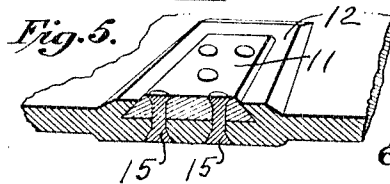
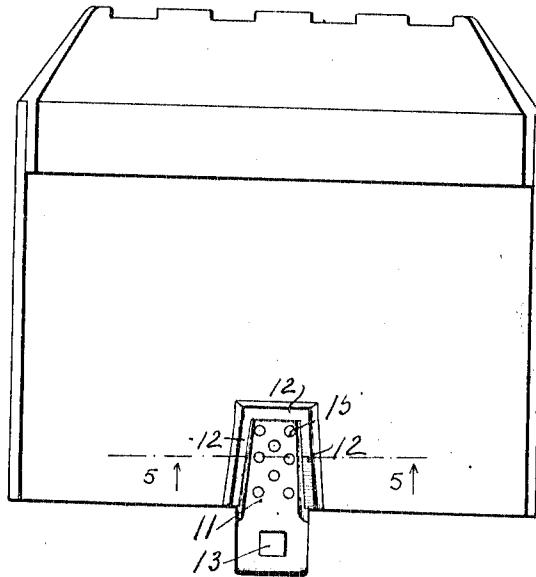
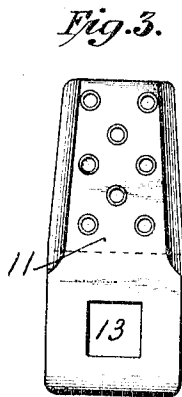
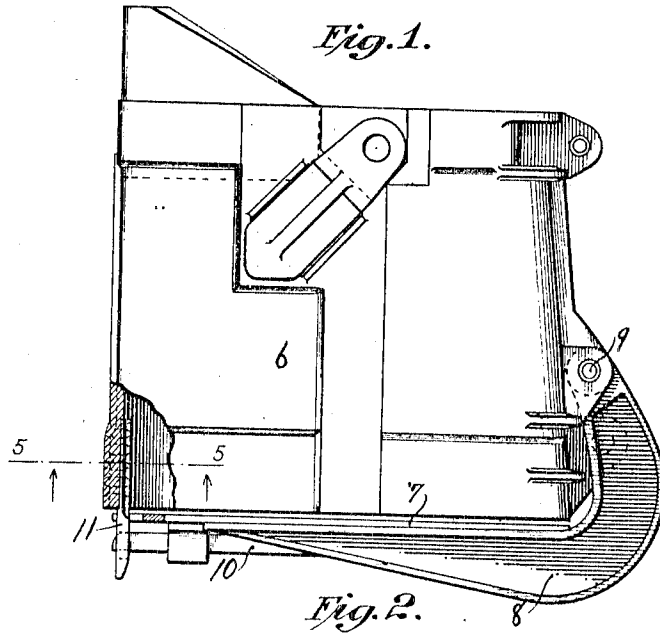


E. L. PEMBERTON.
STIRRUP FOR DOOR LATCHES OF EXCAVATING DIPPERS.
APPLICATION FILED JUNE 13, 1912.

1,096,451.

Patented May 12, 1914.



Attest:
R. N. Hunt

Inventor:
Edward L. Pemberton
George Cook
Atty

UNITED STATES PATENT OFFICE.

EDWARD L. PEMBERTON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO EDGAR ALLEN
AMERICAN MANGANESE STEEL COMPANY, OF AUGUSTA, MAINE, A CORPORATION
OF MAINE.

STIRRUP FOR DOOR-LATCHES OF EXCAVATING-DIPPERS.

1,096,451.

Specification of Letters Patent.

Patented May 12, 1914.

Application filed June 12, 1912. Serial No. 702,134.

To all whom it may concern:

Be it known that I, EDWARD L. PEMBERTON, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have made and invented certain new and useful Improvements in Stirrups for Door-Latches of Excavating-Dippers, of which the following is a specification.

My invention relates to dippers for excavating, dredging, digging and similar machines, and more particularly to a stirrup employed in such dippers for receiving the end of a latch carried by the swinging door with which such dippers are provided, to thereby hold the door in closed condition and retain the contents of the dipper within the same until the latch is disengaged from the stirrup and the contents of the dipper permitted to fall therefrom.

In the practical use of dippers for excavating machines, the dipper body is often permitted to fall, thus bringing the projecting end of the stirrup into violent contact with rocks or with a hard surface, which action tends to shear the rivets which are commonly employed for the purpose of securing the stirrup to the dipper body; and my invention, more specifically stated, contemplates an arrangement of stirrup in which thrust due to violent contact of the end of the stirrup with rocks or hard surfaces will be absorbed by a member in the nature of a lug formed integral with the dipper body, so that the rivets whereby the stirrup is secured in place will not be subjected to shearing strains.

