

No. 728,781.

PATENTED MAY 19, 1903.

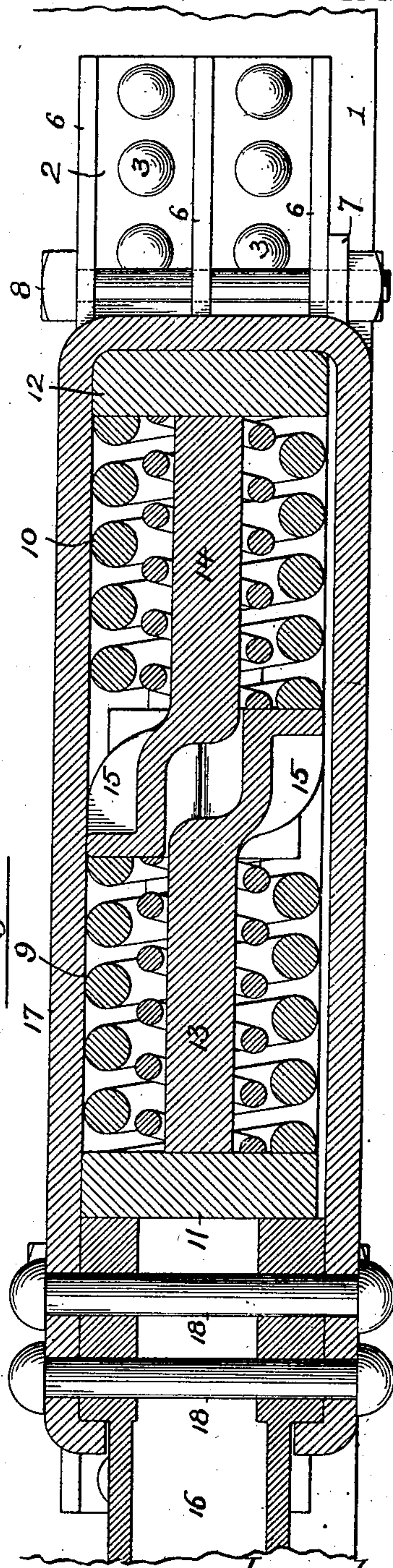
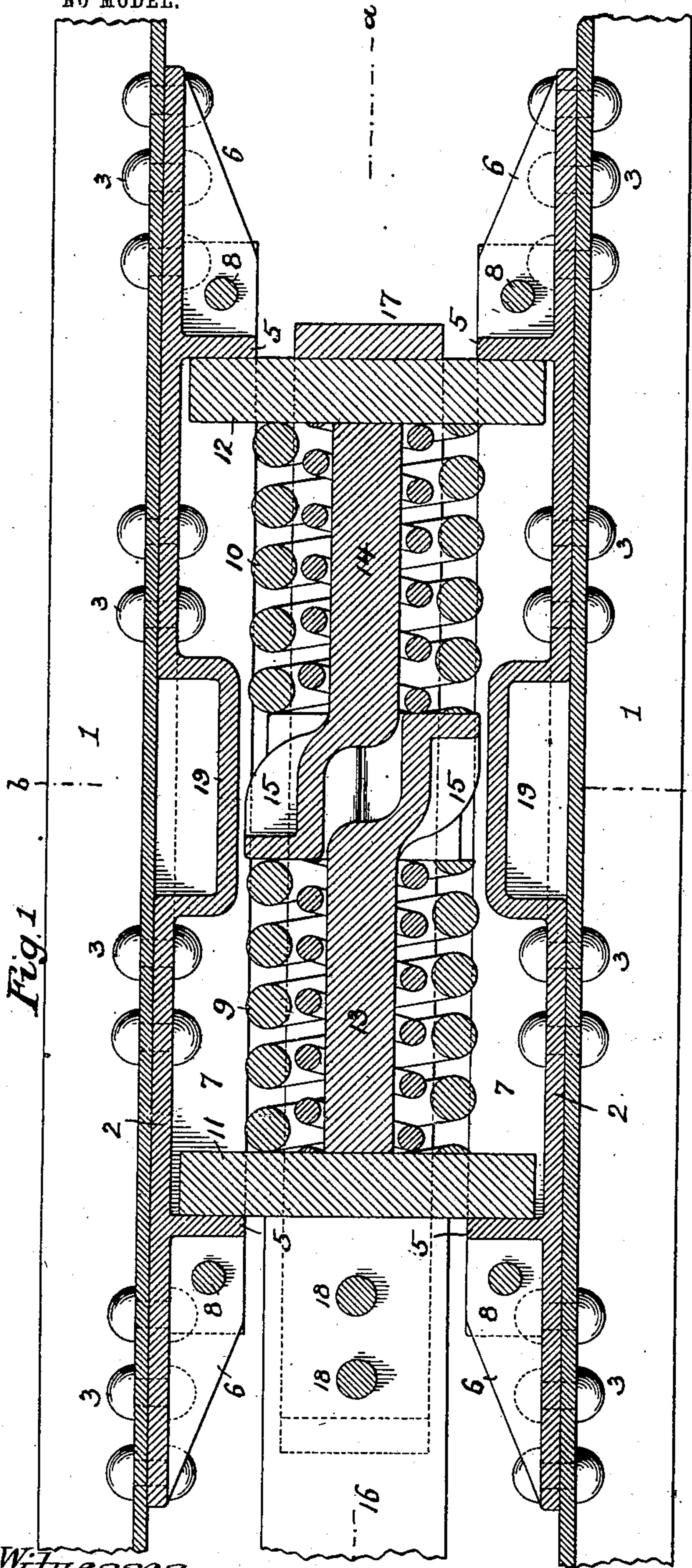
C. F. STREET.

