(No Model.)

J. D. H. REIMER.

JACKET FOR STEAM PIPES.

No. 568,989. Patented Oct. 6, 1896.

Fig. 1.

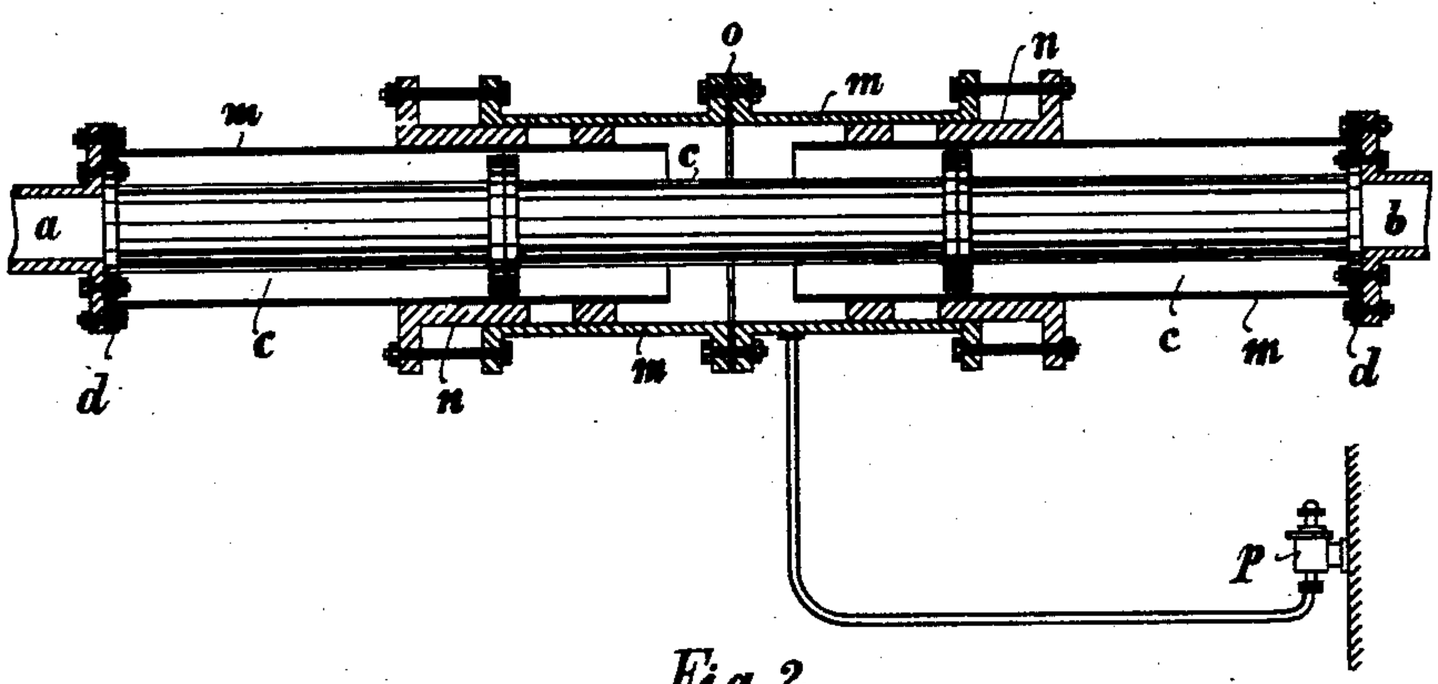


Fig. 2.

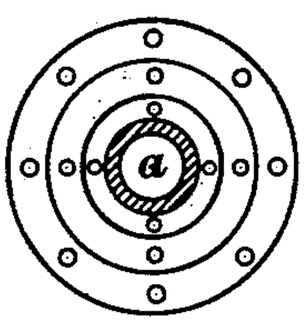
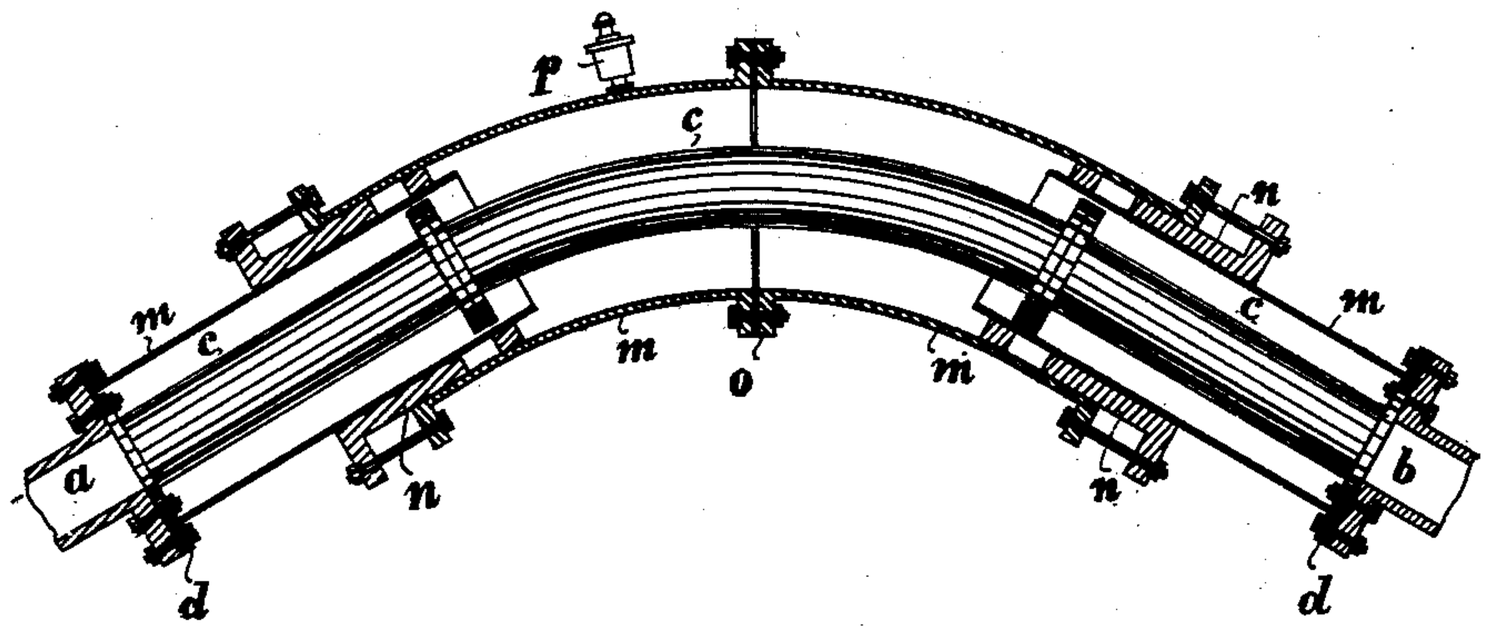


