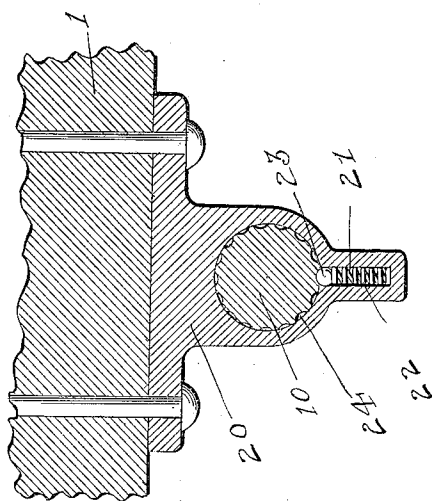


Fig. 4.

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UNITED STATES PATENT OFFICE.

FREDERICK MAYN, OF GRIFFITH, COLORADO, ASSIGNOR OF ONE-HALF TO JOHN R. BALL, OF DURANGO, COLORADO.

SCREEN OR SIEVE.

1,069,799.

Specification of Letters Patent.

Patented Aug. 12, 1913.

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To all whom it may concern:

Be it known that I, FREDERICK MAYN, a citizen of the United States, residing at Griffith, in the county of La Plata and State of Colorado, have invented certain new and useful Improvements in Screens or Sieves; and I do 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 sifters and screens, and more especially to those in which the size of the openings is adjustable; and the object of the same is to improve the means for adjusting the size of the openings and for holding them adjusted although the screen may be agitated. These and other objects are accomplished by constructing the device in the manner hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a plan view of this device complete; Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged sectional detail on the line 4—4 of Fig. 1, and Fig. 5 is a similar detail on the line 5—5 thereof.

I may say at starting that this screen or sieve is to be used for all kinds of grain and commodities, and in a heavier device perhaps for minerals and the like. It may be agitated by hand or otherwise; and the sizes, shapes and exact proportions of its parts are not essential.

I have not herein illustrated the agitating mechanism nor the supporting mechanism, as these and other details form no part of the present invention.

Secured rigidly within a frame 1 of proper dimensions is a fixed screen 2 which is by preference stamped from sheet metal with oval or oblong openings 3 through it at suitable intervals, preferably disposed regularly in transverse and longitudinal rows across the sheet. Movable mounted in said frame below the screen 2 is a second screen 4 also by preference made of sheet metal having openings 5 of similar size and disposition with those numbered 3 in the screen 2. One manner of mounting this movable screen is to have its edges engaging grooves 6 in the frame 1 so that the movable screen may be adjusted laterally beneath the fixed screen to throw its openings

more or less into or out of register with those therein and therefore to adjust the size of the entire openings through the screen. In other words, when the movable screen is moved in one direction, the bridges between its openings come under the openings 3 in the fixed screen, and the entire device has practically no openings whatever through it; whereas, when the movable screen 4 is moved in the other direction sufficiently, its openings 5 exactly register with those numbered 3 in the fixed screen 2, and the openings through the entire device are of full size; and the movable screen may be adjusted to any position between these extremes to regulate the size of the openings through the entire device.

The means for shifting the movable or adjustable screen 4 consists preferably of a shaft 10 having eccentrics 11 mounted thereon and rotating within slots 12 in blocks 13 secured beneath the movable screen 4, and means for turning said shaft. The means for rotating the shaft which I preferably employ consist of ratchet wheels 14 engaged by pawls 15 as shown duplicated in the drawings, one of said pawls being operated by means of a rod 16 extending to the front end of the frame and having a hand loop 17, the other pawl being actuated by a lever 18 alongside the frame, so that an operator standing at either the front or the side of the screen may instantly adjust the size of the openings therein. The means which I preferably employ for holding the openings adjusted to any certain size are as follows: Each bearing 20 for the shaft 10 by preference has a radial recess 21 in which is mounted a spring 22 bearing a ball 23 normally toward the axis of the bearing, and the shaft at this point is provided with a number of cavities 24 adapted to successively come over said ball. The result is that, when the shaft is turned one of the cavities moves off the ball (the latter being depressed as its spring 22 will permit), and another cavity 24 comes over the ball; so that the shaft may be said to be locked intermittently. I would make the shaft of such size and dispose the cavities so near together that this frictional lock engages them when the openings 3 and 5 in the two screens are adjusted by small fractions of an inch. For instance, assuming that the cavities were so near together that the ad-

justment of the ball from one to the other moved the screen 4 one one-hundredth of an inch beneath the screen 2—then if the operator turns the shaft so that the ball passes over ten cavities, he will know that he has adjusted the size of the openings of the entire device by one-tenth of an inch or ten one-hundredths. The necessity for care in this detail of construction will be governed by the uses to which the screen is to be put.

What is claimed as new is:—

1. In a screen, the combination with a frame, an upper screen therein having a series of openings through its body, and a lower screen movably mounted in said frame and also having through its body a series of openings adapted to register with those in the upper screen; of bearings depending from said frame and each having a recess, a spring in the recess, a ball mounted on the spring and pressed normally toward the axis of the bearing, a shaft journaled in said bearings and having within each a series of cavities adapted to come successively over the ball, connections between said shaft and the movable screen, and means for turning the shaft intermittently.

2. In a screen, the combination with a frame, an upper screen fixed therein and having a series of openings through its body, and a lower screen movably mounted in said frame and also having through its body a series of openings adapted to register with those in the upper screen; of bearings depending from said frame and each having a recess, a spring in the recess, a ball mounted on the spring and pressed normally toward the axis of the bearing, a shaft journaled in said bearings and having within each a series of cavities adapted to come successively over the ball, eccentrics mounted on said shaft, slotted blocks carried by the movable screen and engaging said eccentrics, pawl-and-ratchet mechanism for turning the shaft intermittently, and a hand lever for actuating said mechanism.

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

FRED. MAYN.

Witnesses:

ALBERT TIGARD,
C. O. LARRABEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."