

No. 734,467.

PATENTED JULY 21, 1903.

B. F. MARTIEN.
ADJUSTABLE CHAFFER OR SIEVE.

APPLICATION FILED MAY 5, 1900.

NO MODEL.

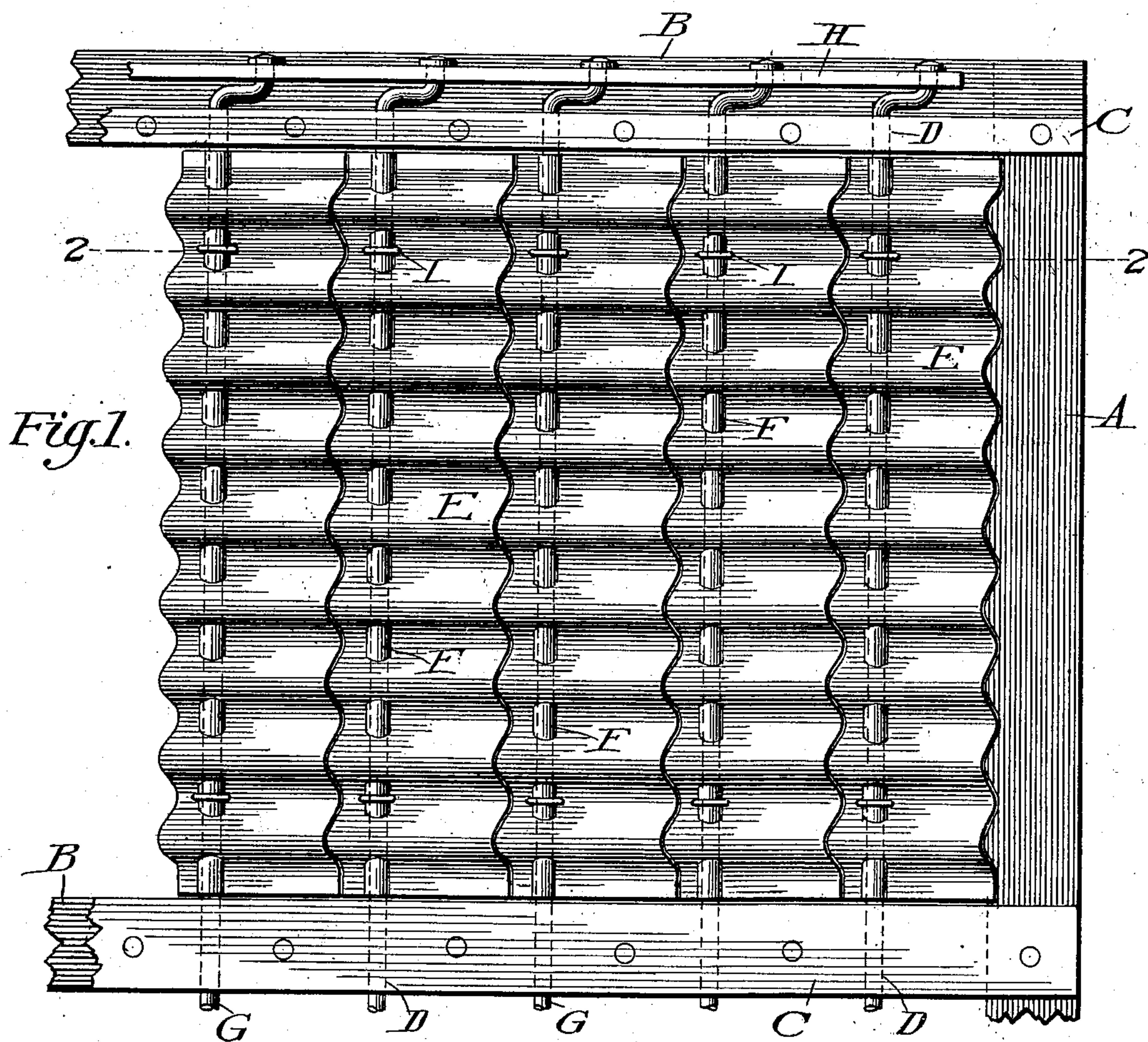


Fig. 2.

