

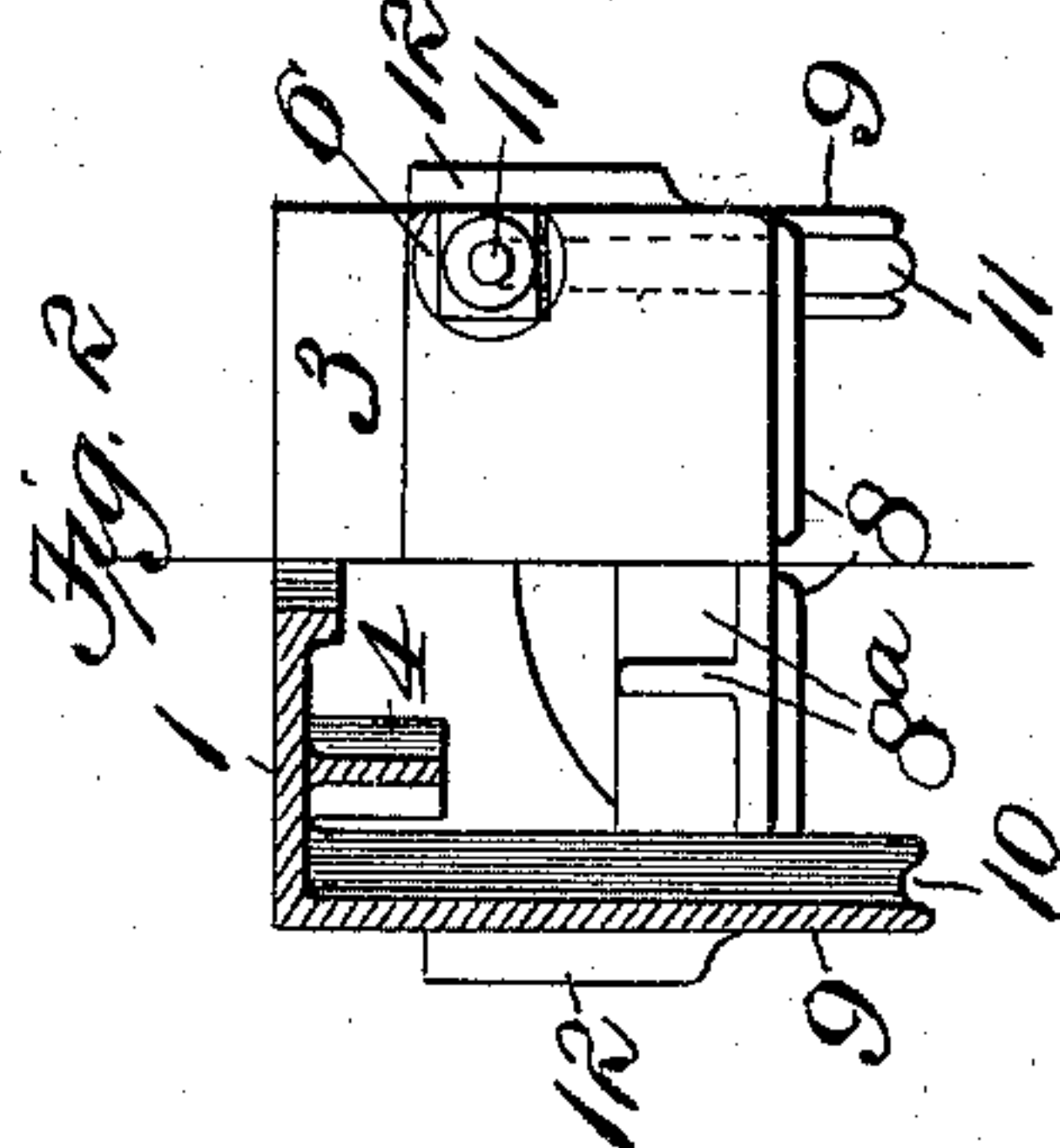
