

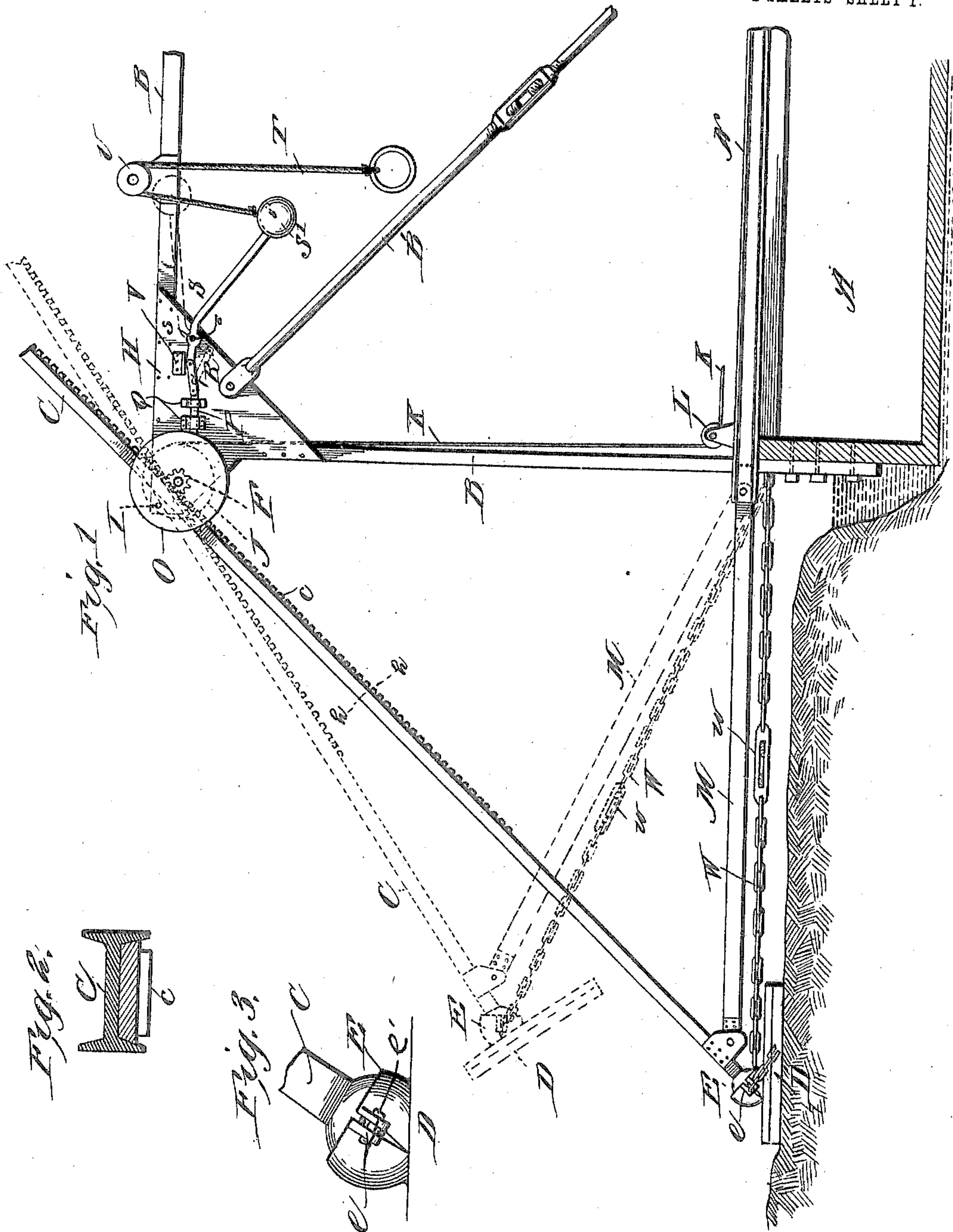
No. 812,043.

PATENTED FEB. 6, 1906.

