O. K. NEGLEY.

REPAIR GLAND.

APPLICATION FILED MAR. 21, 1910.

976,204.

Patented Nov. 22, 1910.

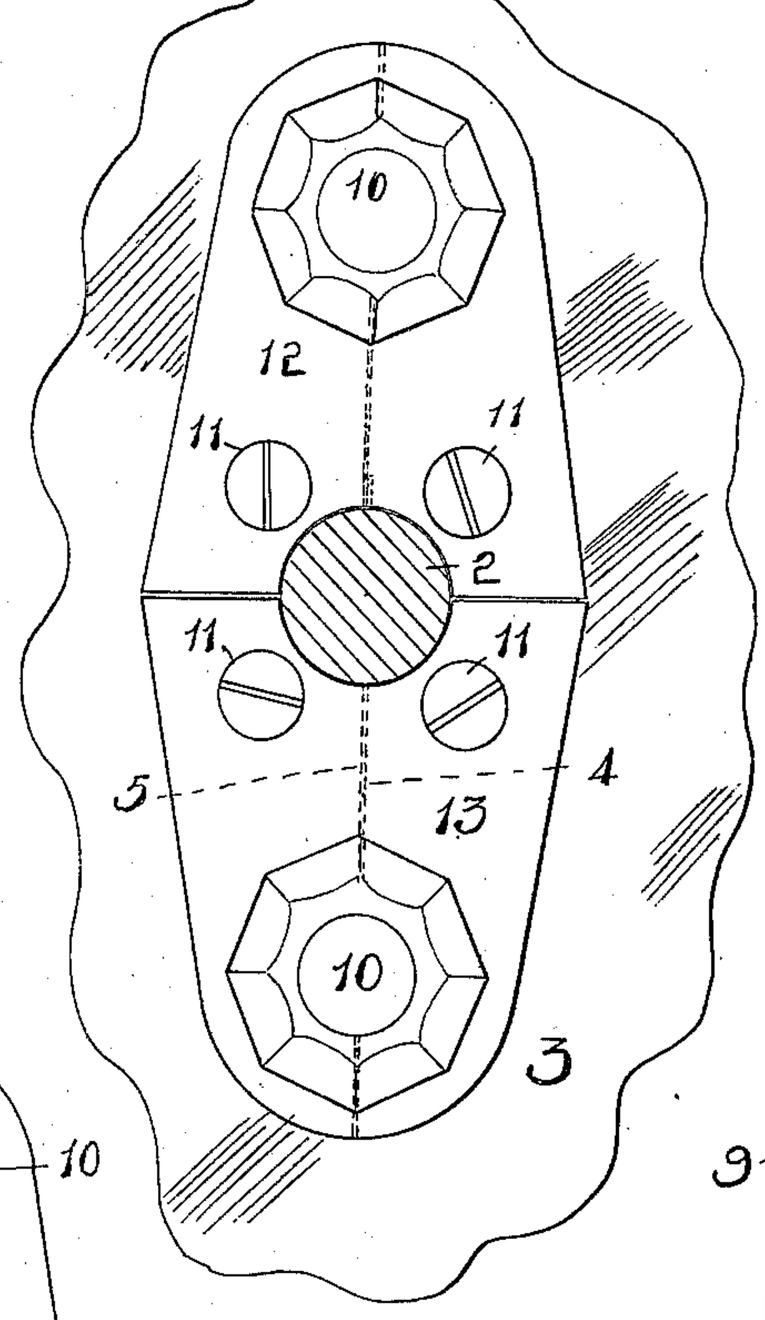

Fig. 1.