TANDEM SPRING DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED AUG. 26, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

Frank L. A. Graham.
Herman E. Metcalf.

Inventor:

Clement F. Street,
by his Attorneys

Howell & Howson

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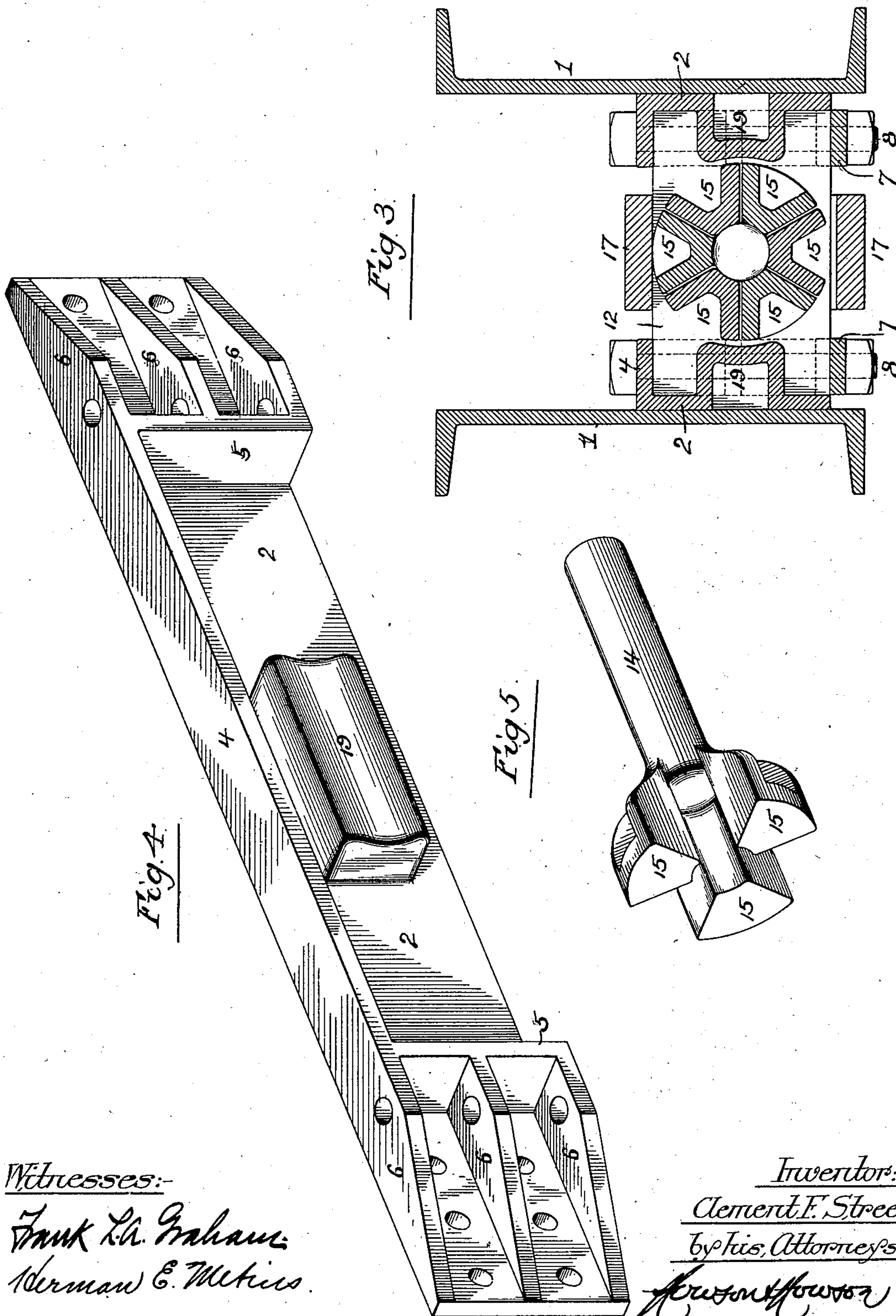
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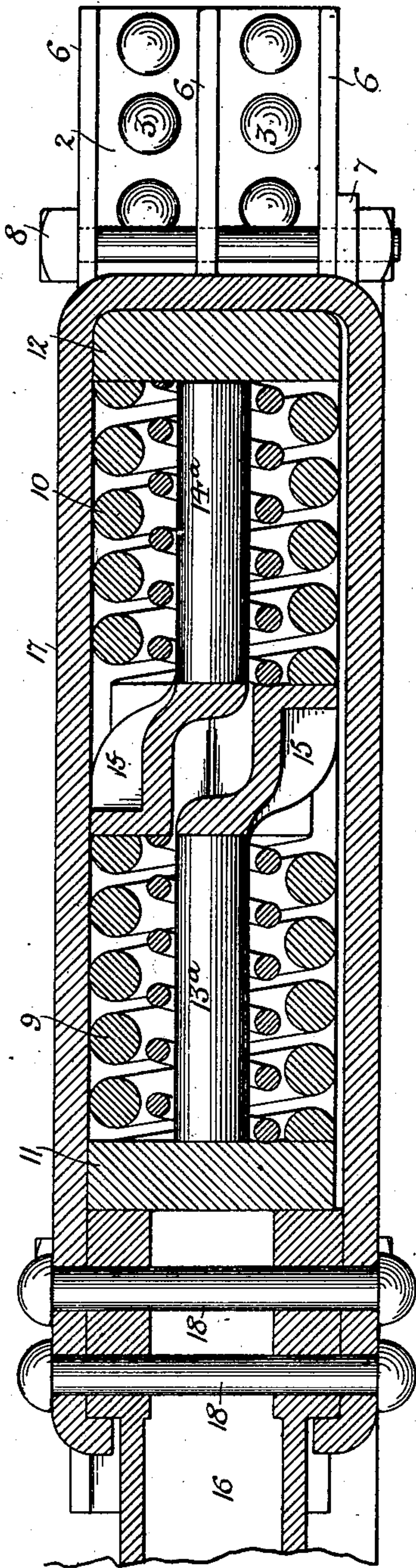
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3 SHEETS—SHEET 3.

