

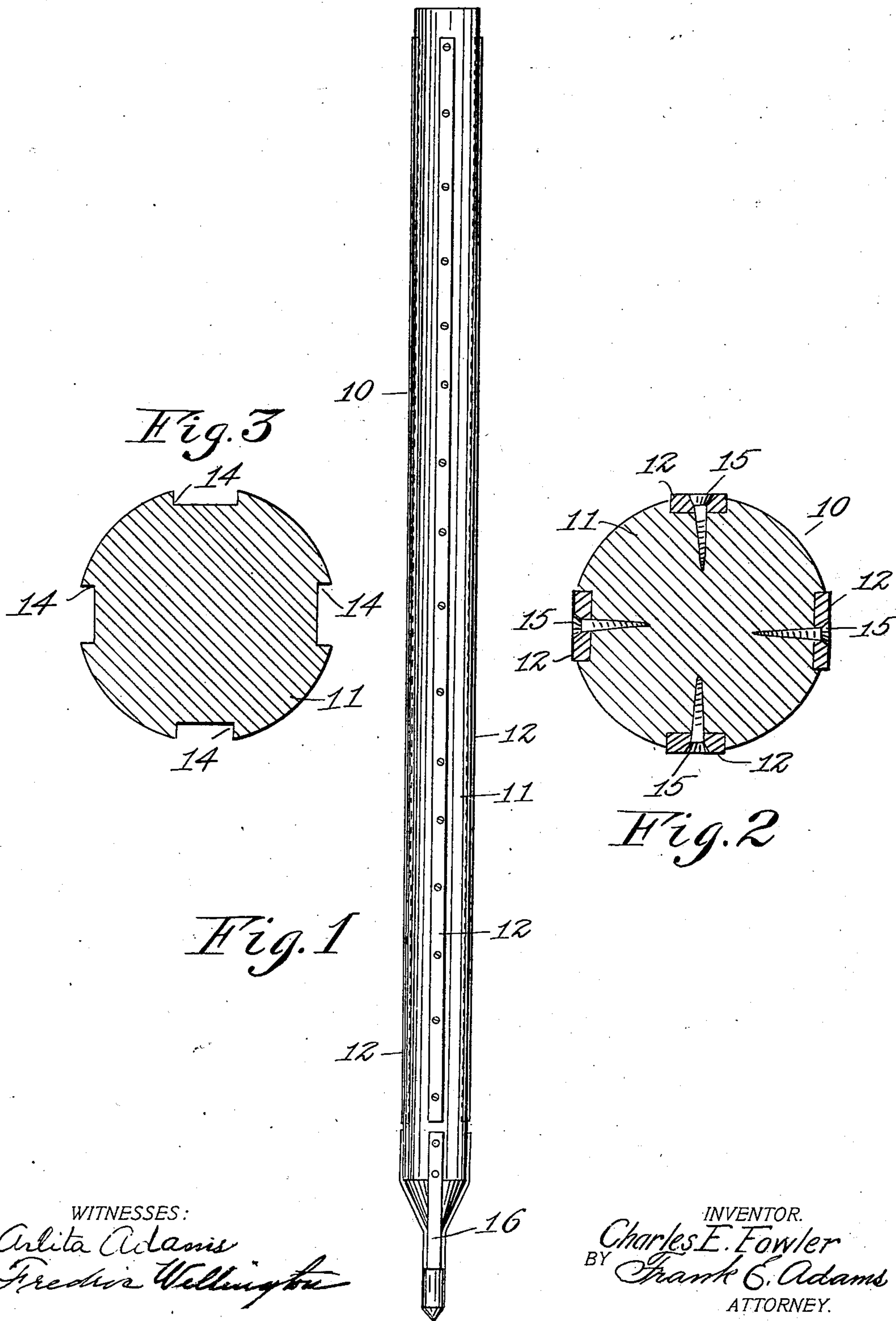
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C. E. FOWLER.
SPUD OR VERTICAL ANCHOR.

APPLICATION FILED MAY 9, 1902.

NO MODEL.



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SPUD OR VERTICAL ANCHOR.

SPECIFICATION forming part of Letters Patent No. 724,386, dated March 31, 1903.

Application filed May 9, 1902. Serial No. 106,629. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. FOWLER, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Spuds or Vertical Anchors, of which the following is a specification.

My invention relates to improvements in spuds or vertical anchors on which dredgers or the like swing when feeding them to their work.

Among numerous objects attained by this invention and readily understood from the following specification and accompanying drawings included as a part thereof is the production of an anchor of the above nature embodying essential features of durability, general efficiency, and utility which prolong the usefulness thereof, increase the strength of the article, render it easier of manipulation and more readily produced at a decreased cost.

The above-mentioned and numerous other objects equally as desirable are attained by the construction, combination, and arrangement of parts, as disclosed on the drawings, set forth in the following specification, and succinctly pointed out in the appended claims.

With reference to the drawings filed herewith and bearing like reference characters for corresponding parts throughout, Figure 1 is a side elevation of my improved spud. Fig. 2 is a transverse section of the stem thereof on large scale; and Fig. 3 is a similar section, on like scale, of the wood portion or stick of the stem with the reinforcing-bars removed.

