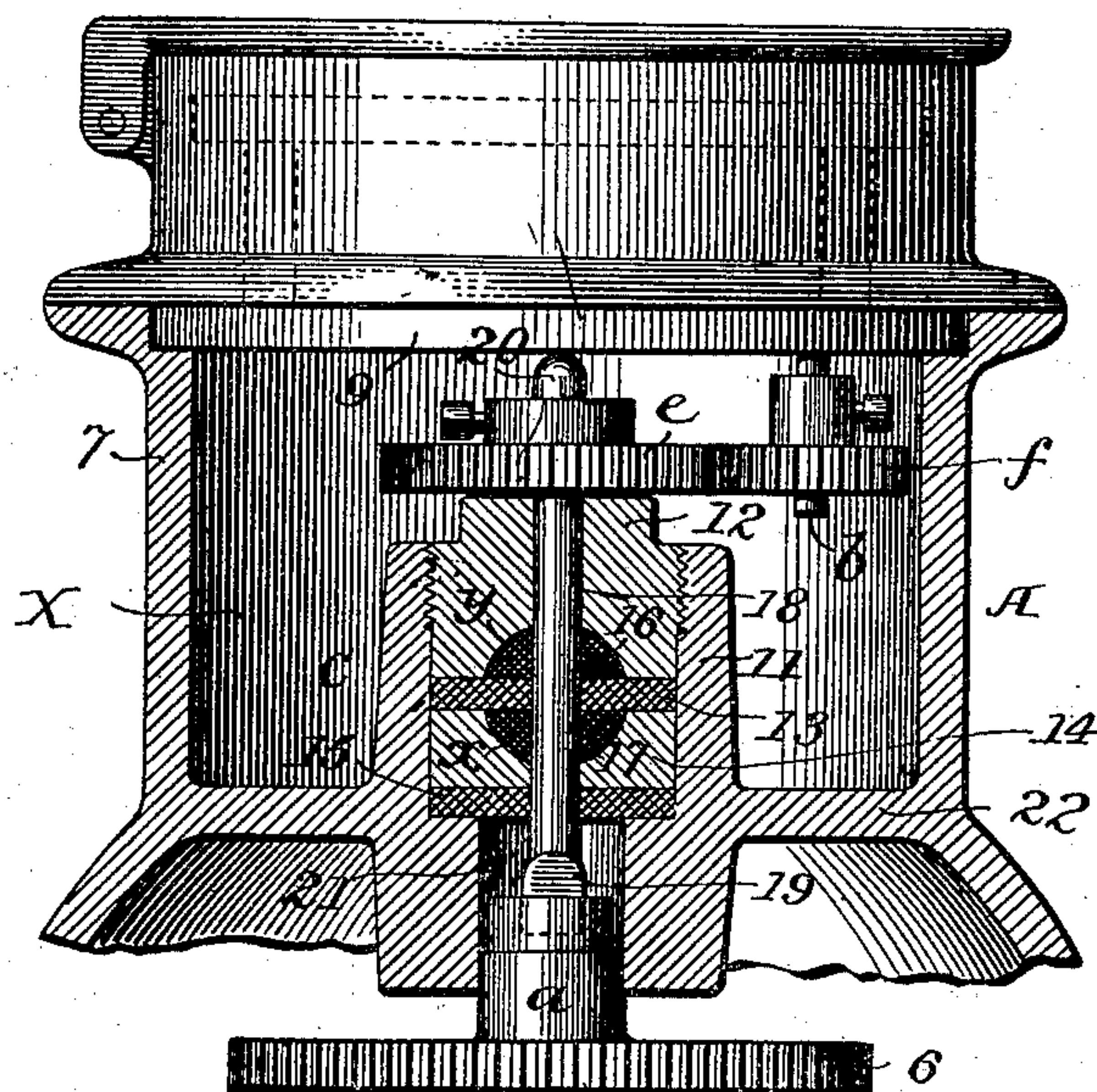


(No Model.)

