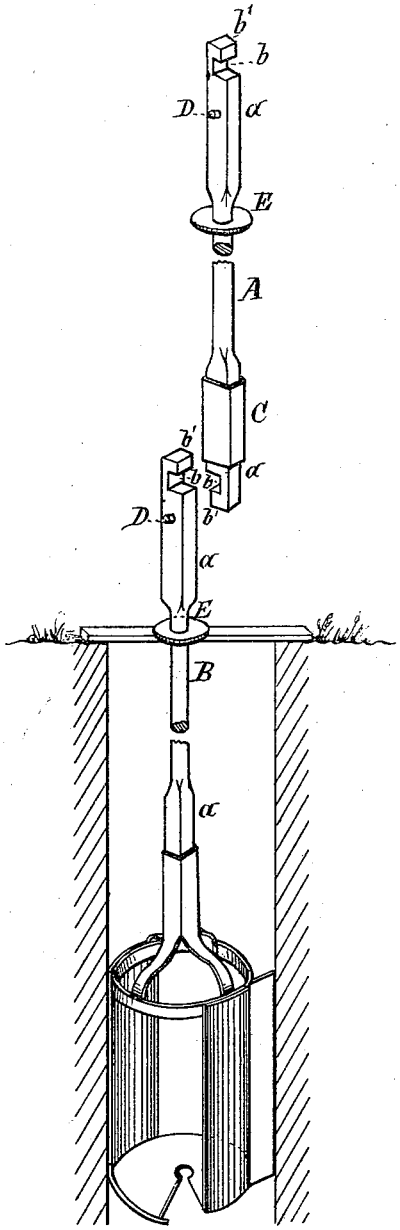
D. L. NEWCOMB.

Shaft-Coupling.

No. 167,354. Patented Aug. 31, 1875.



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UNITED STATES PATENT OFFICE.

DAVID L. NEWCOMB, OF KENTON, OHIO.

IMPROVEMENT IN SHAFT-COUPLINGS.

Specification forming part of Letters Patent No. **167,354**, dated August 31, 1875; application filed June 25, 1875.

To all whom it may concern:

Be it known that I, DAVID L. NEWCOMB, of Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a specification:

My invention relates to that class of shafting particularly adapted for boring wells, where it is necessary, frequently, to employ two or more sections in order to reach water at great depths; and consists, first, in a novel construction of the ends of the sections of shafting, whereby they may be readily and securely coupled together or uncoupled, when desired; secondly, in means for holding the two sections securely and rigidly in position when locked together, and for preventing the coupling-sleeve from sliding over the coupled sections; and, lastly, to means for supporting the section or sections of the shafting in the well, so as to readily couple an additional section thereto, or when it is desired to uncouple the same as the different sections are withdrawn from the well.

But that my invention may be fully understood, I will proceed to describe the same in detail by aid of the accompanying drawings.

I have illustrated in the drawings two sections of shafting, in perspective, constructed according to my invention.

A is the upper and B the lower section of a shaft, each section having its ends formed square, as shown. Each end, *a*, is provided on opposite sides with a recess, *b*, the projection *b'* of which forms a hook or lock of rectangular configuration, the projection *b'* of one section fitting over the projection of the other section, and resting in the respective recesses, in such manner that when the two sections are locked together the four sides of the squared ends are flush with each other, thus forming, so to say, one continuous shaft. The lower square portion of each shaft is provided with a square coupling-sleeve, C, fitting closely, but sufficiently loose to enable said sleeve to slide up and down the squared portions. The upper squared ends of each section are provided, near the recessed or locked part, with a projecting stud or pin, D, which serves to hold the sleeve C when pushed over the locked sections in position, and prevent said sleeve from sliding down, and thus unlock the sections during the operation of boring. Each section is further provided, immediately below the squared upper end, with a projecting ring or collar or disk, E, which serves to hold or support the section or sections already sunk in a perpendicular position for the coupling thereto of an additional section, or for supporting the sunk sections when it is desired to uncouple them as they are raised out of the well, and thus hold said sections suspended in a perpendicular position in the well during the operation of uncoupling.

From what has been said above, and from the drawings, the operation of the coupling or uncoupling need not be dwelt upon at length, and may be stated in a few words, as follows:

Supposing, as shown in the drawings, a section, B, of shafting already sunk, it is desired to couple thereto another section, A. The lower or sunk section being supported or held in position by means of the collar or ring E, either by hand or by supporting-studs laid across the well, the section A is hooked or locked to the section B, and the sleeve C is forced down over the locked part until it rests on the projecting stud or pin D to prevent its sliding farther down, when the two sections will be rigidly and securely coupled together, and the supports being withdrawn from the collar E, the coupled shaft will be ready for boring. The reverse may be said when the shafts are uncoupled. The sections, as they are withdrawn from the well, may be readily uncoupled by sliding the sleeve upward, those sections remaining in the well being supported or held in a perpendicular position during the uncoupling by means of the collar or ring E during the operation of uncoupling of the section above ground, and the supports being withdrawn, the next section is raised out of the well and uncoupled, and so on.

It is evident that by the means here employed, and by the peculiar construction of the sections of shafting, the coupling them together is readily effected, and the sections are securely and rigidly connected together, while at the same time the construction and arrangement of the parts are very simple, hence cheap and economical.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A sectional shaft, having its ends formed

square, said squared ends being recessed in such manner as to form a rectangular lock or hook coupling when two sections are joined or locked together, substantially as shown and described.

2. The combination of two sections of shafting, constructed substantially as shown and described, with the square coupling-sleeve C and the stud or pin D, as and for the purposes specified.

3. The supporting collar or disk E, in combination with a sectional shaft, constructed and arranged substantially as shown and described, and for the purposes set forth.

In witness that I claim the foregoing, I have hereunto set my hand this 19th day of June, 1875.

DAVID L. NEWCOMB.

Witnesses:
L. T. HUNT,
F. D. BAIN.