(No Model.)

J. B. LARKIN.

THREADED CASTING.

No. 294,639. Patented Mar. 4, 1884.

Fig. 1.

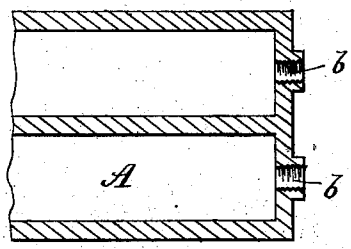


Fig. 2.

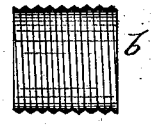


Fig. 3.

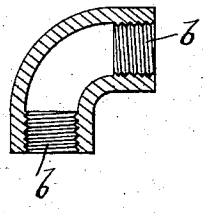
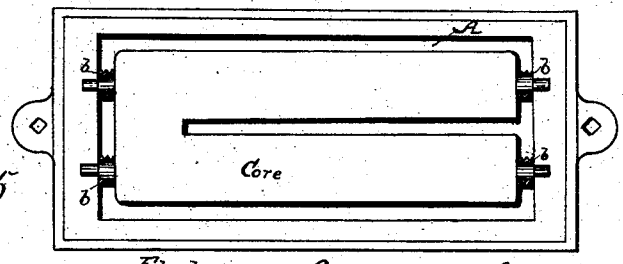


Fig. 4.

Fig 5



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UNITED STATES PATENT OFFICE.

JOHN B. LARKIN, OF PITTSBURG, PENNSYLVANIA.

THREADED CASTING.

SPECIFICATION forming part of Letters Patent No. 294,639, dated March 4, 1884.

Application filed June 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. LARKIN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Threaded Castings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a sectional view of a casting of a water-back having my improvement applied. Fig. 2 is a side view of a sheet-metal thimble. Fig. 3 is a sectional view of an elbow-joint to which my improvement is applied; and Fig. 4 is a mutilated side view of a hydrant-spout provided with said improvement. Fig. 5 is a plan of one-half a molding-flask having the pattern imprint and the core and thimbles in place therein.

This invention relates to the casting of articles which are to be used with screw-threaded attachments requiring the casting to be bored out and threaded before it can be put to use. Among such articles may be mentioned, as illustrations, water-heaters, pipe-elbows, flange-unions, reducers, globe-valves, faucets, and many others. The boring and threading of these and other similar articles after casting is troublesome and costly.

Among manufacturers of such hollow castings as are intended for use under fluid-pressure, it is a general practice to test the casting for shrinkage-cracks, sand-holes, blow-holes, and other imperfections which would impair its usefulness and perhaps prove a source of danger. To make the test, the custom is to cast or bore two holes in the casting-walls, true them, and then tap them for pipe-fittings, after which inlet and outlet pipes are attached, and steam or water pressure admitted, whose leakage will detect the imperfection, if any exist. But this boring and tapping process is expensive, and a clear loss where the casting proves faulty. Besides this, the boring and tapping for regular connections is expensive, even if the casting were known to be sound.

The object of my invention is to produce a casting which, after merely cleaning out the sand, is ready for coupling on the test-pipes, or for actual use without further manipulation.

This invention consists in a metal casting having in combination therewith a threaded sheet-metal thimble having its threads struck up or spun, embedded therein or thereon by pouring the casting metal around or into the said thimble.

A simple illustration of my invention is found in an ordinary "water-back" for obtaining a supply of hot water from kitchen stoves and ranges. Such castings are especially required to be sound and perfect throughout, and every one made is thoroughly tested. Before pouring the metal for such a casting as the water-back A, I place in the mold the prepared thimbles *b*, which are of sheet metal and suitably threaded to standard pipe-fittings, by spinning or striking up the thread, thus leaving the thimble of a substantially uniform thickness throughout. I then pour the metal, which welds around and upon the thimbles, so that after cleaning out the casting can be at once tested for imperfections without any further manipulation.

The thimbles *b* are struck up or spun out of sheet metal, and the welding takes place readily, and even if slightly imperfect will be sufficiently calked up by the insertion of the pipe. The thimbles *b* may be male or female, the results being the same in both cases.

The invention is equally applicable to all castings which ordinarily require to be bored and threaded.

Fig. 3 shows an ordinary elbow having two thimbles, *b*, as illustrated, enlarged, at Fig. 2, the thimbles being both female. Fig. 4 shows a male thimble applied after my invention to a hydrant-spout.

A great variety of applications of my invention can be made in this way. I have illustrated only a few of them. Others will readily suggest themselves to the skilled mechanic. I do not therefore limit the scope of my invention to any particular article or line of articles.

The thimbles are of thin sheet metal, in order to be capable of being struck up or spun with threads, and being thin they readily assume the heat of the molten metal without

chilling the latter, and therefore a good union or welding takes place which has no tendency to open by unequal contraction.

I claim as my invention—

A metal casting having in combination therewith a threaded sheet-metal thimble having its threads struck up or spun, embedded therein or thereon by pouring the casting metal around or into the said thimble, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN B. LARKIN.

Witnesses:
T. J. McTIGHE,
T. J. PATTERSON.