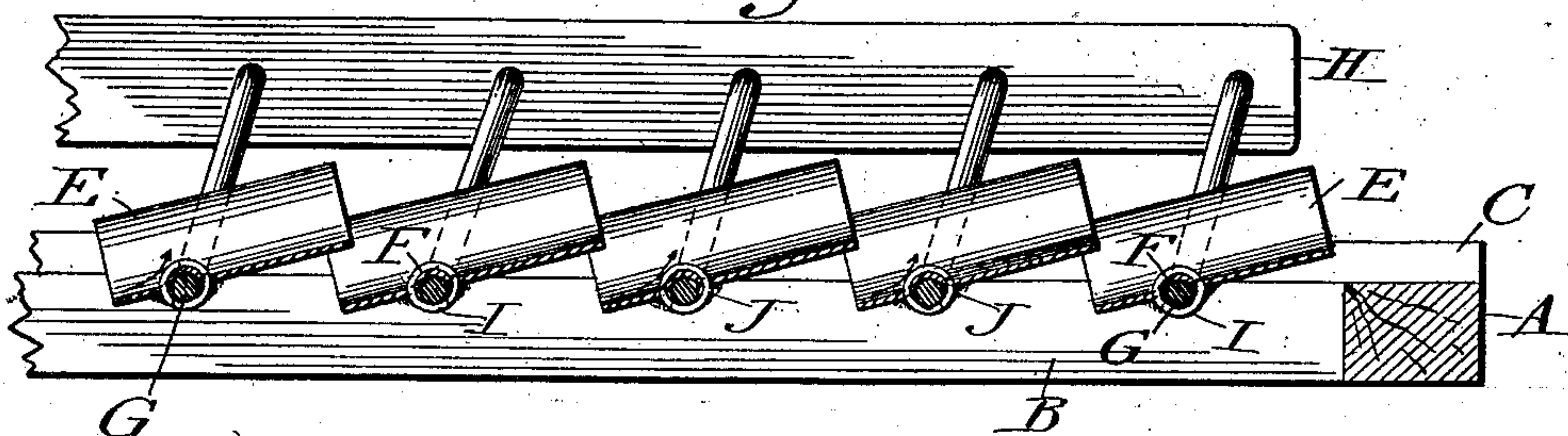


Fig. 3.



Witnesses:
O. W. Edlin.
C. H. Baker.

Inventor:
B. F. Martien.
By J. C. Stebbins. Atty.

UNITED STATES PATENT OFFICE.

BENJAMIN F. MARTIEN, OF ASHLAND, OHIO, ASSIGNOR TO THE HIXSON
ADJUSTABLE SIEVE CO., OF ASHLAND, OHIO.

ADJUSTABLE CHAFFER OR SIEVE.

SPECIFICATION forming part of Letters Patent No. 734,467, dated July 21, 1903.

Application filed May 5, 1900. Serial No. 15,638. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. MARTIEN, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Adjustable Chaffers or Sieves, of which the following is a specification.

The object of my invention is the production of a chaffer or sieve which shall comprise a series of adjustable corrugated slats secured to shafts in such a manner that the said slats will be permanently held in fixed positions relative to the shafts and not become loose when subjected to severe service, which shall have the slats provided with means for deflecting part of the currents of air upwardly from the channels of the corrugated slats, which shall be provided with means for simultaneously adjusting the series of slats when so desired, and which, withal, shall possess additional and desirable features and characteristics constituting the same a superior means for performing the requisite functions.

With this end or purpose in view my invention consists, objectively, in a sieve embracing a series of corrugated slats immovably fixed to shafts and said shafts united by suitable means whereby they can be rocked simultaneously and the slats caused invariably to lie in parallel planes.

It further consists in a sieve embracing corrugated slats having the channels provided with means for deflecting currents of air upwardly.

Finally, it consists in certain novelties of construction and combinations of parts herein disclosed, and specified in the claims.

The accompanying drawings illustrate one example of the physical embodiment of my invention constructed according to the best of the several modes I have so far devised for the application of the principle.

Figure 1 is a top plan view of a part of a sieve, showing a series of corrugated slats and shafts journaled in a frame, the edges of the said slats overlapping one another and the crank-arms of the shafts provided with means for simultaneously rocking all the shafts. Fig. 2 is a section of Fig. 1, taken on

line 2 2. Fig. 3 is a cross-section of a corrugated slat, taken on a line parallel with and adjacent the shaft.