The drawing accompanying and forming a part of this application illustrates the preferred embodiment of my invention, although it will be understood that the same is capable of embodiment in other specific forms, and that my invention includes such variations and modifications of the specific form illustrated as will be obvious to those skilled in the art to which my invention relates.

Referring to the drawing: Figure 1 is a view mainly in side elevation, but partially broken away to show internal construction, of a dipper equipped with my improved stirrup; Fig. 2 is a view showing the front wall of the dipper body as seen from a position within the same; Fig. 3 is

a view showing the stirrup separately; Fig. 4 is a view showing the stirrup as seen from a position at right angles to the position assumed in Fig. 3; and, Fig. 5 is a view showing a section upon a transverse plane indicated by the line 5—5, Figs. 1 and 2.

In the drawing, the reference character 6 designates the body portion of a dipper for excavating and similar machines, the same being made ordinarily of cast metal, and commonly in two pieces, as shown in the drawing, each piece comprising substantially one-half of the dipper body, although the construction of the body of the dipper is in no way involved in my invention. The lower end of the dipper body is closed by means of a door 7 carried by suitable arms 8, which in turn are pivoted at 9 to the rear portion of the dipper body, so that the door may swing about its pivot to discharge the contents of the dipper. The door carries a latch 10 supported in suitable bearings upon its under side, and the free end of this latch engages a stirrup 11 when the door is in closed condition to thereby retain the contents of the dipper within the same until the latch is disengaged from the stirrup, which action permits the door to open and the contents to flow from the dipper, as will be understood.

The stirrup 11 extends below the lower end of the dipper body a sufficient distance to be engaged by the free end of the latch 10 as above explained, and the upper end of this stirrup abuts against or is in engagement with a thrust absorbing member projecting from the surface of the dipper, the purpose of which thrust absorbing member is to absorb forces acting along the length of the stirrup and thus transverse to the rivets, due to the projecting end of the stirrup being brought into violent contact with rocks or other obstructions.

The thrust absorbing member above referred to is preferably made up of the walls of a recess formed in the inner surface of the dipper body adjacent the lower end thereof, as shown in the drawing, this recess being preferably tapering in form as shown in Fig. 2, and having dove-tailed or under-cut sides as will be understood from the cross-sectional view, Fig. 5. The recess is shown as bounded by a projecting wall 12 extending about the same, although it will

be understood that the recess may lie entirely beneath the inner surface of the dipper body.

The stirrup 11 is provided with a hole 13 adjacent its lower end into which the free end of the latch 10 enters when the door is closed, and the said stirrup is preferably provided with a shoulder 14 which engages the lower edge of the dipper body when the stirrup is in place to thereby form an additional element for taking up thrust due to blows to which the stirrup is subjected. The stirrup when in position within the recess as aforesaid, will be secured in place by means of rivets 15; but it will be understood that these rivets will not be subjected to excessive shearing stresses due to forces acting transverse to the rivets or longitudinally of the stirrup, such forces being absorbed by the walls of the recess or other form of thrust absorbing member, as above explained; from which it follows that the rivets need only be of sufficient strength to support the weight of material within the dipper as a dead load, and that they are never subjected to shearing action due to blows or shocks due to the free lower end of the stirrup coming into violent contact with rocks or other obstructions.

Having thus described and explained my invention, I claim and desire to secure by Letters Patent:

1. In a dipper for excavating and similar machines, a dipper body having a projecting thrust absorbing member adjacent its lower end; a stirrup in engagement with said member and extending below the lower end of said body and adapted to be engaged by the end of a door latch, said stirrup having a shoulder adapted to engage the lower

end of said body; and fastening means for securing said stirrup in place.

2. In a dipper for excavating and similar machines, a dipper body having a recess adjacent its lower end; a stirrup located within said recess and extending below the lower end of said body and adapted to be engaged by the end of a door latch; said stirrup having a shoulder adapted to engage the lower end of said body and fastening means for securing said stirrup in place within said recess.

3. In a dipper for excavating and similar machines, a dipper body having a recess adjacent its lower end and located upon the inner surface of said body; a stirrup located within said recess and extending below the lower end of said body and adapted to be engaged by a door latch; and fastening means for securing said stirrup in place within said recess.

4. In a dipper for excavating and similar machines, a dipper body having a recess adjacent its lower end and the side walls of which are beveled; a stirrup located within said recess and beveled to correspond with the walls thereof, said stirrup extending below the lower end of said body and adapted to be engaged by the end of the door latch; and fastening means for securing said stirrup in place within said recess.

Signed at New York, borough of Manhattan, in the county of New York, and State of New York, this 22nd day of May, A. D. 1912.

EDWARD L. PEMBERTON.

Witnesses:

MARY B. JUSTICE,
R. N. FLINT.