J. THOMSON.
STUFFING BOX FOR METERS.

No. 503,884.

Patented Aug. 22, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE THOMSON
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STUFFING-BOX FOR METERS.

SPECIFICATION forming part of Letters Patent No. 503,884, dated August 22, 1893.

Application filed October 22, 1892. Serial No. 449,694. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Stuffing-Boxes for Meters, of which the following is a specification.

This invention relates to improvements in connection with the means for communicating motion to the registers of meters; the objects and advantages of which will be pointed out in the description.

The figure of the drawing is a schematic illustration of the device in vertical center section.

The casing A of the meter is of a construction adapted to the contained parts of any desired character and 6 indicates one of a train of reducing gear or other part which derives motion from the operations of the meter. To this part 6 is detachably connected by any suitable coupling the spindle 18. As shown said spindle has a flat or angular end 19 fitting a corresponding socket in a hub *a*, of the gear 6 which hub extends into a recess 21 in a lug on a partition 22 that separates the meter chamber from a chamber X within a neck or flange 7 on the main casing. The lower plate 9 of the register box or casing fits to a recess in the edge of the neck 7 and closes the latter and suitable gears *e*, *f*, connect the spindle 18 and the shaft *b* of the register train. The spindle 18 passes through a stuffing box C. This stuffing box is composed of the casing 1, flange 11 on the partition 22, plug gland 12, with a recess *y*, intermediate leather washer 13, lower bearing piece 14 with recess *x* and lower leather washer 15, and intermediate plastic packing material 16, 17, in the recesses *x* and *y*, the spindle passing centrally through the gland, washers and packings. The upper end 20 of the spindle is nicely rounded. The diameter of the opening 21 at the bottom of the stuffing box through the main casing is considerably greater than that of the flattened end of the spindle. It will now be seen that the spindle is entirely guided axially by the washers and the gland; furthermore, that the water pressure exerted upon the inner end of the spindle is resisted

by the outer point of the spindle which impinges against the lower plate of the register for which any other suitable bearing may be substituted. The advantages of this construction are that the spindle and all of the packing material and washers complete may be either inserted or withdrawn without disconnecting or uncoupling the parts of the meter or in any wise interfering with the gearing; while the thrust upon the end of the spindle tending to eject it is resisted by a pivot point instead of by a shoulder; which latter construction frequently imposes great friction upon the gearing in consequence of the greater area thus exposed to the pressure of the water. By this arrangement the frictional resistance of the spindle between the widest ranges of pressure is practically constant, at once increasing the durability and sensitiveness of the meter as a whole.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. The combination with the casing of a meter having a partition, forming a meter chamber and chamber X, and provided with a stuffing box extending into said chamber and a recess connected with the meter chamber, of one of the driven parts of the meter arranged to extend into the recess, a spindle passing through the stuffing box and directly and detachably connected with said driven part, a detachable register box fitted to cover said chamber X, and forming a bearing for the external end of the spindle, and packing parts which surround the spindle whereby on removing the register box, the spindle and packing parts may be readily removed from the driven parts of the meter, substantially as described.

2. The combination in a meter with a driven part of the meter and with a register box, of a spindle detachably connected with the driven part and having a rounded outer end bearing on the register box, substantially as described.

3. The combination of the meter casing, flange 7 and chamber X and register and closing plate 9, and a spindle 18, geared with the register train and having a rounded end

bearing on the plate 9, substantially as set forth.

4. In a meter the spindle 18 combined with a stuffing box having a recessed gland 12 and
5 recessed piece 14, washers 13, 15, on opposite sides of the piece 14 and packing material in the recesses, substantially as described.

5. The combination of the spindle recessed parts 12, 14, intermediate washer and pack-

ing material in the recesses, substantially as is described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN THOMSON.

Witnesses:

JOHN MCKINNON,

ROBERT S. CHAPPELL.