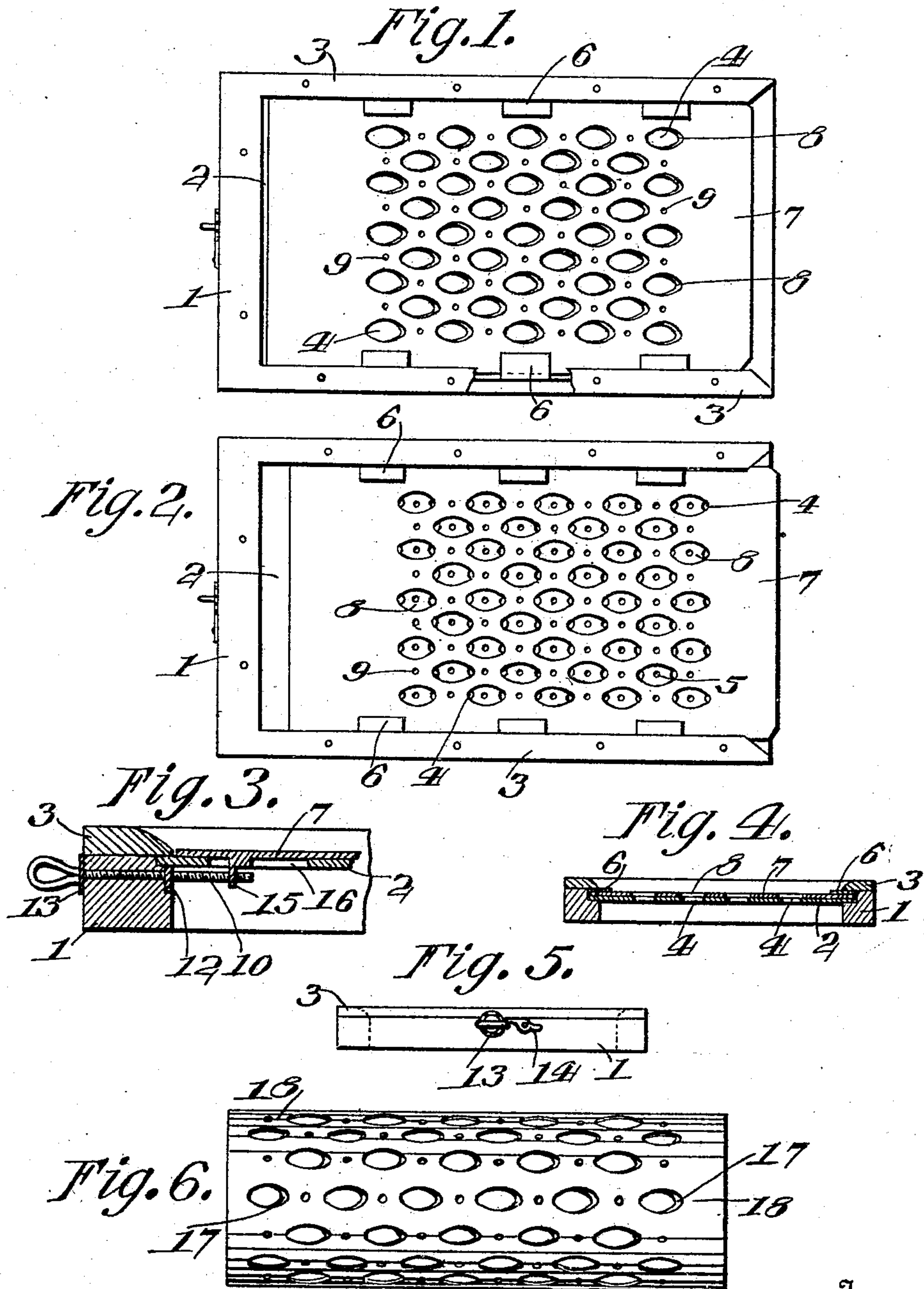


H. H. SKAGEN.
ADJUSTABLE SIFTER OR SCREEN.
APPLICATION FILED JUNE 22, 1908.

908,618.

Patented Jan. 5, 1909.



Witnesses
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UNITED STATES PATENT OFFICE

HERMAN H. SKAGEN, OF THIEF RIVER FALLS, MINNESOTA.

ADJUSTABLE SIFTER OR SCREEN.

No. 908,618.

Specification of Letters Patent.

Patented Jan. 5, 1909.

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To all whom it may concern:

Be it known that I, HERMAN H. SKAGEN, a citizen of the United States, residing at Thief River Falls, in the county of Red Lake and State of Minnesota, have invented certain new and useful Improvements in Adjustable Sifters or Screens; 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 improvements in sifters or screens.

The object of the invention is to provide a sifter or screen formed in adjustable sections having apertures formed therein of such shape that by adjusting the plates the size of each aperture is not only increased, or diminished, but the apertures may be increased to twice their original number.

A further object is to provide an improved construction and arrangement of adjusting mechanism by means of which the sections of the sifter may be adjusted while the same is in motion.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a plan view of the sifter showing the sections thereof adjusted to form large apertures, parts of the sifter frame being broken away; Fig. 2 is a similar view showing the sections adjusted to form an increased number of openings which are reduced in size; Fig. 3 is an enlarged longitudinal sectional view through one end of the sifter showing the manner in which the parts are adjusted; Fig. 4 is a transverse sectional view through the sections of the screen and their supporting frame; Fig. 5 is an end view of the sifter; and Fig. 6 is a view of the sifter arranged in cylindrical form.

