A. J. VANDEGRIFT.

Metallic Fabric for Scouring and Percolating Purposes.

No. 134,619. Patented Jan. 7, 1873.

Fig. 1

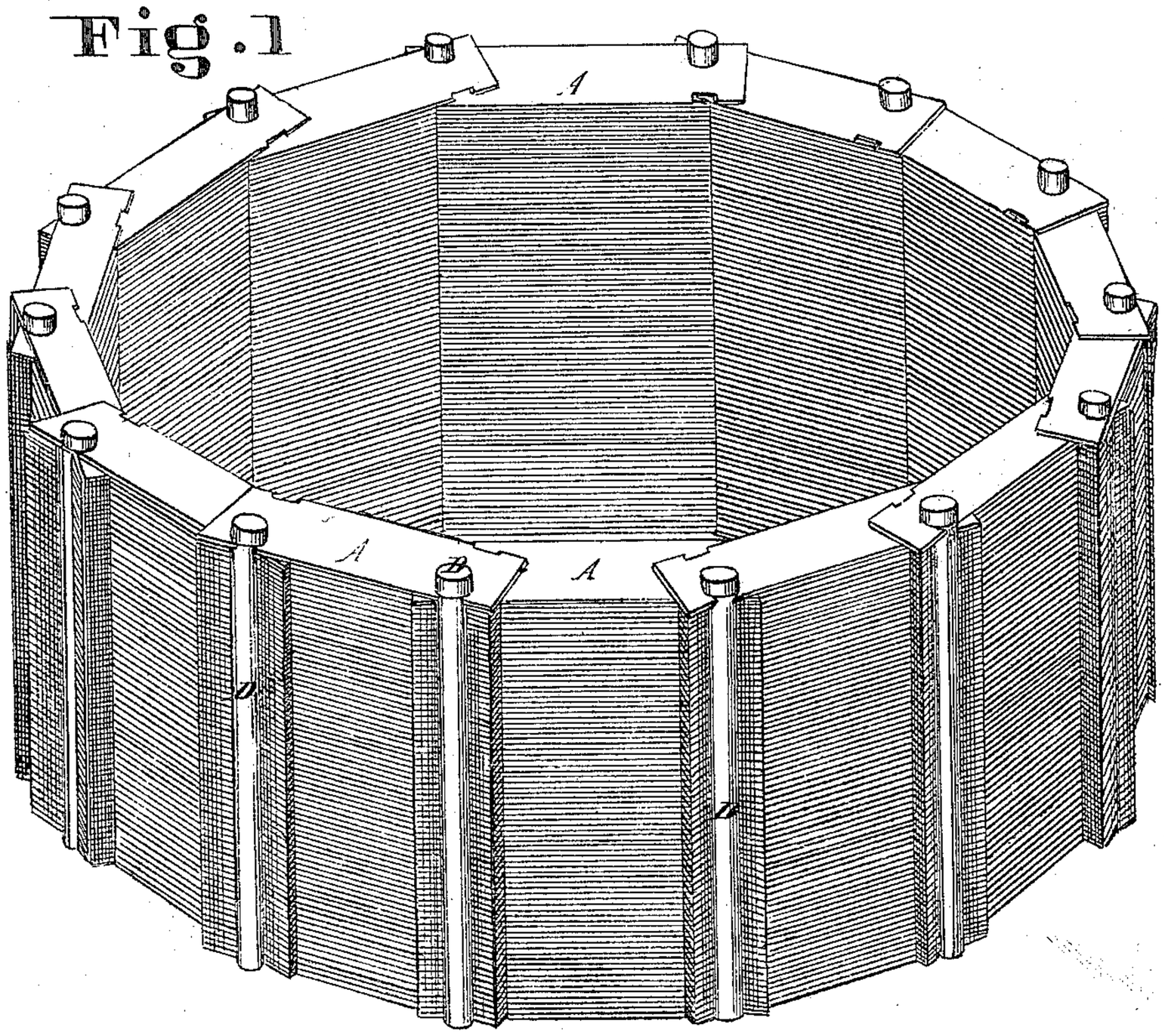


Fig. 2

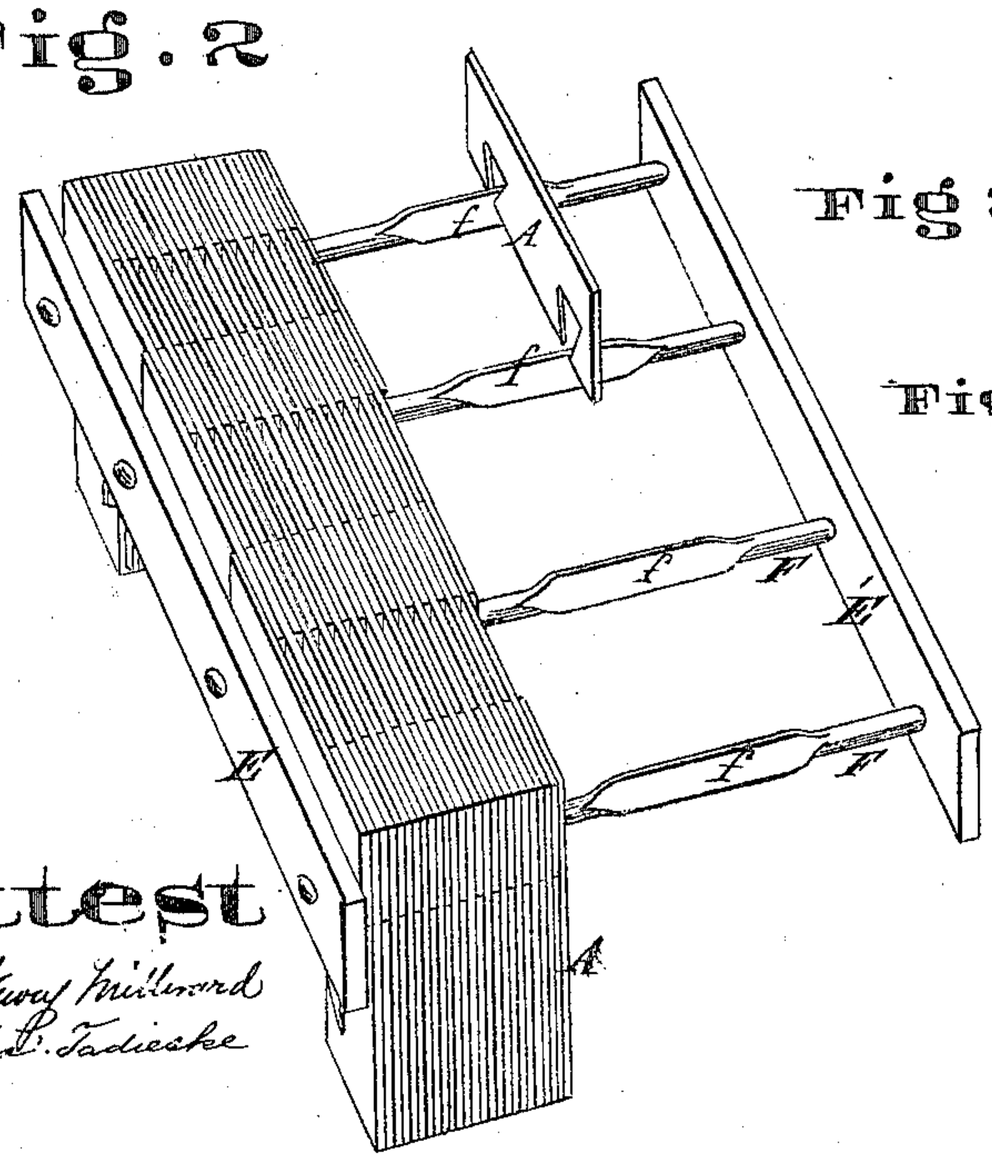


Fig 3

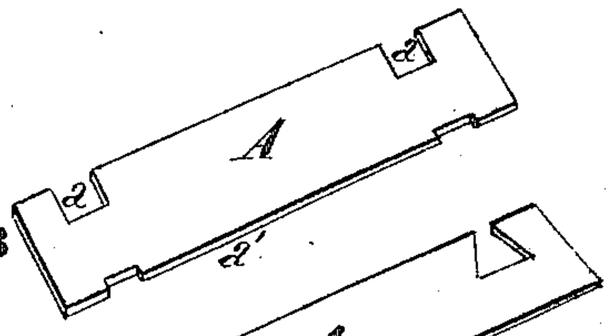
