J.R. & A.J. Cross,

Apparatus for Graining Pails,

No. 45,590, Patented Dec. 27, 1864:

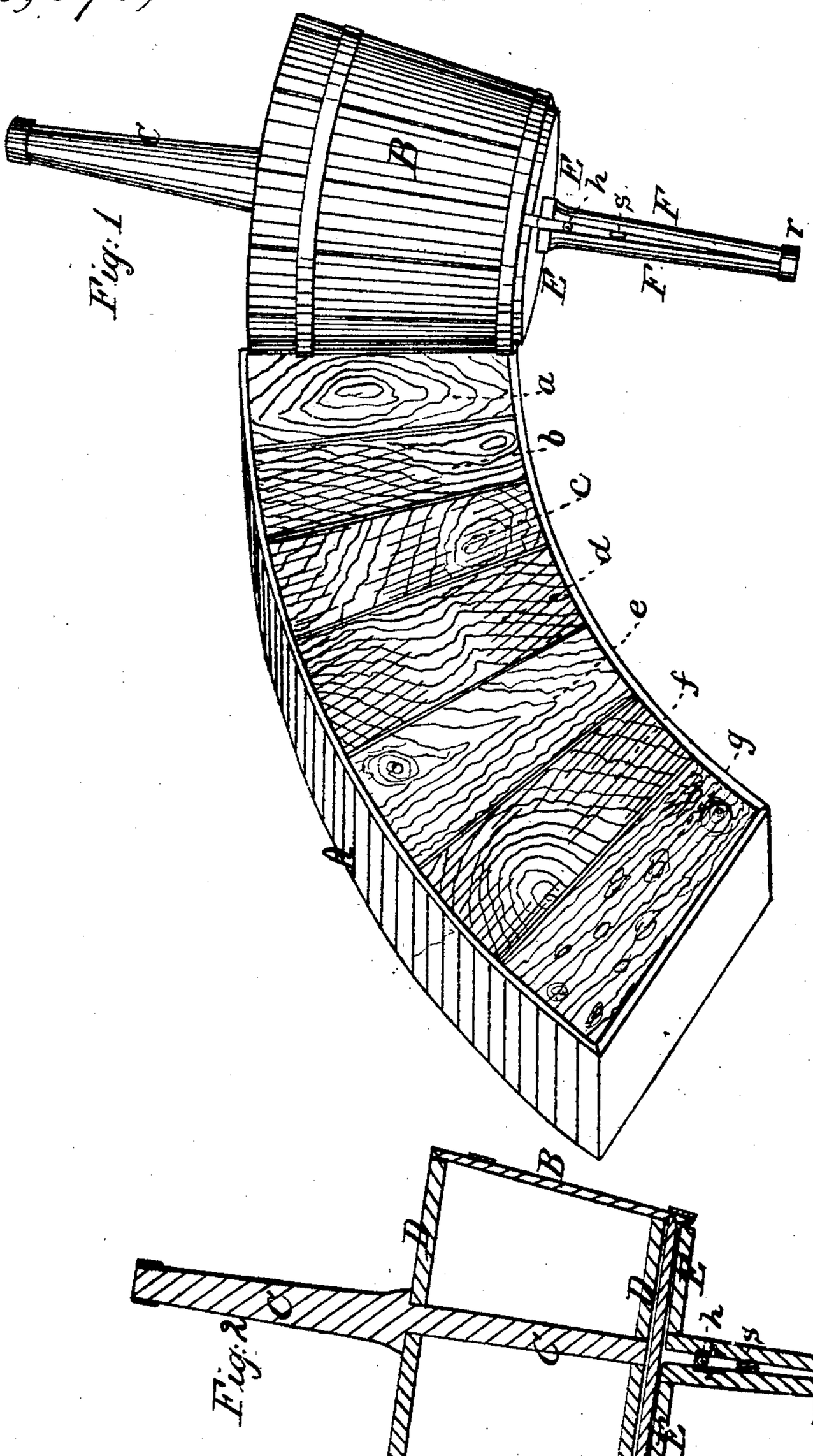

Fig. 1

Fig. 2

Witnesses
L. L. Coburn
W. E. Mann

Inventor
J. R. Cross
A. J. Cross

UNITED STATES PATENT OFFICE.

J. R. CROSS AND A. J. CROSS, OF CHICAGO, ILLINOIS.

APPARATUS FOR GRAINING PAILS.

Specification forming part of Letters Patent No. **45,590**, dated December 27, 1864.

To all whom it may concern:

Be it known that we, J. R. CROSS and A. J. CROSS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Machines for Graining Pails, and other Analogous Uses; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters and figures marked thereon, forming part of this specification.

