T. BRANDWOOD.

PERFORATED BEAM FOR DYEING AND LIKE APPARATUS.

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1,298,287.

Patented Mar. 25, 1919.

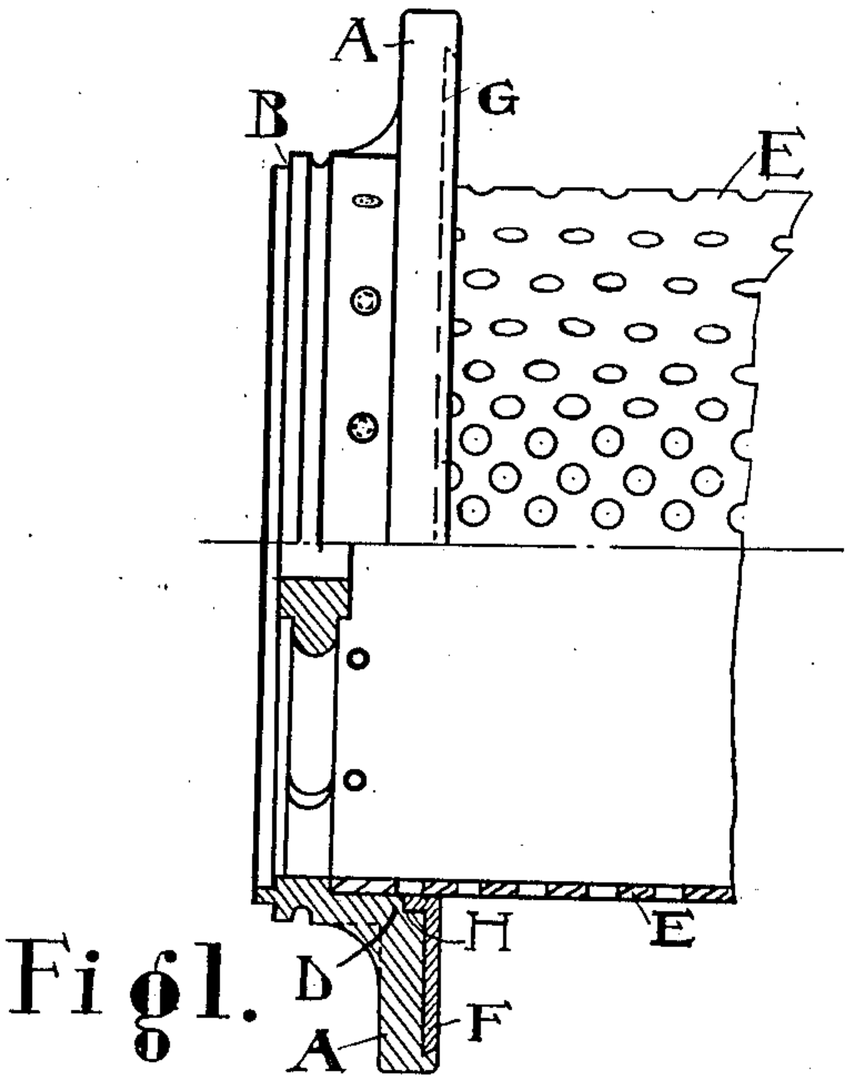

Fig 1.

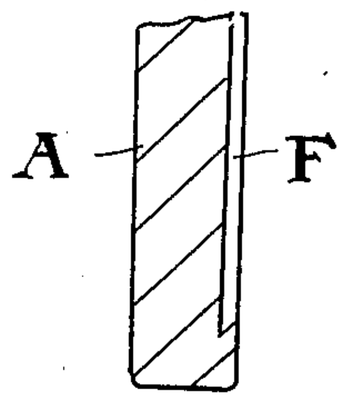

Fig 3.

