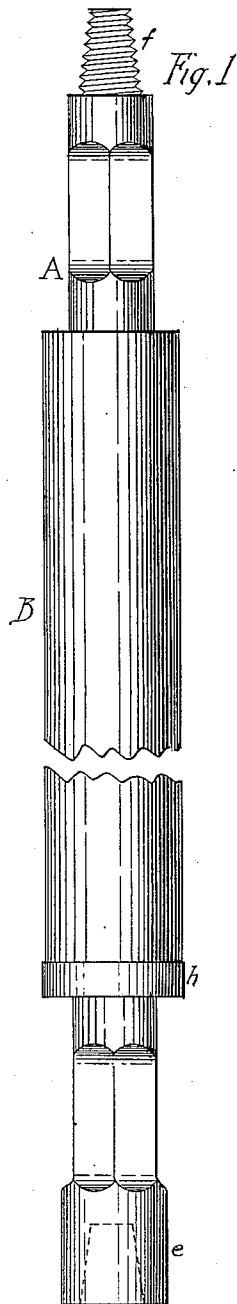
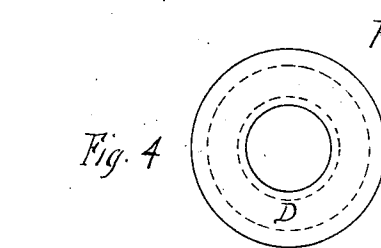
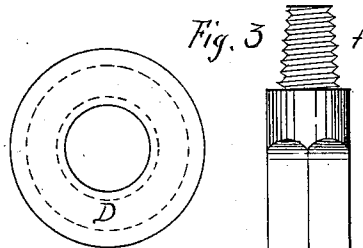
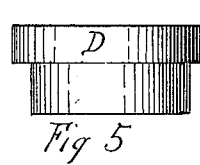
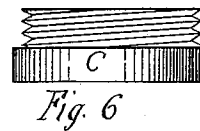
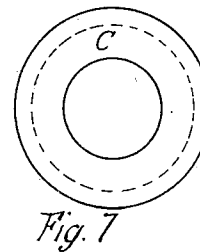
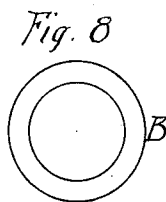
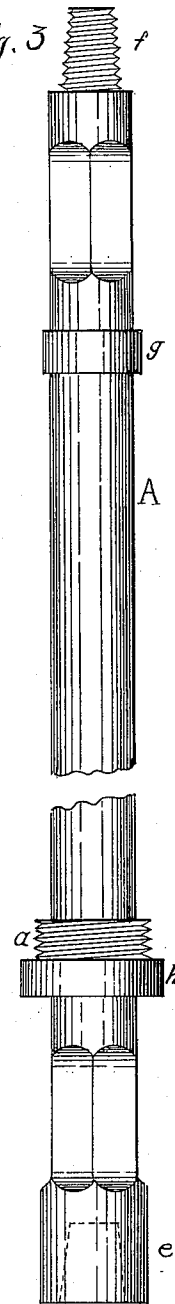


J. S. YOUNG.
WELL HOLE STRAIGHTENER.
APPLICATION FILED MAY 7, 1913.

1,095,487.

Patented May 5, 1914.



WITNESSES

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WELL-HOLE STRAIGHTENER.

1,095,487.

Specification of Letters Patent.

Patented May 5, 1914.

Application filed May 7, 1913. Serial No. 765,978.

To all whom it may concern:

Be it known that I, JOHN S. YOUNG, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented a new and useful Well-Hole Straightener, of which the following is a specification.

My invention relates to certain new and useful improvements in a well drilling stem, used in drilling oil, gas, and water wells.

The objects of my improvements are: first, to provide a strong rigid drilling stem of the lightest practical weight, by the use of which straight wells can be drilled and crooked well holes may be straightened; second, to provide means by which the stem can be enlarged and adapted for drilling and straightening the larger well holes. I attain these objects by the construction of a stem illustrated in the accompanying drawings, in which—

Figure 1 is a vertical elevation of the complete drilling stem. Fig. 2 represents a sectional view of the outer guide barrel, removed from the inner stem. Fig. 3 is a vertical view of the inner stem as it appears after the removal of the guide barrel. Figs. 4 and 5 are top and side views, respectively, of the reducer at the upper end of the guide barrel. Figs. 6 and 7 are side and bottom views, respectively, of the reducer for reducing the lower end of the guide barrel. Fig. 8 is an end view of guide barrel B as it appears in Fig. 1.

Similar letters refer to similar parts throughout the several views.

Referring to the accompanying drawings by letters, A designates the center shaft of the drilling stem, made of any desired length or size. The ends are constructed in the usual manner, having an outer screwed, tapered coupling pin *f* at the top end, and an inner screwed, tapered coupling box *e* at the bottom end. A rigid collar *h* on said stem near the lower end thereof, with screw threads *a* is designed to engage and closely fit the inner screwed lower end of the guide barrel B. A smooth faced collar *g* near the upper end of stem A is designed to closely fit the inner upper end of the guide barrel B, which is constructed of a tube of a suitable diameter, and in length equal to the distance between the shoulder on the collar *h*

and the upper edge of the collar *g*. It will thus be apparent that by slipping the guide barrel B over the inner stem A, and screwing it tightly to the rigid collar *h*, the upper end closely engaging the collar *g*, as shown in Fig. 1, an enlarged reinforced drilling stem is provided, which constitutes my newly invented well hole straightener.

I further carry out the features of my invention by the use of detachable collars C and D, whereby larger guide barrels, of proper length, may be suitably reduced at each end, and coupled to the same center stem A.

From the foregoing description, in connection with the accompanying drawings, it will be observed that in the design of my well hole straightener, I construct a stem which affords great resistance, and to a large degree eliminates the possibility of a crooked hole being bored from the usual causes, and in the event of a crooked hole resulting from the use of an ordinary drilling stem, it will be apparent that by the use of my well hole straightener, having a guide barrel slightly smaller than the inner wall of the well casing, the crooked hole can be quickly re-bored straight.

While the accompanying drawings illustrate my invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction and proportions of the parts thereof, without departing from the scope of the invention as defined.

Having thus described my invention, what I claim as new is:

The combination of a well-drilling stem of the character described, a rigid collar near the lower end having outer screw threads, a smooth-faced collar near the upper end of said stem, a guide barrel attached by inner screw threads to the lower collar, and extending upwardly and over the collar near the upper end of the stem, substantially as described, and for the purposes specified.

In testimony whereof, I hereunto affix my signature.

JOHN S. YOUNG.

Witnesses:

H. A. YOUNG,
E. C. EVANS.