March 4, 1930. J. W. BOND 1,749,464

FLOATING SINKER

Filed April 26, 1929 2 Sheets-Sheet 1

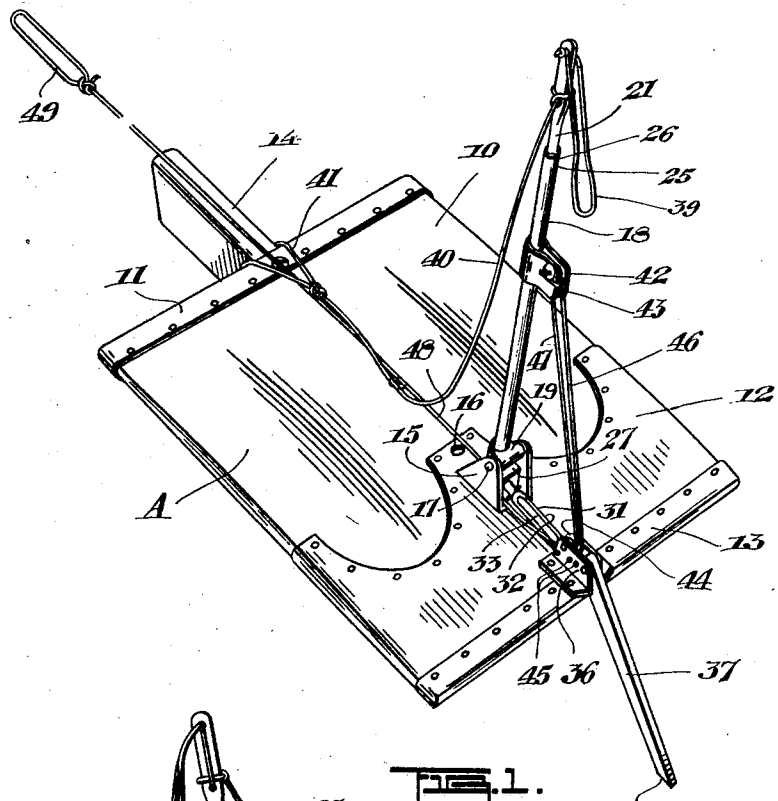


Fig. 1.

