

W. A. COGSWELL & J. JUDSON.

Improvement in Casting Casings for  
Steam Governor-Valves.

No. 130,482.

Patented Aug. 13, 1872.

Fig. 1. 2 Sheets--Sheet 1.

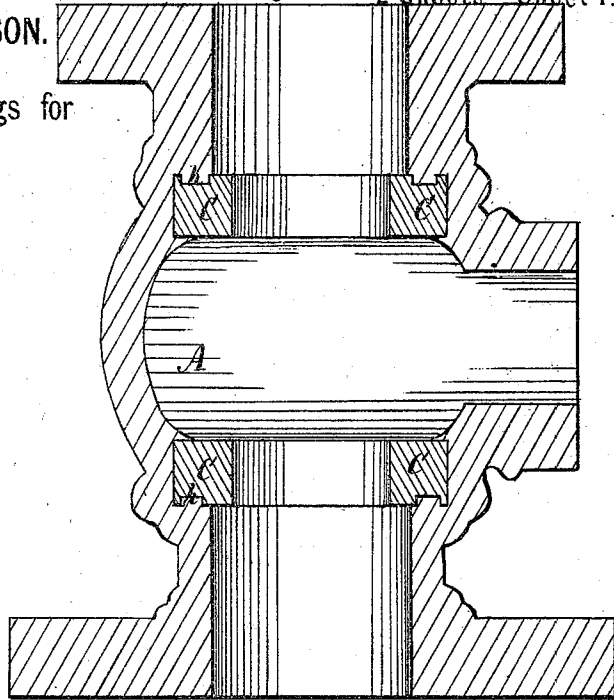
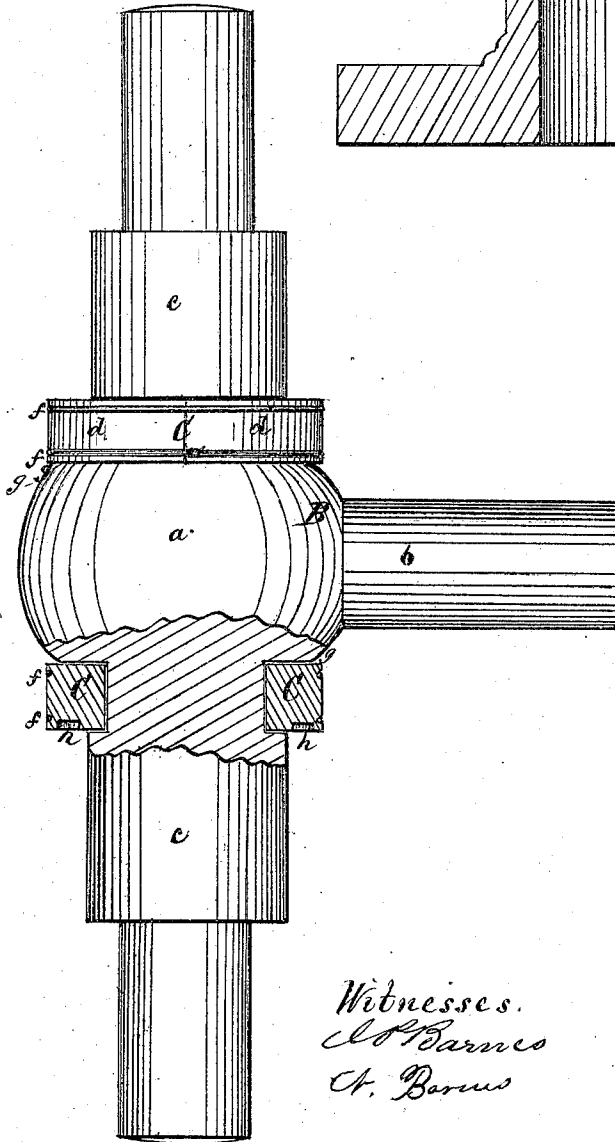


Fig. 2.



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Fig. 3. 2 Sheets--Sheet 2.

