(No Model.)

# D. JOHNSON.

## APPARATUS FOR GRAINING.

No. 437,437. Patented Sept. 30, 1890.

Fig. 1.

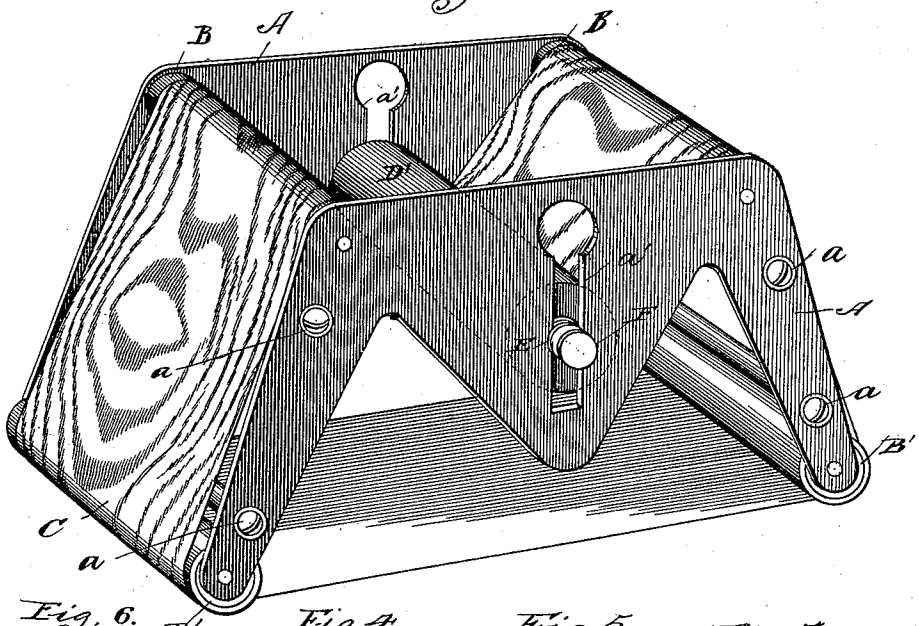



Fig. 6.

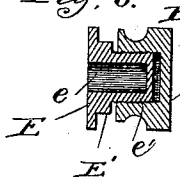



Fig. 4.

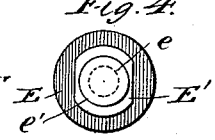



Fig. 5.

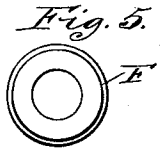



Fig. 7.

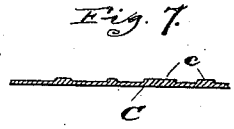



Fig. 2.

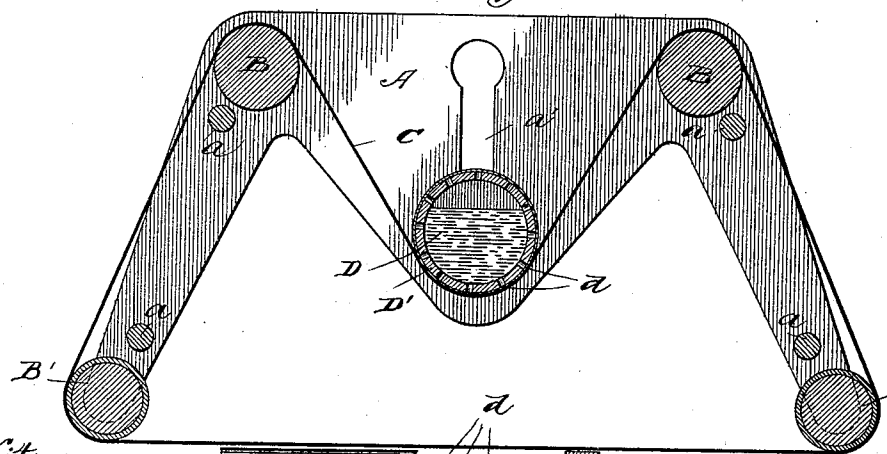
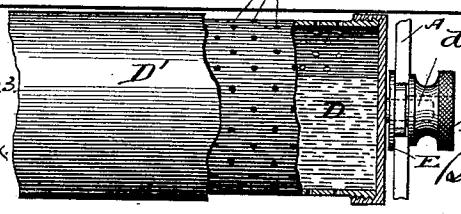



Fig. 3.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

DAVID JOHNSON, OF CHICAGO, ILLINOIS.