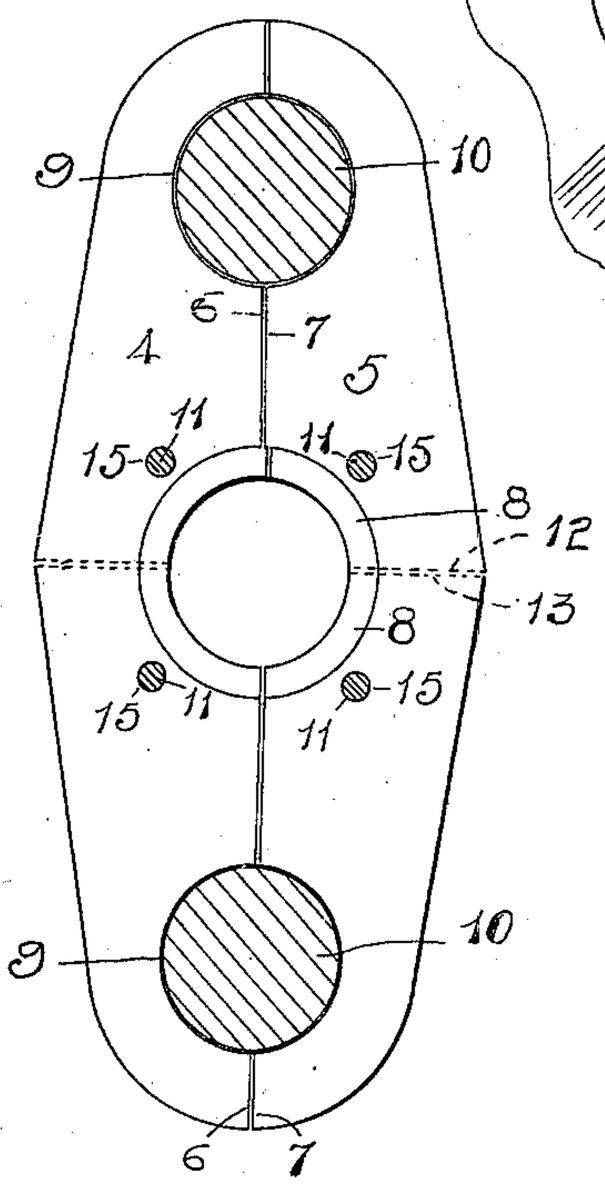

Fig. 3.

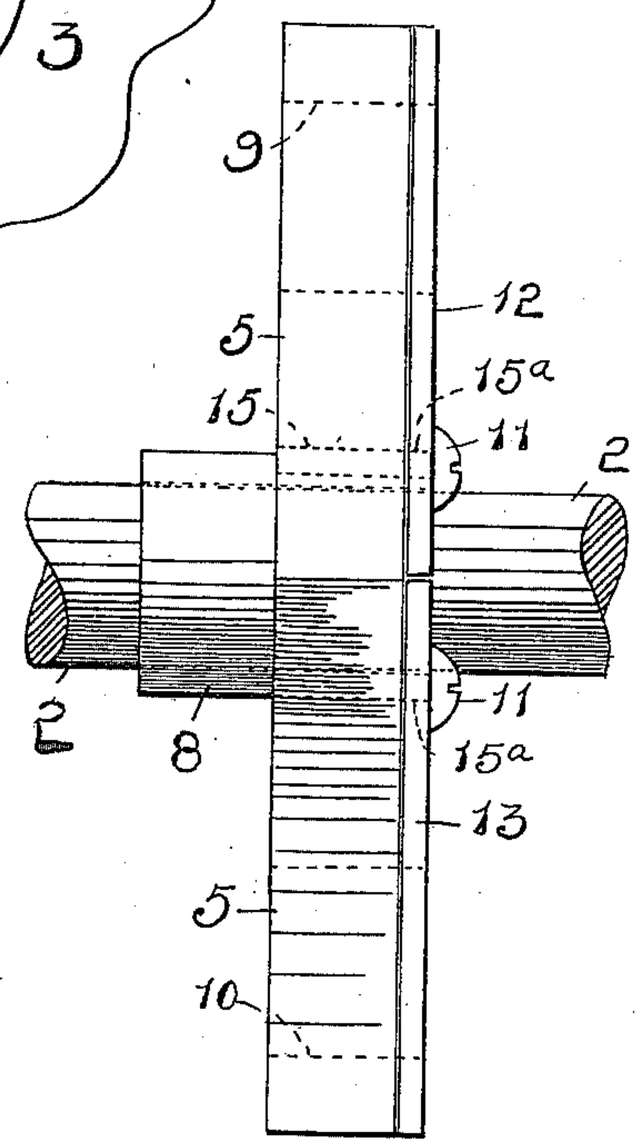

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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REPAIR-GLAND.

976,204. Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed March 21, 1910. Serial No. 550,652.

To all whom it may concern:

Be it known that I, OLIVER K. NEGLEY, a citizen of the United States, and a resident of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Repair-Gland, of which the following is a specification.

In steam-engines, pumps, various valves, and in many other places where a piston-rod passes into a stuffing or packing box, the gland through which said piston passes and which serves also as a closure for said box, frequently becomes broken. This arises in many ways, but most often by reason of uneven tightening up of the bolts which secure it in place, or by drawing said bolts tighter on one side than on the other and thereby creating a braking stress or strain. The gland has heretofore been made in such manner that whenever it became broken it became necessary to stop the engine, take it "down" or dismantle it, and replace the broken gland by another of similar or like construction. This of course necessitated the stoppage of work of all those whose employment was dependent upon the machinery driven by said engine. Frequently, as in the event of the engine being employed to drive a municipal water-works system, or a dynamo furnishing a municipality with power, or a traction system, or it being a fire-engine or fire-boat, the cessation or break-down took on a serious aspect.

