J. P. KARR.

STEEL BARGE OR SCOW.

APPLICATION FILED JULY 11, 1914.

1,116,894.

Patented Nov. 10, 1914.

4 SHEETS—SHEET 1.

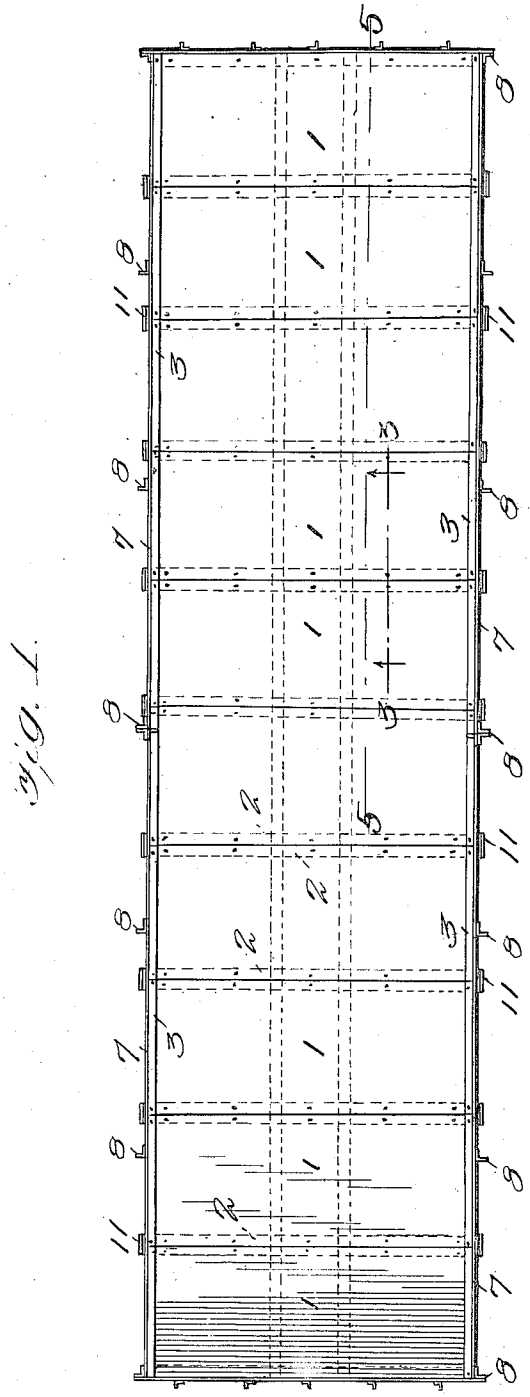


Fig. 1.

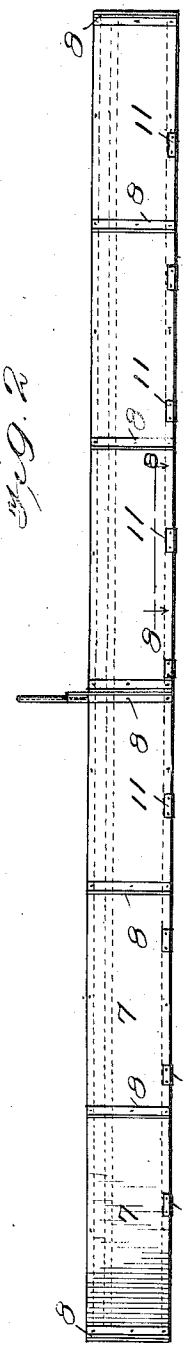


Fig. 2.

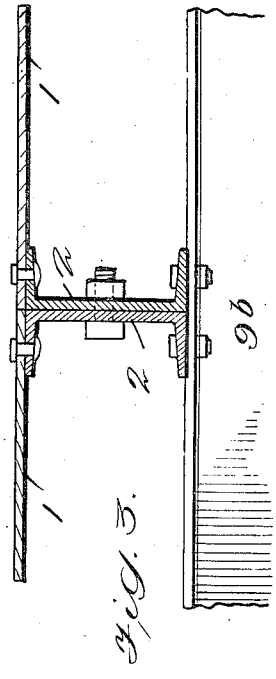


Fig. 3.