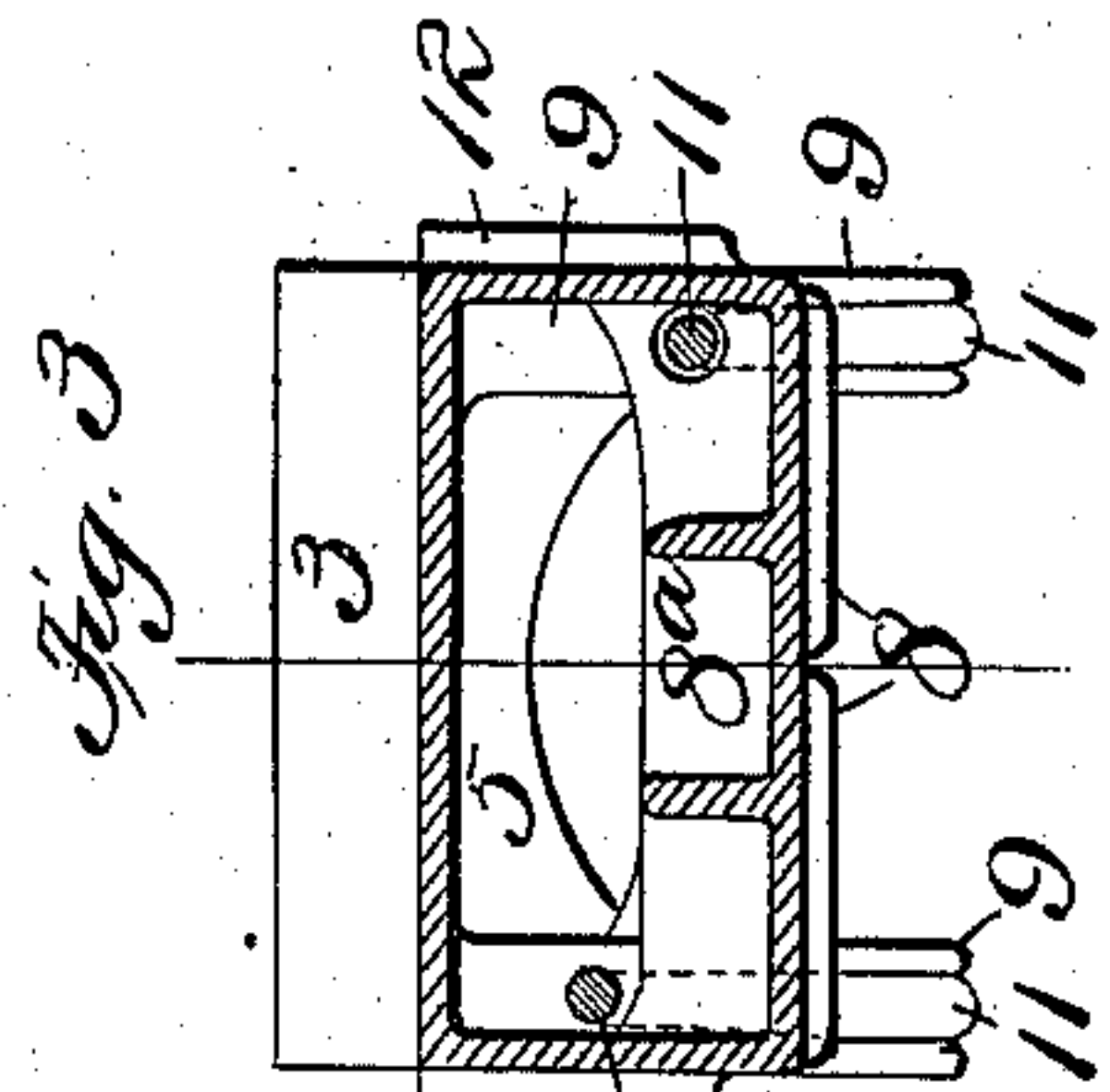
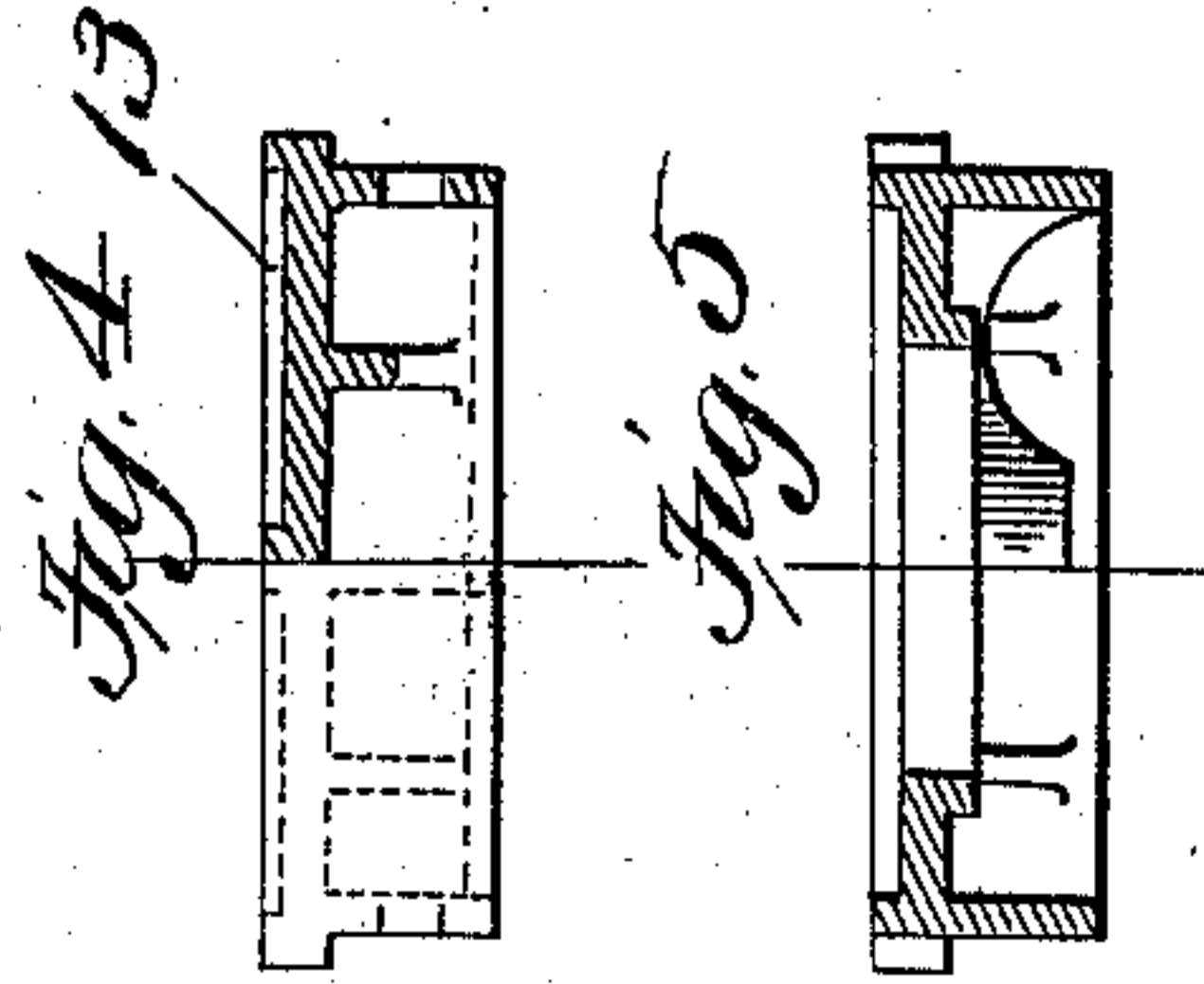
