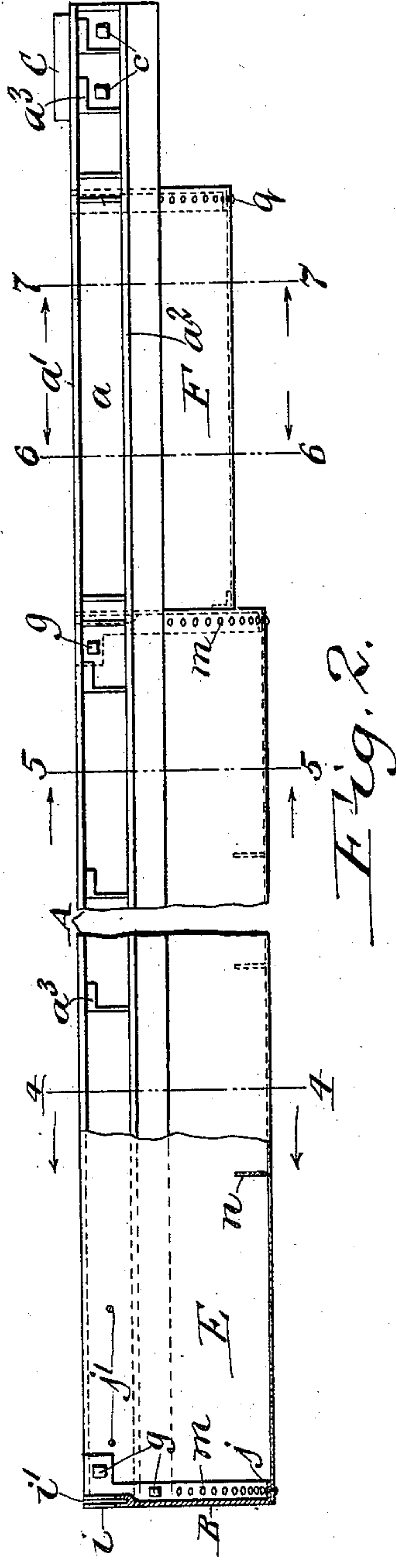
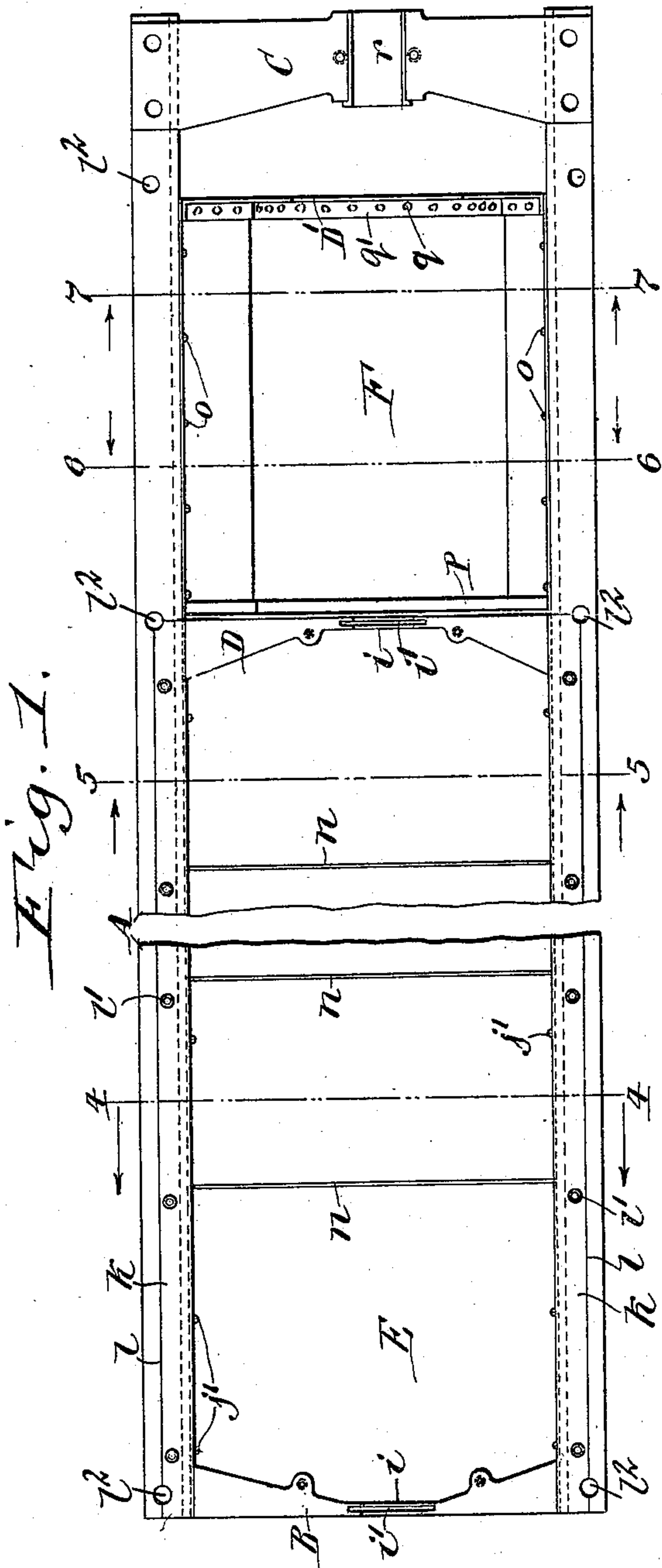


