Nov. 24, 1931. C. A. CARNEY 1,833,389

CLAM SHELL BUCKET

Filed Nov. 7, 1928

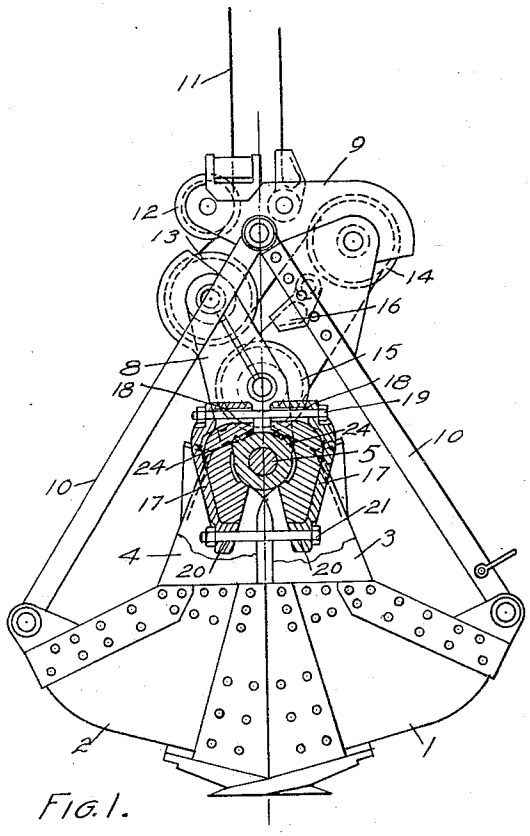


FIG. 1.

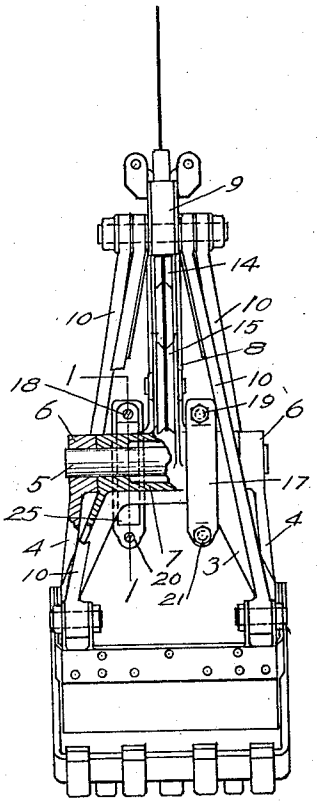


FIG. 2.

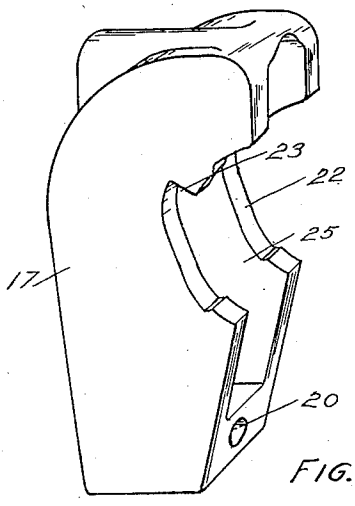


FIG. 3.

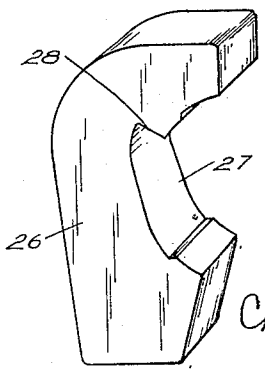


FIG. 4.

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1,833,389

UNITED STATES PATENT OFFICE

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CLAM SHELL BUCKET

Application filed November 7, 1928. Serial No. 317,850.

It is desirable to vary the weight of clam shell buckets in accordance with the material which is being handled. The present invention is designed to provide a convenient means for this purpose. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a side elevation of the bucket, partly in section.

Fig. 2 an end elevation, partly in section.

Fig. 3 an enlarged perspective view of one of the weight sections.

Fig. 4 a perspective view of an auxiliary weight.