Fig. 6.



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UNITED STATES PATENT OFFICE.

CLEMENT F. STREET, OF CLEVELAND, OHIO.

TANDEM-SPRING DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 728,781, dated May 19, 1903.

Application filed August 26, 1902. Serial No. 121,085. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT F. STREET, a citizen of the United States, and a resident of Cleveland, Ohio, have invented certain Improvements in Tandem-Spring Draft-Rigging for Railway-Cars, of which the following is a specification.

The object of my invention is to so construct tandem-spring draft-rigging for railway-cars as to simplify and cheapen the same by reducing to a minimum the number of parts employed therein, which parts are of simple construction and can be used interchangeably. Effective provision is also made for limiting the extent to which the springs can be compressed in order to prevent breakage of or injury to said springs due to excessive compression.

In the accompanying drawings, Figure 1 is a sectional plan view of tandem-spring draft-rigging for railway-cars constructed in accordance with my invention. Fig. 2 is a vertical section of the same on the line *a a*, Fig. 1. Fig. 3 is a transverse section on the line *b b*, Fig. 1. Fig. 4 is a perspective view of one of the sill plates or housings of the device. Fig. 5 is a perspective view of one of the spring-compressing plungers; and Fig. 6 is a view similar to Fig. 2, but illustrating a special construction of part of the draft-rigging.

In Figs. 1 and 3 of the drawings the opposite center sills of a railway-car are represented at 1, these sills being shown as metal channel-bars, although it should be understood that my invention is equally applicable to cars having wooden sills. The opposite sill plates or housings of the draft-rigging are shown at 2, these sill-plates being secured to the sills by rivets 3, suitably disposed, or, in the case of wooden housings, by transverse bolts or screws in any ordinary manner. Each of the sill-plates has a top flange 4 and near each end an inwardly-projecting bearing flange or shoulder 5, suitably braced and stiffened by lugs 6, each of the sill-plates also having a detachable bottom bar 7, of wrought iron or steel, these bars being secured to the sill-plate by vertical bolts 8, passing through the lugs 6 of said plate, whereby efficient support is provided for the movable members of the draft-rigging, whose weight is carried by