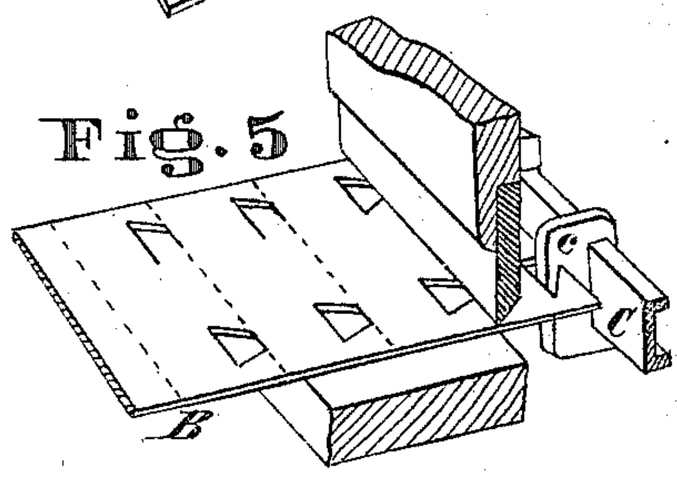


Fig. 4

Fig. 5



Attest

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UNITED STATES PATENT OFFICE.

ANDREW J. VANDEGRIFT, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN METALLIC FABRICS FOR SCOURING AND PERCOLATING PURPOSES.