Referring more particularly to the first five figures of the drawing, 1 denotes the sifter frame which may be of any desired shape, the same being herein shown as of oblong form.

Secured to the upper side of the frame is a lower screen or sifter plate, 2, the edges of which may be fastened to the sides and ends of the frame in any suitable manner, the

same being here shown as secured by means of binding strips, 3. The plate, 2, is provided with a series of elongated elliptically-shaped apertures, 4, which are preferably arranged in parallel rows with the longer diameter of the aperture extending in line with the length of the sifter. The apertures of each alternate row is arranged opposite the space between the apertures of the next adjacent row, and between the apertures in each of said rows is formed a perforation, 5, said perforations being provided for use in screening fine seed. The edges of the lower screen plate 2 are cut in at intervals, and the material between said cut portion is bent inwardly to form guide lugs, 6, between which and the upper side of the lower plate is slidably mounted an upper screen plate, 7. The upper screen plate is provided with parallel rows of elongated or elliptically-shaped apertures, 8, which are arranged in the same manner as described in connection with the apertures, 4, of the lower plate. Between each of the apertures, 8, in the upper plate is formed a small perforation, 9, said perforations being adapted for use in connection with the perforations 5 for screening fine material. The lugs, 6, serve to hold the upper screen plate in closed engagement with the lower screen plate, and, at the same time, permit said upper plate to be readily adjusted to move the apertures, 4, 8, into and out of register, thereby varying the size of the passages through the screen. By adjusting the upper screen plate to the position shown in Fig. 2 of the drawing, it will be observed that the apertures, 8, of the upper plate are in a position over the spaces between the apertures of the lower plate, and with the opposite ends of the apertures, 8, thus overlapping the ends of the apertures, 4, in the lower plate, thus providing a reduced passage at each end of the apertures, 8, and thereby doubling the number of passages. This is caused by reason of the fact that the space between the ends of the elliptical perforation in any given row is less than the length of the perforations. When the upper plate is adjusted to bring the apertures, 8, into the position just described, each of the perforations 5 and 9 in the lower and upper plates will be opposite one of the apertures of the adjacent plate, thereby further increasing the number of reduced passages through the sifter. The sifter or

screen when thus arranged is adapted for use in connection with fine seed, such as clover, millet, and similar seed.

In order to adjust the upper screen plate 5 7, I provide a suitable adjusting mechanism which is here shown and preferably consists of an adjusting rod, 10, which is revolvably mounted in a bearing plate, 12, secured to the inner side of one of the end pieces of the 10 frame, and is provided on its outer end adjacent to the outer side of the end of the same with a notched head, 13, adapted to be engaged by a locking pawl, 14, secured to the end of the frame, as shown. This end of 15 the rod, 10, is provided with a suitable handle, whereby the same may be readily turned. The inner end of the rod, 10, is threaded and is operatively engaged with a threaded lug, 15, secured to the lower side 20 of the upper screen plate 7, and projects through an opening, 16, formed in the lower plate, whereby when the rod, 10, is turned in one direction or the other, the upper plate will be drawn back and forth over the lower 25 plate and will thereby move the apertures therein into and out of register with the apertures in the lower plate, thus varying the size of the passages as hereinbefore described.

30 In Fig. 6 of the drawing, is shown a modified arrangement of the screen sections, the latter being shown in this view as of cylindrical form and arranged one within the other. The inner and outer sections, 17 and 35 18, of the form of screen shown in Fig. 6 are each provided with rows of apertures and perforations which are similar in construction and arrangement to the apertures described in connection with the screen plates 40 shown in the first two figures of the drawing, and the sections 17 and 18 are adapted to bring the apertures therein into and out of register to vary the size and number of the passages through the screen, as hereinbefore 45 described.

By providing a pair of screen plates having elliptically shaped apertures arranged as herein shown and described, said apertures may be adjusted to not only vary the 50 size of the passages through the plates, but by proper adjustment may be caused to double

the number of such passages, the size of which is greatly reduced to correspond with the series of reduced perforations 9 formed in the plates, thereby adapting the screen or 55 sifter for use in connection with the separation of fine seed, thus dispensing with the necessity of providing extra sifters for this purpose.

A sifter constructed in accordance with 60 my invention may be employed in connection with threshing machines, fanning machines and in all forms of separators or sifters for sifting machines wherein screens of various degrees of fineness are employed. 65

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation. 70

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended 75 claim.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is: .

A sifter or screen consisting of inner and 80 outer sections, each of which is provided with elliptically shaped apertures arranged in quincunx, the spaces between the apertures in a given row being less than the length of the aperture, a series of reduced 85 perforations arranged between each of the apertures in said plates, and means for moving one of said sections over the other section whereby the apertures in one section are moved into and out of register with the aper- 90 tures of the other section, and also over the space between the apertures in the other section whereby the size of the passages through the screen is varied and the number of passages increased, substantially as described. 95

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

HERMAN H. SKAGEN.

Witnesses:

D. B. BAKKE,
G. HAWORSON.