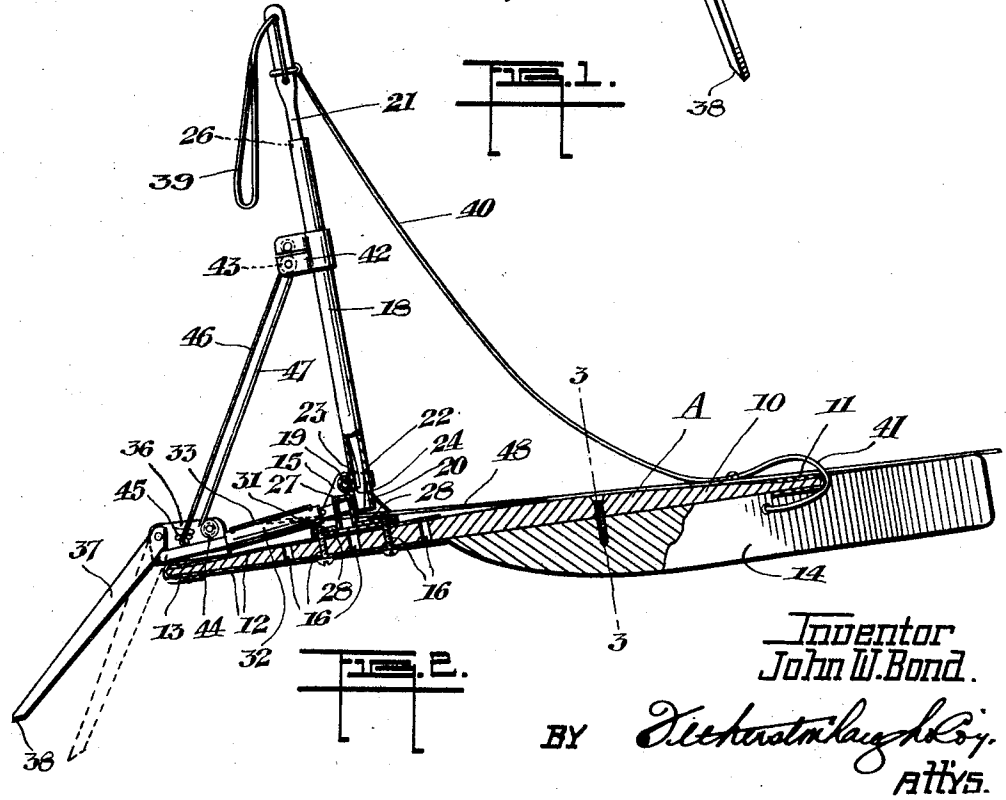


Fig. 2.

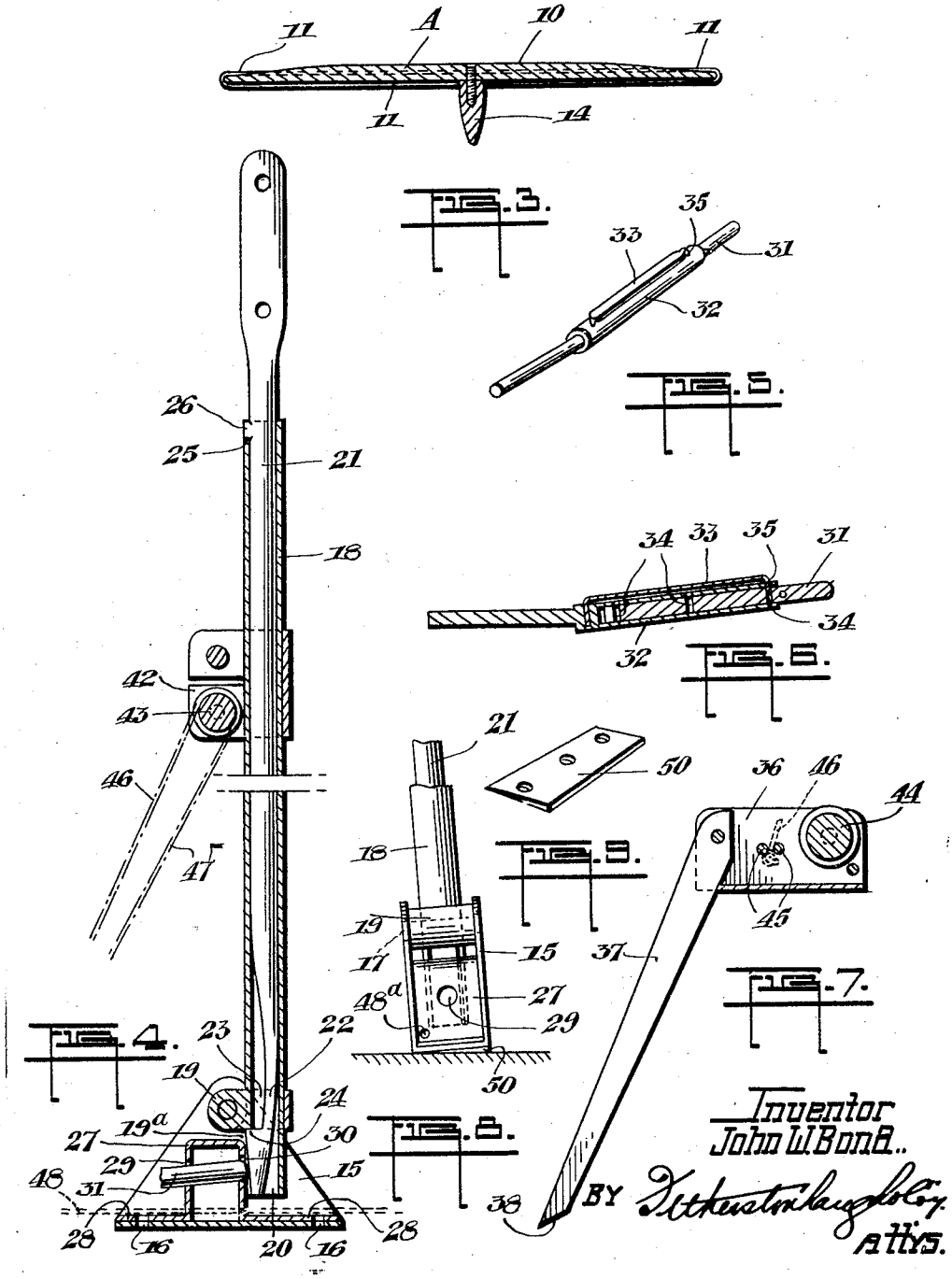
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FLOATING SINKER