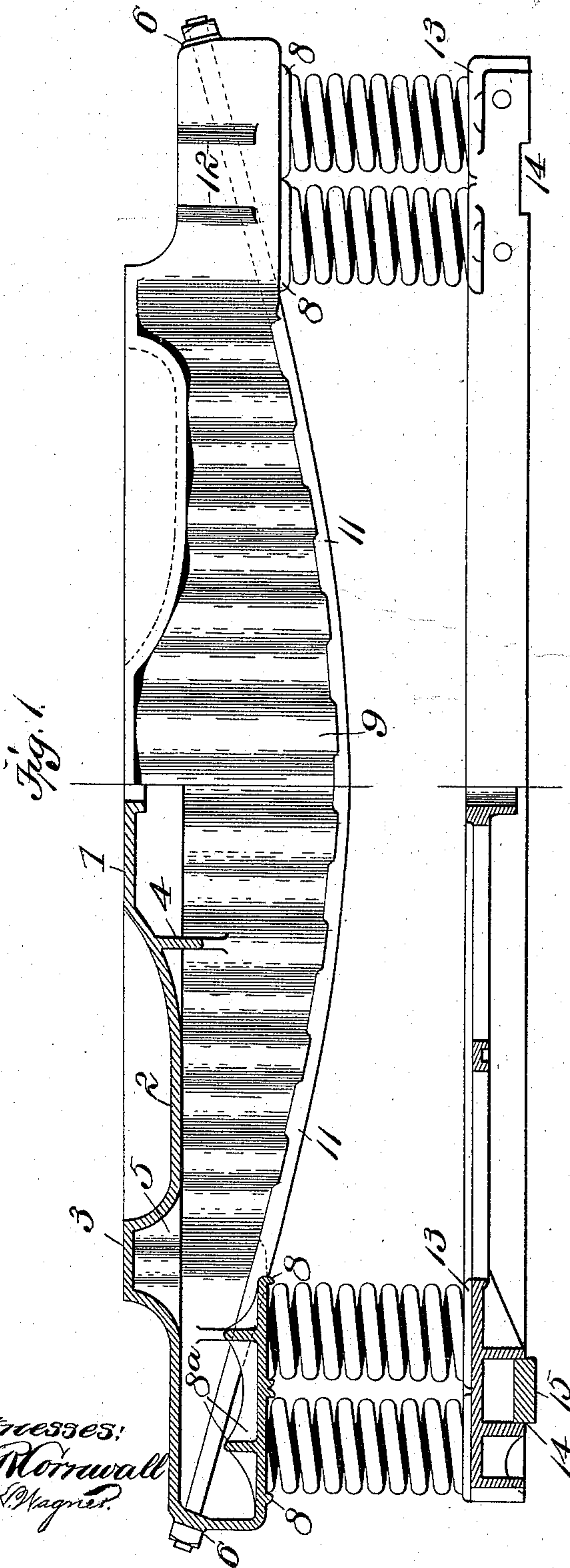
(No Model.)