said bottom bars 7. The movable members of the draft-rigging comprise the fore and aft springs 9 and 10, the fore and aft spring bearing-plates 11 and 12, and fore and aft spring-compressing plungers 13 and 14. The fore and aft bearing-plates 11 and 12 are confined vertically between the top flanges 4 and bottom bars 7 of the opposite sill-plates 2 and normally bear, respectively, against the fore and aft flanges 5 of said housings, and each of the spring-compressing plungers 13 and 14 has at its inner end a pronged head 15, the prongs of one head fitting between and being movable longitudinally past the prongs of the other head, as shown in Figs. 1 and 3. The forward spring 9 surrounds the stem of the forward compressing-plunger 13 and is normally confined between the forward bearing-plate 11 and the forward faces of the prongs of the rear plunger 14, and in like manner the rear spring 10 surrounds the rear plunger 14 and is confined between the rear bearing-plate 12 and the rear faces of the prongs, constituting the head of the forward plunger 13. The coupling-head 16 bears against the forward bearing-plate 11 and has the usual yoke 17, embracing the spring structure and having bearing against the rear bearing-plate 12 of the same, this yoke being rigidly secured to the coupling-head by means of bolts or rivets 18. Buffing strains are therefore transmitted directly to the bearing-plate 11 and tend to force the same rearwardly, thereby compressing the forward spring 9 against the prongs of the rear compressing-plunger 14 and causing the prongs of the forward compressing-plunger 13 to compress the rear spring 10 against the rear bearing-plate 12, which has rigid bearing against the rear flanges 5 of the sill-plates. Draft strains upon the coupling effect reverse action, such strains being transmitted by the yoke 17 to the rear bearing-plate 12, which is thus caused to move forwardly, compressing the rear spring 10 against the prongs of the forward compressing-plunger 13 and causing the prongs of the rear plunger 14 to compress the forward spring 9 against the forward bearing-plate 11, which has rigid bearing against the forward flanges 5 of the sill-plates. Excessive compression of the springs in either case may be prevented by contact of the inner ends of the com-

pressing-plungers, as will be readily understood on reference to Figs. 1 and 2.

Each of the sill-plates 2 has centrally disposed thereupon an inwardly-projecting hollow lug or boss 19, these bosses serving as guides for the pronged heads of the spring-compressing plungers, and thereby serving to maintain the latter and their surrounding springs in proper central position between the housings. In the present instance I have shown each of the springs as of duplex construction, with outer heavy coil and inner lighter coil; but it will be evident that my invention can be employed in connection with single-coil springs or with any desired form of coiled-spring structure.

I have shown each of the spring-compressed plungers as provided with a three-pronged head; but four or more prongs can be employed, if desired, the object being to obtain as extended a bearing as possible upon the inner ends of the spring. I may in some cases also construct the plungers with stems independent of the heads, as shown, for instance, in Fig. 6, in which case short sections of rolled rods or shafting 13^a 14^a can be employed for the stems of the plungers, and each sill-plate may, if desired, consist of disconnected sections, one carrying the forward bearing-flange and the other the rear bearing-flange.

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

35 1. The combination in tandem-spring draft-rigging for railway-cars, of a coupler and its yoke, fore and aft springs, fore and aft spring bearing-plates, and fore and aft spring-compressing plungers, each having a head with
40 more than two prongs, the heads of the two

plungers interlocking and their prongs having direct bearing upon their respective springs, substantially as specified.

2. The combination in tandem-spring draft-rigging for railway-cars, of a coupler and its yoke, fore and aft springs, fore and aft spring bearing-plates, and fore and aft spring-compressing plungers each having a head with a plurality of prongs, the heads of the two plungers interlocking and their prongs having side bearing upon each other and direct end bearing upon their respective springs, substantially as specified.

3. The combination in tandem-spring draft-rigging for railway-cars, of the sill-plates having central projecting hollow lugs with curved inner faces, fore and aft springs, fore and aft spring bearing-plates, a coupler and its yoke, and fore and aft spring-compressing plungers having interlocking pronged heads guided between the curved faces of the central projecting hollow lugs on the sill-plates, substantially as specified.

4. The combination in tandem-spring draft-rigging for railway-cars, of a coupler and its yoke, fore and aft springs, fore and aft spring bearing-plates, and fore and aft spring-compressing plungers each having a head separate from the plunger and provided with a plurality of prongs, the heads of the two plungers interlocking and their prongs having direct end bearing upon their respective springs, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLEMENT F. STREET.

Witnesses:

NELSON R. FAIRLAMB,
F. W. ROOT.