J. P. KARR.
SIDE BRACE OR ANCHOR FOR DREDGERS.

APPLICATION FILED NOV. 12, 1903.

2 SHEETS—SHEET 1.



WITNESSES:
Fred D. Bradford
Anne W. Hart

INVENTOR
James P. Karr
BY *Munn & Co.*
ATTORNEYS

No. 812,043.

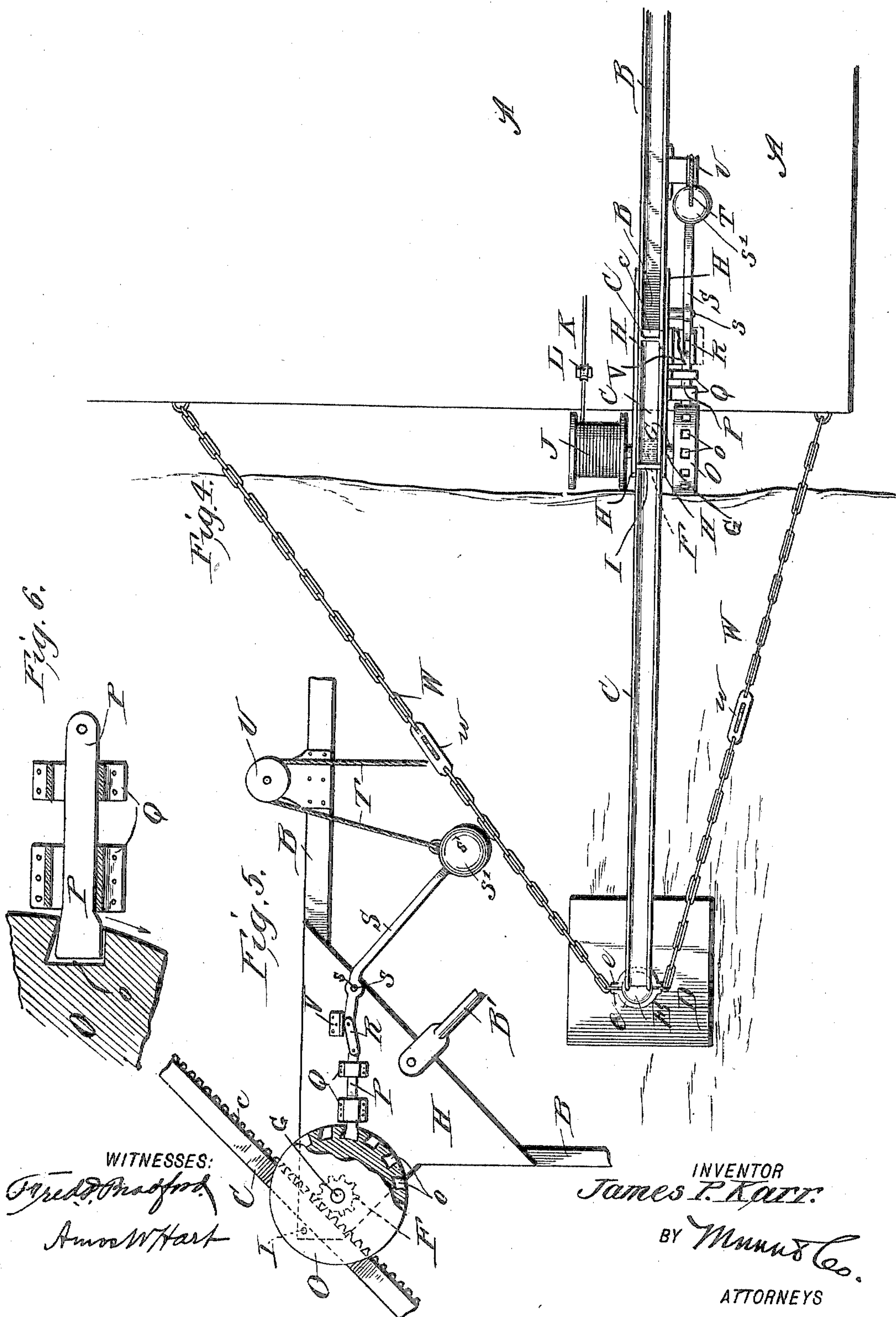
PATENTED FEB. 6, 1906.

