

J. H. Crane,
Flexible Abrader.
N^o 81,986. Patented, Sep. 8, 1868.

Fig. 1.

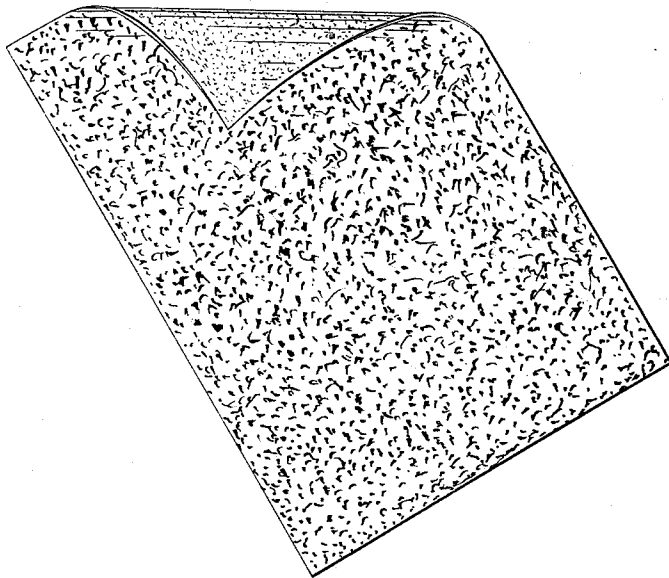


Fig. 2.



Witnesses:

W. B. Crosby
C. Warren Brown.

Inventor:

J. H. Crane

United States Patent Office.

JOHN H. CRANE, OF CHARLESTOWN, MASSACHUSETTS.

Letters Patent No. 81,986, dated September 8, 1868.

IMPROVED FLEXIBLE ABRADER AND POLISHING-FABRIC.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN H. CRANE, of Charlestown, in the county of Middlesex, and State of Massachusetts, have invented a Double-Surfaced Flexible Abrader; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

So far as I am informed, all flexible abraders, such as sand-paper, emery-cloth, &c., have but one abrading-surface. It is generally the case that the flexible medium to which the abrading-substance is attached, outlasts the adhesion of said substance, and therefore the maximum of economy in the use of the flexible material is not attained in surfacing but one side or face thereof. The smooth side of the flexible medium to which abrasive granules or powder is attached does not afford a surface to which the fingers of an operator readily adhere in moving the abrader over the surface to be reduced or smoothed, and as the friction between the abrading-surface and the surface to be abraded is greater than the friction between the fingers of the operator and the smooth surface of the flexible material, recourse is often had to a block of cork or material, around which the abrader is wrapped, so that the operator can obtain a hold sufficiently firm to propel the abrader over the surface to be wrought.

Now, my invention has for its object the improvement of flexible abraders, so as to utilize, to the highest extent possible, all of the material of which they are composed, and so that the act of operating therewith will be facilitated.

My invention consists in a flexible abrader made with a central layer or web of any suitable flexible material, surfaced on both faces with any suitable abrading-material.

For working wood, paper surfaced on both sides with sand, comminuted quartz or glass, &c., may be employed, glue or other suitable cement being used to hold the abrading-material to the flexible centre.

For operating upon metals, emery may be cemented upon both surfaces of paper or cloth. And generally, any suitable abrasive material may be cemented or secured to both surfaces of paper, cloth, leather, parchment, or other flexible material in the practice of my invention.

Sometimes, for convenience of manufacture, it will be advisable to unite, by means of cement or otherwise, two sheets of flexible material, each of which is surfaced on one side only, with an abrasive material, in powder or granules, the result, however, embodying my invention, as the centre layer, to which the abrader is attached, is flexible, though consisting of a compound layer.

The powder or granules on my flexible abrader may be coarse on one side and fine on the other, and of the same or of different materials, or of the same or of different mixtures of materials.

As in the single-surfaced flexible abraders now in use, my improved abrader may be used to smooth flat or curved-surfaces, and may be employed with or without a block or other backing.

Figure 1 of the drawing is a plan, showing my improved abrader, one corner of which is represented as turned over, or as dog's-eared, to show the abrasive material on both sides of the central flexible material, which is represented in the cross-section, shown in Figure 2, by a red line, the abrasive surfaces on either side, in said fig. 2, being shown by yellow lines.

I claim, as a new article of manufacture, the double-surfaced flexible abrader, substantially as shown and described.

J. H. CRANE.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.