Referring to the figures of the drawings, the letter A designates the end piece of the frame which supports the shafts and corrugated slats of the sieve.

B designates the side pieces of the frame; C, strips of wood or metal secured to the top surfaces of the side pieces B in any well-known manner; D, bearings formed in the side pieces; E, the corrugated slats, preferably made of iron or thin metal which can be readily bent to shape; F, indentations made in the ribs of the corrugated slats, upon one side thereof, by striking up the metal or in any other way; G, shafts having crank-arms and to which shafts the corrugated slats are rigidly and immovably secured, said shafts being journaled at the ends in the bearings D D of the side pieces, as clearly shown.

H is a strip of wood or metal, to which the ends of the crank-arms of the shafts are journaled in such a way that the movement of the strip will simultaneously rotate all the shafts.

I designates staples which fasten the shafts in the recesses of the indentations made in the ribs of the corrugated slats, and J designates the solder applied to the contact surfaces of the shafts and indentations and which rigidly holds the shafts in immovable positions relative to the corrugated slats.

It will be observed that the indentations made in the ribs of the metallic corrugated slats serve a twofold purpose—first, as seats for the shafts, and, second, as deflectors of the currents of air which pass upwardly between the slats, as shown by the arrows in Fig. 2. It is absolutely necessary that the shafts shall be held immovable relative to the slats, so that when all the shafts are simultaneously rotated the corrugated slats themselves will be shifted through the same arcs of imaginary circles, and thus preserve the uniformity in size of the openings between the adjacent edges of the slats. The staples I serve to hold the shafts within the seats or concave surfaces of the indentations in the ribs, but would not in all cases prevent a limited rotary movement of a shaft relative to a corru-

gated slat. To anchor the shaft within the seats permanently and immovably, I apply solder J to the contact surfaces of the shaft and ribs, which, I find, insures great rigidity and strength of union which will withstand all the strains of severe service. Besides serving as concave seats for the shafts, the metal of the indentations projecting upwardly in the channels of the slats constitutes deflectors for the air moving along the channels and diverts part of it upwardly, as shown by the arrows, through the material which is moving over the slats. By uniting the crank-arms of the shafts to a single strip it is obvious that all of the shafts and corrugated slats can be simultaneously rotated and the open spaces between the adjacent edges of the slats where they overlap be rendered uniform.

While I have illustrated and specifically set forth only one example of the physical embodiment of my invention, I do not thereby intend to restrict the scope thereof to the exact details as shown, inasmuch as changes and modifications and substitutions may be made and adopted at the will of the manufacturer without constituting a substantial departure.

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

1. The combination in a chaffer or sieve, of a frame; corrugated slats; and straight shafts having cranks journaled in the frame; each of the said shafts being rigidly and immovably secured to the convex surfaces of the ribs on one side of a corrugated slat.

2. The combination in a chaffer or sieve, of a frame; corrugated slats; and straight shafts having cranks journaled in the frame; each

of the said shafts being rigidly and immovably secured by solder and staples to the convex surfaces of the ribs on one side of a corrugated slat.

3. The combination in a chaffer or sieve, of a frame; corrugated slats; and shafts journaled in the frame; said corrugated slats having indentations, F, in the ribs; in substance as and for the purpose set forth.

4. The combination in a chaffer or sieve, of a frame; corrugated slats; and shafts journaled in the frame; said corrugated slats having obstructions or raised portions, as F, in the channels for deflecting and diverting currents of air upwardly from the channels.

5. The combination in a chaffer or sieve, of a frame having bearings; corrugated slats having seats for shafts formed in the convex surfaces of the ribs; and shafts secured within the seats and journaled in the frame; each of the said shafts being rigidly and immovably anchored within the seats on one side of a slat by solder.

6. The combination in a chaffer or sieve, of a frame having bearings; shafts having cranks journaled in the bearings; corrugated slats immovably and rigidly secured to the shafts at the meeting points or surfaces of the shafts and the convex surfaces of the ribs on one side of the corrugated slats; means for uniting the crank-arms of the shafts; and means for simultaneously rotating the shafts.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN F. MARTIEN.

Witnesses:

C. W. MYKRANTZ,
J. W. MYKRANTZ.