

No. 659,320.

Patented Oct. 9, 1900.

E. POSSON.  
METALLIC TRUCK BOLSTER.

(Application filed Dec. 1, 1899.)

(No Model.)

Fig. 1.

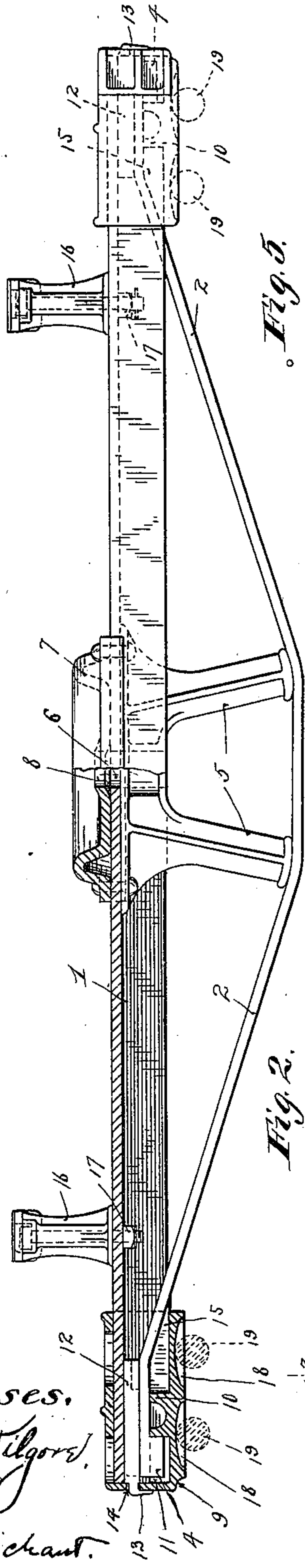


Fig. 2.

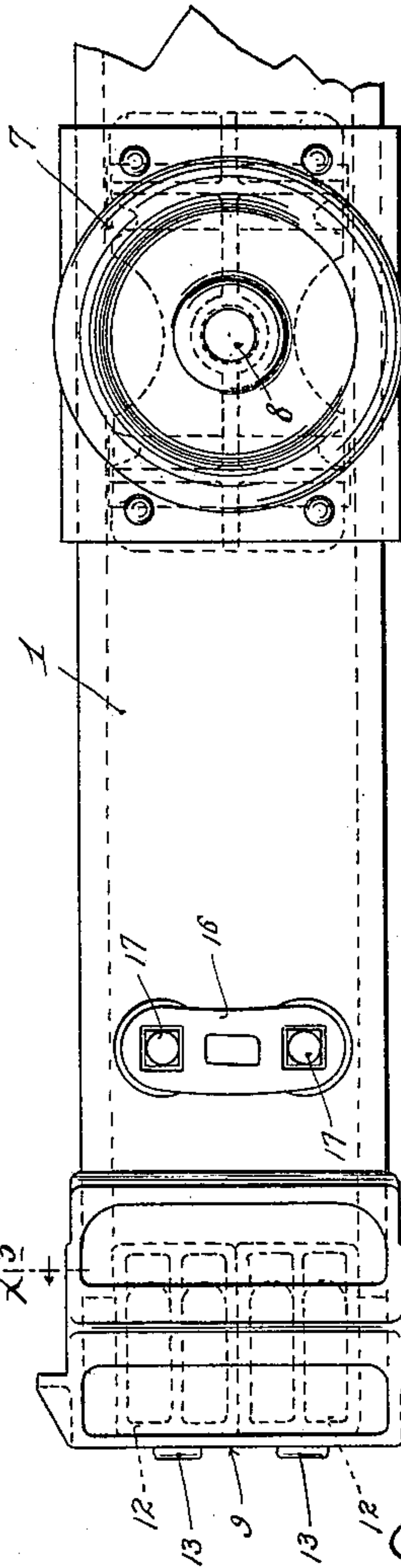


Fig. 6.