Specification forming part of Letters Patent No. **134,619**, dated January 7, 1873.

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 Metallic Scouring and Percolating Fabric, of which the following is a specification:

Nature and Objects of Invention.

My invention has for its object the production of a metallic fabric for scouring and percolating purposes, adapted to the construction of scouring-cases for smut-mills or other machines of similar character, wherein grain is hulled, scoured, polished, and otherwise cleansed; or for a separating medium for other uses where great strength of fabric, free percolating-surface, or durable scouring-face may be deemed essential. My invention consists of plates or slips of sheet metal laced, threaded, soldered, or otherwise secured together in such a way that the plates are separated to leave interstices, and the edges of the slips are directly presented to the work, combining to form the scouring and percolating surface, the sides of the plates forming the sides of and giving depth to the percolating apertures or interstices.

Description of the Accompanying Drawing.

Figure 1 is a perspective view of the case of a smut-mill composed of my improved fabric. Fig. 2 is a perspective view of a device which I sometimes use for building the fabric upon, for other purposes than cases of smut-mills. Fig. 3 is a perspective view of one of the slips used to compose the fabric. Fig. 4 is a modification in the form of slip. Fig. 5 is a perspective view illustrating the device used by me to cut the slips to uniform widths.

General Description.

To form the slips A a plate of sheet metal, B, either in wide sheets or of the requisite width only to constitute the length of the slips, is punched with either rectangular holes, three sides of which are shown at *a*, Fig. 3, or with dovetail holes, as shown in Figs. 4 and 5. The sheet or plate is then sheared into separate slips, A, in the manner shown in Fig. 5, the gages *c* attached to the bar C serving to so adjust or gage the plate with relation to the cutter, by contact, as shown, with the bottoms of the notches or holes, that the width of all the slips from the bottom of the notches to the face or working edge *a'* will be alike. The case shown in Fig. 1 is constructed with the slips shown in Fig. 3 by connecting them to a series of posts or rods, D, which, in the operation of building the fabric, are arranged at equal distances in a circle of small holes in a table, or otherwise secured rigidly in the position necessary to receive the slips. When sufficient slips have been placed in position to complete the case, the posts or rods D are soldered to the slips, which has the effect of rigidly connecting all the parts together.

The case shown in Fig. 1 can be constructed in a slightly-modified form by having complete holes in the slips A to fit over the rods D, but this method gives no facility for soldering the parts together such as that offered by the open-sided notches.

When the plates or slips A are in place, in the manner shown in the smut-mill case illustrated in Fig. 1, or in the woven fabric exhibited in Fig. 2, the slips overlap each other at the ends to an extent sufficient to give a good bearing-surface, and this overlapping of the ends necessarily leaves interstices between the slips of a width equal to the thickness of the iron used in the manufacture of the slips, of a depth equal to the width of the slips, and of a length equivalent to the length of the slips minus the extent of the overlap. The inner edges of the iron in the slips serve as cutting-edges for the scouring operation, and the interstices permit the passage of the scourings, &c. It is obvious with this construction that, owing to the width of the slips and thin edges, a great number and extent of cutting-edges are secured in the customary superficial surface allotted for the interior of a smut-mill case.

Many other modifications may be made in the construction of the fastening devices for securing the slips together without departing from the distinguishing characteristics of my invention. The invention is principally designed for the formation of cases of smut-mills, in which the case surrounds a revolving beater, the grain being forcibly swept around by the beater and scoured or cleaned in this act against the interior surface of the case, the scourings or dirt being carried off through the

apertures of the case by the action of a strong current of air; but it is obvious that it is equally applicable to many other scouring, separating, and percolating apparatus, where great strength of fabric, free percolating-surface, or durable scouring-face may be deemed desirable qualifications.

Among the many advantages of my invention in the construction of scouring-cases for smut-mills, the following may be enumerated as important: First, the apertures or interstices are so small that large substances cannot pass through them, while at the same time the spaces are in close proximity, free, and uniform; second, the apertures do not enlarge as the case wears away, as in devices heretofore used; third, more area of percolating-surface, with a given area of metallic surface, is secured than is possible by any device hitherto known or used; fourth, the area of the metallic surface exposed is not increased or decreased as the case becomes worn, always remaining the same.

In the construction or weaving of the fabric for other uses than cases of smut-mills, the frame E E′ F may be employed, the rods F being flattened at *f* to receive the slips, the latter being sufficiently dovetailed in the notches to enable them, when woven upon the round rods F, to remain in place. When sufficient fabric is woven the whole may be fastened to the rods by solder, having previously been placed in any shape desired.

Claim.

A metallic fabric for scouring and percolating purposes, composed of suitably-united tiers or rows of slips or plates of sheet metal, arranged in parallel planes with intervening spaces, substantially as specified.

In testimony of which invention I hereunto set my hand.

A. J. VANDEGRIFT.

Witnesses:

FRANK MILLWARD,

J. L. WARTMANN.