2 Sheets—Sheet 1.

L. B. SMYSER.
TRUCK BOLSTER AND SPRING PLANK.

No. 533,321.

Patented Jan. 29, 1895.



Witnesses:
F. Morrell
Hugh Wagner

Inventor,
Louis B. Smyser

by Paul Bakewell
his atty

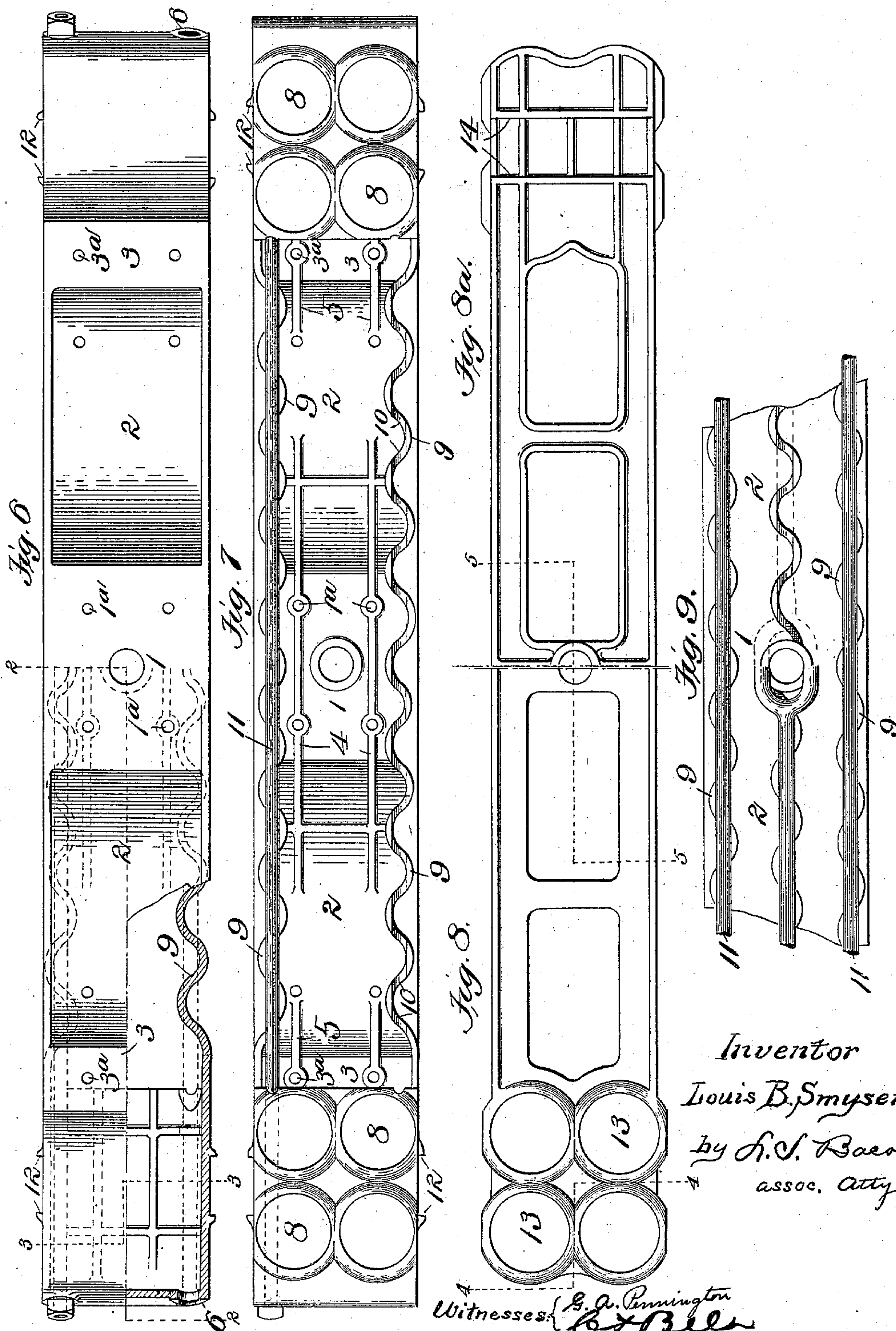
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TRUCK BOLSTER AND SPRING PLANK.