WITNESSES

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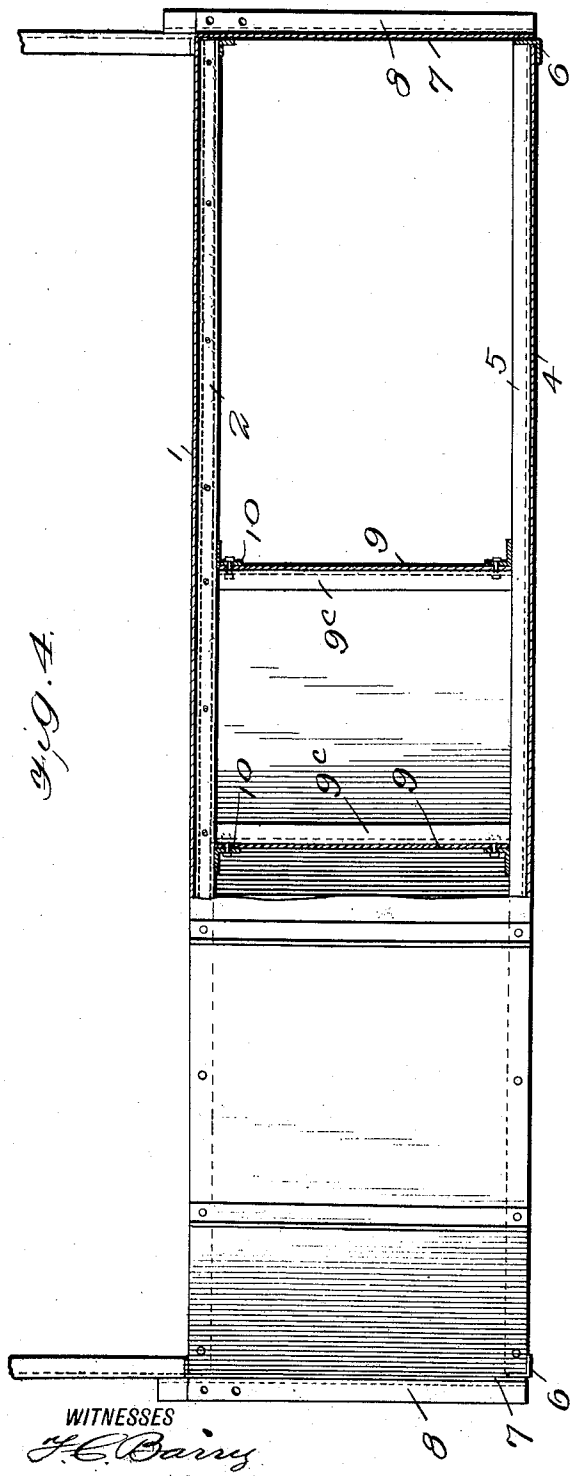


Fig. 4.

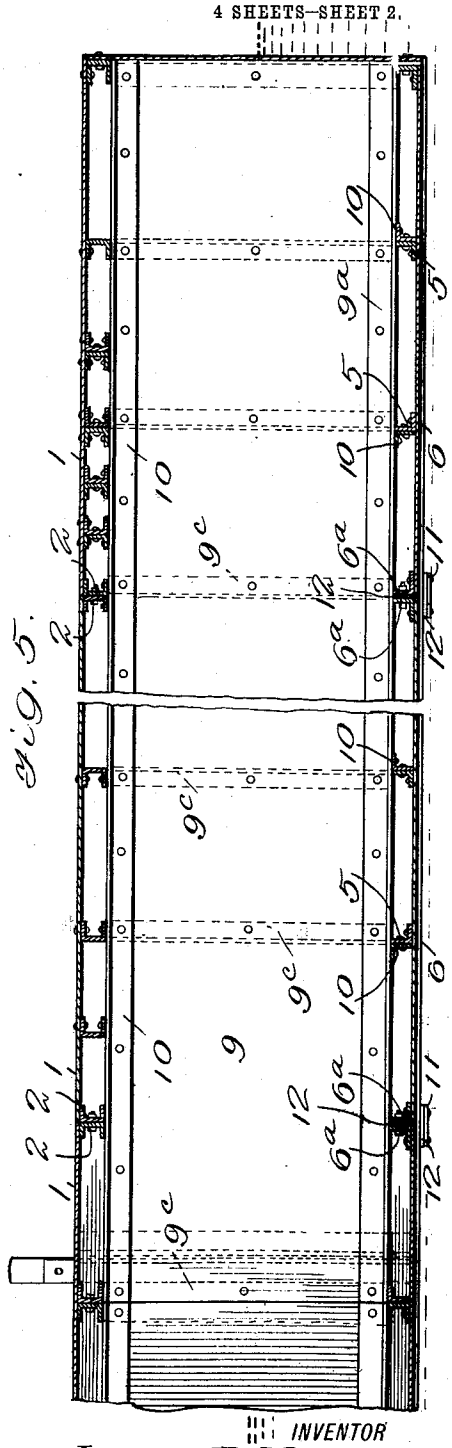


Fig. 5.

