

(No Model.)

R. A. BULKLEY.
PACKING STEAM JOINTS.

No. 287,416.

Patented Oct. 30, 1883.

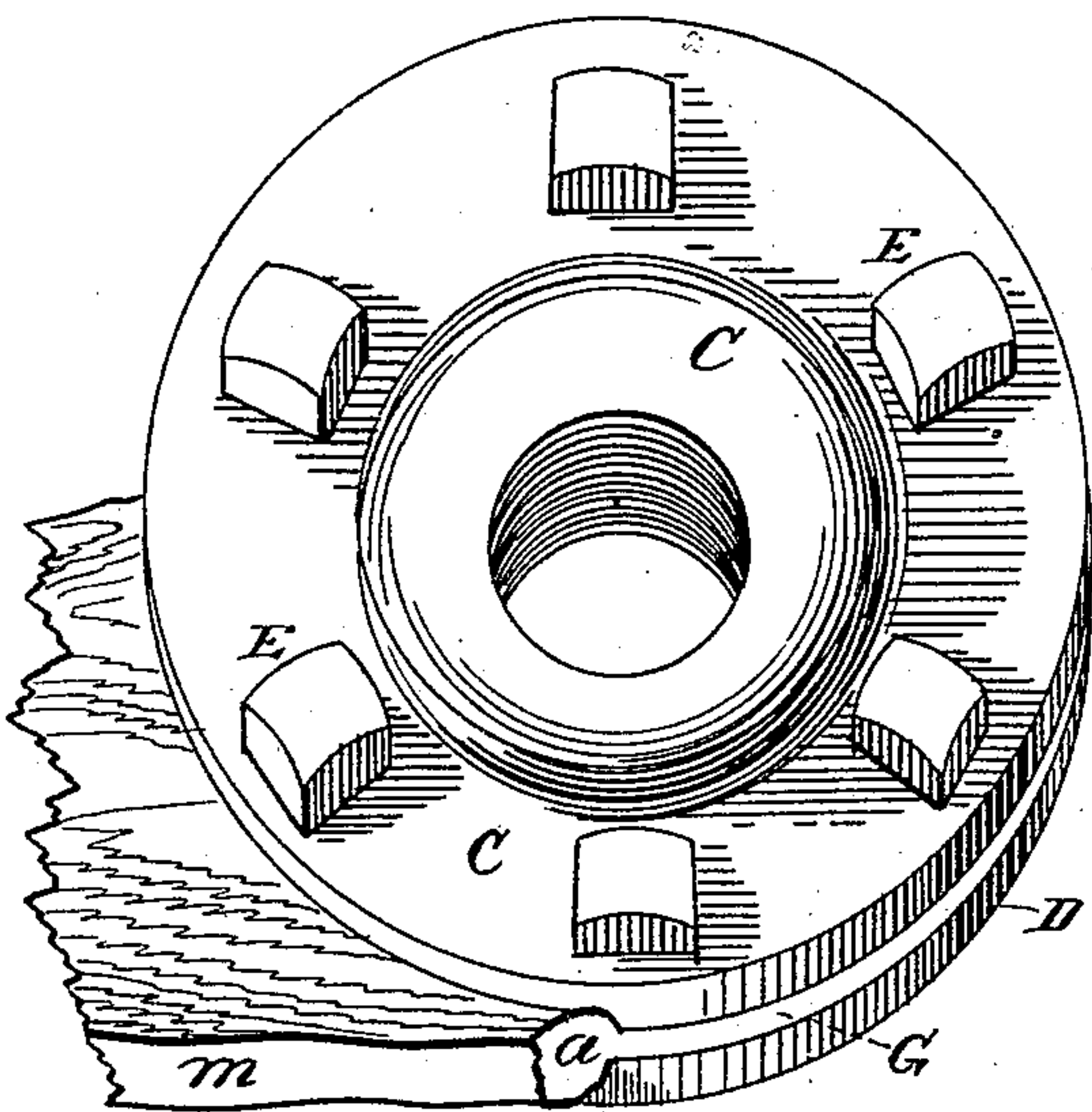


Fig. 1.