Filed April 26, 1929 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

JOHN WILLIAM BOND, OF VICTORIA, BRITISH COLUMBIA, CANADA

FLOATING SINKER

Application filed April 26, 1929. Serial No. 358,396.

This invention relates to floating sinkers and an object of the invention is to provide a floating sinker which will float at a depth in trolling and the like and will be automatically released to come to the surface under certain conditions.

A further object of the invention is to provide a floating sinker of the character set forth with a spur or feeler which will automatically direct the sinker to the surface on encountering an obstruction.

A still further object of the invention is to provide a device of this character which will function with the utmost efficiency and which may be manufactured with economy.

With these and other objects in view, the invention contemplates the employment of the principle of equi-poise to operate the floating body, and consists essentially of a floating body portion on which is mounted releasable means through which the sinker is connected by suitable lines to the boat and to a fishing spoon or the like, so that the sinker will automatically be directed to the top when a fish has been caught on the line, or when obstruction has been encountered, as more fully described in the present specification and illustrated in the accompanying drawings in which

Figure 1 is a perspective view of the sinker as in operative position.

Figure 2 is a longitudinal section taken through the sinker.

Figure 3 is a transverse section on the line 3—3 of Figure 2.

Figure 4 is an enlarged sectional detail of the channel member and tubular shank which is adapted to be positioned on the top of the sinker body.

Figure 5 is a perspective detail of the extension thrust pin.

Figure 6 is a longitudinal section of the extension thrust pin.

Figure 7 is a section through the spur-carrying fixture illustrating the normal position of the spur.

Figure 8 is an elevation of the mounting of the channel member on the sinker body in the case of the attachment of one or more sinkers, illustrating the shim or wedge for canting the channel member, and,

Figure 9 is a perspective view of the shim or wedge.

Referring more particularly to the drawings, A indicates the floating sinker as a whole, made of any suitable material but preferably of wood, comprising a floating body 10 which is constructed of suitable form, here shown as fashioned with tapered ends and of rectangular shape, the ends are suitably bound with metal, the rearward end thereof being bound with a comparatively narrow margin of metal facing 11 and the forward end being encased in a metal casing 12, which is further bound at the extreme end with a similar metal facing piece 13.

On the base of the floating body, I provide a fin 14 which preferably extends rearwardly thereof and, on the top face of said body, I mount automatic releasing mechanism, through which the sinker is connected to the towing medium and to which the line connected to the bait is attached.

This trip mechanism consists of a channel member 15 which is adjustably secured to the body centrally of the width thereof by means of screws or the like inserted from the base of the body through a series of orifices 16 and by removing said screws and replacing them in the different orifices the position of the channel member on the floating body may be changed.

As shown in Figure 1 and Figure 2, the channel member is positioned in an intermediate position and, in order to change the sinker so as to float at greater depth, the channel member must be moved rearwardly and secured in rearwardly positioned orifices.

On the channel member, by means of a suitable pin 17, I pivotally mount a tubular shank 18 which is adapted to stand substantially at right angles to the body when in normal operative position. This shank may be mounted in any desired manner and the connection here shown is an integral collar and sleeve attachment 19 which is rigidly secured to the tubular shank and is retained by the pin 17.

The tubular shank extends below the member 19, as at 20, and on the forwardly facing

side thereof it is formed below this member 19 with a cut-out portion, or recess 19a.

A releasable resilient pin 21 is designed to be inserted in the tubular shank, particularly illustrated in Figure 4. This pin is of curved form at the lower extremity thereof, indicated at 22, and approximately at this curved portion it is formed with a cut-out portion 23 designed to form a latch shoulder 24.

