

C. B. REARICK.
SHAFT PACKING.
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1,047,988.

Patented Dec. 24, 1912.

Fig. 1,

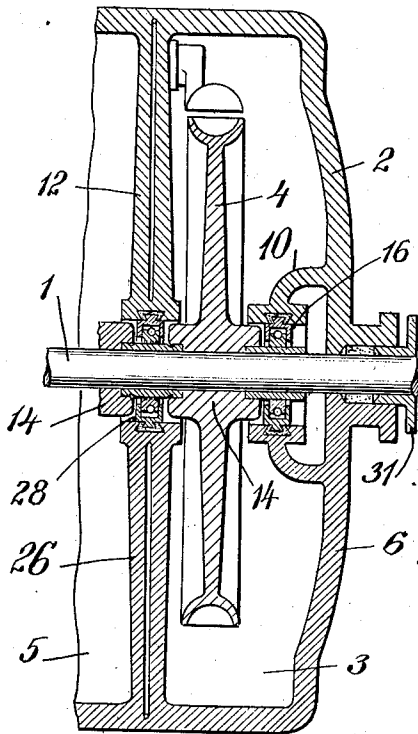


Fig. 2,

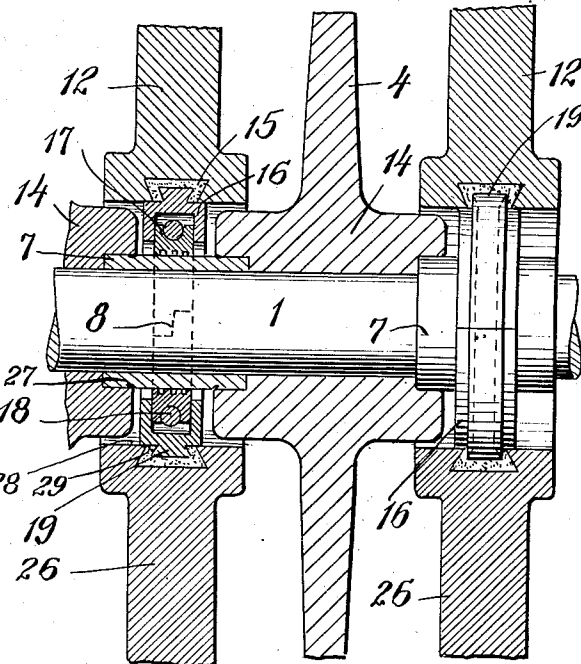
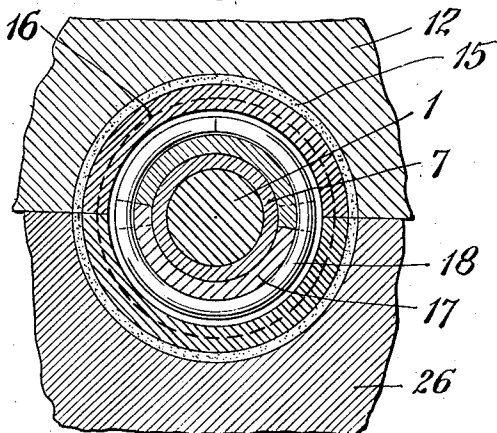
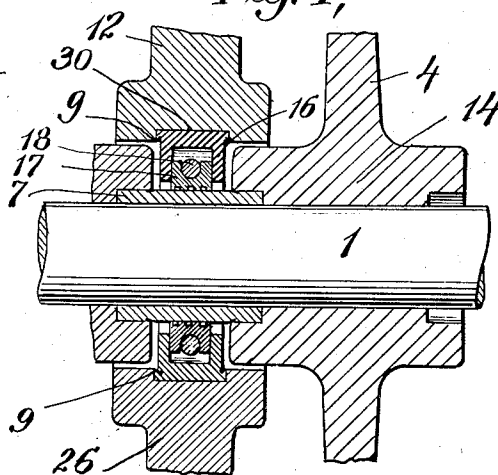


Fig. 3,



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Fig. 4,



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SHAFT-PACKING.