J. P. KARR.

SIDE BRACE OR ANCHOR FOR DREDGERS.

APPLICATION FILED NOV. 12, 1903.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JAMES P. KARR, OF MONTICELLO, INDIANA.

SIDE BRACE OR ANCHOR FOR DREDGERS.

No. 812,043.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed November 12, 1903. Serial No. 180,859.

To all whom it may concern:

Be it known that I, JAMES P. KARR, a citizen of the United States, and a resident of Monticello, in the county of White and State of Indiana, have made certain new and useful Improvements in Side Braces or Anchors for Dredgers, of which the following is a specification.

My invention relates particularly to an improved side anchor attachment for dredging-machines, particularly such as are adapted for excavating canals. As is well known to those acquainted with the art, such dredgers are provided near the bow with a side brace or spud which extends outward and is provided with an enlarged foot or so-called "platform" which normally rests upon the bank. The foot of such spud or brace is connected with the framework of the scow by a pivoted swinging bar and is adapted to slide endwise in suitable bearings provided in a frame which is rigidly attached to the deck of the scow or dredging-boat. Means are provided for adjusting and locking such spud or brace in any position required.

My invention is embodied in certain features of construction, arrangement, and combination of parts whereby I produce a greatly improved attachment of the class here indicated.

In the accompanying drawings, Figure 1 is an elevation of my improved attachment, the body of the dredger or scow being shown in section. Fig. 2 is a detail section on the line 2 2 of Fig. 1. Fig. 3 is a detail view of the socket of the spud or brace. Fig. 4 is a plan view of the attachment and the part of the dredger or scow to which it is applied. Fig. 5 is a partly-sectional view illustrating the locking attachment for the spud or brace. Fig. 6 is another sectional view showing certain parts of the locking attachment enlarged.

Referring in the first instance chiefly to Figs. 1, 4, A indicates a dredger, barge, or scow which may have any approved construction, it being of light draft and of such dimensions as required to support a digger or dredging apparatus of any approved construction. In practice such dredger or digger may be attached to the front end or bow of the scow A, and my improved side-brace attachment will be made at adjacent points—that is to say, on the sides of the scow near the front end or bow, as indicated in Fig. 4. A suitable vertical rigid frame B is provided,

it having a diagonal brace B', and my improved attachment is connected with this frame on both sides of the scow. The attachment being duplicated, it suffices to illustrate and describe it as applied to one side only. The long spud or brace C is attached to the flat foot or platform D by means of a ball-and-socket joint E, the same being located nearer the outer edge of the platform than its inner edge, by which construction and arrangement the platform tends to swing downward at its inner edge when elevated, as shown by dotted lines in Fig. 1. This arrangement enables the platform to strike upon the bank when again lowered and take a more favorable position and firmer hold than would be practicable if pivoted at the center. In other words, the lower inner edge of the platform will strike first, and thus tend to crowd outward rather than inward, which is particularly advantageous if the bank slopes toward the scow, as is frequently the case. The brace C is provided with a rack c on its under side for about two-thirds of its length, and this rack engages a pinion F, which is fixed on a shaft G, having its bearings in a bracket H, forming a laterally-projecting portion of the frame B. A cross-pin I, having an antifriction-sleeve, is applied to the bracket H in such position that the sleeve works in contact with the back or outer side of the brace C, and thus holds it at all times engaged with the pinion F. For the sake of maximum strength and rigidity I construct the spud or brace C of channel iron or steel, (see Fig. 2,) the rack-bar c being laid and secured between the parallel side flanges or ribs of the brace, as there shown. Upon one end of the shaft G (see Fig. 4) is mounted a drum J, upon which is wound a rope or chain K, that extends down (see Fig. 1) over a pulley L on the deck of the scow A, and thence to a capstan or winch, (not shown,) which may be operated by hand-power or a motor, as the case may be. The platform D and the lower end of the brace C are held at a uniform distance from the scow A by means of a bar M, (see Fig. 1,) which is pivoted to the outer end of an iron or steel bar N, attached to the deck of the scow. It is apparent that if traction be applied to this hoisting-rope the shaft G and its pinion F will be rotated so that the brace C, together with the platform D, may be hoisted to the position indicated by dotted lines and that upon re-

leasing the hoisting-rope the weight of the platform and brace will cause them to descend and take the working position indicated by full lines.