Fig. 3.



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JOHANN DAVID HEINRICH REIMER, OF HAMBURG, GERMANY.

JACKET FOR STEAM-PIPES.

SPECIFICATION forming part of Letters Patent No. 568,989, dated October 6, 1896.

Application filed June 1, 1896. Serial No. 593,706. (No model.)

To all whom it may concern:

Be it known that I, JOHANN DAVID HEINRICH REIMER, residing at Hamburg, Germany, have invented new and useful Improvements in Jackets for Steam-Pipes, of which the following is a specification.

With the high pressure at which modern steam-engines, and particularly the more recent marine engines, work the main steam-pipes are more liable to burst than was previously the case. Many improvements have already been proposed and adopted for obviating this risk, but up to the present time extremely few of such devices have proved effective.

Now this invention relates to means designed not to prevent such steam-pipes from splitting or bursting, but to minimize, as far as possible in the case of such an accident, the risk of scalding through the escape of hot water, and also in good time to draw the attention of the engineer in charge to an impending accident of the kind mentioned. According thereto there is placed around the steam-pipe a protective casing or jacket which is strong enough in the case of the bursting of the steam-pipe to receive and retain the escaping high-pressure steam, and even to serve as a main steam-pipe until the boiler and the engine have been shut off, whether it be a long or a short time before this be done. An alarm apparatus is also provided for indicating the leaking of the pipe thus jacketed.

Referring to the drawings annexed hereto, Figure 1 shows, partly in longitudinal section and partly in side elevation, and Fig. 2 in sectional end elevation, a jacket, according to this invention, applied to a straight steam-pipe; and Fig. 3 is a similar view to Fig. 1, showing such a jacket applied to a curved pipe.

In the case of new constructions the flanged pipes or branches *a* (of the engine) and C (of the boiler) to be connected by the main steam-pipe *c* are made from the first of sufficient size to allow the flanges *d* of the jacket *m* to be connected thereto in a steam-tight manner and in the same way as the flanges of the steam-pipe *c*.

The jacket *m* consists of a number of parts which are adapted to slide telescopically one within another and are provided with steam-tight joints between one another by means of stuffing-boxes *n*. The several parts of the jacket *m*, and particularly the larger parts, may also be further subdivided into shorter pipes, which are connected with one another by means of flanges *o* or screw-couplings. The object of this division of the jacket-pipe is to enable it to be slipped over the steam-pipe and to allow of the inspection and the packing, when necessary, thereof. If certain parts of the wider jacket be also divided longitudinally, it will be an easy matter to render all parts of the steam-pipe, even in the case of the most complicated and difficult bends and curves, readily and conveniently accessible.

The attachment of the jacket *m* to the engine and to the boiler may be effected in a direct manner or by mounting special flanges upon the respective pipe or valve-box unions. The last-mentioned way is unavoidable in the case of existing plant. The mode of operation of the protective device remains, however, the same.

The device can be adapted to suit all requirements. The illustrations annexed hereto show merely two of the many possible forms of carrying the same into practice.

By providing on the above-described jacket a small alarm-valve *p*, Fig. 3, or by arranging a similar alarm device at a convenient spot and connecting it by means of a small pipe with the jacket, Fig. 1, any leaking of the steam-pipe will be at once announced and the necessary measures can be taken to remedy the same, and thus prevent in good time all risk of a more serious accident.

Steam-pipes jacketed in the manner described do not require the usual insulating or non-heat-conducting covering, because the air contained in the chamber formed by the jacket is a bad conductor of heat. The cost of the ordinary jacketing should therefore be

deducted from the first cost of the protective jacket in determining the cost of applying my invention, which should not, therefore, be considered by any means prohibitory in view of the increased safety of working.

What I claim is—

A jacket for steam-pipes composed of flanged end sections, a connecting telescoping section, and stuffing-boxes that form steam-tight joints between the sections, substantially as specified.

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

JOHANN DAVID HEINRICH REIMER.

Witnesses:

W. T. E. KOCH,

H. EGGERS.