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To all whom it may concern:

Be it known that I, CHARLES BEMIS REARICK, a citizen of the United States, and resident of the city, county, and State of New York, have made a certain new and useful Invention Relating to Shaft or Rod Packings, of which the following is a specification, taken in connection with the accompanying drawing, which forms part of the same.

This invention relates especially to packings for shafts, rods or the like which may comprise a packing housing made in a plurality of sections and adapted to be secured to the corresponding bearing sections and alined with respect thereto as by holding a dovetail or other suitable retainer on the housing in position in a recess in the bearing by casting Babbit metal therein, for example. Within the sectional packing housing a suitable packing ring may be mounted for coöperation with the shaft or rod or with a suitable sleeve used in connection therewith.

In the accompanying drawing showing in a somewhat diagrammatic way several illustrative embodiments of this invention, Figure 1 is a longitudinal sectional view through one form of the invention. Fig. 2 is an enlarged partial section thereof. Fig. 3 is a transverse section of the same; and Fig. 4 is a longitudinal section showing a modified form of packing.

These packings may be mounted in the co-operating bearing members or casings by providing a suitable sectional housing preferably divided into sections corresponding with the sections of the bearing member or casing and respectively secured in proper alinement therewith. Thus when assembled the packing housing is continuous and is adapted to properly support and hold in alinement a suitable packing ring which may coöperate with a rotating shaft or reciprocating rod or with a suitable sleeve as sometimes used in connection with such shafts, for instance. In Fig. 1 the packing is shown in connection with a steam turbine for which it is especially adapted, the turbine casing being as indicated formed of a plurality of longitudinally divided sections having the external partitions 2 and 6 and any desired number of coöperating internal partitions 12 and 26 forming suitable wheel chambers, such as 3 and 5. The shaft 1 on which suitable turbine wheels 4 may be

mounted by their hubs 14 is shown as passing longitudinally through the casing and coöperating with suitable packing mounted in these partitions or in the case of the outside partition on a suitable inwardly projecting support such as 10 if desired, this packing preventing leakage of steam along the shaft.

The sections 12 and 26 of the casing partitions may be formed in any desired way, as for instance when originally casting them with suitable dovetail recesses to accommodate the dovetail projections or retainers 19 on the packing housing 16 which may be machined to the desired size and divided into corresponding sections, which may be accurately positioned with respect to the casing sections as by temporarily securing them to a shaft or suitable jig supported from the casing as in bearings such as 31, the sections of the packing housing being then permanently secured in position as by casting or forcing into the dovetail recesses suitable Babbit or other fusible retaining metal or material 15 which firmly holds the parts in alined position. If desired, however, the housing sections may be accurately positioned by forming circumferential alining portions 29 on them to coöperate with the circumferential faces of the alined axial bore 28 through the casing partitions or other co-operating part of the bearing members so as to more definitely insure the alinement of the housing sections, while they are permanently secured in position in the manner indicated, for instance. If desired, the shaft 1 may be provided with a suitable bearing sleeve, such as 7, to coöperate with the packing ring and this bearing sleeve may be held in position between the wheel hubs 14 by forming the calking grooves 27 in the sleeve. Any suitable metallic packing may be mounted within the packing housing, the sectional packing ring 17 being illustrated as formed with a suitable butt lapped joint 8, the ring sections being held in position in any desired way as by the inclosing spring ring 18 which may be snapped in place around the sections of the packing ring. Another method of holding the packing in position is shown in Fig. 4 in which the bearing portions 12 and 26 of the casing partitions are shown as formed with a suitable alined recess or bore which may be machined so as to directly fit or accommodate the alined portion 30 of the packing

housing 16 which may be firmly secured therein as by the calking grooves 9. This packing housing may accommodate a packing ring of any desired construction and a similar form of packing ring 17 as illustrated therein.