No. 533,321

Patented Jan. 29, 1895.



Inventor
Louis B. Smyser
by H. V. Bacon
-A assoc. atty

Witnesses: { G. A. Pennington
C. J. Bell

UNITED STATES PATENT OFFICE.

LOUIS B. SMYSER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO JOHN W. DUNTLEY, OF SAME PLACE, AND DANIEL EAGAN, OF SHARON, PENNSYLVANIA.

TRUCK-BOLSTER AND SPRING-PLANK.

SPECIFICATION forming part of Letters Patent No. 533,321, dated January 29, 1895.

Application filed May 19, 1894. Serial No. 511,843. (No model.)

To all whom it may concern:

Be it known that I, LOUIS B. SMYSER, a citizen of the United States, residing at the city of Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Truck-Bolsters and Spring-Planks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a side elevation, partly in section, of my improved bolster and spring plank. Fig. 2 is an end view, the left hand side being in section, taken on line 2—2, Fig. 6, of the truck-bolster. Fig. 3 is a sectional view of the bolster, taken on line 3—3, Fig. 6. Fig. 4 is an end and sectional view of the spring-plank, taken on line 4—4, Fig. 8. Fig. 5 is a sectional view of the spring-plank, taken on line 5—5, Fig. 8. Fig. 6 is a top plan-view of my improved bolster, which is shown partly in section. Fig. 7 is a bottom plan-view of the same, one of the truss-rods being omitted. Figs. 8 and 8^a are, respectively, top and bottom plan-views of the spring-plank; and Fig. 9 is a bottom plan-view of a modified form of the bolster.

My invention relates to new and useful improvements in bolsters and spring-planks for car and locomotive trucks, and consists, generally stated, in forming a bolster of any suitable metal, the sides of which are corrugated, which gives greater exposed surface to the metal of which it is made, at the same time making a very strong and compact but light bolster.

Another object is to so construct a bolster that the truss-rod or rods are afforded a continuous seat throughout that part of the bolster, which is subjected to the greatest strain.

Another feature resides in forming the top web or plate of a bolster in an inverted arch, which gives a maximum depth to the bolster at its middle portion.

Another feature of my present invention resides in a spring plank, which is particularly designed and is applicable for use in conjunction with my improved bolster, which spring-plank has formed integral therewith

spring seats and, also, seats for the arch bars, which seats afford means for tying the truck together laterally.

By the construction of the above parts, the number of pieces in a truck is considerably lessened, without deteriorating from the efficiency of the truck nor sacrificing the strength of the same.

In the drawings, 1 indicates the top-plate or web of the bolster, which, in this instance, is provided with bolt-holes 1^a, by means of which a wearing plate may be attached, but, it is obvious, that, if desired, the wearing plate may be formed directly upon and integral with the top web. Extending from the top-plate or web, are the plates 2, which form an inverted arch, as shown in Fig. 1. At the ends of this inverted arch, the bolster is formed with raised portions 3, which are provided with bolt-holes 3^a, by which side bearings may be secured, or, if desirable, said portions 3 may be extended upward such a distance as to form the side bearing in themselves.