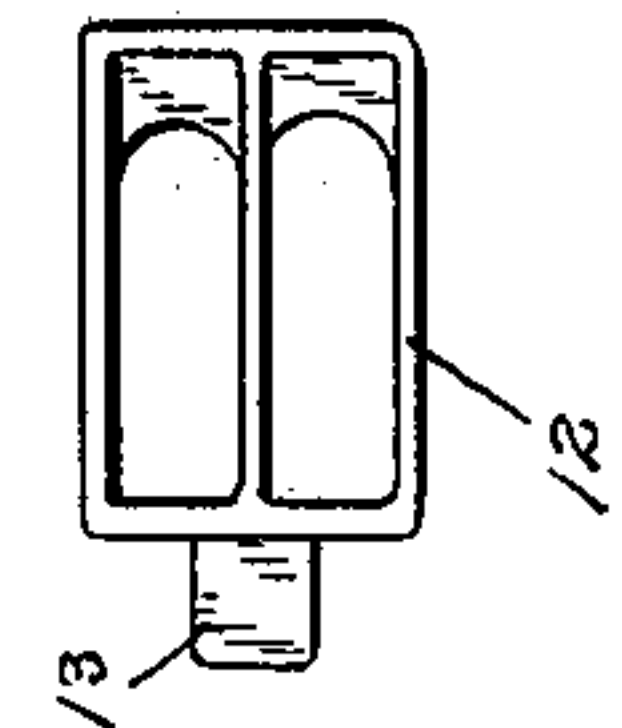


Fig. 5.

