(No Model.)

C. G. BLUM.

DEVICE FOR USE IN BRAZING AND COATING STOCK BELLS.

No. 444,288. Patented Jan. 6, 1891.

Fig. I.

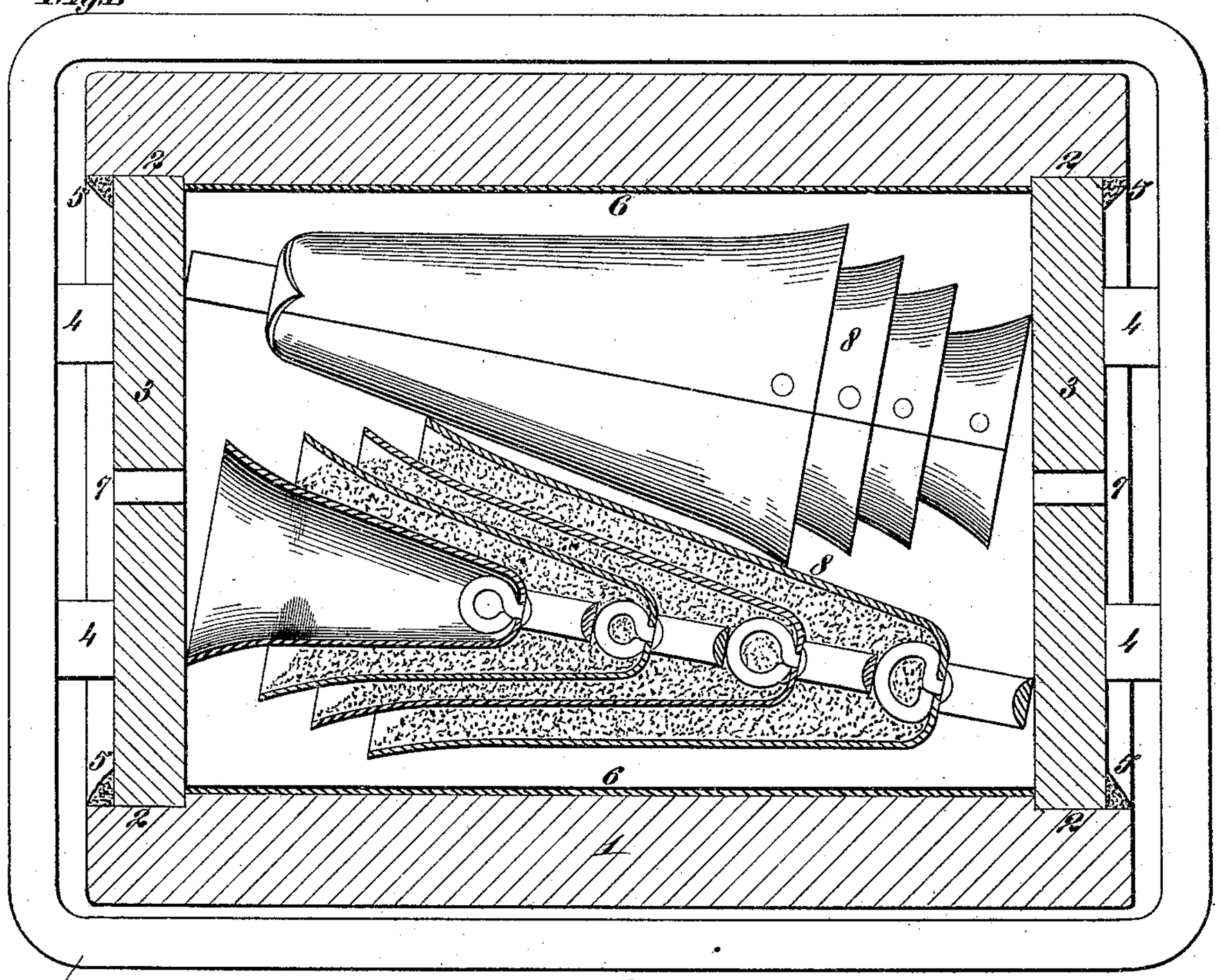
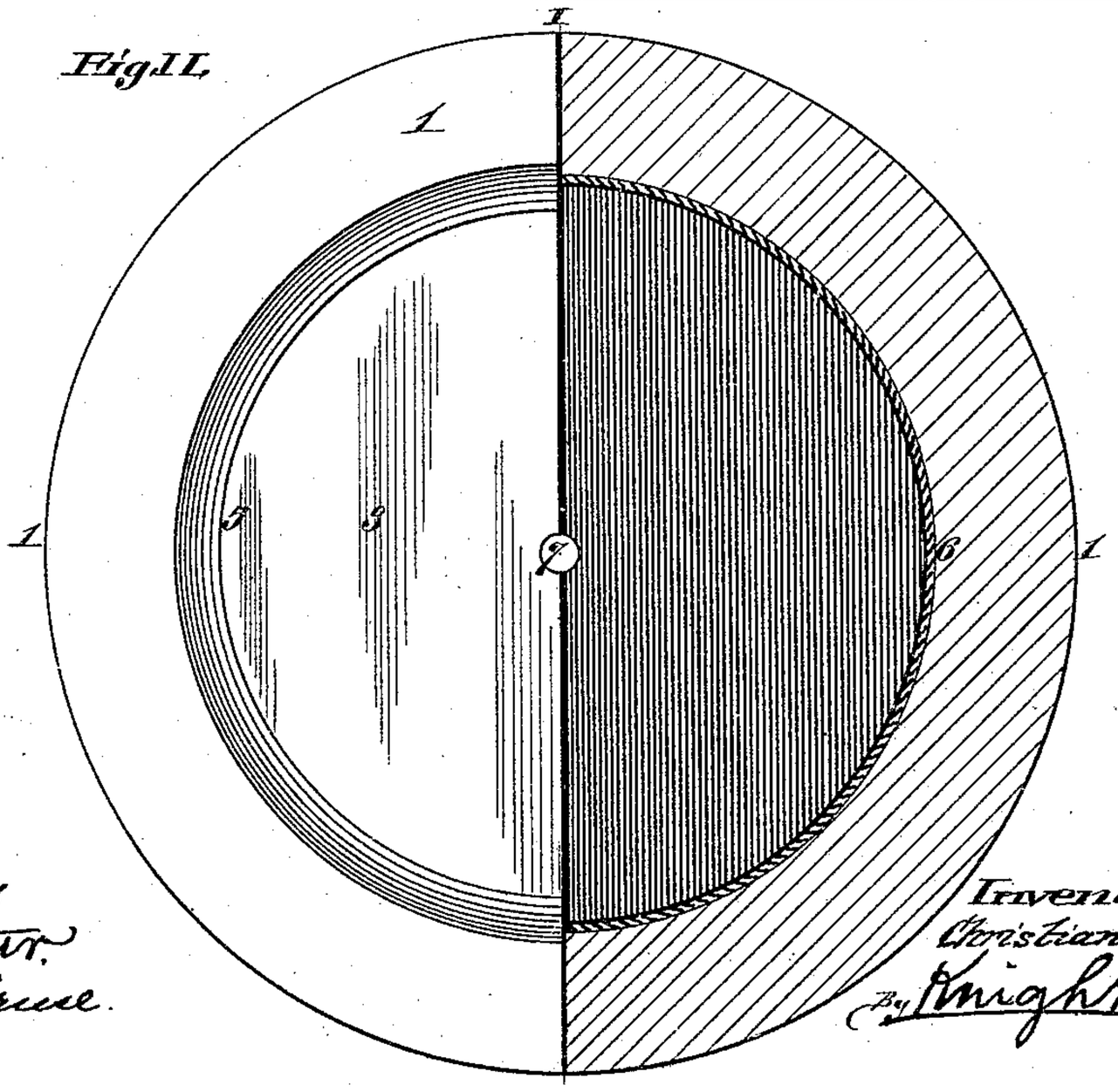


