

(No Model.)

S. P. M. TASKER.
PIPE COUPLING.

No. 262,855.

Patented Aug. 15, 1882.

Fig. 1.

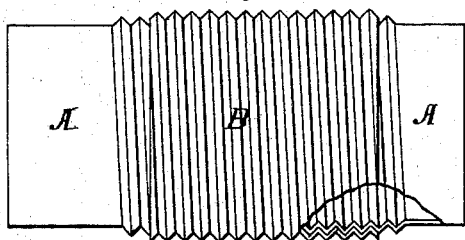


Fig. 2.

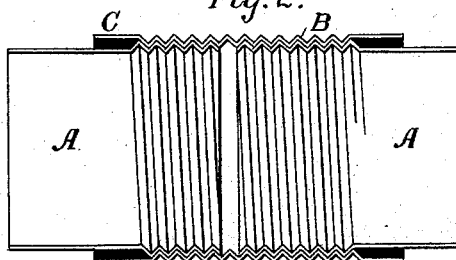


Fig. 3.

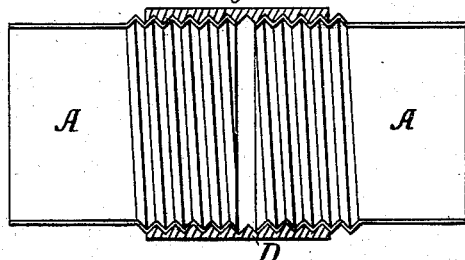


Fig. 4.

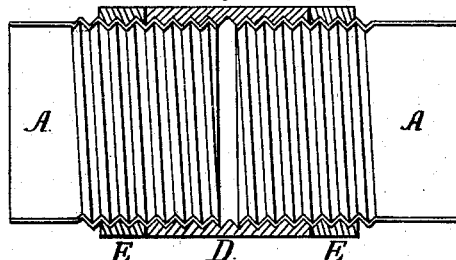
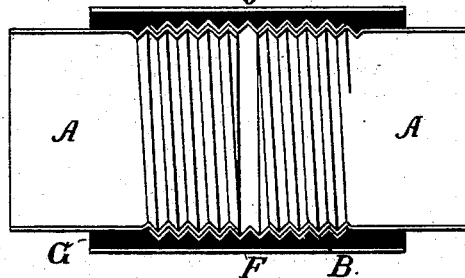


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

STEPHEN P. M. TASKER, OF PHILADELPHIA, PENNSYLVANIA.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 262,855, dated August 15, 1882.

Application filed September 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN P. M. TASKER, of Philadelphia, Pennsylvania, have invented an Improvement in Iron Pipe Couplings, of which the following is a specification.

My invention relates to methods and devices commonly employed to unite contiguous or meeting ends of sections of such iron piping or tubing as is not formed by bending light sheet metal while cold, but by rolling over mandrels, through rolls, or drawing through dies iron or other malleable metal while in a highly-heated condition, and which are known as "couplings."

Heretofore sections of iron and other heavy-weight malleable tubing (not being tubing made from bent sheet metal) have been coupled or united by cylindric collars or kindred unions cut with an internal screw-thread which engages with threads cut into the metal of the exterior extremities of the sections, the latter threads being cut directly into, or, more properly, out of the substance of the metal of the extremities of the tubes, and the thread-cutting being attended with the result of thinning, so to speak, or at least of lessening in quantity the metal of the extremities and of thereby measurably weakening the same. Such method, moreover, has only been possible of practice with sections of iron and other heavy-weight malleable tubing (not being tubing made from bent sheet metal) the metal of which has been of considerable thickness, as screw-threads cannot be cut excepting in metal of greater thickness than the depth of the thread.

Heretofore, also, it has been the practice, in order to save weight in the tubing and to enable the employment of light-weight metal in the sections, (a thing desirable by reason of the saving in cost of transportation of light over heavy products,) to thicken the ends of the sections to an extent greater than the thickness of the other portions, and to then cut the thread into the thickened portions—a method attended with increased expense.

The object of my invention is to make a coupling for iron or other drawn or rolled malleable-metal tubing (not being of bent sheet metal) of light weight, which, while enabling the use of screw-threads, shall avoid the necessity of thickening the end of the sections or of weak-

ening them by cutting, in which the strength is retained and no loss of thickness results, except that which is occasioned by the act of forming the threads, whereof hereinafter.