At the top of the tubular shank 18 on the forward face thereof, I provide a notch 25 and on the pin 21 I form a corresponding projection 26 which is adapted to fit in the recess 25 when the pin is inserted to its fullest depth in the shank and, at this position, the shoulder 24 through the resiliency of the pin engages with the lower surface of the member 19 so that the pin is locked in the tubular shank.

Within the channel member 15, approximately at the center thereof, I secure a bracket member 27 which may be of any suitable form, here shown substantially U-shaped, and provided with horizontally disposed extensions 28 which may be orificed to correspond with the orifices in the base of the channel member and thereby held in operative position through the securing means of the channel member with the floating body.

This bracket member is orificed at 29 and 30 so as to receive therethrough one end of an extension thrust pin 31 and the connection is such that this thrust pin may freely move backwardly and forwardly in the orifices.

It will be noted from Figure 4 that the orifices in this bracket are so positioned as to register with the lower end of the tubular shank 18 and the pin 21 when there members are in normal upright position, so that the thrust pin may contact with the lower end of the pin.

The thrust pin 31 may be formed in two sections which may be bent to suit requirements and ensure free axial movement thereof, the sections being secured together by means of a suitable sleeve 32, which may be formed integral with one section.

The sleeve is provided with an engaging or locking member of any suitable form, here shown as a resilient clip 33 which is secured to one section and adapted to engage with the other section by means of a series of orifices 34 which are engaged by a downwardly protruding lip 35 on the member 33 which extends through an orifice in the sleeve to engage with whichever orifice 34 is brought to register with the orifice in the sleeve. By this means of adjustment, the thrust pin may be lengthened or shortened to correspond with the placement of the channel member 15 on the floating body 10.

As previously stated, the inner end of the thrust pin 31 engages with the orifices 29 and 30 in the bracket member 27, while the outer end of the pin 31 is designed to extend between the upright walls of a supporting member 36 and in normal operative position it extends over the forward edge of the floating body.

Between the walls of the support 36, at the forward end thereof, a feeler or spur 37 is pivotally mounted from one end thereof and designed to depend downwardly from its pivotal mounting. The spur may be of any desired form and is here shown with a bevelled tip 38 which forms the outward extremity of this member and is designed to contact with any obstruction, such as the ocean bottom, rocks, etc., and it will be seen more particularly in Figure 2 that in normal position the spur is held outwardly from the body by the outer end of the thrust pin.

Flexible lines are provided for attaching the sinker to the towing medium and to the bait, in addition to a line for retaining the pin 21 to the sinker when said pin is displaced from its housing in the tubular shank.

The loop 39 is secured to the upper end of the pin 21 by means of an orifice or the like and this loop may be continued to extend through a second orifice in the pin and provide a line 40 which extends from the pin to the base of the fin 14 and is anchored thereto by means of a loop 41.

For attaching the bait to the sinker, on the tubular shank 18, I provide a bracket 42 which is secured in any suitable manner, such as the screw connection illustrated, and between the outwardly extending arms of the bracket a pulley 43 is provided, a corresponding pulley 44 being provided between the upright walls of the supporting member 36.

The attaching line is anchored in any suitable manner between the walls of the supporting member 36; for instance, by the parallel extending pins 45, the line, extending upwardly, as at 46, over the pulley 43 and downwardly, as at 47, over the pulley 44 and thence, as indicated at 48, it extends rearwardly passing through an orifice 48a provided in the bracket member 27 and through the loop 41 of the line 40 which acts as a guide member for the outer end of the line, but of course it will be understood that the line 40 might be otherwise attached and that a suitable guide member might be provided in the upper portion of the fin 14 through which the line rearwardly extending, as at 48, would pass.

This line terminates in the loop 49 to which the bait attachment is secured.

In operation, it will be seen that the trolling line is secured to the loop 39 and the channel member 15 is first positioned on the floating body at a suitable position to obtain the desired angle according to whether the float is to be sunk to great or lesser depth, the bait attachment being secured to the loop 49.