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4 SHEETS—SHEET 3.

Fig. 6.

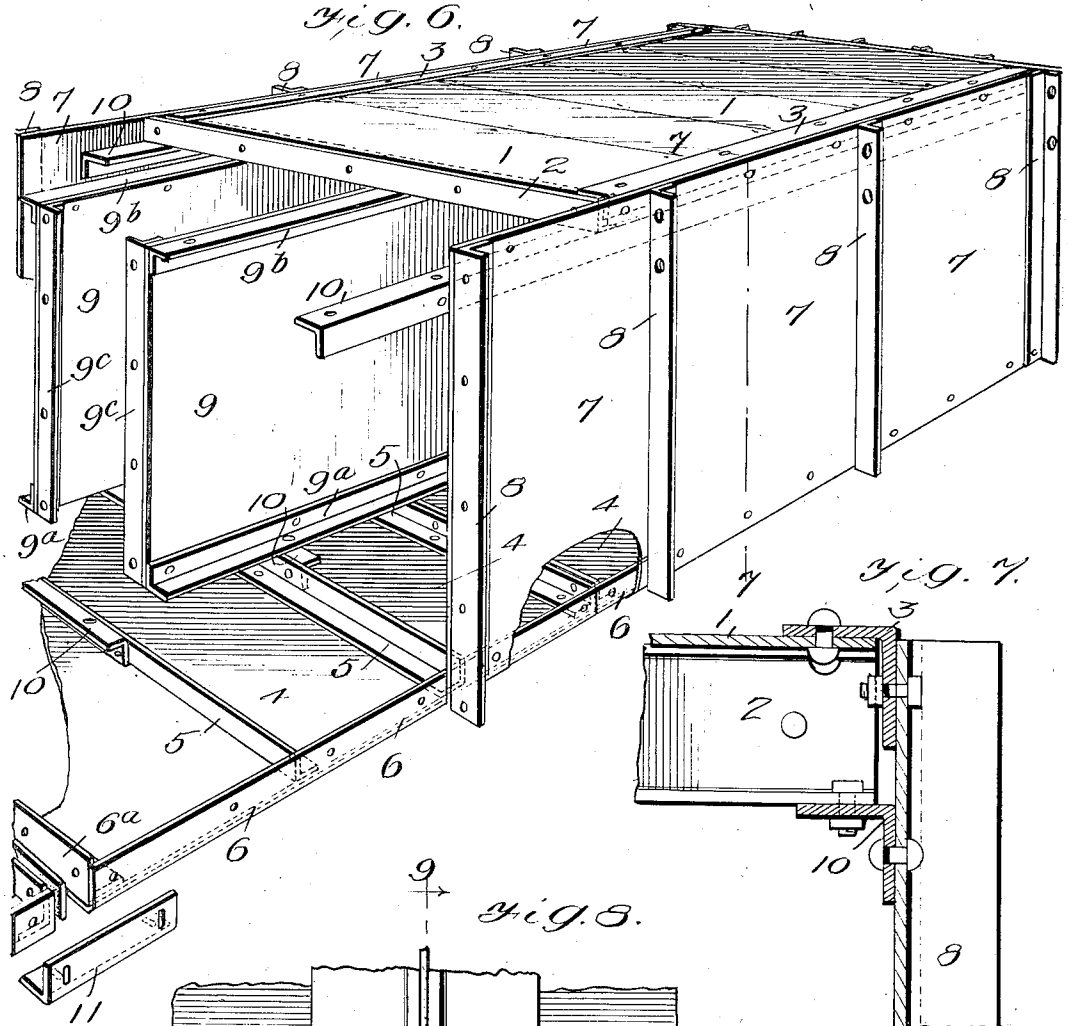


Fig. 7.

Fig. 8.

