

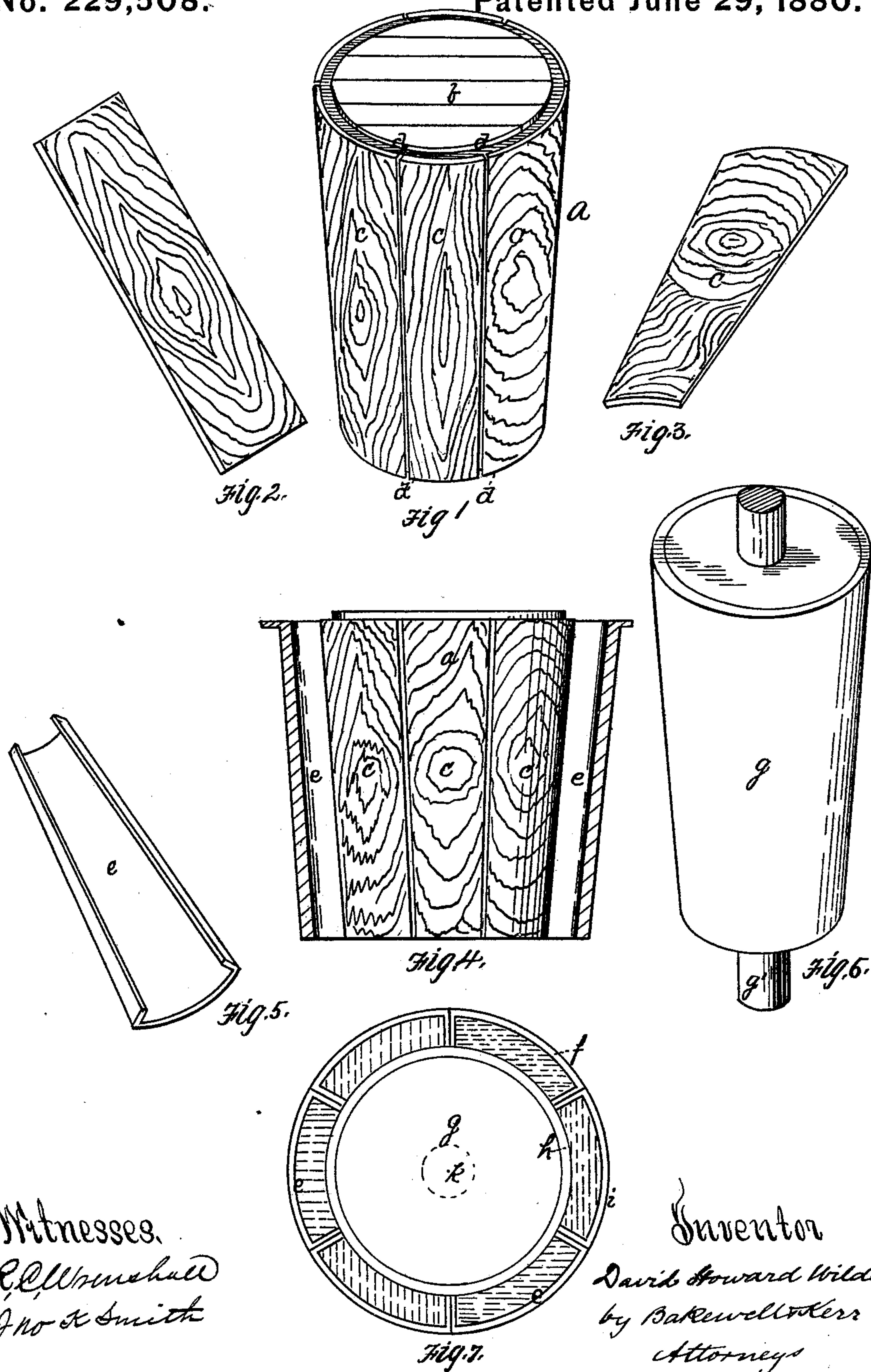
(No Model.)

D. H. WILDER.

Manufacture of Patterns for Casting Printing Rolls
for Graining Wooden Ware.

No. 229,508.

Patented June 29, 1880.



Witnesses.
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UNITED STATES PATENT OFFICE.

DAVID H. WILDER, OF CORRY, PENNSYLVANIA.

MANUFACTURE OF PATTERNS FOR CASTING PRINTING-ROLLS FOR GRAINING WOODEN WARE.

SPECIFICATION forming part of Letters Patent No. 229,508, dated June 29, 1880.