## APPARATUS FOR GRAINING.

SPECIFICATION forming part of Letters Patent No. 437,437, dated September 30, 1890.

Application filed August 20, 1889. Serial No. 321,375. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID JOHNSON, a subject of the King of Norway and Sweden, residing at Chicago, Illinois, have invented certain new and useful Improvements in Methods of and Apparatus for Graining, of which the following is a specification.

My invention relates to a method of and apparatus for transferring colors to woodwork and the like in imitation of the natural grain of woods or similar pattern-work.

In the accompanying drawings, I have illustrated one form of apparatus adequate to the carrying out of my improved method; but other forms of apparatus may be devised, and therefore I do not limit my invention, so far as said method is concerned, to the specific form of apparatus shown.

In said drawings, Figure 1 is a perspective view of the apparatus; Fig. 2, a longitudinal vertical section; Fig. 3, a side elevation, partly in section, of the color-cylinder; and Figs. 4, 5, 6, and 7 are details.

In said drawings I have shown a frame-work consisting of the side pieces A, connected by cross-rounds or braces *a*, and having journaled therein the tension-rolls B and the pressure-rolls B′. Around these rolls a transfer or pattern belt C is carried. This belt may be composed of a suitable porous flexible material. I have found cotton cloth an excellent material; but other material may be found equally desirable or preferable. This belt has the pattern produced thereon, and when it is composed of cloth the pattern may be worked therein with coarse thread after the manner of etching or embroidery. In Fig. 7 a sectional view of the belt is given, the threads producing the raised pattern *c*, which appears as ribs on the surface. The lower or pressure rolls will be so set as to hold the belt below the frame, and thereby the latter may be presented to the surface to be ornamented, and by the pressure of the rolls the color on the pattern will be transferred.

D is a color-cylinder, which is hollow and has perforations *d* in its periphery. This cylinder will be inclosed in a wrapper D′, of felt or other suitable fabric, which will serve as a pad to receive the color from the perforations and transfer it to the pattern *c*. D is journaled in the side pieces A, preferably in the slots *a*′, and by means of the clamping-nuts E F. (Shown in Figs. 4, 5, and 6.) The former has an aperture *e* to receive journal *d*′ of the cylinder D and rests against the inner side of A, and it has a hub with flattened portion E′ and a threaded portion *e*′. The nut F is turned on the threads *e*′, and when brought to bear on the side piece A prevents the journal moving vertically within the slot, while allowing it to rotate freely in the bearing. This cylinder will be set above the pattern-belt, and by vertically adjusting it it may be used to vary the tension of the same in addition to its function of applying the color.

The operation is as follows: The apparatus being organized as described, the color will be placed within the hollow of D, as indicated by D′. The apparatus will then be grasped by the operator and the lower portion of the belt will be applied to the surface which is to be ornamented, and by an easy rolling motion the apparatus will be moved along the surface-rolls B′, causing the belt to impinge on the surface, and thus transferring color to said surface in duplicate of the pattern which is constantly receiving it from the surface of D.

Other means of applying the color to the pattern may be employed, and I do not therefore limit my invention to that shown.

I claim—

In an apparatus for graining or otherwise ornamenting surfaces, the combination, with a frame-work, of tension and pressure rolls journaled therein, an endless belt or fabric having a raised pattern thereon of coarse thread worked or embroidered in the substance of said belt, a hollow cylinder to contain a fluid coloring material, having apertures in its peripheral walls, and a fabric covering for distributing the color to the fabric, substantially as described.

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Witnesses:

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