In the practice of my invention I take tubing of iron, or such other malleable metal as is manufactured into tubing by rolling through rolls or drawing through dies while hot, of such light weight or degree of thinness as it is desired to employ with a view to the withstanding of intended pressure, and at the extremities of the sections where union is to be effected form screw-threads by impressing threads into the whole thickness or substance of the metal of the sections—that is to say, by either striking the form of the threads with dies, spinning, chasing, or otherwise indenting, shaping, molding, or forming the whole substance of the metal at the ends of the pipe into the form of threads. I then couple the ends so threaded by screwing them into a cylindrical hollow collar, which may be either of heavy metal cut with threads or of light metal provided with threads spun or otherwise impressed or formed into it.

It will be obvious from the above general statement of the nature of my invention that it enables the employment of light malleable metal, which is formed into tubes while hot, the strength of which is maintained at the couplings, and which would otherwise be too light to be coupled, except after a process of thickening at the ends. The thickness of the metal itself is preserved at the thread, and this is equally the case whether the metal be malleable or cast metal too thin to be threaded by cutting.

It will be obvious also that under the leading idea of the invention many methods of effecting the immediate union of the parts may be resorted to.

In the accompanying drawings I have illustrated several convenient methods, to which precise forms, however, I do not desire to restrict myself, as many allied or kindred forms may be employed without departing from the substance of the invention, which lies in the discovery that tubes formed by rolling ordinary iron or other malleable metal while highly heated, and yet formed thin or of light weight, can be strongly united or coupled by the employment of cylindric sleeves or collars bind-

ing into or suitably connected with threads spun or otherwise impressed or formed into the whole substance of the metal of the sections, without the cutting and consequent thinning in substance of said metal, and without the necessity of thickening the meeting ends.

In the accompanying drawings, Figure 1 represents in side elevation a simple form of coupling embodying my invention, in which the collar or coupling-cylinder is indicated by the letter B, and is a cylinder of metal spun or otherwise impressed with screw-threads corresponding to the threads spun upon the ends of two contiguous sections of pipe, A A.

Fig. 2 represents in longitudinal central sectional elevation the device of Fig. 1, with the exception that the collar B is made bell-mouthed, so to speak, or enlarged at both of its ends, as at C, in order to afford annular chambers or receptacles adapted to receive molten metal or other suitable cementing or packing material adapted to strengthen and set the coupling and render it, if necessary, hermetically tight.

Fig. 3 represents in side elevation the ends of contiguous sections of pipe A A spun with threads according to my invention and coupled by a collar, D, of metal sufficiently heavy to be itself cut with threads.

Fig. 4 represents in longitudinal central sectional elevation a coupling similar to that represented in Fig. 3, with the exception that at either end of the collar D are applied smaller collars or binding-nuts, E, adapted to be screwed endwise upon the ends of the sections against the collar D, and thereby lock the coupling.

Fig. 5 represents in central longitudinal sec-

tional elevation a coupling similar to that of Fig. 1, formed, however, with an additional or outer cylindrical sleeve, F, of slightly larger diameter than the exterior of the coupling-collar B, which, when placed concentrically with the collar and sections, affords an annular space between the sleeve and the collar and sections, into which molten metal or other cementing material, G, is introduced and allowed to harden, so as to complete the union.

I am aware that pipes have been formed from the sheet metal of commerce, bent while cold into the proper form, and turned with threads, and that sections of pipes so formed and threaded at their ends have been coupled by being screwed into each other, and I disclaim any such invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improvement in couplings for thin malleable-metal seamless tubings, the combination of two contiguous sections of thin seamless iron tubing, the whole thickness of the metal of the meeting ends of which is spun, impressed, or otherwise formed into screw-threads, with a collar or coupling-cylinder threaded to correspond with and screw upon the threaded sections, substantially as set forth.

In testimony whereof I have hereunto signed my name this 16th day of September, A. D. 1881.

STEPHEN P. M. TASKER.

In presence of—

J. BONSALL TAYLOR,
W. C. STRAWBRIDGE.