On the under side of the truck, beneath the inverted arch, are formed strengthening webs or flanges 4; and beneath the raised portion 3, strengthening webs or flanges 5 are preferably formed.

The ends of the bolster are formed at their upper edges with inclined faces 6, which afford seats for the binding and tightening nuts of the truss-rods.

The bolster throughout its middle portion is substantially U-shaped in cross-section—that is, formed with an open bottom, but, at its ends, the material bridges the bottom, and forms spring seats 8, which spring seats are preferably made by casting the material with the confining or retaining rings, as is common, of the number and location as desired. The interior of the bolster at these closed ends is preferably strengthened by flanges or webs 8^a, co-operating with the bottom plate 8 and the sides of the bolster.

The sides of the bolster, along its middle portion, are formed with corrugations 9, which may be either of the compound curved form, as shown, or angular, as may be instanced by placing a series of W's side by side. By

forming the side walls of the bolster with the corrugations, a continuous seat is formed for the truss-rod, at the same time giving a wide lateral surface to the side walls where they are joined to the top-plate, and permitting the truss-rods to come inside the end walls of the bolster, so that truck columns or bolster guides may be applied without interference with the rod. At the lower extremity of the corrugations 9, seats 10 for the truss-rods 11 are formed, said corrugations being preferably of a width from the outside lines, to afford a seat for the truss-rods, at the same time permitting a lateral and downward projection on each side of the truss-rod of a width of the web 9, to hold said truss-rods in place against lateral displacement.

In Fig. 9, I have illustrated a modified form of bolster, in which I have shown three truss-rods, the center one being formed with a link about its center to afford access from the under side to the king-bolt opening, if desired. It is obvious, however, that any number of truss-rods may be employed without affecting the principle of my invention.

At 12, I have shown ears or lugs formed on the side walls, and at the ends of the bolster, which ears or lugs form guide-ways and cooperate with the bolster guides.

The spring-plank is preferably made of one piece, of any suitable metal, and may be either cast or stamped, as desired. On the upper faces, near the ends of the spring-plank, spring seats 13 are formed, which are, in size, and number similar to those formed on the bolster. On the under side of the spring plank, preferably beneath the spring seat, the recess or way 14 is formed, in which may be received the arch bars 15, said spring-plank tending to tie the truck laterally.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A bolster which is substantially U-shaped in cross-section the vertical webs of which are corrugated, substantially as described.

2. A bolster which is formed with an inverted arch at its top, and which has depending corrugated webs, substantially as described.

3. A bolster formed of a single piece of material, the depending webs of which are corrugated vertically, said corrugations being lo-

cated within the side lines of the bolster proper, substantially as described.

4. A cast bolster which in cross-section is of an inverted U-shape, and which has its sides corrugated at the middle portions thereof, substantially as described.

5. A bolster composed of a main body portion, the top webs of which form an inverted arch, and the sides of which are corrugated and have a maximum depth at their middle portion, said bolster having spring seats formed integral therewith, substantially as described.

6. The combination with a bolster having a corrugated strengthening web, and a truss rod which bears directly against the under side of said web, substantially as described.

7. The combination with the bolster having two or more corrugated strengthening webs which are bellied at their middle portion, of a truss rod or rods which have a bearing along said bellied portion, substantially as described.

8. A bolster provided with corrugated webs, in combination with a truss-rod or rods which have a continuous bearing against said corrugations, substantially as described.

9. The combination of a bolster whose side webs are corrugated, of a truss-rod or rods, which are seated in said corrugations, substantially as described.

10. The combination with a bolster which is formed with a corrugated web or webs, recessed at the bottom edges of said corrugations, and a truss-rod or rods which are seated in said recesses, so as to have substantially a continuous bearing against said corrugations, substantially as described.

11. In a bolster, the combination with the side webs, which are corrugated, said corrugations being within the side lines of the bolster proper, and truss-rods which have a continuous bearing along the bottom of said corrugations, said truss-rods at the ends of the bolster running up along the inside walls of the same, substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 15th day of May, 1894.

LOUIS B. SMYSER.

Witnesses:

M. A. HAWKES,
SAMUEL H. FAHRES.