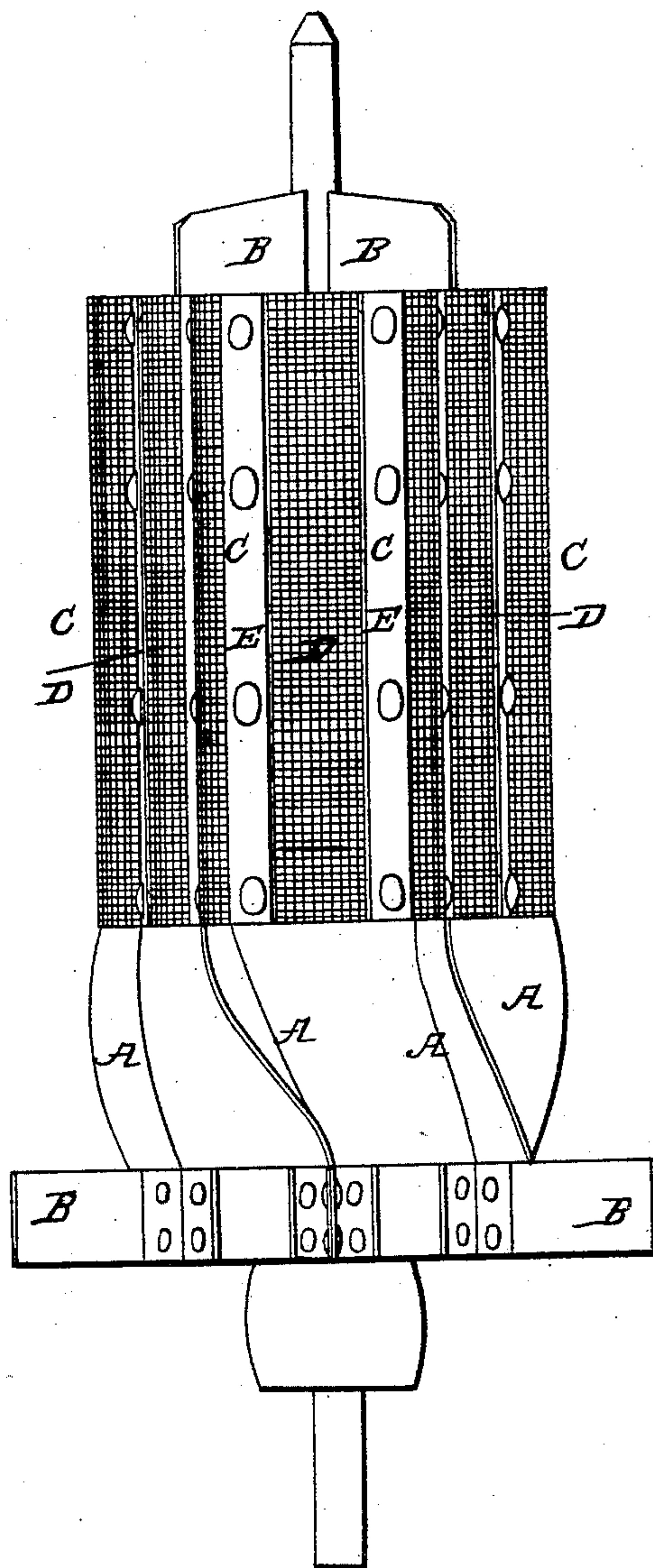


Z. DURKEE.

Smut Mill.

No. 9,884.

Patented July 26, 1853.



# UNITED STATES PATENT OFFICE.

ZIBA DURKEE, OF ALDEN, NEW YORK.

## BEATER OF SMUT-MACHINES.

Specification of Letters Patent No. 9,884, dated July 26, 1853.

*To all whom it may concern:*

Be it known that I, ZIBA DURKEE, of Alden, in the county of Erie and State of New York, have invented certain new and useful  
5 Improvements in the Revolving Cylinders of Smut-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a  
10 part thereof, and which represents a front view of the cylinder.

In the construction of the revolving cylinder, beaters and wings and such other parts of smut mills where there is great friction  
15 various methods have been devised for giving to said parts a degree of roughness that will suffice to scour and divest the grains of smut and other extraneous matter, without cutting, cracking, or otherwise injuring the  
20 grains, and in these attempts metal has been used roughened in various ways—by teeth, indentations, flutes, ribs, &c., and in some cases have been covered by a cement composed in part of emery, sand, glass, india  
25 rubber, and other equally sharp and adhesive substances or materials. All these attempts have to a greater or less degree failed to accomplish the object for which they were designed, from the fact that the attrition is  
30 so great between the moving bodies as to wear such beaters, wings, &c., perfectly smooth in a very short time, and they become useless, and if made sharp or rough enough to endure the abrasion for any con-  
35 siderable length of time they then cut or crack the grains and produce an evil greater than the one they are designed to remedy.

To accomplish the desirable object of constructing a cylinder which shall have an  
40 uneven but smooth surface and which shall always (until completely worn out) preserve the same uniform degree of abrasive properties, and at the same time be extremely durable and easily and cheaply re-  
45 newed, I have devised and the nature of my invention consists in covering such revolving cylinders, beaters, or wings of any of the ordinary constructions with wire netting or cloth, by which simple means I preserve  
50 a uniform uneven but smooth surface, which has great durability, can be renewed at a very trifling expense when worn away, and performs the work thoroughly.

To enable others skilled in the art to make  
55 and use my invention, I will proceed to describe the same with reference to the drawing which represents a cylinder in common

use, provided with the spiral ribs A, and top and bottom wings B, for creating draft, carrying in and through the grain to be oper-  
60 ated upon, and blowing out the smut, dirt, &c.

C, represents the beaters or wings, and D the body of the cylinder between the beaters, both of which are covered with wire cloth  
65 or netting, which may be of such texture as will be found most essential.

The cylinder and its parts may be made wholly of metal or part metal and part wood, and the ribs, beaters, or wings put on  
70 in any well known, substantial manner, forming so far the cylinder in common use, and to which I lay no claim. To a cylinder of this or any other form or construction, I apply a covering of wire cloth or netting,  
75 which may be attached thereto as follows: Fasten one end of the wire cloth to the cylinder by an iron slat or bar E, through which and the cloth may pass any suitable number of screws. The cloth is then carried  
80 over the wing or beater C, and similarly secured by another slat or bar on the opposite side of the beater, and so on until all that portion which comes in contact with the grain is covered with the netted wire work.  
85 This I have found in practice to make the most durable and effective abrasive surface yet known, the cells in the net work catching and turning the grains, so that their entire surface comes in contact with the  
90 beaters, and when the wire cloth is worn away it can be renewed at a trifling expense, the cylinder itself remaining unworn.

I am aware that the concave in smut machines has been made of wire netting, but  
95 as this remains stationary it does not become so much worn by use, nor does it perform so active a part in the beating and scouring of the grain as the revolving cylinder. This I do not claim, neither do I claim a revolv-  
100 ing wire cloth cylinder, but

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

The covering of the revolving cylinder, wings or beaters of smut machines with wire  
105 netting or cloth, for the purpose of providing an uneven but smooth beating or rubbing surface, and at the same time give great durability to the said parts substantially as described.

ZIBA DURKEE.

Witnesses:

A. B. STOUGHTON,  
T. C. DONN.