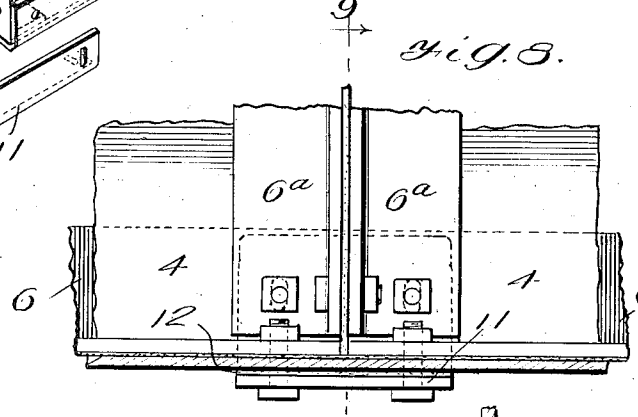
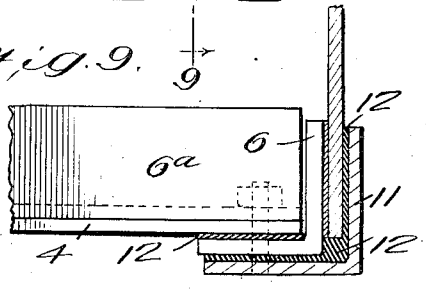


Fig. 9.



WITNESSES

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4 SHEETS—SHEET 4.

