

G. L. King,

Well Tubing,

Patented Oct. 9, 1866.

N^o 58,650.

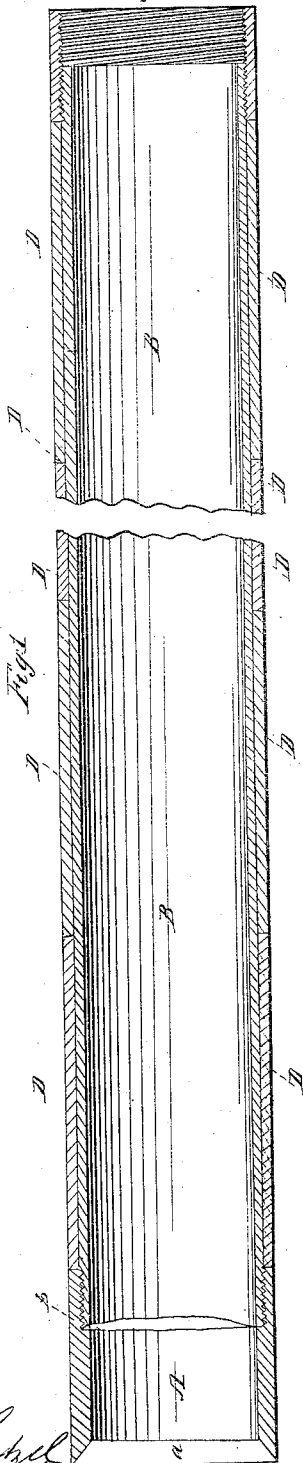


Fig. 1.

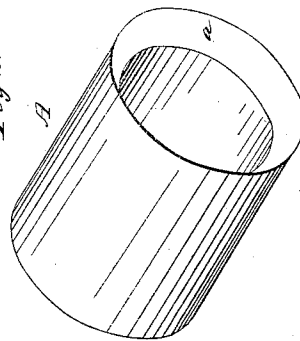


Fig. 2.

Witnesses.

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GEO. L. KING, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED DRIVING-PIPE FOR OIL-WELLS.

Specification forming part of Letters Patent No. 58,650, dated October 9, 1896.

To all whom it may concern:

Be it known that I, GEORGE L. KING, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Driving-Pipes for Surfacing in Oil, Salt, and Water Wells; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention and improvement consists, in the first place, in the use of wrought-iron driving-pipes for surfacing in oil, salt, and water wells; in the second place, in combining a shoe or cutter of wrought-iron laid with steel with the forward or lower end of the pipe; in the third place, in connecting the sections of the pipe by means of thimbles screwed on their adjoining ends to give increased strength thereto; and in the fourth place, in strengthening the pipe by means of bands shrunk thereon, which bands, the thimbles, and the shoe are turned off of the same diameter, so as to give a straight surface to the exterior of the combined pipe, to insure its being driven in a straight line, thereby requiring less force to drive it than if it took a crooked course, and making the drawing of it practicable, if desired, by the failing of the well or for other reasons.

Hitherto driving-pipes have been made of cast-iron, on account of the great tendency of wrought-iron to bend and take a crooked course, thus requiring increased force to drive them, and making it difficult to draw them when they have to be taken up.

In the accompanying drawings, Figure 1 is a vertical section of the lower joint of the pipe, with the shoe or cutter combined therewith. Fig. 2 is a perspective view of the shoe or cutter A.

Like letters in both the figures indicate the same parts.

A is the shoe or cutter on the forward or lower end of the pipe B, as seen in Fig. 1. It is shown detached from the pipe in Fig. 2.

The main body of the shoe I construct of wrought-iron, having only the cutting part of steel, which is laid or welded on the iron. The cutting-edge is formed by means of a bevel, *a*, on the inside, so as to make a clean cut for the free passage of the pipe.

In the upper end of the shoe there is a rabbet, *b*, in which a screw-thread is cut to receive a male screw on the lower end of the first section of the pipe B.

The end or lower and horizontal surface of the rabbet is a square abutment for the lower end of the pipe, to give great resisting power.

On the upper end of the section of the pipe a similar thread is cut to the one on the lower end, and the thimble C is screwed thereon to one-half its depth. The remaining portion is for the reception of the lower end of the next section of the pipe, which is butted squarely to the end of the first section, so as to give great resistance when the pipe is driven, and to take the strain off of the screw-threads.

There are wrought-iron bands D shrunk upon the pipe, which have a square abutment to each other, and the end ones butt square against the thimble and shoe, respectively, the end of the shoe outside of the rabbet *b* being equal to the thickness of the band. I turn the ends of the thimbles, ends of the sections B of the pipe, the outer ends of the strengthening-bands and joint end, and rabbet of the cutter, square, so that when the several parts are screwed together the strain is taken off of the screw-threads.

The outer peripheries of the shoe, bands, and thimble are turned off of equal diameter, so as to make the pipe perfectly straight on its surface, and thereby insure its being driven in a straight line. The diameter of the cutter at the cutting-edge may be a trifle larger than the pipe, to allow the latter a free passage.

The great strength given to the pipe by means of its square abutments, strengthening thimbles and bands, adapts it to being driven into and among bowlders.

The length of the pipe is increased to suit the required depth of the well by additional sections, connected by means of thimbles, as described above, the sections being all strengthened by means of the bands D. When circumstances justify it, there may be spaces left between the strengthening-bands.

In case of the pipe having to be withdrawn when it runs crooked or when the well proves a failure, the thimbles which connect the sections of the pipe so strengthen them as to prevent their being burst by action of the withdrawing-tool.

Having thus fully described my improvement in driving-pipes for oil, salt, and water wells, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the inner pipe, B, strengthening-bands D, and thimbles C, the several parts being constructed and arranged, in relation to each other, substantially in the manner hereinbefore described and for the purpose specified.

2. The combination of the shoe or cutter A

with the lower end of the pipe B and lower strengthening-band D, substantially in the manner described and for the purpose above set forth.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 16th day of July, 1866.

GEORGE L. KING. [L. S.]

Witnesses:

W. E. BENSON

S. L. KING.