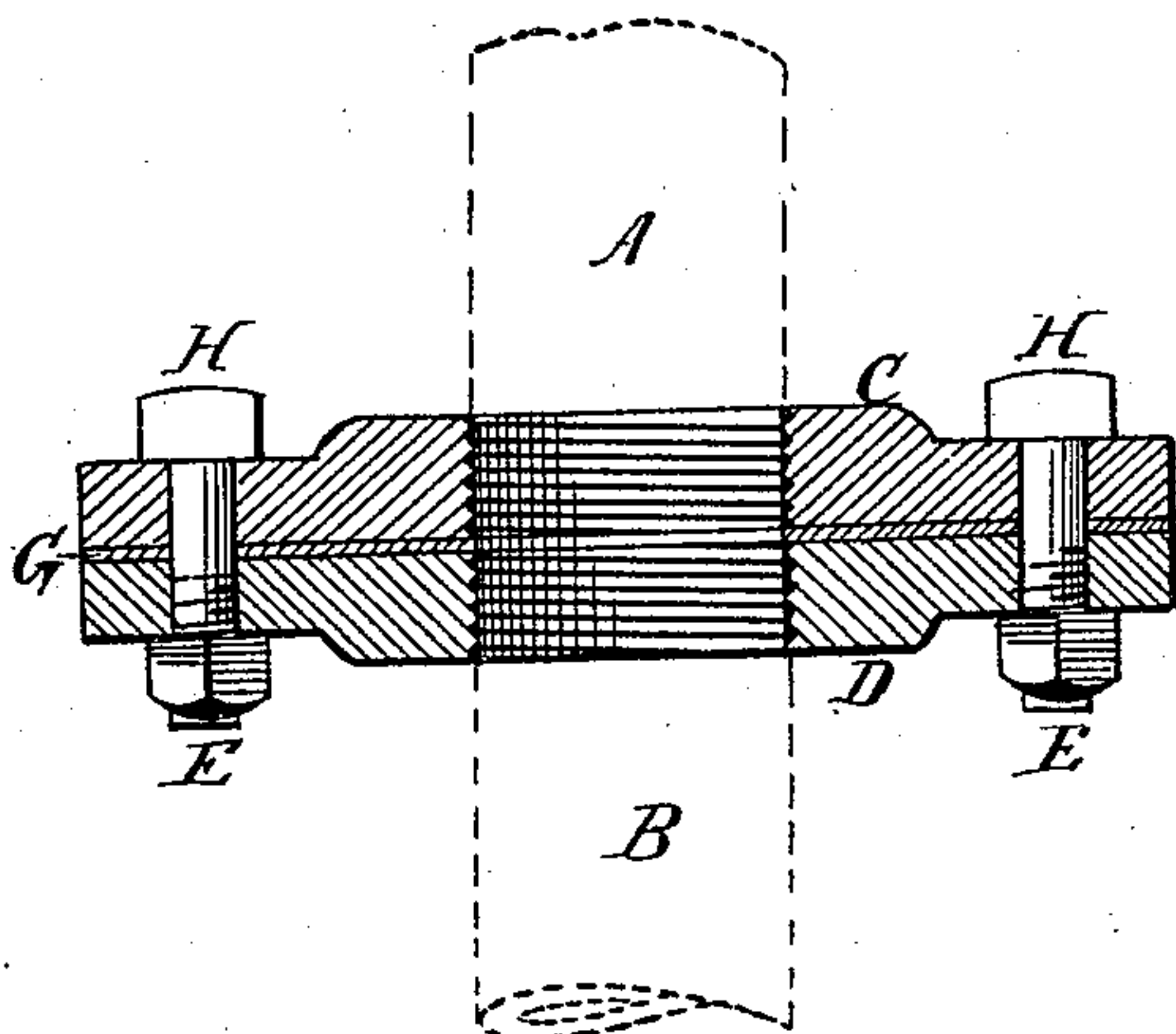


Fig. 2.