Application filed May 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. WILDER, of Corry, in the county of Erie and State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Patterns for Casting Rolls for Graining Wooden Ware; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of the pattern on which the mold is formed. Fig. 2 is a view of the former upon which the electrotpe is made. Fig. 3 is a view of one of the panels with which the pattern, Fig. 1, is covered. Fig. 4 is a sectional view of the mold in which the mold for casting the printing-face is made. Fig. 5 is a perspective view of the casing of one section of the mold. Fig. 6 is a perspective view of the roller before the printing-face is cast on it, and Fig. 7 is a plan view of the mold in which the roller composition is cast onto the roll.

Like letters of reference indicate like parts in each.

Prior to my invention the printing-faces of rolls for graining the surfaces of tubs, pails, and other wooden ware were formed upon a wooden former of the shape of the roll, carved to represent the desired grain or design. Upon this pattern a plaster cast was made to form the mold in which the printing-face of the graining-roll was cast, of ordinary roller composition, such as is used for the rollers of printing-presses. Great inconvenience was experienced from the difficulty of carving the wooden face of the round pattern, and great expense resulted from the quick wear and destruction of the soft face of the wooden pattern.

My invention consists in forming the molding-surface of the pattern in sections by electrotyping.

To enable others skilled in the art to make and use my invention, I will now describe the same.

The pattern upon which the plaster molds are made is generally formed with panel designs to represent the staves of the bucket or other article. I carve this pattern upon a flat piece of wood, such as shown by Fig. 2, and then coat it with a coating of plumbago or other conducting-surface and insert it into a

bath, and proceed to form upon its coated surface a film or shell of copper or other alloy, in the manner usually practiced in electrotyping. Upon this thin film or shell, after it is removed from the pattern, I cast lead to give it sufficient body, preferably from about a quarter to a third of an inch in thickness. I then take a sufficient number of panels thus formed to cover the whole surface of the roll-pattern and put each one of them between sheets of galvanized iron, first covering the face with a thick sheet or blanket of felt, and then place the panel so surrounded by the galvanized iron and felt upon a stove and heat it, but not sufficiently to fuse it. While it is in a heated or sufficiently soft condition I pass it between a pair of bending-rolls, such as are used by tanners, and bend it to the curve of the roll. I then place the sections upon the form and secure them in place in any desired way.

If I desire to form a tapering roll, the plates must be sheared to a tapering form, so as to be fitted perfectly to the form. The pattern thus made is shown by Fig. 1, in which *b* indicates the wooden block; *c*, the sections or panels; *d*, the division between the panels. This pattern is used for the purpose of forming the mold in which the rubber-composition surface of the printing-roll is cast.

The method of casting the mold is as follows: I place the electrotpe-pattern *a* in a mold of suitable shape, surrounding it with a series of segmental boxes, *e*. Into these boxes I pour plaster-of-paris in a plastic condition, so that it will come in contact with the face of the pattern, and when the plaster becomes set it takes upon its inner face the impression of the panels of the pattern *a*.

The segmental boxes are then taken out of the mold and placed in suitable clamps *i*, so as to form a circular mold, *f*, Fig. 7, in which a wooden roll, *g*, is placed in the center, and the roller composition cast in the space *h* between the roll *g* and the mold *f*. On the bottom of the mold *f* there is a cap having a central opening, *k*, for the reception of the shaft *g'* of the roll *g*.

When the composition is set the segments of the mold are taken off, and the jacket thus made on the roll *g* forms its printing or graining face, and is ready for use.

The advantages of my invention are, that

the carving can be done on a flat piece of wood, and therefore with great ease, quickness, and perfection; that the surface of the electrotpe does not become irregular from swelling or shrinkage; that the panels are removable and interchangeable to form new designs, and that the former is very durable. As the composition face of the printing-roll wears away rapidly, and has to be renewed frequently, this is a very important saving in the expense of the use of these machines. When the composition face becomes worn it can be stripped off the roll and recast on it in the mold in the same way as described.

15 What I claim as my invention, and desire to secure by Letters Patent, is—

The method herein described of making molds for casting the faces of printing-rolls for graining wooden ware, which consists in first carving the desired pattern upon a flat piece of wood; secondly, forming an electrotpe-plate thereon; thirdly, bending the electrotpe-plate to form a core or section of a core, and finally casting the plaster mold upon a core or pattern formed of said electrotpe plate or plates, substantially as specified. 25

In testimony whereof I, the said DAVID H. WILDER, have hereunto set my hand.

DAVID HOWARD WILDER.

Witnesses:

WALTER H. STARBIRD,
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