Fig. II.



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UNITED STATES PATENT OFFICE.

CHRISTIAN G. BLUM, OF COLLINSVILLE, ILLINOIS.

DEVICE FOR USE IN BRAZING AND COATING STOCK-BELLS.

SPECIFICATION forming part of Letters Patent No. 444,288, dated January 6, 1891.

Application filed February 3, 1890. Serial No. 338,989. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN G. BLUM, of Collinsville, in the county of Madison and State of Illinois, have invented a certain new, useful, and Improved Device for Use in Brazing and Coating Stock-Bells, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The invention consists in features of novelty hereinafter described in connection with the accompanying drawings, and particularly pointed out in the claims.

In the said drawings, Figure I is an axial section of the cylinder, showing the nests of bells therein. Fig. II is an end view of the cylinder with one half in transverse section.

Stock-bells are made of sheet metal, as iron or steel, cut to a pattern and bent and riveted in the form of a bell, and provided with a strap loop or staple and eye for the connection of the clapper-rod. After the bell is formed it is covered with a coat of brass, which seals the seams and serves to protect the sheet metal from rust. The brazing has before been accomplished by placing the bells in nests and filling them with a mixture of powdered charcoal and brass in small particles, as filings, turnings, &c., and then wrapping them with paper or sheet metal and enveloping the whole in clay, the whole being then put into a furnace to melt the brass, after which the package was taken out and rolled to cause the melted brass to come in contact with all parts of the bells. The bells were then uncovered and dropped into cold water while hot, so as to harden or temper them. Cylinders having the general flattened form of the nests of bells have been used in place of the clay envelope.

The cylinder 1, used by me in place of the clay envelope or crucible, (before used,) is portable, so that it may be taken from the furnace for rolling, as hereinafter described, and is formed of graphite or other refractory material, and may be provided with rabbets 2 at the ends to receive the edges of the graphite or other heads 3, which may be secured by clamps 4 or in any other manner, and which are made tight at the margin by luting 5. The rabbets 2 are not essential, as the heads may rest against the contents of the cylinder. The clamps 4, it will be seen, are in turn held firmly against the heads by means of a loop or hoop 4^a, which passes around the cylinder lengthwise thereof; but it may be removed when the cylinder is taken from the furnace ready for rolling, the said hoop being only necessary for insuring against the possibility of the cylinder being from any cause knocked open in the furnace. The luting 5 will be sufficient to prevent the heads falling out during the rolling process. I prefer to line the cylinder with sheet-iron 6.

7 are holes made through the center of each head to allow the passage of air, so as to prevent an increase of pressure within the cylinder when it is placed in the furnace.

The bells 8 are placed in nests, the smaller being within the larger in regular order, as shown, and kept asunder by the mixture of charcoal and brass filings, &c. Two of the nests are placed side by side in the cylinder, with the mouth of the bells presented in opposite directions, so as to nearly fill the cylinder, the nests being separated with the charcoal and brass. The cylinder is kept in a horizontal position during the time it is in the furnace and after its removal therefrom, so that the brass will not run through the holes 7. When the cylinder is removed from the furnace, it is rolled on the ground or other surface, which causes the melted brass to come in contact with all parts of the bells 8 for the coating of the bells and filling all the joints.

In order that the sides of the cylinder may not be subjected to any unequal strain, the same is formed with an equal diameter from end to end; or, in other words, its exterior is perfectly straight from end to end, so that it will have an equal bearing throughout its entire length when laid flat, and the diameter of the removable heads 3 being not greater than that of the cylinder, but less, and they being inserted entirely within the ends of the latter, it will be seen that such heads cannot elevate either end of the cylinder in the least.

I claim as my invention—

1. The combination of a portable cylinder 1, of refractory material, whose diameter is equal throughout its whole length, whereby it may have an equal bearing from end to end

when laid flat, and removable heads of less diameter than said cylinder inserted entirely within the ends of the latter, substantially as set forth.

2. The combination of a portable cylinder 1, of refractory material, having a straight exterior from end to end, and removable refractory heads of smaller diameter than said cylinder fitting entirely within the ends of the latter and being provided with perforations at a distance from their edges, substantially as and for the purposes set forth.

3. The combination of a portable cylinder composed of refractory material and having its exterior formed perfectly straight from end to end, removable refractory heads whose diameters are not greater than that of said cylinder, inserted entirely within the ends of the latter and having air-holes at or near their centers, and luting inserted within said cylinder against the heads for making the latter tight, substantially as set forth.

CHRISTIAN G. BLUM.

In presence of—
SAML. KNIGHT,
E. S. KNIGHT.