R. HILLYER.

DEVICE FOR PULLING PILES AND POSTS.

No. 184,965. Patented Dec. 5, 1876.

Fig. 1

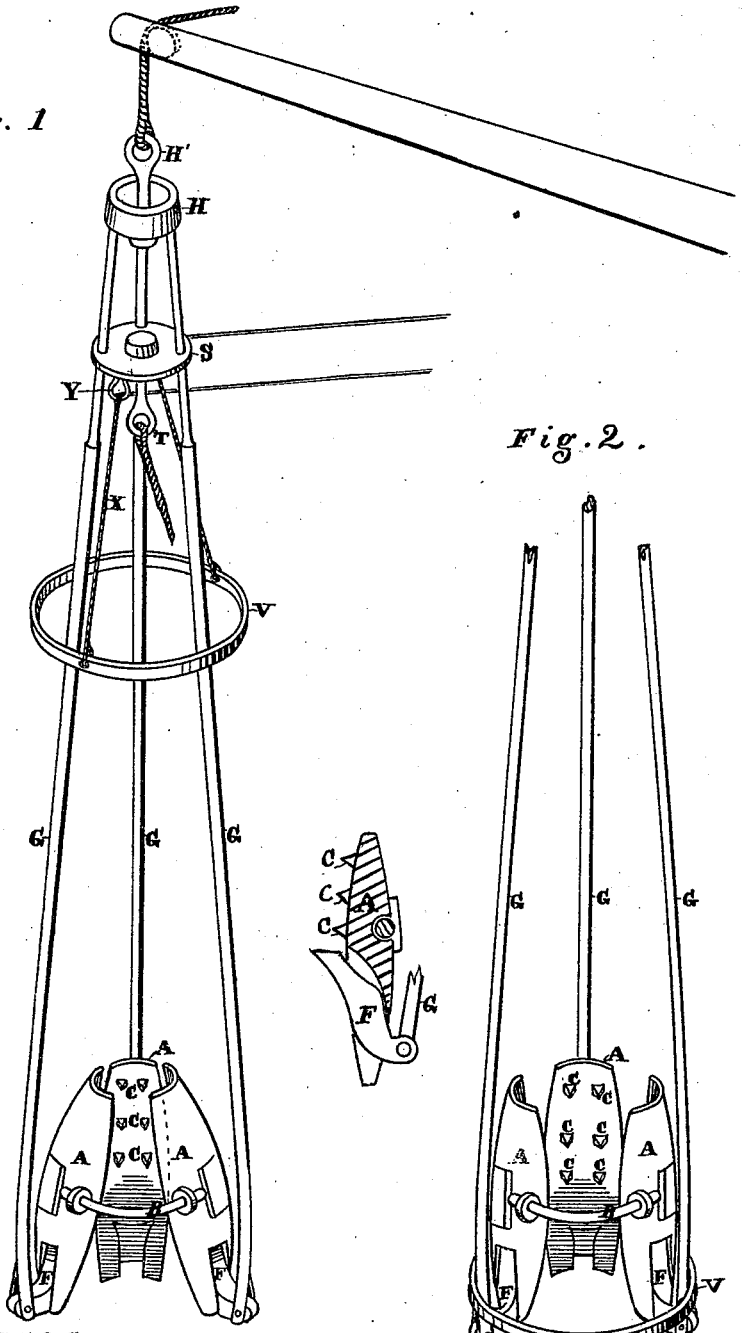

Fig. 2.

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RICHARD HILLYER, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO RICHARD HARRIS.

IMPROVEMENT IN DEVICES FOR PULLING PILES AND POSTS.

Specification forming part of Letters Patent No. **184,965**, dated December 5, 1876; application filed September 28, 1876.

To all whom it may concern:

Be it known that I, RICHARD HILLYER, of the city and county of San Francisco and State of California, have invented a Device for Pulling Piles; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to a device for pulling wooden piles and other wooden beams and and timbers, such as are driven into the ground to serve as a support for wharves and other structures. When a wooden pile breaks off below the surface of the water it becomes an ugly obstruction and dangerous to shipping, and requires to be removed, and being entirely submerged it is often difficult to find its exact location in order to attach a griping device, so that it can be pulled out. My improved griper is so constructed that it is also a feeler for finding the pile, as will be more thoroughly understood by the accompanying description.