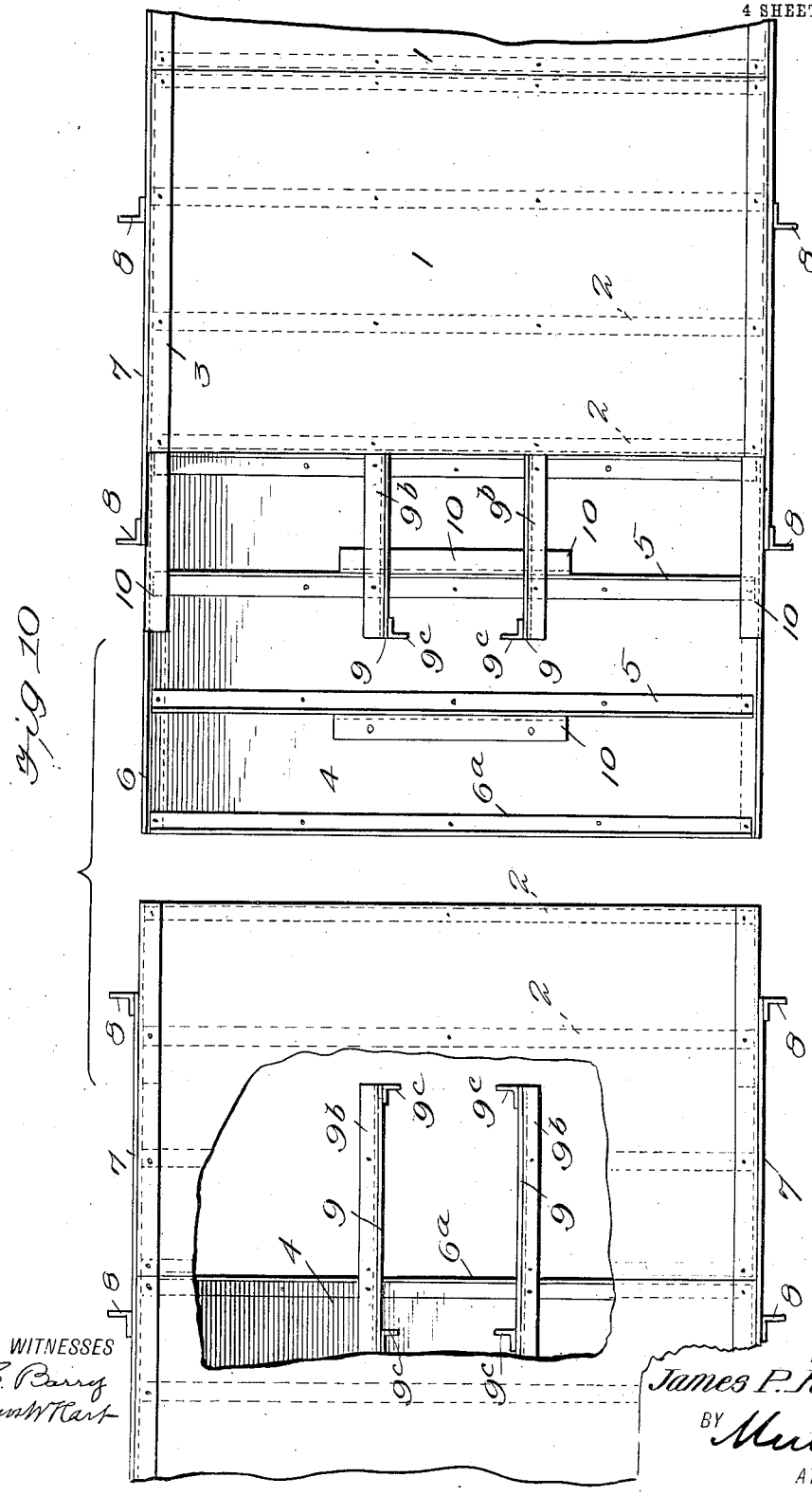


Fig 10

WITNESSES

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STEEL BARGE OR SCOW.

1,116,894. Specification of Letters Patent. Patented Nov. 10, 1914.

Application filed July 11, 1914. Serial No. 850,398.

To all whom it may concern:

Be it known that I, JAMES P. KARR, a citizen of the United States, and a resident of Fort Wayne, in the county of Allen and State of Indiana, have made an Improvement in Steel Barges or Scows, of which the following is a specification.

My invention is an improvement in the class of barges, floats or scows which are employed in connection with steam shovels or diggers, and are constructed with a flat top for reception and transportation of dirt or other material. It is particularly important that such barges or scows shall be constructed with special reference to lightness and rigidity, and particularly with adaptation for separation of parts or sections in order to facilitate the removal from place to place, and especially for loading and transportation on platform cars or on boats.

With these ends in view I have devised and constructed a scow which practical experience has demonstrated to meet all requirements. It is made of plate or sheet steel and in sections which may be easily secured together or detached from each other as conditions require. The joints between the separable parts are provided with rubber or equivalent gaskets which render it water-tight.

The invention is also distinguished by the special form and construction of angle-iron for bracing, supporting and connecting flat sections or sheets.

In the accompanying drawings, Figure 1 is a top or plan view of the barge. Fig. 2 is a side view. Fig. 3 is an enlarged section on the line 3—3 of Fig. 1. Fig. 4 is in part an end view and in part an end section of the barge. Fig. 5 is a longitudinal vertical section of the barge. Fig. 6 is a perspective view of an end portion of the barge constructed and prepared for attachment to another corresponding section. Fig. 7 is an enlarged vertical section on the line 7—7 of Fig. 6. Fig. 8 is an enlarged section on the line 8—8 of Fig. 2. Fig. 9 is a cross section on the line 9—9 of Fig. 8. Fig. 10 is a plan view of two end sections of the barge placed with their inner ends juxtaposed and ready to be adjusted and secured together to form a complete barge hull. (A portion of the left hand section is broken out to show the arrangement of the bulk-heads.)

The barge is an oblong, rectangular body having a flat top, and as before intimated, is constructed of plate or sheet steel for the purpose of combining lightness, strength, rigidity and durability. In forming the top of the barge, a series of rectangular plates or sheets 1 (see Figs. 1, 3, 6,) are arranged edge to edge and secured by screw bolts to transverse channel bars or girders 2 which extend between the sides of the barge. Angle-iron bars 3 are bolted to the side edges of said plates 1 and extend from end to end of the barge.

The bottom of the barge is similarly formed of plates or sheets 4 which are bolted to, and strengthened by, transverse angle bars, or girders, 5, as shown in Figs. 5, 6, 14, 15, 16. Other angle bars 6 are arranged with one flange underlying the side edges of the plates 4 and the ends of the transverse girders 5, and all are bolted together. The vertical sides or side panels of the barge are formed of plates 7 and strengthening angle bars 8, one flange of which is riveted to the plates and the other extends laterally, as shown best in Fig. 6. It will be noted that the ends of these bars 8 are flush with the top and bottom of the barge. By this construction a very light but a very strong and rigid structure is formed, and the lateral projection of the flanges of the bars 8 offers no material hindrance to progress of the barge through water, which is always necessarily very slow.

