

Fig. 1

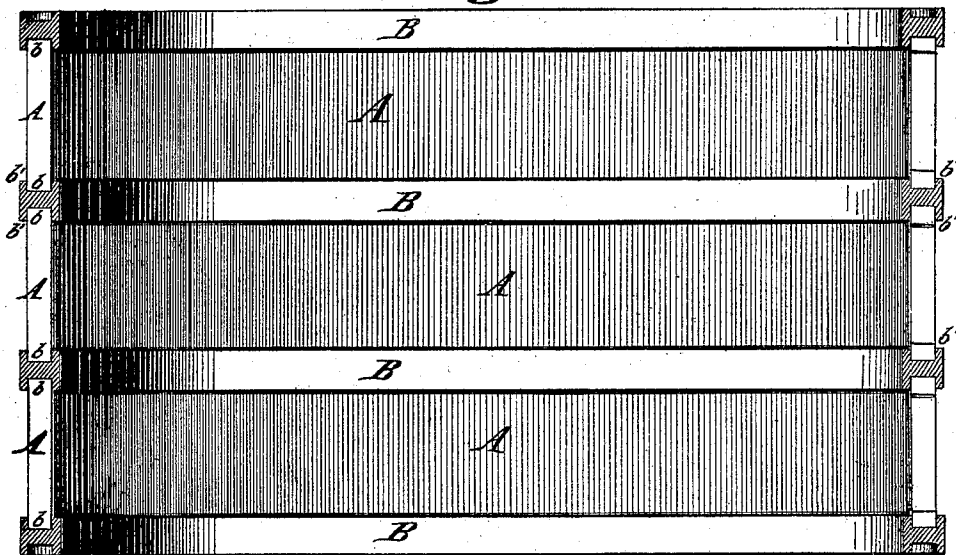


Fig. 3

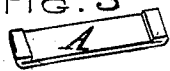
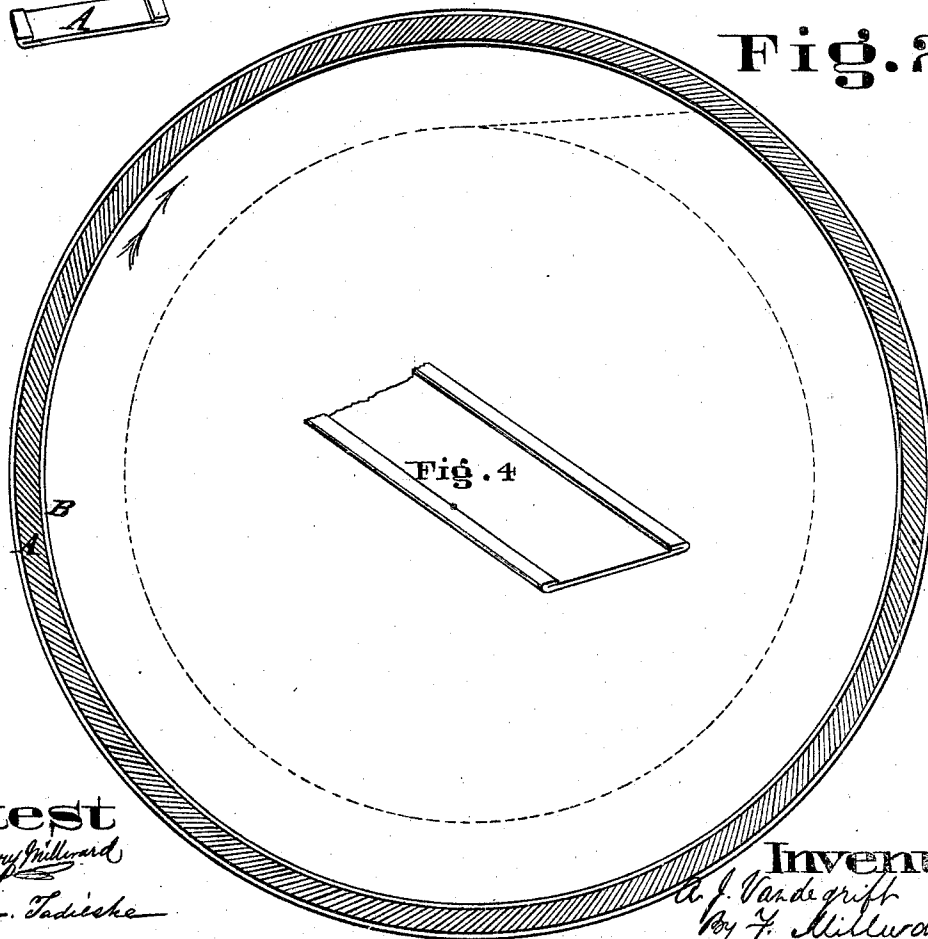


Fig. 2



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UNITED STATES PATENT OFFICE.