A. B. SHULTZ.  
ENGINE BASE.  
APPLICATION FILED FEB. 14, 1910.

975,167.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

*Richard Sommer*  
*John H. Shoemaker*

INVENTOR

*Albert B. Shultz*  
BY *Geyer & Popp*  
ATTORNEYS.

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2 SHEETS—SHEET 2.



Fig. 4.

Fig. 3.

**WITNESSES:**

Richard Sommer.  
John H. Shoemaker



Fig. 7.

Fig. 6.

**INVENTOR**

INVENTOR  
Albert B. Shultz  
BY Geyer & Popp.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

ALBERT B. SHULTZ, OF BUFFALO, NEW YORK.

## ENGINE-BASE.

975,167.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed February 14, 1910. Serial No. 543,783.

*To all whom it may concern:*

Be it known that I, ALBERT B. SHULTZ, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Engine-Bases, of which the following is a specification.

This invention relates to a base for explosion engines and more particularly to a lower base for use in upright marine engines.

Heretofore the lower base of this class of engines has usually been constructed of cast iron which was not only very expensive to produce but also unduly heavy.

The object of this invention is to produce a lower base for explosion engines which is light and can be made at a lower cost.

With these ends in view this invention consists in so constructing the base that different parts of the same may be made of rolled or cast angle iron and sheet metal, according as best suits the particular parts, the whole producing a fabricated or composite base which is very stiff, light and strong and involves less expense in its manufacture.

In the accompanying drawings consisting of 2 sheets: Figure 1 is a top plan view of a lower base for explosion engines constructed in accordance with my invention. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is a front elevation thereof. Figs. 4, 5, 6 and 7 are vertical transverse sections in lines 4—4, 5—5, 6—6, and 7—7, respectively, in Figs. 1 and 2. Fig. 8 is a rear end elevation of the base.

Similar letters of reference indicate corresponding parts throughout the several views.

In its general organization my improved engine base comprises two horizontal longitudinal side bars A, A, a transverse front head B connecting the front ends of the side bars, a transverse rear bracket C connecting the rear ends of the side bars, an intermediate transverse head D connecting the side bars near their front ends, a rear transverse head D<sup>1</sup> connecting the side bars near their rear ends, a downwardly dished front shell E secured at its longitudinal edges to the front parts of the side bars and at its curved front and rear edges to the front and intermediate heads, respectively, and a downwardly dished rear shell F secured at its

longitudinal edges to the rear parts of the side bars and at its curved front and rear edges to the intermediate and rear heads, respectively.

Each of the side bars is preferably constructed by casting the same of metal so as to form a vertical web *a*, upper and lower longitudinal flanges *a*<sup>1</sup>, *a*<sup>2</sup> projecting laterally outward from the web at its upper edge and between its upper and lower edges, respectively, and bosses *a*<sup>3</sup> arranged at intervals on the outside of the web and adapted to receive the bolts *b*<sup>1</sup> whereby the upper base of the engine is secured to the lower base and also with openings *b*<sup>2</sup> which are adapted to receive the bolts whereby the engine is secured to the foundation.