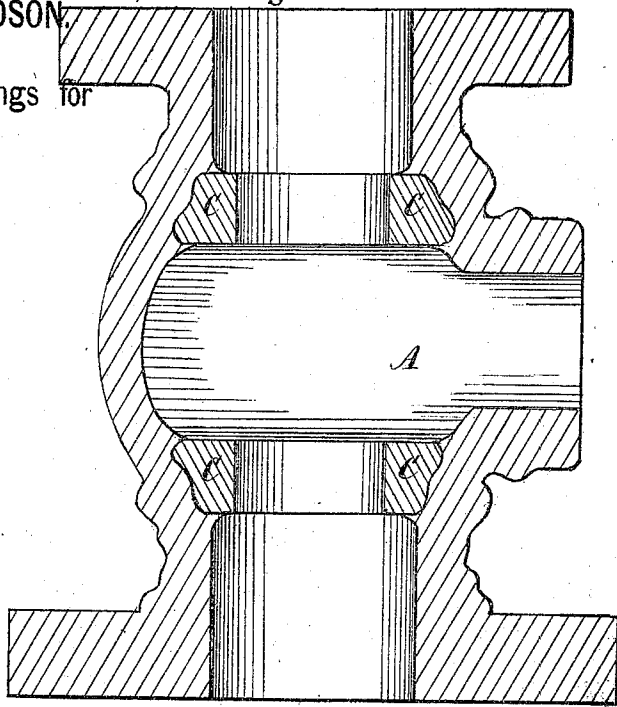
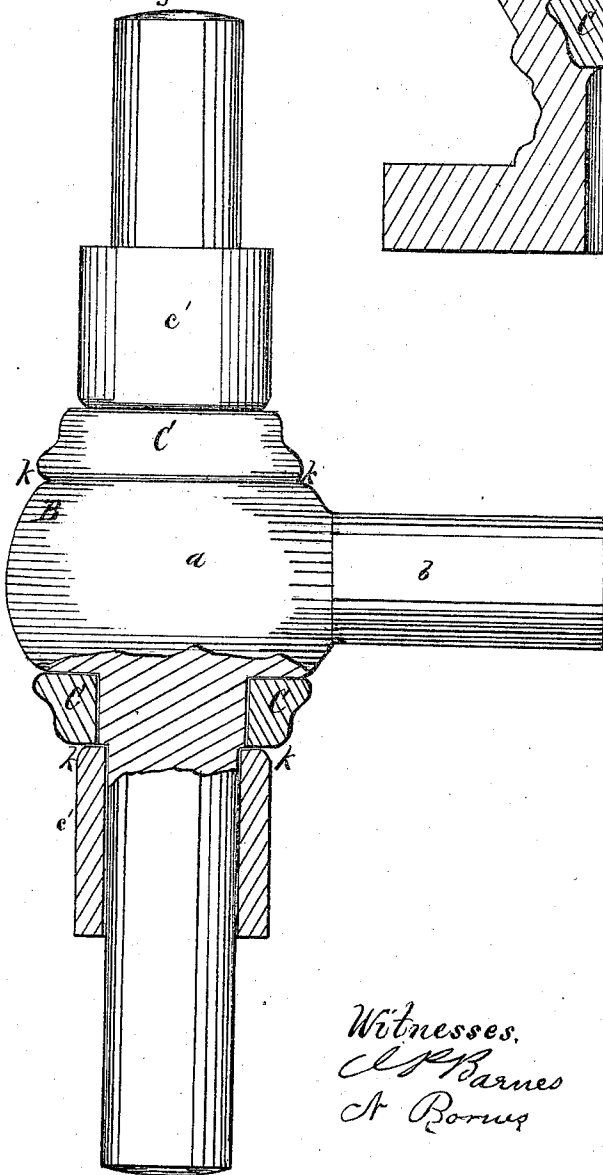


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN CASTING CASINGS FOR STEAM GOVERNOR-VALVES.

Specification forming part of Letters Patent No. 130,482, dated August 13, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that we, WILLIAM A. COGSWELL and JUNIUS JUDSON, both of the city of Rochester, county of Monroe and State of New York, have invented a certain new and useful Improvement in Casting Casings for Steam Governor-Valves, of which the following is a specification:

#### *Nature of the Invention.*

This invention consists in applying upon the core which forms the internal opening or passage of the casing, a previously-formed ring or rings, which is thus retained in place in the process of casting, and forms the valve-seat or seats when the casting is complete.

#### *General Description.*

In the drawing, Figure 1 is a vertical section of the complete casting; Fig. 2, a view of the core with the rings thereon; Figs. 3 and 4, similar views but showing another form of the core and rings.

A is the casing or chamber, and B the core employed in casting the same. This core is fitted to cast the internal opening or passage of the casing; and, as shown in Fig. 1, consists of the central bulb *a*, with offset *b*, and the end extensions *c c*, all made in a single piece. On each side of the central bulb grooves are formed into which are fitted the previously-cast rings or valve-seats *e e*, at such a distance apart as will form the proper bearings for the piston or valve in the casing. To get the rings in place in the grooves they may be cut in halves, as shown at *d*, Fig. 2, then fitted with the ends together, with a proper soldering material between, and then bound around with small wires *f f*. The coves or spaces *g g* may also be filled in closely with sand, which will hold the rings in place if the wires burn out. The outer edges of the rings may have grooves *h h* for the filling-in of the metal, as shown.

We have practically tested this method of

applying the rings to the core, and casting them into the casing, and find it effective in all respects. In brass or composition rings especially the method is convenient and desirable. The halved ends sweat together and form a complete ring. Another form of the casing and core is shown in Figs. 3 and 4, in which the rings are applied whole or without dividing. In this case that part of the core *c'* which forms the enlargement of the opening or passage of the casing outside the valve-seats is made in the form of a sleeve, which, when the entire ring has been slipped upon the stem of the core, is slipped on after it and presses it up to place, as clearly shown. The outer edges of the bulb may be cut away to form an angular space, *k*, which allows the metal to flow in over the top of the rings in casting, thereby leaving a bead which is afterward punched down with a suitable tool to form a steam-tight joint.

The advantages of this invention are that much more perfect seats can be cast in the casing than where the whole is cast in one piece, as the previously-formed rings can be examined and tested before applying. The casing can also be cast soft, which facilitates the turning and planing of the same, while, at the same time, the seats are made of the requisite degree of hardness to resist, to the best degree, the cutting effects of the steam at high pressure. Other advantages also result which are unnecessary to name.

#### *Claim.*

What we claim, and desire to secure by Letters Patent, is, broadly—

The ring or rings *e*, applied upon the core and cast into the casings of steam-governor valves to form the seats for the same, substantially as specified.

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Witnesses:

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