

H. L. JORGENSEN.
 SCREEN FOR CENTRIFUGAL MACHINES.
 APPLICATION FILED JULY 28, 1919.

1,333,719.

Patented Mar. 16, 1920.

Fig. 1

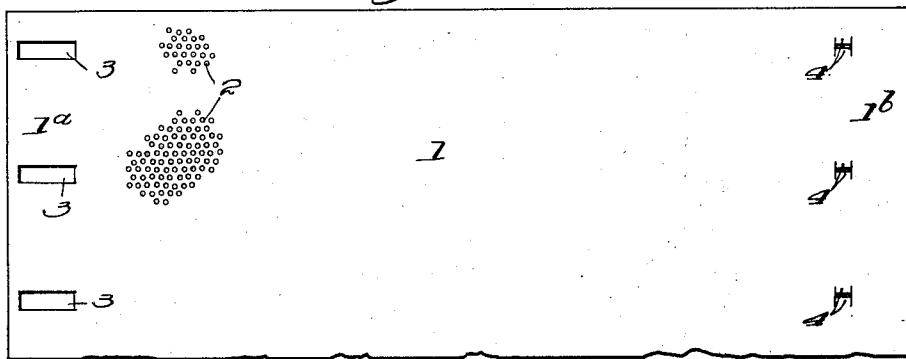


Fig. 2

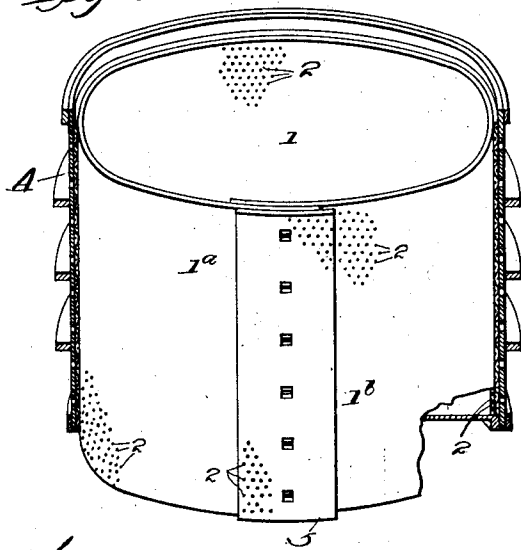


Fig. 3

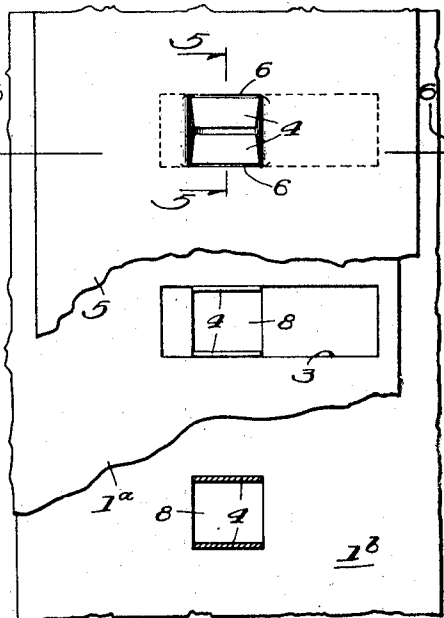


Fig. 5

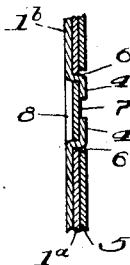


Fig. 4

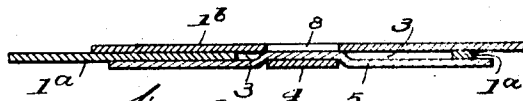
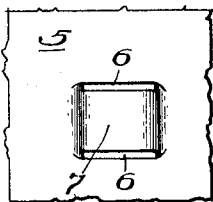


Fig. 6

Inventor;
 Hans L. Jorgensen,

By *Burton O. Burton*

his Attys.

Witness;

C. A. Austin

UNITED STATES PATENT OFFICE.

HANS L. JORGENSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HARRINGTON AND KING PERFORATING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SCREEN FOR CENTRIFUGAL MACHINES.

1,333,719.

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Application filed July 28, 1919. Serial No. 313,801.

To all whom it may concern:

Be it known that I, HANS L. JORGENSEN, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Screens for Centrifugal Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to the basket lining or screen of a centrifugal machine and its purpose is to provide satisfactory means for fastening together the ends of the perforated sheet or screen which forms the peripheral wall of the basket. It consists in the features and elements of construction and their combinations hereinafter described, and shown in the drawings, as indicated by the claims.

In the drawings:

Figure 1 is an elevation of a part of a perforated sheet embodying this invention and shown before being bent into cylindrical form for use as a lining for the basket of a centrifugal machine.

Fig. 2 is an elevation partly in section, showing certain parts of the basket of a centrifugal machine together with a perforated sheet embodying this invention, positioned therein to form a lining and extending circumferentially in the basket with its ends overlapped and connected together.

Fig. 3 is a fragmentary elevation, on a much larger scale, of the joint or connection between the overlapping ends of the perforated sheets shown in Fig. 2.

Fig. 4 is a detail view of a part of the holding member showing the openings therein through which the connecting lugs of the perforated sheet or screen are secured.

Fig. 5 is a detail section taken as indicated at line 5—5 on Fig. 3.

Fig. 6 is a detail section taken as indicated at line 6—6 on Fig. 3.