In Fig. 7, which represents an enlarged vertical section of a side portion of the hull, angle bars 3 are shown overlying the top plates 1 and the angle bars 6 are shown underlying the bottom plates 4. Thus the bars 6 form supports for the bottom proper of the barge, and they are in turn attached to the vertical side plates 7 and the bars or girders 8. It will be seen that the latter serve a very important purpose not only in strengthening the structure as a whole, but in tying the top and bottom parts together. In order to impart further longitudinal rigidity to the barge, bulkheads or longitudinal girders 9 are provided (see Fig. 6) and also angle-iron girders 10, shown in the same figure.

The girders 9 are spaced apart in the middle longitudinal portion of the barge and angle-irons 9^a are attached to the lower edges

of girders proper and rest upon and are bolted to short angle iron pieces 10^a which are in turn secured to the transverse angle-irons or girders 5. Similar angle iron bars 9^b are attached to the top edge of the girders 9 and upon these rest the transverse angle-iron bars 2 forming a part of the top of the barge.

By the construction, arrangement, and combination of parts so far described, it is apparent that the different portions or sections of the barge may be detached from each other when required for convenience of storage or transportation from one place to another by means of carts, cars, or boats. In certain cases, however, it is desirable to separate the hull into large sections, and for this purpose I have adopted the structure hereinafter described.

As will be understood by reference to Fig. 10, the central bulk-heads 9, the top angle bars 10 and the bottom angle bars 6 together with the bottom plates 4 extend beyond the main body of the barge, and as will be understood by reference to Fig. 10, the other section or end portion of the barge is correspondingly constructed; that is to say, its top portion is extended beyond the bottom portion and its longitudinal bulk-heads or girders 9 are extended beyond the bottom. Thus, when the two end sections of the bars which are shown juxta-posed in Fig. 10, are pushed together, the bottom part of the right hand section will project under the top portion of the left hand section and the ends of the girders 9 and angle bars 6 and 10 will come in contact. The ends of the respective bulk-heads are provided with angle iron abutments 9^c which meet and are bolted together, as will be better understood by reference to Fig. 10. In like manner the angle irons 6^a, see Fig. 8, which are attached to the ends of the bottom plate or sheets 4, are juxtaposed and bolted together. In other words, abutments formed by angle irons 6^a abut when the two end sections of the barge are brought together. To strengthen the joint thus formed I apply a short angle piece 11 (see Figs. 6 and 8), one flange of the same underlying the parts 6—6^a, and supporting them while the other is applied to the side flanges of the same. Thus the two grand sections of the hull may be separated from each other at a central point, or the hull may be, on the same principle, divided into a greater number of sections. In any event, the hull is not weakened at the junction of the sections.

For the purpose of forming a water-proof joint, gaskets 12 are interposed between the adjacent parts which are ordinarily submerged in the water. The gaskets are indicated in Figs. 6, 7, 8, and 9 and their further description is not required.

I claim:

1. A steel barge formed of plates or sheets arranged at top, bottom, and sides, vertical angle bars bolted to the sides, and longitudinal angle bars arranged at the bottom angle of the barge, one flange underlying the bottom plates, and the other flange being arranged inside the side plates and bolted to the latter and also to the vertical angle bars, as described.

2. A steel barge formed of plates or sheets arranged at top, bottom and sides, transverse angle bars traversing the bottom, longitudinal angle bars arranged at the ends of the bottom plates and such transverse bars, and one flange of the same underlying said bottom plates and bars, vertical angle bars secured to the sides, their inner flanges being bolted to the vertical flange of the aforesaid longitudinal angle bars, as described, the longitudinal bars being thus arranged inside the side plates, as specified.

3. A steel barge comprising separable grand sections each formed of plates or sheets arranged at top, bottom and sides, and longitudinal angle bars arranged at the upper and lower angles of the barge, other angle bars attached to the sides and also to the transverse edge of the bottom plate, the edge angle bars of each section being adapted to form abutments for corresponding portions of the other detachable barge section, a portion of one section projecting or overlapping the opposite portion of the other section, as described.

4. A barge comprising grand separable sections, each formed of top, bottom and side plates, one section having a short top portion and projecting bulkhead, and the other having a corresponding projecting top portion and bulkhead, the top and bottom and bulkheads having abutting end portions, and means for securing the grand sections detachably together, as described.

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Witnesses:
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GEO. S. BROCK.