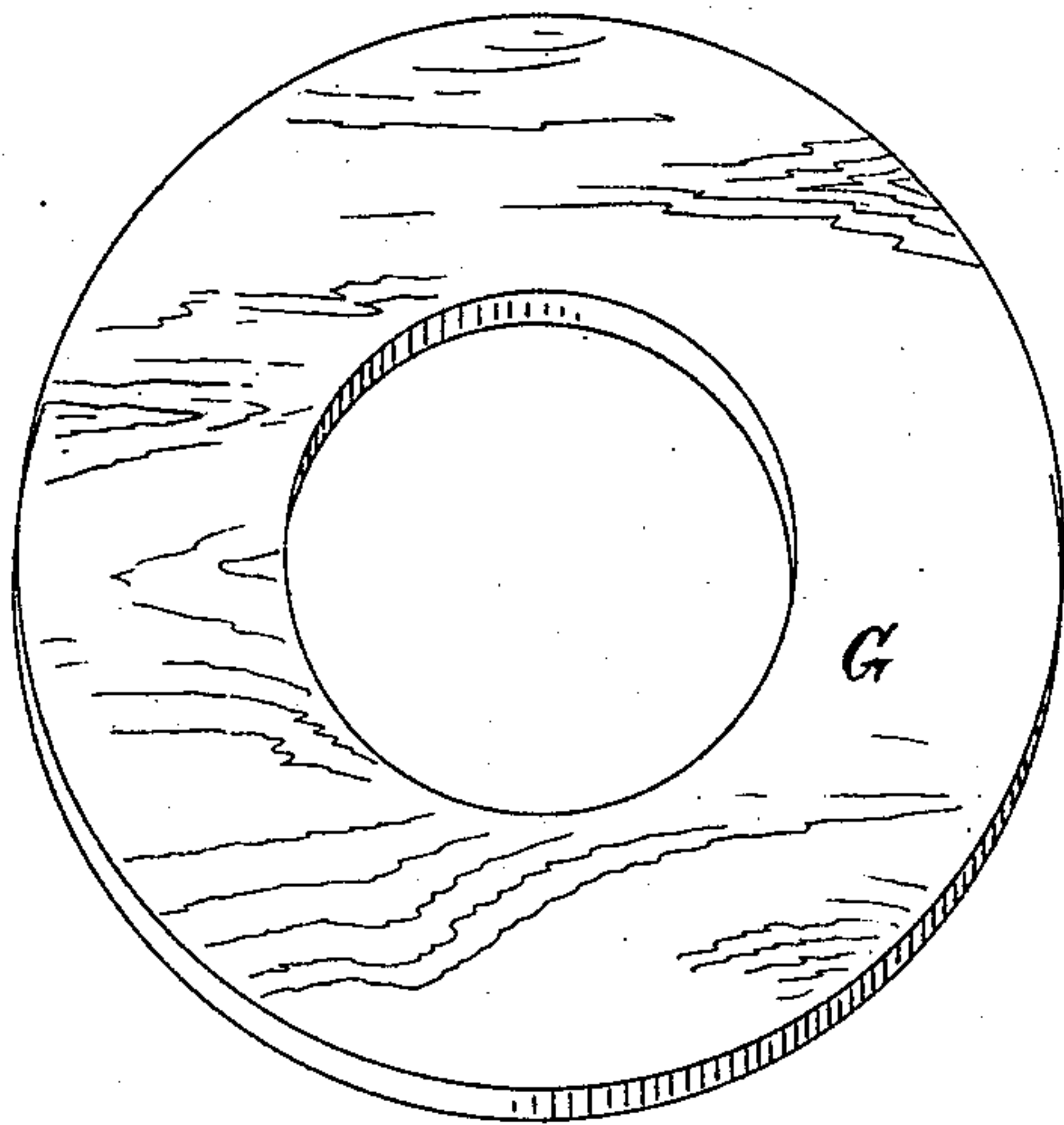


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

ROSALVO A. BULKLEY, OF ODESSA, NEW YORK, ASSIGNOR TO HIMSELF
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PACKING STEAM-JOINTS.