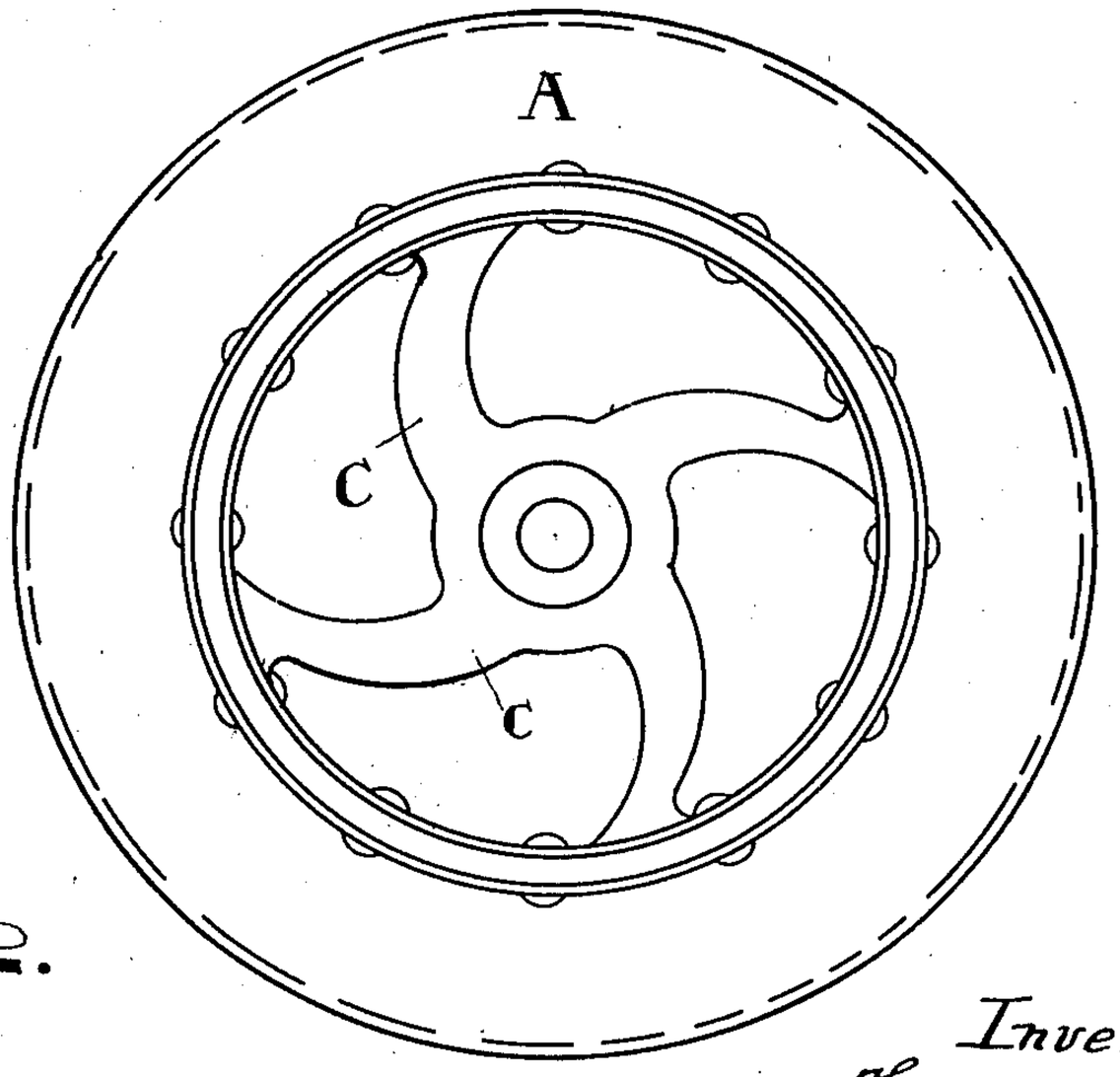

Fig 2.

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UNITED STATES PATENT OFFICE.

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PERFORATED BEAM FOR DYEING AND LIKE APPARATUS.

1,298,287. Specification of Letters Patent. Patented Mar. 25, 1919.

Application filed July 19, 1917. Serial No. 181,471.