The front and intermediate transverse heads are also preferably cast of metal and each is secured at its opposite vertical end edges adjacent to the upper edge thereof to the inner sides of the side bars by bolts *g* or otherwise. The lower parts of the front and intermediate heads project below the side bars and each of these heads has a flat horizontal lower edge *h* and rounded corners *h*<sup>1</sup> between the lower edge *h* and the end edges.

In its upper edge each of the front and intermediate heads is provided with a semi-circular recess *i* which receives the longitudinal shaft of the engine and with a groove *i*<sup>1</sup> in the bore of said recess which is adapted to receive a packing of felt or other suitable material for producing an oil tight joint between the shaft and the lower base.

On their opposing sides and along the lower and end edges of the front and intermediate heads the same are provided with flanges *j* which project toward each other.

The front shell is constructed of sheet metal in the form of a longitudinal trough or channel of the same form as the lower and end edges of the front and intermediate heads and engages at its longitudinal edges with the inner sides of the side bars and at its front and rear edges with the outside of the flanges *j* of the front and intermediate heads. At its longitudinal edges the front shell is secured to the inner sides of the side bars by screws *j*<sup>1</sup> and said edges are provided with outwardly projecting longitudinal flanges *k* which are arranged in rabbets *l* in the top of the adjacent front parts of the side bars. At its front and rear ends the front shell is secured by means of rivets



*m*, as shown, or otherwise, to the flanges *j* of the front and front intermediate heads. The corners of the front shell between the end and side edges thereof are arranged between the ends of the front intermediate heads and the side bars.

The space within the front and intermediate heads and the front shell forms a comparatively deep well or pit over which the engine is arranged and in which the cranks of the engine rotate. This engine pit usually contains a supply of lubricating oil which is picked up by the cranks and connecting parts during the rotation thereof and distributed to the parts to be lubricated.

To prevent the oil from splashing unduly and also to prevent the same from gathering excessively at one end or the other of the engine pit as the boat in which the engine is installed pitches, a plurality of baffles *n* are provided which preferably consist of upright plates secured transversely at suitable intervals on the bottom part of the front shell by soldering or otherwise.

The rear head is preferably constructed of cast metal and secured at its opposite ends to the inner sides of the side bars by bolts *d* or otherwise.

The rear shell is constructed of sheet metal in the form of a longitudinal trough or channel which is of less depth than the front shell. At its longitudinal edges the rear shell is secured by screws *o* to the inner sides of the rear parts of the side bars, at its front edge this shell is secured by rivets *p* to the outer side of a flange *P* on the rear side of the intermediate head, and at its rear end this shell is secured by rivets *q* to the outer side of a flange *q*<sup>1</sup> arranged on the front side of the rear head at the lower and end edges thereof.

The rear shell and rear and intermediate heads form a comparatively shallow pit or well which is of less depth than the front pit and in which is located the reversing gear of the engine and serves as an inclosure for the underside of this gear and also as a drip pan for catching any oil dropping from

this gear and preventing the same from dropping on the bottom of the boat. 50

The rear bracket *C* is preferably constructed of cast metal and secured at its opposite ends by bolts *c* or otherwise to the rear ends of the side bars and is provided centrally on its upper side with a half bearing *r* in which the rear part of the engine shaft is journaled. 55

An engine base thus constructed is stronger, lighter and less expensive than one constructed wholly of cast metal, thereby rendering the same particularly desirable for marine explosion engines of large sizes in which these advantages are important considerations. 60

I claim as my invention: 65

1. A base for explosion engines comprising two longitudinal side bars each of which has a rabbet on its upper side, transverse heads connected at opposite ends with said bars and provided with flanges on their opposing sides and a sheet metal trough-shaped shell having its longitudinal edges engaging with the inner side of said bar and provided with flanges secured in said rabbets and having its ends secured to the flanges of said heads. 70 75

2. A base for explosion engines comprising two longitudinal side bars, a front head connecting the bars at their front ends, a bracket connecting the bars at their rear ends, a rear head connecting the bars in front of said bracket, an intermediate head connecting said bars between the front and rear heads, a front sheet metal trough-shaped shell connected with the front parts of the bars and with the front and intermediate heads and a rear sheet metal trough-shaped shell connected with the rear parts of the side bars and the intermediate and rear heads. 80 85 90

Witness my hand this 9th day of February, 1910.

ALBERT B. SHULTZ.

Witnesses:

E. M. GRAHAM,  
ANNA HEIGIS.