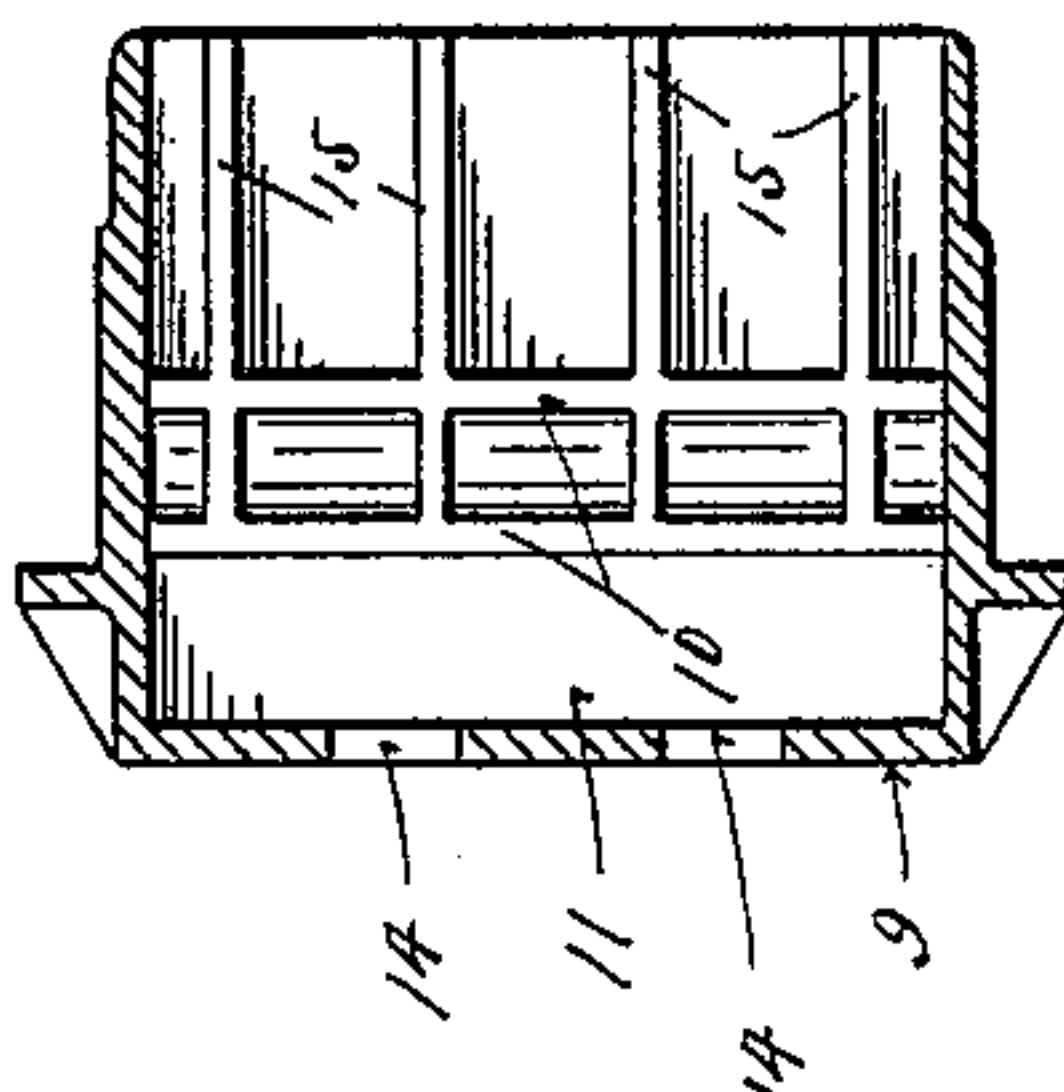


Fig. 3.