The main object of the invention is, therefore, to provide a gland which may in a very few minutes be operatively positioned without taking down the engine or other machine or device, and which will obviate all such long stoppages.

Another object is to subserve economy by providing a practically non-breakable, but at the same time comparatively inexpensive gland which is more practical and better adapted to serve the purposes of such devices, than is any now in use.

Minor objects will be in part obvious and in part pointed out.

In the accompanying drawings my invention is shown as embodied in the best way now known to me; it will be evident that numerous changes may be made in the constructive details without departing materially from the essential spirit and scope thereof.

In said drawings: Figure 1 is a front elevation, showing my improved gland positioned on a cylinder-head, a fragment of the latter being also shown; Fig. 2, an edge elevation; and Fig. 3, a rear elevation.

The reference numerals herein used indicate the same part in the different figures of the drawing.

The base of my improved gland comprises a pair of twin plates 4 and 6, the opposed edges 6 and 7 respectively of which are semi-circularly cut away at their midlengths, and each is there provided with a half-hub 8 which projects into the packing or stuffing box. Each of said plates is cut away also intermediate its hub member and each end to provide (when the parts are assembled) an opening 9 which receives a machine-bolt 10, the threads of which engage others in the cylinder-head or other part. Each plate 4 and 5 is provided with threaded apertures 15 for the reception of screw-bolts 11, for a purpose presently related.

The face or binder comprises twin plates 12 and 13, one of the opposed edges of each of which is semi-circularly cut away at its midlength, the opening thus provided being of the same radius as those in the plates 4 and 5. Each is apertured near its outer end for the reception of the bolts 10, these apertures corresponding both in diameter and in location (when the parts are assembled) with the openings 9 in the base-plates. Also, the binder plates are apertured at 15^a for the reception of the screw-bolts 11, these apertures corresponding with the apertures 14 in the base-plates.

2 denotes a fragmental section of the piston-rod of a steam engine, and 3 indicates the head of a cylinder with which it is operatively engaged.

I have shown the plates 4 and 5 as being relatively thick as compared with the plates 12 and 13. Two reasons may be assigned for this, first, because the base-plates are of cast metal, and are required to be of sufficient thickness to be threaded to receive the threaded ends of the screw-bolts which they sustain; and secondly, the binder-plates are preferably of sheet steel, and should the heads of the bolts 10 be drawn extremely taut thereagainst, they will not break said sheet metal plates as they would ones of cast and therefore frangible metal.

The pairs of plates may be divided, each from its twin, elsewhere than where shown,

it being understood that the division line of each pair must bisect the line of separation of the other. Also, the plates may be of any preferred shape and contour.

The application: The base-plates are first positioned on the rod, it being unnecessary to take down said rod or any part connected therewith, and the central cutaway portions of their contiguous edges brought to embrace the rod. The plates 12 and 13 are then likewise positioned on said rod, but their division line describing preferably a right angle to that of the base-plates. The screw bolts being then threaded through the apertures 14 and engaged with the apertures 15 in the base-plates, each pair thereof secures the other pair from separation and they are snugly and firmly held together and in proper operative position on the rod. The assembled gland may then be slid along on the rod until it comes into its proper position or seat, whereupon the machine bolts may be threaded into the apertures which were provided for the bolts of the original gland. It will be obvious that inasmuch as breakage of the glands is frequent, repair glands of proper size may be provided for such occurrences. Also will it be apparent that new work may be equipped with my improvements.

Having thus described my invention and having stated its purposes, objects, advantages and application, I claim as new and desire to secure by Letters Patent the following, to-wit:

1. A gland of the character described comprising a base of relatively hard metal and a face of relatively soft metal.

2. A gland of the character described comprising separable base-plates having their opposed edges semi-circularly cut away to provide an opening for the reception of a piston-rod, and means for uniting them.

3. A gland of the character described comprising separable base-plates adapted to embrace a piston-rod, and separable binder-plates securable thereto and adapted to restrain said base-plates from separation.

4. A gland of the character described comprising separable base-plates adapted to embrace a piston-rod, and separable binder-plates secured thereto, the division lines of said pairs of plates bisecting each other.

5. A gland of the character described comprising separable base-plates of relatively hard metal, and means for uniting them together, the last recited means being of relatively soft metal.

In testimony whereof I have hereunto set my hand this 22nd day of February, 1910.

OLIVER K. NEGLEY.

In presence of—
CHAS. S. HARRIS,
MYRLE NORTON.