The bucket members 1 and 2 are of usual form and provided with arms 3 and 4 operating pivotally on a pin 5, the arm 4 having a perforated end 6 receiving the pin and the arm 3 being connected through an off-set portion 7 from which extends a power arm 8.

A head 9 is connected with the outer edges of the bucket members by links 10 in the usual manner. A cable 11 extends around a sheave 12 on the head, a sheave 13 on the power arm, a sheave 14 on the head, a sheave 15 on the power arm and is secured to the head by a bracket 16. These parts are of usual construction.

Weights 17 are arranged each side of the power arm. They are provided with perforations 18 at their upper ends through which clamping bolts 19 extend. They are provided with perforations 20 at their lower ends through which clamping bolts 21 extend. The weights have notches 22 which permit them to be placed over the off-sets 7 between the arms 3 and the power arm 8. The walls of the notches 22 are provided with grooves 23 which are adapted to engage the tongues, or shoulders 24 on the off-sets 7. This tongue and groove connection locks the weights against turning on the extension although the clamping bolts may effect this.

The weights 17 are provided with a cavity 25 and an auxiliary weight, or insert 26 is adapted to be placed in the cavity 25 thus supplementing the weight 17. It has a notch 27 corresponding to the notch 22 and a groove 28 corresponding to the groove 23 for engagement with the tongue or shoulder 24.

With this construction the weight may be readily attached, or detached and may be varied by the insert in a convenient manner. It will be understood that these devices are subjected to very severe shocks and this arrangement of weights makes it possible to so secure them in place that they will retain their position under these severe shocks. The variation in weight increases the power of the bucket in accordance with the material being handled. While I prefer the structure in which the power arm is used the power arm is not in all instances necessary in making the weight available.

What I claim as new is:

1. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a detachable weight secured at the connection of the arms; and means locking the weight against turning relatively to one of the arms, said means comprising a tongue and groove connection between the weight and one of the arms.

2. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a detachable weight secured at the connection of the arms, said weight comprising two parts, one each side of the axis of the pivot; bolts at opposite sides of the axis of the pivot clamping the parts together; and a tongue and groove connection between one of the arm and the weight.

3. In a clam shell bucket, the combination of bucket members; pivotally connected

arms extending from the members; a detachable primary weight secured at the connection of the arms, said primary weight being hollow; and a removable auxiliary weight in the primary weight.

4. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a detachable primary weight secured at the connection of the arms, said primary weight being hollow; a removable auxiliary weight in the primary weight; and means for locking the primary and auxiliary weights against movement relatively to one of said arms.

5. In a clam shell bucket, the combination of bucket members pivotally connected through arms, a plurality of arms extending from each member; a power arm between the arms extending from one of the members and connected with said member arms through an off-set connection; and detachable weights arranged on said off-set connections at each side of the power arm.

6. In a clam shell bucket, the combination of bucket members pivotally connected through arms, a plurality of arms extending from each member; a power arm between the arms extending from one of the members and connected with said member arms through an off-set connection; detachable weights arranged on said off-set connections at each side of the power arm, each weight being formed in two parts; and means clamping the parts together.

7. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a power arm connected with one of the member arms through an off-set connection; a detachable weight on the connection; and means for locking the weight against movement relatively to the power arm comprising a tongue and groove.

8. In a clam shell bucket, the combination of bucket members pivotally connected through arms, a plurality of arms extending from each member; a power arm between the arms extending from one of the members and connected with said member arms through an off-set connection; detachable weights arranged on said off-set connections at each side of the power arm, said weights each comprising two parts; clamping bolts connecting the parts; and tongue and groove connections between the parts and the off-set connections.

9. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a power arm connected with one of the member arms through an off-set connection; and a detachable weight on the connection, said weight being provided with a cavity and a removable insert arranged in the cavity.

10. In a clam shell bucket, the combination of bucket members; pivotally connected arms extending from the members; a power arm connected with one of the member arms through an off-set connection; and a detachable weight on the connection, said weight being provided with a cavity and a removable insert arranged in the cavity, said weight and insert being locked against movement relatively to the power arm.

In testimony whereof I have hereunto set my hand.

CHARLES A. CARNEY.