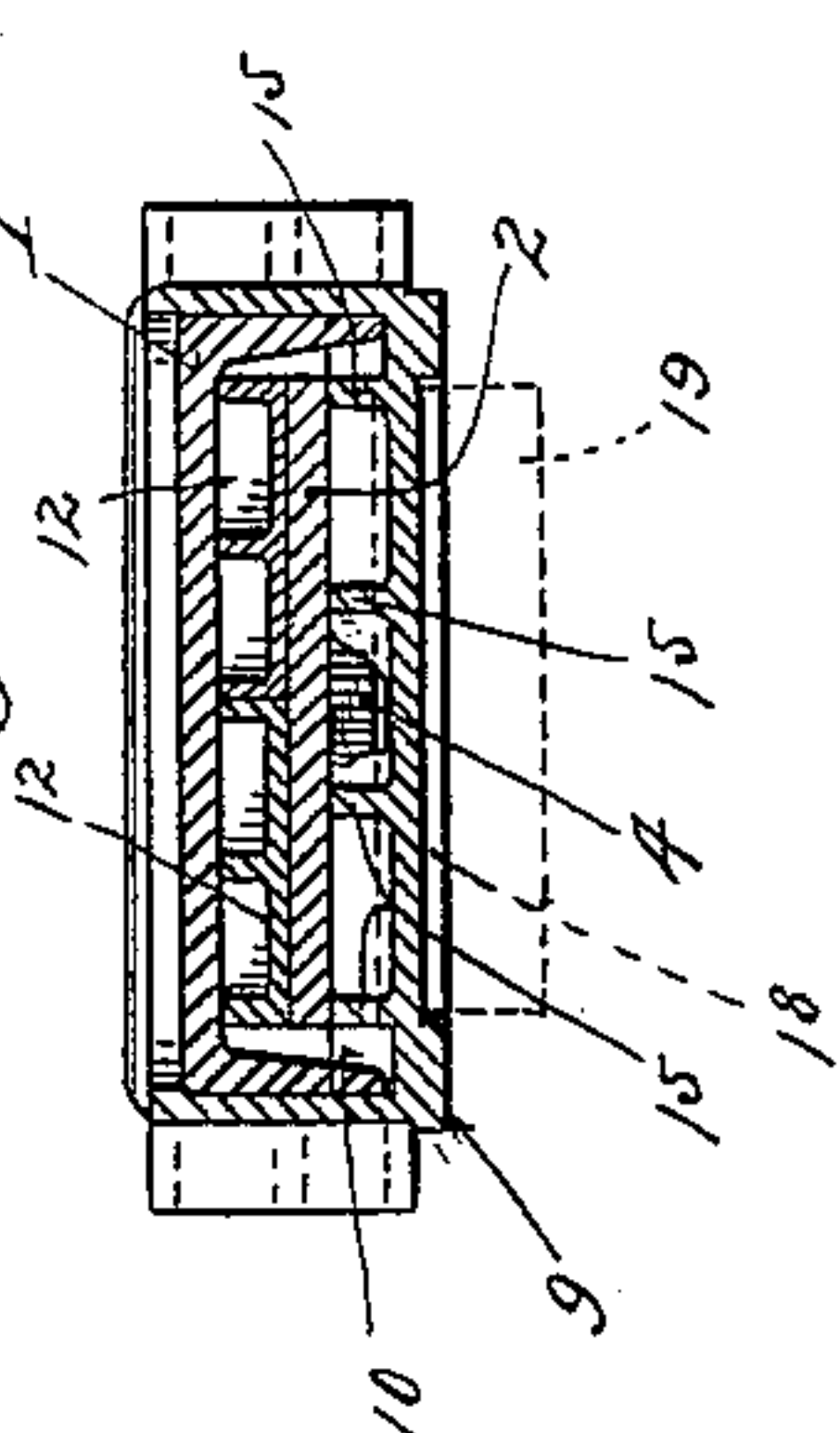
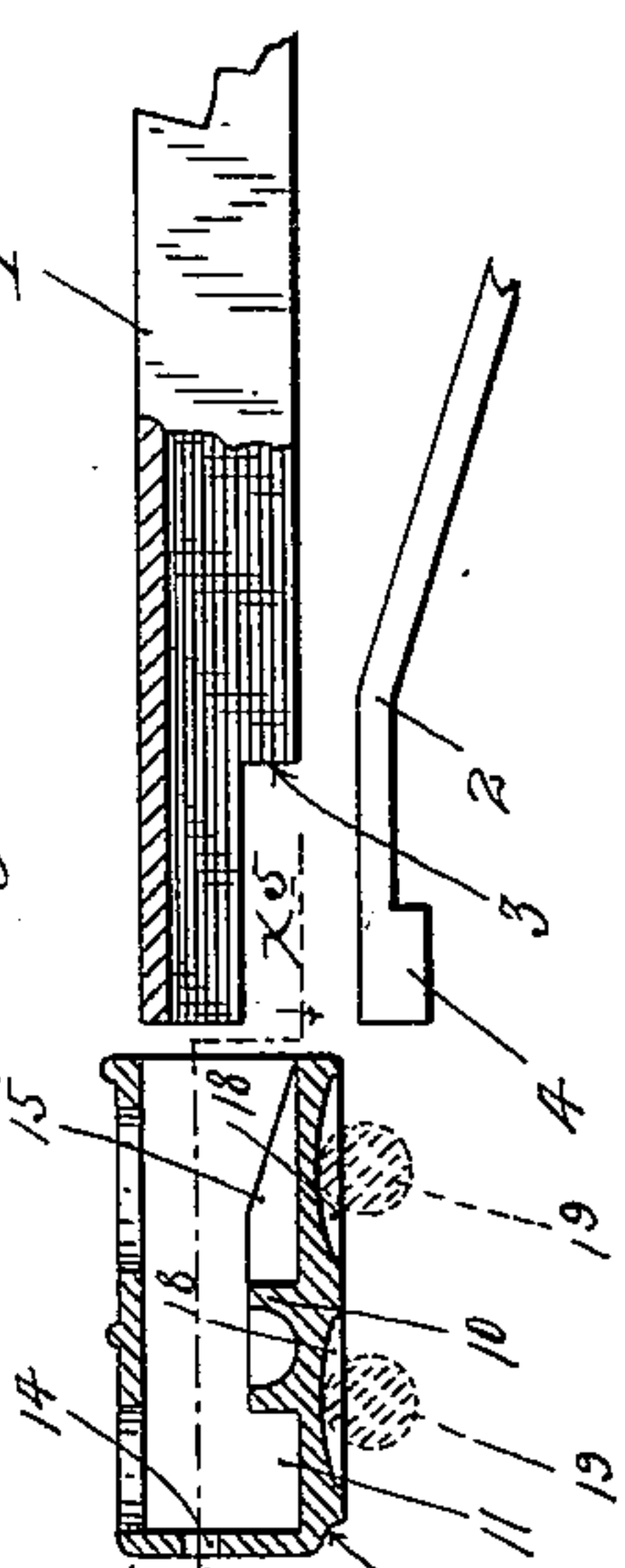


Fig. 4.