SPECIFICATION forming part of Letters Patent No. 287,416, dated October 30, 1883.

Application filed June 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, ROSALVO A. BULKLEY, of Odessa, in the county of Schuyler, State of New York, have invented a certain new and useful Improvement in Processes of Packing the Joints of Steam-Pipes, of which the following is a description, sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view designed to illustrate one feature of the invention; Fig. 2, a vertical transverse section representing a pipe-joint packed by my improved process, and Fig. 3 a view of the packing-ring detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates more especially to means for packing that class of steam-pipe joints which are provided with flanges, and it consists, essentially, in placing a packing-ring composed of porous wood between the flanges of the pipes, submitting it to the action of steam, and manipulating or treating it as hereinafter more fully set forth and claimed, by which a simpler, cheaper, and more effective packing of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A B represent the steam-pipes, and C D their respective coupling-flanges, which are connected in the usual manner by the bolts H and nuts E. A packing-ring, G, cut across the grain from a thin strip of porous wood, preferably soft dry white wood or poplar, and from one-eighth to three-quarters of an inch in thickness, or in accordance with the size of the pipes, is introduced between the flanges C D, which are then caused to firmly grasp or clamp the ring by turning the nuts E onto the bolts H to their fullest extent. Steam is then let into the pipes A B, from which it passes freely through the porous body of the

ring, the steam and water of condensation acting to soften it and enable it to be still further compressed between the flanges by the nuts and bolts, the nuts being turned down from time to time as far as possible while the ring is under the action of the steam, until its pores are entirely closed and no more steam or water can pass through it. After the ring has been submitted to the action of the steam until it is thoroughly softened, and the flanges have been caused to compress it by means of the nuts and bolts until its pores are entirely closed, the heat of the steam will rapidly harden it or bring it to a consistency resembling that of horn, in which condition it is substantially impervious to both steam and water and indestructible by steam-heat of such a temperature as would readily destroy ordinary rubber or leather packing.

It will be obvious that where my improved process of packing is employed there will be no necessity of facing or turning down the flanges, as the packing-ring, before being hardened by the heat of the steam, will readily yield to any inequalities of surface, and thus tend to produce a tight joint.

It will also be obvious that the improvement is equally well adapted for packing the heads of steam-chests, the man-holes in steam-boilers, &c.; also, for packing the joints of hot-water pipes, or any pipe having a flange and conveying hot water or steam, and I therefore do not confine myself to its use for packing the joints of steam-pipes exclusively.

From the foregoing it will be seen that compressing the ring gradually or from time to time while under the action of steam and until it becomes thoroughly hardened forms a leading feature of my invention.

In Fig. 1 a piece of the uncompressed wood from which the ring is made is represented as projecting beyond the flanges C D, as shown at *m*, the comparative degree of compression being shown at *a*.

It will also be obvious that the rings of any required size may be readily cut by dies, or in any other convenient manner from strips or boards of the required thickness; also, that a great saving will be effected by the use of this improvement over the ordinary methods

of packing, both as to first cost and durability.

Having thus explained my invention, what I claim is—

5 The improved process of packing the flanged joints of steam-pipes herein described, the same consisting, essentially, in placing a packing-ring composed of soft porous wood between the flanges, screwing the flanges together to firmly clamp the ring, then submitting the

ring to the action of steam, and while under the action of steam and softened thereby screwing the flanges still closer together until the pores of the ring are closed and it is hardened by the heat, substantially as set forth.

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