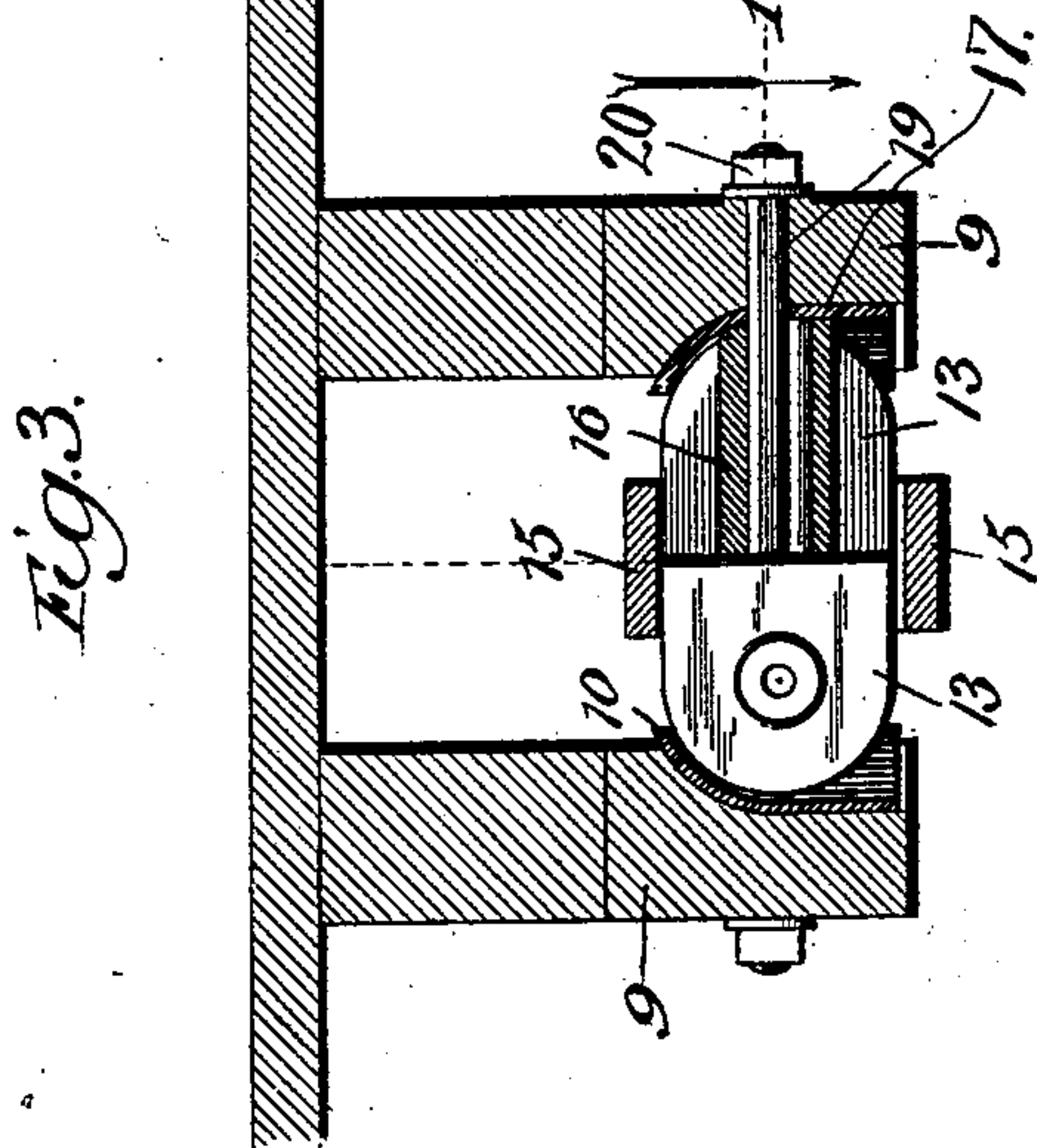
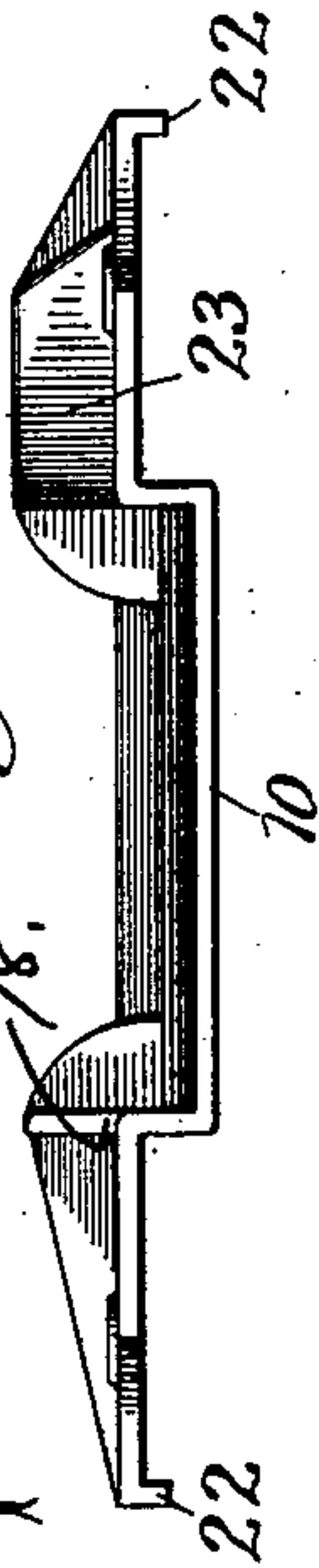