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Inventor:  
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# UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF ST. PAUL, MINNESOTA.

## METALLIC TRUCK-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 659,320, dated October 9, 1900.

Application filed December 1, 1899. Serial No. 738,786. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at St. Paul, (Hamline,) in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Metallic Truck-Bolsters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention is especially directed to the improvement of metallic bolsters for car-trucks; but it is adapted for general use as a truss-beam. The invention herein disclosed is on the same general line as that set forth and claimed in my pending application, Serial No. 731,538, filed September 25, 1899, entitled "Brake-beam."

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

In the drawings the trussed beam is shown as designed as a metallic bolster for use in connection with car-trucks, and in the said drawings like characters indicate like parts throughout the several views.

Figure 1 is a view partly in side elevation and partly in longitudinal vertical section. Fig. 2 is a plan view of the truck-bolster with one end thereof broken off. Fig. 3 is a transverse vertical section taken on the line  $x^3 x^3$  of Fig. 2. Fig. 4 is a view of the left-hand end of the truck-bolster with the parts thereof separated, certain parts shown in section and others shown in side elevation. Fig. 5 is a detail view of one of the end caps, sectioned on the line  $x^5 x^5$  of Fig. 4; and Fig. 6 is a detail in plan of one of the locking-keys.

Of the primary parts of the truck-bolster the numeral 1 indicates the compression member in the form of a channel-beam, and the numeral 2 indicates the tension member, shown in the form of a bar. The flanges of the channel-beam 1 are cut away or reduced at the ends of the beam to form stop-shoulders 3 for a purpose which will be hereinafter noted. The tension member 2 is of such width that its ends are adapted to be placed between the flanges of the channel-groove 1, and at the extreme ends it is upset or thickened to form heads or shouldered

lugs 4. At their central portions the tension and compression members are spaced apart by means of a strut or center-bearing bracket 5, through the center of which and the beam 1 a perforation or seat 6 for the king-bolt or pintle opens. Secured to the upper surface of the beam 1 is a pressed-steel center plate 7, provided with a central perforation 8, which coincides with the perforation 6 just noted.

The ends of the tension member or channel-beam 1 fit into end caps 9, which are recessed to receive them. These end caps are provided with transversely extended interior lock lugs or ribs 10, that are spaced from the end walls of the caps, so as to leave pockets 11 behind them. When the ends of the channel-beam 1 are properly positioned within the caps 9, the shoulders 3 of its flanges bear against the outer sides of the said lock-lugs, the reduced sections of the said flanges closely fit between the top surfaces of the said lugs 10 and the top wall of the said caps, and the extreme ends of the said compression member or beam bear against the end walls of the said caps 9. When the caps are positioned as above indicated or when they are but partially moved to such positions, there will be left between the tops of the lock-lugs 3 and the under surface of the horizontal body portion of the beam 1 space enough to permit the shouldered heads or lugs 11 to be passed through said spaces or passages. Hence the headed ends or lugs 4 of the tension member 2 may be placed or positioned within the pockets 11 back of the lock-lugs 10. This is preferably accomplished by first springing the outer ends of the tension-bar 2 against the under horizontal surface of the beam 1 and while so positioned slipping the caps onto the ends of the two members until the outer walls thereof strike the ends of the compression member or beam. Then by moving the headed ends of the tension member 2 laterally downward the heads 4 are placed in the pockets 11 inward or back of the cooperating lock-lugs 10 of the said caps, this interlocking action being effected by a movement transversely to the line of load strains on said parts. The parts are then locked together by lock-keys or spacing-blocks 12, which are slipped between the upper surfaces of the ends of the tension-bar 2 and the under



surface of the horizontal portions of the ends of the compression-beam 1. These keys or spacing-blocks snugly fit the spaces into which they are slipped or placed, as just indicated, and they are preferably provided with malleable lips 13, which project through perforations 14 in the end walls of the caps 9 and when upset or bent securely retain the keys in position. In the construction illustrated two keys are used at each end of the bolster; but one at each end would do the work.