The centrifugal machines in which the perforated linings or screens embodying this invention are employed are principally used in the process of refining sugar and it is common practice to cut the screen or perforated sheet used for this purpose of sufficient length so that when bent into cylindrical form and inserted in the basket or frame seen at A in Fig. 2, the two ends of the sheet will overlap each other though left

free to expand or slip upon each other in circumferential direction to a limited extent at least. Without any further fastening between the overlapped ends, however, there is a tendency for the sugar to accumulate in the crack between said overlapped ends, thus widening the crack and causing the inner end of the screen to project inwardly so as to seriously interfere with the operation of the plow used for discharging or scraping away the sugar from the inside of the basket. The present invention provides means for fastening together the overlapped ends so that the inner end shall lie practically flat upon the outer end of the screen, and for this purpose the perforated sheet, 1, which is preferably made of sheet metal and is uniformly perforated over its entire area as conventionally indicated at 2, in the drawings, is formed at 1^a, which designates the area near one end of the sheet, with a series of circumferentially elongated apertures, 3, while the other end, 1^b, has a corresponding series of lugs, 4, struck up in pairs from the area of the sheet. The two lugs, 4, of each pair project transversely of the length of the sheet,—that is, transcircumferentially when the sheet is considered as bent into cylindrical form as shown in Fig. 2, and the free ends of the two lugs stand adjacent to each other as they are initially formed, but both lugs of the pair are bent to project transversely of the plane of the sheet for insertion into and extension through the corresponding one of the apertures, 3, said lugs being bent so that they are spaced apart by substantially the width of the aperture, 3, and engage its opposite lateral edges.

With the end, 1^a, of the sheet, 1, thus lapped over the end, 1^b, as shown in Fig. 2 and with a pair of the lugs, 4, projecting through each aperture, 3, there is applied over the joint thus formed a holding member, 5, having the slots, 6, 6, arranged in pairs to register with the respective pairs of lugs, 4, and receive the same, the lugs being clenched down over the plate as indicated in Fig. 3. Between each pair of slots, 6, 6, the material of the holding member, 5, may be depressed or offset as shown at 7, to lie substantially in the plane of the aperture, 3, so that if the holding member is of the same thickness as the lining, the total thickness of the joint, when the lugs, 4, are

clenched over on to this off-set area, will not materially exceed three thicknesses of the sheet metal, and in any case it will be minimized by this formation of the holding member, 5. The bending out of the lug, 4, leaves a substantially square window or opening, 8, but this open area is entirely covered by the depressed area, 7, of the part, 5, so that in all the surface presented to the contents of the basket, A, there is no opening larger than the regular perforations, 2, of the screen member, 1.

Thus by the use of the clenching lugs, 4, and holding member, 5, the edge of the inner end, 1^b, of the sheet, 1, is held closely against the overlapped end, 1^a, preventing any accumulation of sugar under this edge. By placing the lugs, 4, sufficiently far back from the edge at 1^b, the area of the screen between the tongues and this width can be made to overlap the apertures, 3, even at maximum extension of the lining, and this overlap is duplicated by the holding member, 5.

I claim:

1. A lining for the purpose indicated comprising a perforated sheet bent with one end lapped over the other, one of said ends having circumferentially elongated apertures and the other end having lugs cut from the area of the sheet, extending through the respective apertures, the width of each lug being less than the length of its aperture to allow for circumferential play of the overlapped ends.

2. In a lining as defined in claim 1, said lugs being cut from the sheet in pairs, the lugs of each pair extending oppositely and toward each other in trans-circumferential directions with their free ends adjacent.

3. In a lining as defined in claim 1, an apertured holding member overlaid against the apertured end of the sheet on the side opposite that which is lapped by the other end, each lug extending through an aperture of said member and being bent down thereon for securement.

4. In a lining as defined in claim 1, a holding member disposed against the apertured end of the sheet on the side opposite that which is lapped by the other end, the said lugs of the other end being cut from the

sheet in pairs, the lugs of each pair extending through corresponding openings in the holding member which are likewise arranged in pairs and spaced apart by substantially the width of an aperture of the lining member, and the lugs being clenched down upon the holding member for securement.

5. In a lining as defined in claim 1, a holding member disposed against the apertured end of the sheet on the side opposite that which is lapped by the other end, the said lugs of the other end being cut from the sheet in pairs, with those of each pair extending through corresponding slots in the holding member which are likewise arranged in pairs and spaced apart by substantially the width of an aperture of the lining member for securement, the area of the holding member between each pair of its lug-receiving slots being off-set to lie substantially in the plane of an aperture of the lining member, and the lugs of each pair being clenched down on to such area with their ends extending toward each other in trans-circumferential direction and adjacent each other, to minimize the thickness of the joint.

6. In a lining as defined in claim 1, the lugs being set back from the extreme end of the sheet by a distance not less than the length of one of the elongated apertures minus the width of a lug, to insure coverage of the apertured areas throughout the range of play of one end upon the other.

7. In a lining as defined in claim 1, an apertured holding member overlaid against the apertured end of the sheet on the side opposite that which is lapped by the other end, each lug extending through an aperture of the holding member and being bent down thereon for securement, and said holding member having a perforated but otherwise unapertured area extending circumferentially beyond the lugs by a distance not less than the play of the overlapped ends of the lining.

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 23 day of July, 1919.

HANS L. JORGENSEN.