Referring to the accompanying drawings, Figures 1 and 2 are perspective views of my device.

Preliminarily I will state that my feeler and griper is suspended from the boom of a derrick or crane, so that it can be lowered, and when fixed upon a pile power can be applied to pull the pile out of its seat in the mud or earth, and remove it to any desired place. My griper consists of three strong metallic jaws, A A A, mounted loosely upon a ring or circular shaft, B, in a triangular manner. The inside face of each jaw is made convex longitudinally and concave transversely across its face, and the ring B passes through each jaw at or near its middle, so that each jaw extends both above and below the ring. That portion of the three jaws which extends above the ring serves as the clamps or gripers, and is provided with spurs or teeth C C, while that portion below the ring serves as feelers or guides. The lower end of each jaw is slotted longitudinally, said slot extending from the lower end of the jaw about half-way up to the ring B, and in this slot I secure a dog, F, by means of a rivet or bolt which passes through its middle so that the upper end of the dog can pass inside of the inside face of the jaws, while its lower end extends outside or beyond the back of the jaw. G G G are three strong rods of the desired length, which are arranged in the form of a tripod. The upper ends of these rods are secured in a metallic block or head, H, while the lower end of each is attached to the outside projecting end of one of the dogs, F. This device I suspend from the boom of the derrick or crane by means of an eyebolt or rod, H′, which passes through the head H. When the griper is simply suspended from the boom of the derrick, the weight of the jaws is suspended from the lower ends of the dogs, and consequently the upper ends of the jaws are drawn inward toward each other while their lower ends are spread out so as to present a flaring or bell-shaped opening. This flaring of the jaws serves to guide the device over the end of the pile when it comes within their range, and as the device settles down over the end of the pile the upper ends of the jaws are forced apart until the pile has been sufficiently entered. An upward pull upon the rods G G G then clamps the upper or inside end of the dogs against the pile, and by the outward pressure which this action exerts upon the jaws below the ring they force the upper ends of the clamping-jaws toward each other, consequently sinking the teeth or spurs C C into and holding it with a gripe corresponding with the pull upon the rods G G, so that the stronger the pull upon the clamping-jaws the harder they will gripe the pile. To facilitate the lowering of the jaws, especially when they require to be forced down into the mud in order to find the end of the pile, I reduce the size of the upper ends of the rods G G G for a short distance below the head H, and then make three holes in a circular plate, S, corresponding with the three rods. I then slip the plate upon the rods so that it can settle down upon them and rest upon the shoulders formed by the termination of the reduced part. In the center of this plate I secure loosely a pendent eyebolt or other suitable hanger, T, so that a rope can be attached to it for the purpose of drawing downward on the plate, and thus forcing the jaws into the

mud. In order to loosen the gripe of the jaws and free them from the pile after it has been pulled, I ease up on the boom-chain and drop a ring, V, down over the rods G G G. This ring is large enough to pass below the ring B and press the lower ends of the rods G toward each other, thus loosening the gripe of the dogs and jaws and allowing the device to be freed from the pile. The ring V I suspend by means of draw-cords X, which pass through eyes Y on the inside of the plate S, so that ring can be drawn up or lowered at pleasure.

This device is simple and easily operated. It will find a pile and gripe it so that any desired amount of power within the strength of the metal of which it is composed can be applied. The lower dogs F may be dispensed with, if desired, in which case the rods G will be attached to the projections on the jaws.

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

1. A griper for pulling wooden piles, consisting of three or more jaws, A A A, attached to a ring, B, at or near their middles, and having the rods G attached to their lower ends, substantially as and for the purpose described.

2. The jaws A A A, suspended by a ring, B, at or near their middles, said jaws being convex longitudinally and concave transversely, and having the spurs or teeth C C on the upper half, in combination with the pulling-rods G G G, applied to the lower ends, substantially as and for the purpose described.

3. The jaws A A A, suspended by a ring, B, at or near their middles, and slotted at their lower ends, in combination with the dog F and suspending-rods G G G, substantially as and for the purpose described.

4. In combination with a series of griping-jaws, suspended from rods G G G, the plates S, arranged to slide upon the rods G G G, and provided with the depending eye-bolt T, substantially as and for the purpose described.

5. The ring V, for dropping down over the suspending-rods G G G, for opening the griping-jaws, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand and seal.

RICHARD HILLYER. [L. S.]

Witnesses:

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