5 When the platform and brace are elevated, as described, which position is required when the scow is taking up a new position, it is locked by the following means: On the end of the shaft G opposite that to which the drum
10 J is applied I mount a wheel O, which is provided in its broad periphery with a series of sockets o, (see Fig. 5,) adapted to receive the head of a sliding bolt P, which is arranged in keepers Q on the bracket H and connected by
15 a link R with a lever S, which is pivoted to the bracket at s and provided at its outer end with a weight s'. A toggle-joint is thus formed, and it is obvious that by adjusting the free end of the lever S up or down, as in-
20 dicated by dotted lines, Fig. 1, the bolt P may be engaged with or disengaged from the wheel O, as required. For the purpose of raising the weighted end of the lever S, I employ a rope T, which is connected with the
25 weight and passes over a pulley U, journaled in a bracket attached to the top portion of the frame B. The rope hangs in such position that it may be easily seized by a person standing on the back of the scow. An an-
30 gular stop-plate V (see Fig. 5) is attached to the bracket H for arresting the inner end of the lever S when traction on the rope T is relieved. When the lever is in contact with said stop-plate, as shown by full lines, Fig. 5,
35 the bolt P is engaged with and locks the wheel O. It will be understood that the wheel is thus locked when the platform rests upon the bank, as shown by full lines, Fig. 1, and also when the same is elevated, as shown by dotted lines in the same figure. As illustrated
40 in Figs. 5 and 6, the outer end of the sliding bolt P is somewhat enlarged and that the upper edge or the socket o in the wheel O is at an angle to the lower side, or, in other words,
45 slightly undercut, so that the socket is narrower at the opening than at the inner end. When the platform is lowered upon the bank and the wheel O is locked, as shown, the latter tends to rotate in direction of the arrow,
50 Fig. 6, when the dredging-bucket is wound more or less to that side. It is apparent that by engagement of the acute angle of the socket o with the enlarged head of the bolt P the latter is held firmly, so that it cannot be
55 disengaged either accidentally or otherwise unless the dredging-bucket be swung to the other side so as to relieve pressure upon the platform D and brace C. It will be further noted that the lower side of the head of the
60 bolt P is provided with a shoulder which engages the first keeper Q, which further tends to prevent the bolt sliding back until the pressure is relieved. The said keeper is made of such dimensions interiorly that it is adapted
65 to receive the enlarged head of the bolt to the

extent required to enable the latter to free the wheel O when drawn back.

As shown in Fig. 3, the socket E, which is rigidly connected with the plate forming the top of the platform D, is slitted on the sides 70 and provided with ears e, which are perforated and also separated sufficiently to adapt them to receive a chain-link, the same being secured by a screw-bolt e', as shown. As shown in Fig. 4, the chains W, which extend at an 75 angle on opposite sides of the platform to the sides of the scow, are connected with the aforesaid links and provided with turnbuckles w, which adapt them for adjustment in respect to length, as will be required. 80

It will be seen that by means of the attachment shown and described I provide a side anchor which not only prevents lateral movement of the scow, but also movement either forward or back, also that the anchoring at- 85 tachment proper may be quickly and conveniently raised and locked whenever required, and that it may be instantly unlocked and turned again into working position.

The attachment is composed of compara- 90 tively few parts, which are connected and arranged in a simple manner and are very effective in operation.

