

(No Model.)

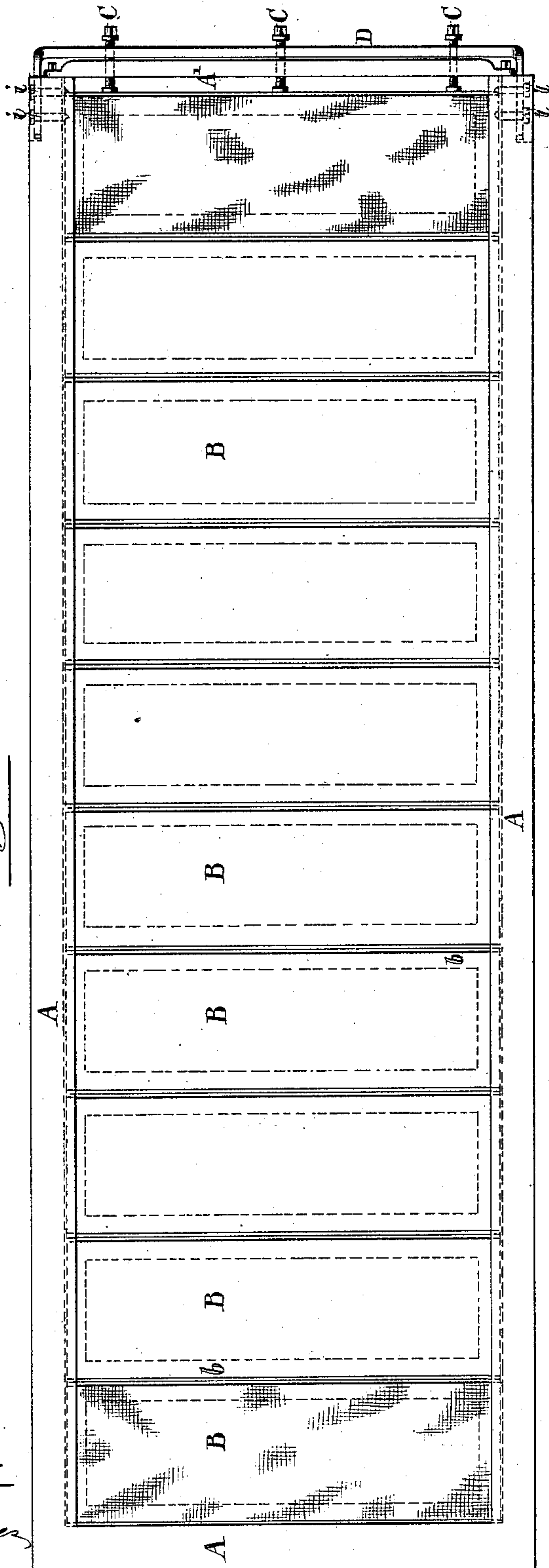
W. DURYEA.

SIEVE FOR STARCH SEPARATORS AND OTHER APPARATUS.

No. 302,195.

Patented July 15, 1884.

Fig. 1.



Witnesses:

*Geo. Haynes*  
*Emil Schwartz*

Fig. 2.

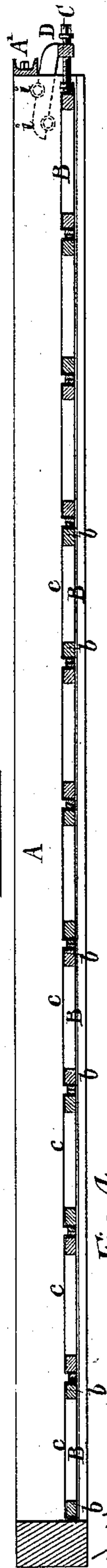
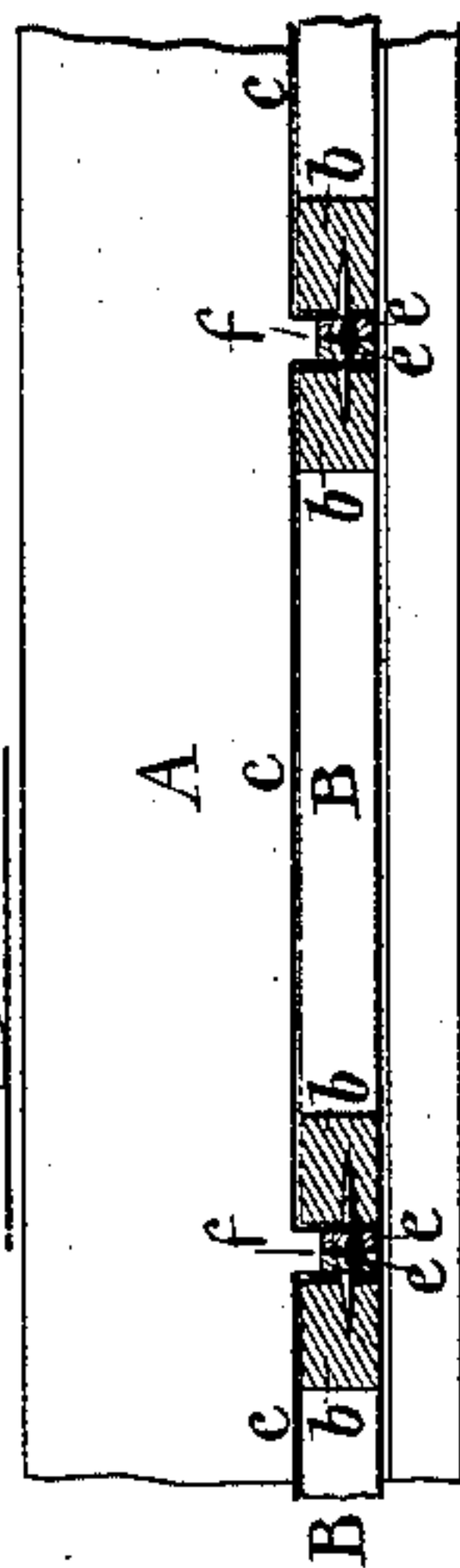


Fig. 3.