When the towing action is started, the sinker assumes a substantially horizontal position shown approximately in Figure 2 and is towed at the desired depth. When an obstruction is encountered, as previously referred to, the spur 37 through its contact with the obstruction is displaced inwardly so that the outer end of the thrust pin 31 is correspondingly displaced inwardly, the inner end thereof contacting with the lower extremity of the pin 21, thereby disengages the shoulder 24 from engagement with the member 19, so that the pin 21 is completely withdrawn from the tubular shank through the loop 39 connected to the trolling line, so that the tubular shank falls to a substantially horizontal position and the pull of the line is transferred to the rearward portion of the float by virtue of the line 40 connecting the pin 21 to the sinker, thus putting the sinker out of action, when it will commence to rise to the surface, the rear end of the floating body being uppermost.

When, however, a catch has been made, the bait line, attached to the bait by the loop 49, is pulled rearwardly. This, therefore, operating over the pulley 44 and the pulley 43 pulls the tubular shank downwardly into substantially horizontal position and substantially parallel with respect to the floating body, so that the pull of the line is transferred to the forward portion of the sinker by virtue of the towing line connection with the pin 21 which is locked in the tubular shank 18, when similar action takes place as in the case of the operation of the device through displacement of the spur above referred to, the forward end thereof being uppermost in this case.

Should the fish in its initial struggle break away, it will be readily seen that the sinker will again come into action, this being effected by the equi-poise principle.

In order to provide for release of the mechanism at will, the tubular shank is positioned so that it may exceed a right-angular position with respect to the floating body and, through the recess or cut-out portion 19^a in the tubular shank, the lower end of the pin 21 will come in contact with the bracket 27 so that the shoulder 24 is automatically released from engagement with the member 19 and the pin released from the tubular shank, the device operating similarly to the operation when released by the spur 37.

In order to effect this operation, it is necessary to take in a few feet of line and quickly release the same and on the instant of the rebound, impart a quick inward pull to the line.

When more than one sinker is used, I provide a shim or wedge 50 which is suitably orificed for attachment purposes and adapted to extend under the channel member 15 so as to cant or incline the same, thus correspondingly sloping the tubular shank 18. This offsets the floating body, when in use, in the direction of the inclination of the tubular shank, so that the possibility of the sinkers fouling one another is prevented.

From the foregoing, it will be seen that I have provided a floating sinker which may be released at will, operated when an obstruction is encountered and correspondingly operated when a catch has been made.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. A floating sinker comprising a substantially flat plane-faced floating body, trip mechanism directly carried on said body and a feeler carried by the body connected with the trip mechanism and means associated with said trip mechanism and feeler for automatically directing said sinker to the surface of a body of water in which it is immersed, when said feeler encounters an obstruction.

2. A floating sinker for immersion in a body of water for fishing purposes comprising a plane-faced floating body, a hollow shank pivotally carried by the body, a resilient pin for insertion in the shank and means for locking said pin in said shank, a towing line connection connected to said pin, a bait line connection associated with the shank and means connected with the body for unlocking and disengaging the pin from the shank on a predetermined operation of the towing connection and means for displacing the shank from normal operating position on axial displacement of the bait line whereby in either case the plane of the floating body is changed with the consequent direction thereof to the surface of the water.

3. A floating sinker for immersion in a body of water comprising a plane-faced floating body, a channel member adjustably carried by the body, a hollow shank pivotally supported in the channel member, a towing line connection and a bait line connection associated with the shank, a depending spur pivotally carried on the body and in operative connection with the shank whereby the plane of the floating body is automatically changed and said body consequently directed to the surface of the water on axial strain being applied to the bait connecting line or on a predetermined operation being transmitted to the towing line connection or when said spur contacts with an obstruction or the like.

4. A floating sinker for immersion in a body of water comprising a plane-faced

floating body, a channel member adjustably carried by the body, a hollow shank pivotally carried in the channel member, a resilient pin for insertion in the shank and means for locking said pin in said shank, a towing line connection connected to said pin, a bait line connection associated with the shank, a depending spur pivotally carried by the body and adapted to extend between and bear against the spur and the resilient pin carried by the shank whereby the plane of said body is changed and said body is directed to the surface of the water on axial strain being applied to the bait connection line or on a predetermined operation being transmitted to the towing line connection or on displacement of the thrust pin when said spur comes in contact with an obstruction or the like.

