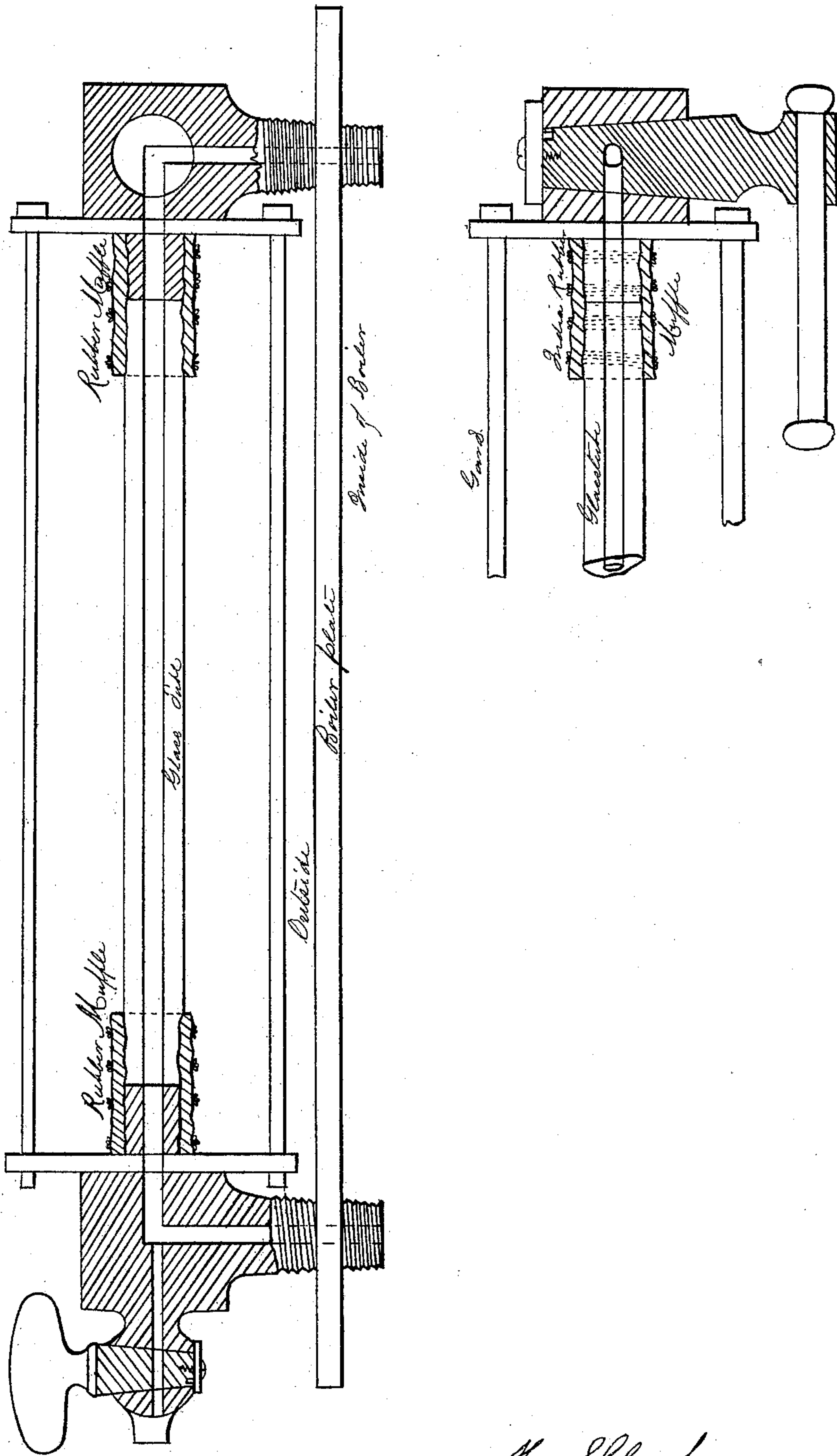


H. Shlarbaum,

Water Gage.

*No. 628.
31.632.*

Patented Mar. 5. 1861.



H. Shlarbaum

UNITED STATES PATENT OFFICE.

HERRMANN SHLARBAUM, OF NEW YORK, N. Y.

WATER-GAGE FOR STEAM-BOILERS.

Specification of Letters Patent No. 31,632, dated March 5, 1861.

To all whom it may concern:

Be it known that I, HERRMANN SHLARBAUM, of the city of New York, State of New York, have invented a new and Improved Construction of Glass-Tube Water-Gages; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and model.

10 The glass tube water gage as known and used all over the world (but more so in Europe) serves to indicate the height of water in steam boilers, with or without gage-cocks besides.

15 It consists of a glasstube the two ends of which are connected with the contents of the boiler over and under the water level in such a way as to show at a glance the respective height of the water inside the boiler.

20 The water tight connection of the glass tube with the boiler was heretofore made by means of regular stuffing boxes, in which some kind of stuffing or packing was pressed by means of a screwing gland tight to the glass. But this manner of making the glass-tube tight involved many inconveniences, risks and accidents well known by every practical engineer and always resulting in an early cracking of the glasstube. This tended to check the general introduction of this most useful contrivance so much that we find its thorough application only in Europe.

35 My careful endeavor was to do away with the rather complicated and for this purpose very objectionable stuffing boxes and to find in their places simpler, safer, cheaper and therefore better means to form the wa-

tertight connection between glasstube and boiler. I found these means in the application of india rubber muffles or pieces of tubing, of appropriate strength, slipped over the ends of the glasstubes and on the other hand over suitable projections of metal forming part of the boiler in their appropriate places.

The annexed drawings and the model will serve to illustrate the idea to the exclusion of any possible misunderstanding.

50 The muffle of india rubber was never before used in water gages for steam boilers, and it makes the water- and steam-tight connection, required in this case much better than any other material or proceeding heretofore used. It may have an additional fastening by strings, wound around, and may be more or less "vulcanized" to sustain heat. It permits any light lateral movement which the glasstube accidentally might be submitted to, without injury to the latter. To replace a glasstube under these new arrangements is less difficult, is done quicker and more effectually, than on the old plan, and the whole contrivance, thus constructed will by any fair and competent judge be pronounced as a usefully improved one.

What I claim as an improvement in water gages for steam boilers is—

70 Connecting the glasstube thereof with the metallic parts by means of india rubber sleeves or muffles, substantially in the manner as set forth.

H. SHLARBAUM.

Witnesses:

FR. BÜTTNER,
A. L. FLEURY.