In the said drawings, which are hereunto attached, Figure 1 represents a perspective view of our invention; and Fig. 2 is a central sectional view of the pail or other vessel to be grained, with the devices thereunto attached.

The nature of our invention consists in constructing the elastic bed containing the impression or impressions of the device to be grained upon the pail in separate panels, each panel to be of different designs, so that by moving the pail over the same the various designs will be stamped upon the pail, and thus producing a pail whose staves are painted in imitation of different kinds of woods.

To enable those skilled in the art fully to understand how to construct and use our invention, we will proceed to describe the same with particularity, reference being made to the aforesaid drawings.

A represents the box or bed into which the elastic material impressed with the required designs to be grained upon the pails is placed or framed, and may be constructed of wood or iron or any other material suitable for the purpose.

The elastic bed upon which the desired impression is made presents a plane surface, whose area is included between the arcs of two concentric circles described upon radii, whose difference in length is equal to the height of the pail or other vessel to be grained, the length of the exterior arc being equal to the circumference of the top or larger end of the pail, and the length of the interior arc being equal to the circumference of the bottom or smaller end thereof, and the corresponding ends of the said two arcs being joined by two straight lines. The curvatures of said arcs must be adapted to the different sizes of pails to be grained, and also to the different inclinations of their sides from the vertical, so that when the pail is adjusted properly upon said bed and rolled upon and over it the upper or larger end shall follow the outer curve, and the lower or smaller end shall follow the interior or smaller curve, with exactness and precision.

The elastic bed may present one continuous or uniform design, if desired; or it may be arranged in blocks or staves, each of different designs, as shown in Fig. 1 by the letters *a b c d e f g*, so that the pail or vessel grained thereon or thereby, shall present the appearance of being constructed of different kinds or species of woods, as rose-wood, oak, walnut, and others.

The elastic bed may be constructed of any suitable impressible material, as rubber or leather; but I consider the best material for the purpose to be a compound of glue and molasses, which is usued for printers' rollers.

The bed may also be constructed of separate pieces or blocks, as shown, or the material may be a single united mass, impressed by different designs arranged in staves, so as to produce the same effect as when constructed in separate blocks.

The same material may also be employed to imitate marbles and other ornamental stones. It may also be used for graining other wares, as for japanning and other similar purposes, and also for graining broom-handles. It may be observed, however, that when the articles to be grained have upright or parallel sides the bed may be of rectangular form instead of the form shown.

C, D, E, and F represent the handles and other devices for affixing or attaching said handles C and F to the pails to facilitate the operation of graining.

D D are two circular plates fitting closely into the pail, as shown, which are rigidly attached to the handle C, and when introduced, as shown, into the pail hold the same firmly.

E E represent a circular plate divided in two parts, to each of which is rigidly attached the handles F F, as shown. The said handles F F are connected by a hinge at *h*, and between them then is arranged a spring, *s*, to throw said handles apart when not confined by the ring *r* upon the ends of the same.

Having described the construction and nature of our invention, we will now describe the mode of operation and application of the same.

The ring *r* being removed from the end of the handle F F, the opposite ends thereof approach each other, being forced together by the operation of the spring *s* and hinge *h*, and thus the two parts of the plate E E are drawn together, diminishing its size, so that it can be readily introduced within the chine of the bottom of the pail, when by pressing the ends of F F together and replacing the ring *r* the plate E E is expanded and adjusted within said chine, so as firmly to fasten the handle F to the pail. The handle C is then readily inserted and adjusted within the pail, when the operator grasps the handles C F and adjusts the pail upon the elastic bed, as shown, the paint or coloring-matter having been previously applied thereto by means of a roller or in any other suitable and convenient manner. The pail is then readily rolled across the bed, and is by this simple operation grained in the most beautiful manner in staves in imitation of various woods or marbles, as before described, when the handles are detached and applied to another pail, and the operation repeated. Instead of rolling the pail over said bed, the pail may be suspended upon the handles or their removable equivalents, and the elastic bed itself moved beneath the pail in a suitably-arranged groove or track, producing the same result; or the application may be made in any other convenient and practical manner.

Having described the nature, construction, and operation of our machine for graining pails and other analogous uses, we will now specify what we claim as new therein and desire to secure by Letters Patent.

1. Constructing the bed of elastic material used in graining-machines in the form herein shown, substantially as and for the purposes specified.

2. Arranging the elastic material aforesaid, whether curved or rectangular in form, in a series of distinct staves or designs, substantially as and for the purposes herein shown and set forth.

3. The arrangement of the expansible plate E E and the handles F F, provided with the hinge *h* and spring *s*, as and for the purposes described.

4. In combination with the last foregoing, the employment of the handle C and plates D D, as and for the purposes shown and described.

J. R. CROSS,
A. J. CROSS.

Witnesses:
L. L. COBURN,
W. E. MARRS.