To all whom it may concern:

Be it known that I, THOMAS BRANDWOOD, a subject of the King of Great Britain and Ireland, and a resident of Walshaw, in the county of Lancaster, England, but at present residing temporarily at Clinton, in the State of Massachusetts, have invented certain new and useful Improvements in Perforated Beams for Dyeing and like Apparatus, of which the following is a specification.

In the United States Patent No. 1,211,068 there is described a method of construction of perforated beams or the like upon which warps are dyed or subjected to other liquid treatment, which perforated beams have a protective flange of nickel or other material (hereinafter for convenience referred to as nickel) in the form of a ring or annulus, which shall be unaffected by liquids used in dyeing or other processes, and a stronger outer flange of greater diameter than the nickel flange to protect the outer edge of the said nickel flange when the beam is rolled on a floor or other surface. Means are also described and illustrated in the said patent for making a liquid tight joint between the inner nickel flange and the outer flange, to prevent the admission of dye or other liquor between the two flange parts.

This present specification describes an improved method of construction of the composite flanges referred to above, and also an improved method of forming the liquid tight joint between the outer and inner flange, the object of my present improvements being to still further protect the nickel flange from injurious contact with a floor or other surface upon which the beam, of which the flange forms a part, may be rolled, and to simplify the method of forming the necessary liquid tight joint between the outer and inner flanges.

In carrying the improvements into effect I so form the inner nickel flange that while it is of less diameter than the outer flange, it forms a flush or plane surface with the inner face of such outer flange, and I so form the joint between the outer and inner flanges that the edges of the ring or annulus may be spun into recesses formed in the outer flanges thus leaving no projections whatever on the inner face of the complete built up composite flange.

My improvements will be perfectly understood from the accompanying drawings, in which:

Figure 1 shows the improved flange half in section and half in elevation;

Fig. 2 shows the combined flange in elevation from the outside face, and

Fig. 3 shows in section to an enlarged scale the method of securing the inner nickel flange of less diameter to the outer flange of greater diameter.

Referring to Figs. 1 and 2, A indicates the outer flange formed with a coned portion B which fits upon the dye inlet while the yarn wound upon the perforated beam is dyed. C C are spokes for securing the beam to a loom shaft or the like, and D indicates a seat for the cylindrical shell E. All of these parts are substantially as described in the specification to Letters Patent 1,211,068 referred to above.

The outer flange A is formed on its inner face with a circular recess G to receive the nickel flange F of less diameter than the outer flange. This nickel flange is in the form of a ring or annulus. In the outer flange is also formed a recess or groove H. The nickel ring or annulus is laid in the recess formed in the outer flange A, and its inner and outer edges are then spun into the recesses H and G respectively.

The recess G is preferably formed as shown in Figs. 1 and 3, so that the outer edge of the nickel flange when spun into it keys therewith to retain the nickel flange permanently in position.

I have described the inner flange as being of nickel, but it will be obvious that other substances may be used, such as rubber or ebonite, the material being pressed into the recesses G and H to form a liquid tight joint.

What I claim is:

1. In a composite flange for beams for dyeing and the like, a heavy outer flange having an annular recess on its inner face, said recess being of considerably less diameter than the outer flange, and an inner flange of non-corrosive metal spun into the said recess in such a manner that it makes a liquid-tight joint with the outer flange and forms a flush surface with the inner face of said outer flange, substantially as described.

2. In a composite flange for beams for dyeing and the like, a heavy outer flange having an annular recess on its inner face, an inner and smaller flange of non-corrosive

metal fitting in said recess and forming a flush surface with the inner face of the outer flange, and a groove or recess around the eye of the flange into which the inner edge of the inner flange may be spun or pressed to make a liquid tight joint, substantially as described.

3. In a composite flange for beams for dyeing and the like, a heavy outer flange having an annular recess on its inner face, the walls of said recess tapering so that the bottom of the said recess is of greater diameter than the top, and an inner flange of non-corrosive metal spun or pressed into such recess, the tapering walls of the recess insuring a secure junction between the flanges, and a groove or recess around the eye of the flange into which the inner edge of the inner flange may be spun or pressed to make a liquid tight joint, substantially as described.

In testimony whereof I have hereunto set my hand.

THOMAS BRANDWOOD.