Having described this invention in connection with a number of illustrative embodiments, proportions, forms, materials and arrangements of parts, to the details of which disclosure the invention is not of course to be limited, what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

1. The packing for elastic fluid turbines or the like having a longitudinally divided casing provided with partitions forming wheel chambers and a wheel shaft operating in said casing, said casing partitions being formed with cast dovetail recesses and alined inner circumferential faces, a packing housing formed in sections corresponding to the sections of said casing and having alining portions cooperating with said alined inner faces and having dovetail retainers in said dovetail recesses, said packing housing being held in alined position by metal run in molten condition into said dovetail recesses, and a sectional packing ring in said housing.

2. The packing for turbines or the like having a longitudinally divided casing provided with partitions and a shaft operating in said casing, said casing partitions being formed with recesses and alined inner circumferential faces, a packing housing formed in sections corresponding to the sections of said casing and having alining portions cooperating with said alined inner faces and having retainers in said recesses, said packing housing being held in alined position by metal run in molten condition into said recesses, and a sectional packing ring in said housing.

3. The packing for turbine shafts mounted in a longitudinally divided casing comprising a packing housing divided into sections corresponding to the sections of the casing and formed with an alining portion cooperating with the alined bore through the casing and with a dovetail retainer, the casing sections being formed with a dovetail recess to accommodate said retainer and retaining metal cast into said recess to hold said retainer therein and maintain said packing housing in alinement with said casing and a sectional packing ring mounted within said housing.

4. The packing for turbine shafts mounted in a longitudinally divided casing comprising a packing housing divided into sections corresponding to the sections of the casing and formed with an alining portion cooperating with the alined bore through the casing and with a retainer, the casing

sections being formed with a recess to accommodate said retainer and retaining material in said recess to hold said retainer therein and maintain said packing housing in alinement with said casing.

5. The packing for turbine shafts mounted in a longitudinally divided casing comprising a packing housing divided into sections corresponding to the sections of the casing and formed with an alining portion cooperating with an alined portion of the adjacent casing sections and means to hold said packing housing in alinement with said casing and a sectional packing ring mounted within said housing.

6. The packing for turbine shafts mounted in a divided casing comprising a packing housing divided into sections corresponding to the sections of the casing and formed with an alining portion cooperating with an alined portion of the adjacent casing sections and means to hold said packing housing in alinement with said casing and packing mounted within said housing.

7. The packing for shafts or rods comprising bearing members, a packing housing formed in sections corresponding to the sections of the cooperating bearing members, said housing having an alining portion cooperating with an alining portion of said bearing members and having a retainer cooperating with a recess in said bearing members, means to hold said retainer within said recess and packing cooperating with said packing housing.

8. The packing for shafts or rods comprising bearing members, a packing housing formed in sections corresponding to the sections of the cooperating bearing members, said housing having an alining portion cooperating with an alining portion of said bearing members, means to hold said housing in alinement with said bearing members and packing cooperating with said packing housing.

9. The packing for shafts or rods comprising bearing members, a sectional housing to support packing and formed in sections corresponding to the sections of the cooperating bearing members, said housing having a retainer cooperating with a recess in said bearing members and retaining material in said recess to hold said retainer therein and maintain said packing housing in alinement in said casing.

10. The packing for shafts or rods comprising bearing members, a sectional packing housing formed in sections corresponding to the sections of the cooperating bearing members, said housing having a recess to support packing and having a dovetail retainer cooperating with a recess in said bearing members and metal cast into said recess to hold said housing in alinement with said bearing members.

11. The packing for shafts or rods comprising bearing members, a packing housing formed in sections corresponding to the sections of the cooperating bearing members, 5 said housing having an alining portion cooperating with an alining portion of said bearing members and having a retainer cooperating with a recess in said bearing members and retaining material forced into said recess to hold said housing in alinement with 10 said bearing members.

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