ANDREW J. VANDEGRIFT, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN SCOURING-CASES FOR SMUT-MILLS, &c.

Specification forming part of Letters Patent No. **172,062**, dated January 11, 1876; application filed June 21, 1875.

CASE C.

To all whom it may concern:

Be it known that I, ANDREW J. VANDEGRIFT, of Covington, Kenton county, State of Kentucky, have invented a certain new and useful Improvement in the Construction of Metallic Fabric for Scouring and Percolating Purposes, of which the following is a specification:

My invention is an improvement upon the metallic fabric for which application for Letters Patent was filed by me February 7, 1872; and consists in the employment of folded sheet-metal slips, so arranged that they present their edges to the work directly; or, in other words, are so arranged that the line of their length is at right angles to the direction of the scouring action, and the edges face the work, for the purpose of enabling the scale of the iron to form a continuous cutting-edge.

My invention further consists in the provision of grooved rings for connecting the sheet-metal slips together; the object being to obtain a circular configuration for the scouring-face, which has an uninterrupted percolating-surface throughout the entire circle.

The fabric, as a whole, is designed for scouring-cases of smut-mills, and for purposes of like character.

Figure 1 is a vertical section of the scouring-case of a smut-mill embodying my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a perspective view of one of the slips; and Fig. 4 a folded plate, from which the slips are cut.

A are the sheet-metal slips. They are cut from a sheet or strip of metal which has previously been folded over at the sides in the manner shown in Fig. 3. B are rings of metal, formed with grooves *b* for the reception of the ends of the slips A, which are located in the rings in the manner shown in Fig. 2—not radially but tangentially—so that the percolating-interstices (which are formed between the slips by reason of the folded ends of the slips serving to separate one slip from another) are in a line calculated to carry off the scourings of the case in the direction in which they would naturally be thrown off by centrif-

ugal force in the rotation of the scouring-beater within the case.

The rings B, in the manufacture of the case, are held in the proper position by any convenient appliances; and the slips A are placed successively into the grooves *b*, it being necessary, in order to permit them to pass the flanges *b'* of the grooves, to enter them in a diagonal position, or provide a notch in each flange *b'* of the rings. The parts are soldered together—that is, the slips A to rings B—by solder or otherwise, at the junction of the slips with the rings.

It will be seen that when the case is completed, that owing to the provision of the grooved rings to secure the slips, the scouring-face has a circular configuration in horizontal section, and that the scouring is in a direction across the edges of the slips, and not parallel therewith, as in the scouring-case shown in my application filed February 7, 1872.

The advantage of having the edges of the slips across the path of the grain is, that the scale of the iron is made to act as a cutting-edge, and, owing to its wearing less fast than the body of the iron, a continuous cutting-edge is preserved until the case is entirely worn away. Furthermore, the scouring being across the cutting-edges of the slips, and not in line therewith, is more rapidly effected than is possible in the form of case shown in my application of February 7, 1872, aforesaid.

In the operation of the case shown in Fig. 1 as the scouring-case of a smut-mill, the beater rotates within it in the ordinary way, the rotation being in the direction of the arrow in Fig. 2. The grain is rapidly swept around by the beater between it and the case, and, in this operation, is scoured perfectly by the sharp edges of the slips A, the scourings being drawn through the tangential interstices by the customary air-current in such machines.

If desirable, the beater itself may consist of a cylinder or drum, whose periphery is formed by a similar fabric to that composing the case, so as to scour the grain by the outer surface of the rotating beater and inner surface of the case or cylinder at the same time.

For scouring-cases of smut-mills I prefer, as

herein set forth, that the interstices shall be arranged tangentially; and, for this purpose, I make the grooves *b* in the rings narrower than the slips A, compelling the slip to occupy a diagonal position, as shown in Fig. 2; but they may, of course, perform useful service when arranged radially, or in any other possible way. The fabric may, moreover, be made with a plain flat surface, for some uses, by the use of grooved bars or other fastening devices in place of the grooved rings B *b*.

I claim—

1. A scouring and percolating metallic fabric composed of folded sheet-metal strips or slips connected in such a way as to leave in-

terstices between the slips, the edges of the said slips of metal being arranged crosswise of the direction of the grain or other material in the operation of scouring, as and for the purpose specified.

2. The combination of folded sheet-metal slips A and grooved rings B *b*, as and for the purpose described.

In testimony of which invention I hereunto set my hand.

A. J. VANDEGRIFT.

Witnesses:

FRANK MILLWARD,
J. L. WARTMANN.