Both caps 9 and the keys 12 are preferably of malleable iron, and hence are cut away and ribbed to save metal and to permit of the better malleation of the castings. The caps are shown as formed with the ribs 15 running from the lock-lugs 10 to the outer edge of the cap, and following the lines of the adjacent portions of the tension-bar 2, when the latter are in working position.

When the parts of the beam or bolster are put together as above described, they are very rigidly secured and there is but very slight chance for breakage of the parts. Under load strains the lock lugs or flanges 10 of the caps receive a large portion of the load strains and are tightly clamped between the heads or shouldered lugs 4 of the tension member 2 and the shoulders 3 of the compression member 1. The load strains are not put upon the keys, and the keys simply serve to hold the headed ends of the compression member in interlocked engagement with the lock-lugs of the cooperating end caps.

It is important to call attention to the fact that under the load strains on the beam or bolster the strain is distributed on the end caps, part of the strain being taken directly on the lock lugs or flanges 10 of the said caps, while the remainder of the strain is thrown upon the reduced ends of the compression member 1 and against the end walls of the caps.

In the illustration given of the truck-bolster the numeral 16 indicates a pair of ordinary or suitable side bearings or brackets secured in position on the channel-beam 1 by nutted bolts 17. Again, in this bolster construction the end caps are shown as formed on their under surfaces with concave roller-seats 18 for cooperation with the ordinary bearing-rollers 19. (Indicated by dotted lines in Figs. 1 and 7.)

It will of course be understood that my invention above specifically described is capable of considerable modification in construction. From a broad point of view the construction disclosed is adapted for embodiment in trussed beams for divers uses, and it would make an extremely-efficient brake-beam, for example. From another point of view in its specific application to metallic truck-bolsters it embodies broad features of invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a trussed beam, the combination with tension and compression members having opposing shouldered portions, of end caps or sections embracing the ends of said members and having lock lugs or flanges engageable between the opposing shoulders of the said members only by movements transversely to the line of load strains thereon, and keys or spacing-blocks insertible between said members or parts to hold the said parts against the transverse movements necessary to unlock them, substantially as described.

2. In a trussed beam, the combination with tension and compression members, having opposing shouldered portions, of end caps fitting over the ends of said members and having lock lugs or flanges engageable between the opposing shouldered portions of said members, the shouldered portions of the tension member being engageable behind the lock-lugs of said caps, by movement transversely to the line of the load strains thereon, and locking-keys insertible between the ends of the compression and tension members to hold the parts interlocked, substantially as described.

3. In a trussed beam, the combination with the compression member 1 formed by a channel-iron with its flanges cut at the ends to form the shoulders 3, of the tension member 2 provided at its ends with the heads or shouldered lugs 4, the end caps 9 fitting over the ends of said members 1 and 2 and provided with the lock lugs or flanges 10 fitting between the opposing shouldered portions 3 and 4 of said members 1 and 2, respectively, and the lock-keys 12 insertible between the ends of said members 1 and 2, to hold the parts interlocked, substantially as described.

4. In a trussed metallic bolster, the combination with compression and tension members, of end caps or sections fitting over the ends of said members, which members are constructed to interlock by movement of one of said parts transversely to the line of load strains thereon, and keys or spacing-blocks insertible between the parts, to hold them interlocked without load strains on said keys, substantially as described.

5. In a trussed beam, the combination with the compression member formed by a channel-iron, with its flanges cut at the ends to form shoulders offset from the ends thereof, of end caps fitting over the ends of said compression member and engaging the end and offset shoulders thereof, and a tension member secured at its ends to said caps, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD POSSON.

Witnesses:

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T. D. MERCHANT.