5. In a floating sinker for immersion in a body of water, a plane-faced floating body, a hollow shank pivotally carried by the body, a resilient pin for insertion in the shank, means for locking said pin in the shank, a towing line connection connected to the pin and a bait line connection associated with the shank, a depending spur pivotally carried by the body and adapted to extend over the end thereof, a thrust pin operatively carried by the body and adapted to extend between and bear against the spur and the lower end of the resilient pin, whereby said thrust pin is operated axially to unlock the resilient pin when said spur encounters an obstruction or the like, with consequent direction of the float to the surface of the water.

6. In a floating sinker for immersion in a body of water, a plane-faced floating body, a hollow shank pivotally carried by the body, a resilient pin formed with a shoulder at the lower end adapted to be inserted in the hollow shank and rigidly retained therein by said shoulder, a towing line connection connected to the pin and a bait line connection associated with the shank and means for automatically disengaging the pin from the shank under predetermined conditions.

7. In a floating sinker for immersion in a body of water, a depending feeler, a towing line and a bait line connected to the sinker and means associated with the feler for automatically directing the sinker to the surface of the water through the towing line connection when said feeler encounters an obstruction.

8. A floating sinker for immersion in a body of water comprising a plane-faced floating body, a channel member adjustably carried by the body, a hollow shank pivotally supported in the channel member, a towing line connection and a bait line connection associated with the shank, a depending spur pivotally carried on the body, a thrust pin operatively carried by the body and adapted to extend between and bear against the spur and the resilient pin carried by the shank whereby the plane of said body is changed and said body is directed to the surface of the water on axial strain being applied to the bait connecting line or on a predetermined operation being transmitted to the towing line connection or on displacement of the thrust pin when said spur comes in contact with an obstruction or the like, and means for adjusting the position of the channel member on the body and means for adjusting the length of the thrust pin.

9. The device as claimed in claim 8 in which the means for lengthening the thrust pin comprise a sleeve formed with an orifice therein, a resilient locking member connected to the sleeve and adapted to protrude through the orifice, a movable pin having a series of orifices therein adapted to register with the orifice in the sleeve and to be locked by said resilient member extending therethrough.

10. A floating sinker for immersion in a body of water comprising a plane-faced floating body, a hollow shank pivotally carried by the body, a resilient pin for insertion in said hollow shank and means formed on the pin for locking the same in the shank at a predetermined point, a support secured to the body in alignment with the shank, a depending spur pivotally carried by the support, an extension thrust pin operatively carried by the body and adapted to extend between and bear against the spur and the lower end of said pin carried by the shank, a roller carried by the shank and a roller carried by the support, a bait line connection adapted to be anchored to the support and extend over said rollers to displace the shank when rearward axial strain is applied to the bait line connection, a tow line connected to the pin and an anchoring line connected between the pin and the floating body whereby said pin is automatically disengaged from the shank and the float directed to the surface of the water through the towing line when an obstruction is encountered by the spur.

11. The device as claimed in claim 10 in which an orificed bracket is mounted on the body to direct the thrust pin into engagement with the pin.

12. A floating sinker for immersion in a body of water comprising a plane-faced floating body, a hollow shank pivotally carried by the body, a pin adapted to extend into the shank, means formed on the pin for locking the same in the shank at a predetermined point, a tow line connection attached to the pin, a bait connection secured to the body and in connection with said shank, means formed between the body and the shank for automatically disengaging the pin therefrom on predetermined operation, means for displacing the shank on rearward axial strain being applied to the bait line, means for adjusting the position of the shank on the body to pro-

vide for sinking the same to predetermined depth and a guiding fin on the body.

13. The device as claimed in claim 12 in which a wedge is provided for the floating body when one or more sinkers are used, said wedge being adapted for a position beneath the channel member to cant the same and the shank and provided with means for attaching it in position.

In witness whereof I have hereunto set my hand.

JOHN WILLIAM BOND.