Fig. 4.



Inventor:

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# UNITED STATES PATENT OFFICE.

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## SIEVE FOR STARCH-SEPARATORS AND OTHER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 302,195, dated July 15, 1884.

Application filed April 11, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WRIGHT DURYEA, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Sieves for Starch-Separators and other Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention consists in the construction of a sieve of several sections, and with a frame into and from which the said sections are separately insertible and removable, such construction not only providing for the proper support of all parts of a fine and delicate sieve fabric in a sieve of large size, but affording convenient provision for the repair of the sieve if the fabric should break or give out at any point of the sieve, and also providing, by the natural sag of the fabric in each sieve-section, a number of depressions equal to the number of sections, whereby when the sieve is at work it will cause the particles of the material being operated upon to so change their position on the sieve as to insure a better operation than is obtained upon the large screens in common use, in which whatever depression there is is unbroken from the sides toward the middle.

The invention also consists in novel means of packing the joints between the several sieve-sections, and novel means of securing the said sections tightly together within the main frame in which they are all inclosed or contained for operation.

Figure 1 in the drawings is a plan of a sieve constructed according to my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section of the same. Fig. 4 is a section of a portion of the screen, taken in the same direction as Fig. 1, but represented on a larger scale the better to show the packing of the joints between the sieve-sections.

Similar letters of reference indicate corresponding parts in the several figures.

A is the frame, into which the several sieve-sections, B B, are inserted, and which may be termed the "main frame." The sieve-sections B B are each composed of a light frame *b*, and a piece, *c*, of silk fabric, wire-gauze, or any other fabric suitable for sieves, which

is strained over the edges of the said frame and secured thereto in any suitable manner, as by strips *e e*, of leather or other suitable yielding material, nailed or otherwise secured to the frame *b* outside of the overlapping edges of the said fabric. The frames *b* are of a length to extend entirely across the main frame A, and so narrow that it takes a considerable number of them, placed close together, to occupy the whole length of the said frame A. The said sections are represented in Fig. 3 as fitted snugly into and secured in grooves *a a*, provided in the sides of the main frame, the said grooves being open at one end of the said frame, as shown at the right-hand end of Fig. 2, to provide for the insertion and removal of the said sections. The other end of the main frame is closed or permanently secured, to form an abutment against which the whole series of sieve-sections abutting together side by side may be screwed or forced up by set-screws C C or other appliances at the other end of the frame.

When the several sieve-sections are secured close together in the main frame, the leather or elastic strips *e e* form a packing between the sides of the several sections which will generally be tight; but I prefer to apply the said strips so far below the upper surfaces of the sieve-sections, as shown in Fig. 2, and better shown in Fig. 4, that recesses *f f* are left between the said sections above the said strips, for the purpose of collecting some of the coarser matters or refuse that will not pass through the sieves, and which, thus retained, serves as a further packing, to prevent the passage between the sections of both water or other liquid and fine particles of solid matter.

In order to provide for the insertion and removal of the sieve-sections into and from the main frame A, the said frame is represented (see Figs. 1 and 2) as having its sides held together at the right-hand end by means of a rigid bar, A', under which the sieve-sections pass into and out from the grooves *a a* in the said frame, and the set-screws C C are shown as fitted to a yoke, D, which may be secured to the said frame in any suitable manner which will hold the said screws opposite the sieve-sections when the latter is in place, but which



will permit of its being removable altogether or moved up or down without detachment for bringing the set-screws out of the way of the sieve-sections when the latter are to be inserted or removed. The said yoke is represented as having its ends bent to form straps which enter grooves in the sides of the frame, and are secured in said grooves by removable pins *ii*, which enter notches in the top and bottom of the said straps and into holes in the frame.

It may be understood that a large sieve composed of a main frame and numerous sieve-sections, as hereinabove described, has all parts of the sieve fabric well supported when in use, and that convenient provision is afforded in it for the expeditious repair of the sieve if the said fabric should break at any point, as the sieve-sections wherein breaks occur may be easily and quickly removed and replaced by spare sieve-sections, which will always be kept ready. It may be also understood that the natural sag of the sieve fabric will produce as many slight depressions in the sieve as there are sieve-sections, and consequently the sieve will have an undulating surface, which will have the effect of causing a greater and more active change of position on the sieve of the particles of the matter be-

ing sieved, and a more effective operation will be thereby produced than in the sieves in common use, the surfaces of which are nearly flat, having only a slight depression from the sides to the center.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A sieve composed of a main frame and a number of separate removable sieve-sections contained in said frame, substantially as herein described.

2. The combination, with the several removable sieve-sections and their containing main frame, of packing composed of strips of leather or other elastic material applied to the edges of the said sections below the upper surfaces thereof, and forming recesses adjacent to the edges of the said surfaces, substantially as and for the purpose herein described.

3. The combination of the main sieve-frame, the separate sieve-sections contained therein, and the movable yoke and set-screws applied to the said frame, substantially as and for the purpose herein described.

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Witnesses:

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