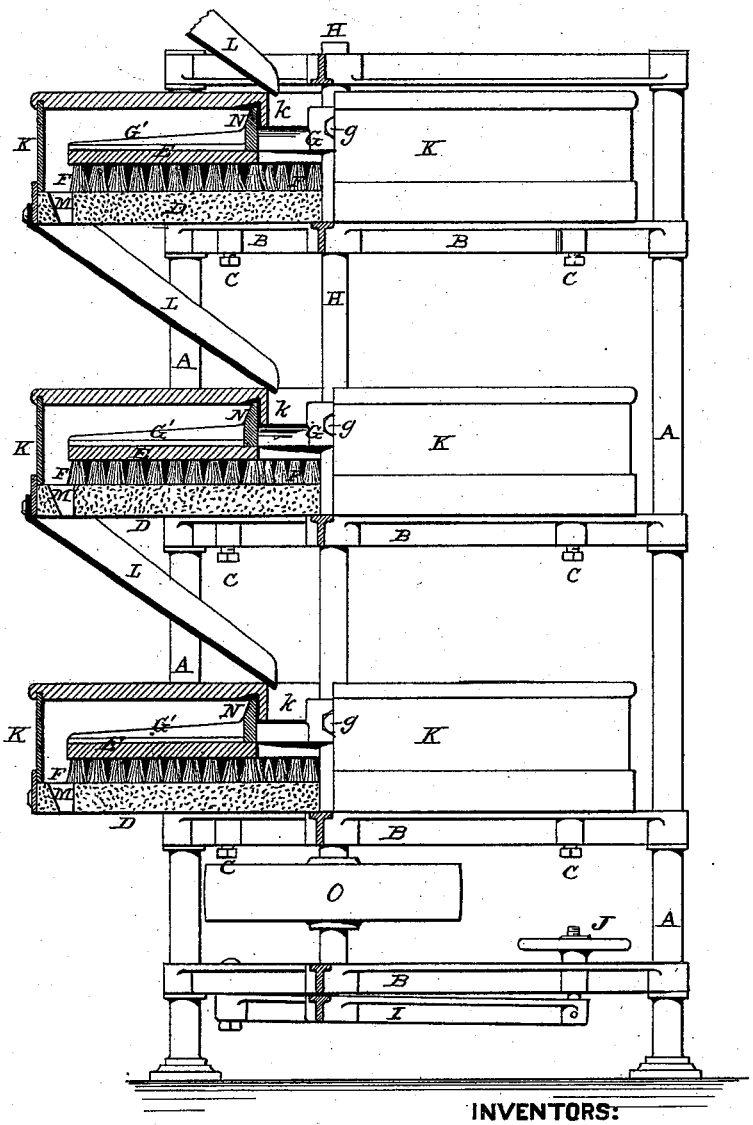
A. H. SMITH & S. S. THOMPSON.

Bran-Scourer.

No. 209,590 **Patented Nov. 5, 1878.**



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UNITED STATES PATENT OFFICE.

ALEXANDER H. SMITH AND SALATHIEL S. THOMPSON, OF ST. LOUIS, MISSOURI; SAID THOMPSON ASSIGNOR TO SAID SMITH.

IMPROVEMENT IN BRAN-SCOURERS.

Specification forming part of Letters Patent No. **209,590**, dated November 5, 1878; application filed December 8, 1876.

To all whom it may concern:

Be it known that we, ALEXANDER H. SMITH and SALATHIEL S. THOMPSON, both of the city and county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Bran-Scourers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification.

Our invention relates to certain improvements whereby both compactness of parts and a perfectly free feed are attained.

The runner or brush is supported on and secured to a central shaft, a bed stone or plate having near its outer edge an orifice, through which the bran passes to a spout communicating with a neck or tube in the center of the runner, immediately beneath said neck or tube, making part, respectively, of the brush-frame and of the curb, and constituting the passage through which the bran passes from the spout to the scouring-surface.

The drawing is one-half in axial section and one-half in elevation.

A A are uprights, giving support to the horizontal frames or spiders B B, which serve to brace the uprights and hold them in their relative positions. In the bars of the spiders B are tram-screws C, on which rest the bed-stones or circular plates D.

In practice we have used sandstone as the material for the bed-stones, and found it to answer the purpose perfectly; but we do not confine ourselves to this material, as any other substance that would retain a scouring-face (such as iron or steel) might be used.

The runners E consist of disks of wood, or other substance suitable for the insertion of bristles or other brush material F, of which the lower surface of the runner consists. The runner is fixed to the arms G′, extending outwardly from the hub or collar G, which is keyed or otherwise firmly secured upon the vertical driving shaft or spindle H. The shaft H is stepped in a lighter frame, I, adjusted by a lighter screw, J, so as to set the runner at the proper distance above the bed-stone. Three of these scourers are shown in the machine, each scourer consisting of a bed, D, and runner, E; but a single scourer or more may be used in each machine, all of the runners being preferably supported on a single shaft, H, and fixed thereon by a set-screw, *g*, or key.

Each scourer is inclosed in a suitable curb, K, which has at top a central orifice, through which descends the bran to be scoured, the bran entering through a spout, L, and escaping after scouring through the orifice M in the bottom of the case outside the periphery of the bed stone or plate D.

k is a neck, filling the central orifice of the curb K, and descending below the top of the neck or ring N, filling the central orifice of the runner, and constituting, with the neck *k*, the passage through which the bran passes between the spout L and the scouring-surface. The outer side of the neck *k* does not come in actual contact with the inside of neck N; but they are in close proximity, so as to constitute a moderately-tight lap-joint, sufficiently close and lapped a sufficient distance to prevent the bran from escaping through the joint from the concussion of the arms G′ and the centrifugal motion given to it. Without the above provision the bran would be liable to escape over the runner and choke up the upper part of the curb.

The bran from the millstones may be made to pass first through the upper scourer, and be discharged from that into the scourer next below, and so on down through all the scourers in the machine, or each scourer may be worked separately.

When the bran has passed through the scourer it is conveyed to an ordinary bran-duster, reel-shaker, or such other contrivance as may be preferred for separating the flour material (removed by the scourer) from the inner surface of the bran proper.

The shaft H is driven by a pulley, O.

The bed stone or plate may be perfectly flat, or may be made concave or convex to check or to aid the passage of the bran. The brush-surface conforms to that of the stone or plate D.

Both the brush and stone might be made to rotate either in different directions or at diverse speeds in the same direction.

We claim as our invention—

1. The combination, in a bran-scourer, of

the runner E, consisting of suitable disks carrying bristles or other brush material F, and supported on and secured directly to central shaft, H, bed stone or plate D, having orifice M, spout L, for forming communication between orifice M and neck *k*, curb K, and necks or tubes N *k*, substantially as set forth.

2. The combination of the rotating brush E F, curb K, and necks or tubes N and *k*, the latter making part respectively of the brush-frame and of the curb, and forming a loose-fitting lap-joint, and constituting the passage through which the bran passes between the spout L and the scouring-surface, substantially as set forth.

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Witnesses:
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