Having thus described my invention, what I claim as new, and desire to secure by Let- 95 ters Patent, is—

1. In a dredger attachment of the class indicated, the combination with a scow or equivalent, and a frame thereon, of a spud or brace, and means for guiding the same on the 100 frame, a bar connecting it pivotally with the scow, and a platform which is pivotally connected with the lower end of the brace at a point nearer the outer edge of the platform than the inner edge of the same, substantially 105 as and for the purpose specified.

2. In a dredger attachment of the class indicated, the combination with the scow and a vertical frame thereon, of the inclined brace and a bar pivotally connecting its lower end 110 with the scow, a platform having a socket for reception of the spherical end of the brace, and provided with lateral ears, and chains extending therefrom toward the ends of the scow and provided with turnbuckles, sub- 115 stantially as shown and described.

3. In a dredger attachment of the class indicated, the combination with a scow, a vertical frame, a rotatable shaft having a pinion and arranged in bearings on said frame, a 120 brace constructed of metal and having side flanges or ribs, a rack arranged in the groove between said flanges, and a bar which pivotally connects the lower end of the brace with the scow, substantially as described. 125

4. In a dredger attachment of the class indicated, the combination with a scow or equivalent, and a vertical frame thereon, of a brace, a platform, and a bar which pivotally connects the lower end of the brace with the 130

scow, of a shaft mounted in bearings on the upper portion of the frame, and provided with a pinion engaging the rack of the brace and with a winding-drum, and a hoisting-cable applied to the latter and extending downward to the deck of the scow, and means for locking the said shaft, substantially as described.

5. In a dredger attachment of the class indicated, the combination with a scow, and a frame fixed thereon, of a brace having a rack-bar, a platform, and a bar which pivotally connects the lower end of the brace with the scow, of a shaft which is journaled in the upper portion of said frame, and provided with a pinion engaging the rack of the brace, and a wheel provided with sockets, of a slidable bolt adapted to engage the said wheel, and means for moving the same into or out of engagement with the wheel, substantially as described.

6. In a dredger attachment of the class indicated, the combination with the scow, a frame fixed thereon, and a platform and brace, of a rotatable shaft having a pinion which engages the rack of the brace, and the wheel provided with sockets, a slidable locking-bolt adapted to engage said wheel, a pivoted lever and a link connecting it with the bolt, whereby the adjustment of the free end of the lever effects engagement and disengagement of the bolt with the wheel, substantially as described.

7. In a dredger attachment of the class indicated, the combination with a scow, a vertical frame, an inclined brace having a rack-bar, of a shaft journaled horizontally in said frame, and a pinion thereon which engages the rack, and a wheel provided with peripheral sockets, a slidable locking-bolt adapted to engage said sockets, a pivoted and weighted lever, and a link connecting it with the bolt, and a rope attached to the free end of

the lever and serving to raise it, as and for the purpose specified.

8. In a dredger attachment of the class indicated, the combination with the scow, and a vertical frame fixed thereon, of an inclined brace having a rack affixed, a rotatable shaft arranged horizontally on said frame and provided with a pinion which engages the rack and with a wheel having peripheral sockets which are undercut as described, of a slidable bolt having an enlarged head, and means for operating the same, substantially as described.

9. In a dredger attachment of the class indicated, the combination with the scow, and a frame fixed thereon, of an inclined brace having a rack affixed, a rotary shaft journaled horizontally in said frame and having a pinion which engages the rack, and a wheel provided with peripheral sockets which are undercut as described, a slidable bolt having an enlarged head adapted to enter said sockets, and keepers arranged adjacent to the wheel and adapted to engage a shoulder formed on the head of the bolt, substantially as described.

10. In a dredger attachment of the class indicated, the combination with the scow, a frame mounted thereon, an inclined brace having a rack-bar, a shaft journaled in said frame and having a pinion engaging the rack-bar, and a wheel provided with sockets, of a slidable bolt held in keepers on said frame, a pivoted weighted lever, and a link connecting it with the said bolt, and a stop-plate arranged on the frame for engagement with the inner end of the lever, for holding the bolt engaged with the wheel, substantially as described.

JAMES P. KARR.

Witnesses:

AMOS W. HART,
 SOLON C. KEMON.