Before proceeding to describe my invention in its present and preferred embodiment the difficulties attending the construction and manipulation of the ordinary spud will be comprehensively set forth, whereby the great advantages offered by the construction and use of a vertical anchor such as herein presented will be readily marked by those acquainted with the art to which it pertains. As heretofore considered this class of anchors consisted of a wood stem with an iron shoe or point at the lower end, and owing to the great torsional and flexure strains to which such stems are subjected in use it was found that they should be composed of well-seasoned

vertical-grained timber of large diameter and clear and free of knots or other imperfections. These prerequisites rendered the first cost expensive and the spud heavy and unwieldy to handle and made it absolutely necessary to carry an extra number of substitute anchors when operating at points remote to a timber center, and even with such expensive precaution great annoyance and delay were oftentimes experienced owing to the fact that the stems of such spuds repeatedly snapped off or were soon greatly worn and splintered by repeated adjustments in the sockets or casings by which they are connected to a dredge, and thus rendered unfit for use.

It has been my aim in the production of the spud hereinafter described to decrease the cost of production, produce an anchor of lighter weight and little bulk, prolong the usefulness thereof, and render it possible to use repeatedly the most expensive portions of the anchor by substitution of the least expensive parts should they become worn or unfit for use and also render it possible to use an inferior and inexpensive quality of timber in the stem.

In accomplishing the objects of the invention I construct the stem, as 10, of the spud by combining with a wood portion, as a stick or timber 11 of comparatively small diameter and inexpensive quality, removable reinforcing-sections, as 12, which are rendered of hard material and are preferably so arranged that in addition to adding strength and stiffness to the stem of the anchor they shield the stick and offer bearing-surfaces beyond the peripheral surface thereof which serve to guard this wood portion from being chafed, splintered, or peeled as the spud is raised, lowered, or otherwise manipulated or as the dredge swings thereon. As now considered these reinforcing-sections comprise bars of suitable metal substantially rectangular in cross-section and disposed in suitable grooves 14, formed in the periphery of the stick longitudinally thereof and rendered of a predetermined depth, which insures the outer side surfaces of the strips lying slightly above or beyond the surface of the stick, where they act to guard same from abrasions or wear.

In the present embodiment the stick 11 is

rendered round and of any desired length, and a groove 14 is formed in each of the four quarters of the periphery thereof, so that when the spud is acting under flexure strain some of the bars will always lie diagonally opposed to the line of strain, and thereby hold the spud stiff. These bars are preferably removably secured in place in the grooves 14 by suitable wood-screws 15 or the like having beveled heads and which are placed in suitable countersunk apertures arranged at desired separation throughout the length of the bars, so that the heads of the screws lie below the outer or bearing-surface of the bars and leave said surface smooth and even throughout. By the use of these reinforcing-bars a comparatively inexpensive slender timber of inferior quality can be used in its rough state as the stem of the spud, and when it becomes rotten or is otherwise unfitted for further use these bars can be readily removed and a new stick substituted, and owing to the reduction in size of these sticks and their use in comparatively rough state, as made possible by the reinforcing-bars, the material from which they are composed may be gathered from driftwood along the beach or taken from standing timber and hewn to a rough form, thus obviating the necessity of keeping on hand extra spuds and greatly reducing the cost and the skill required in production, while they are thus rendered much lighter in weight and their length of usefulness greatly prolonged.

When the spud is in use, any ordinary or suitable metal shoe or point, as 16, is secured to the lower extremity of the stem in any well-known or desired manner, and the spud is manipulated in any usual or desired manner and worked in a socket or casing arranged on the dredger at a suitable point, as well understood by those having knowledge of the operations of a swinging dredger.

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

1. In a spud, a stem, metallic reinforcing-strips disposed longitudinally of the stem, and a metallic point provided on the stem, substantially as described.

2. In a spud, a stem, metallic reinforcing-strips disposed longitudinally of the stem, said strips projecting beyond the periphery of the stem, and means for removably securing each strip independently of the others, substantially as described.

3. In a spud, a stem having longitudinal grooves, metallic reinforcing-strips arranged in the grooves so as to project beyond the periphery of the stem, and means for removably securing the strips in the grooves, substantially as described.

4. In a spud, a stem having longitudinal grooves, metallic reinforcing-strips of greater thickness than the depth of the grooves arranged in the grooves and adapted to project beyond the periphery of the stem, and means for removably securing the strips in the grooves, substantially as described.

5. In a vertical anchor of the nature indicated; a stem comprising a substantially round stick or timber having a rectangular groove formed in each quarter longitudinally the periphery, a reinforcing-bar of metal in each of said grooves of greater thickness than the depth thereof, whereby the outer surfaces of the bars are made to act as bearing-surfaces and shield said stick, and means to removably secure the bars in place.

6. In a spud, a stem having longitudinal grooves, metallic reinforcing-strips having countersunk apertures and arranged in the grooves so as to project beyond the periphery of the stem, screws fitting in the countersunk apertures and adapted to removably secure the strips in the grooves, substantially as described.

7. In a spud, a stem having longitudinal grooves, metallic reinforcing-strips arranged in the grooves so as to project beyond the periphery of the stem, a metallic point provided on the stem, and means for removably securing the strips in the grooves and the point on the stem, substantially as described.

Signed at Seattle, Washington, this 19th day of April, 1902.

CHARLES E. FOWLER.

Witnesses:

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