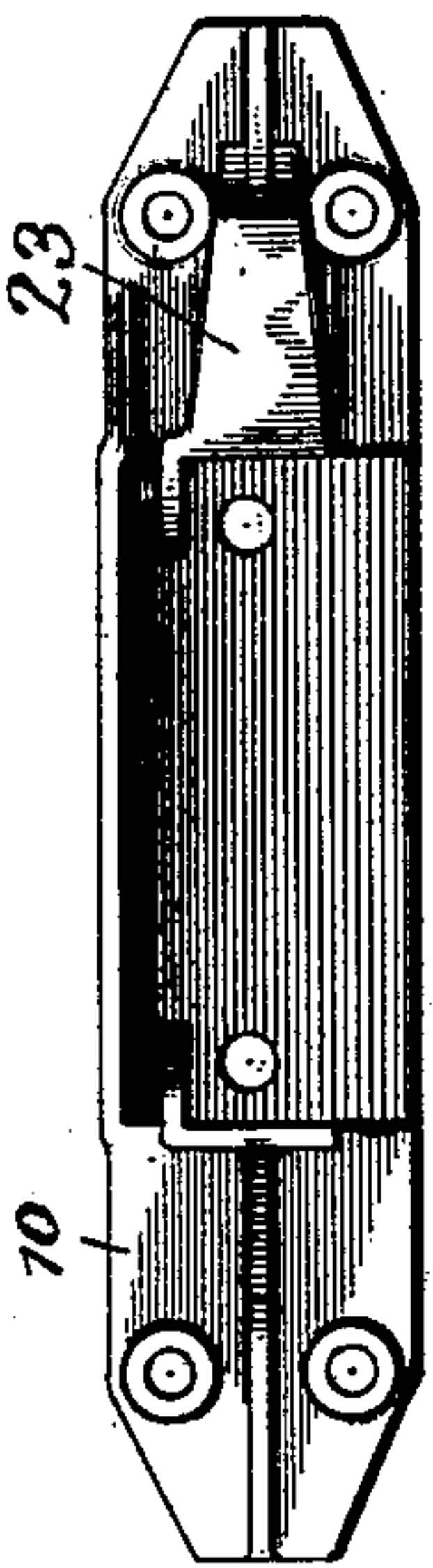
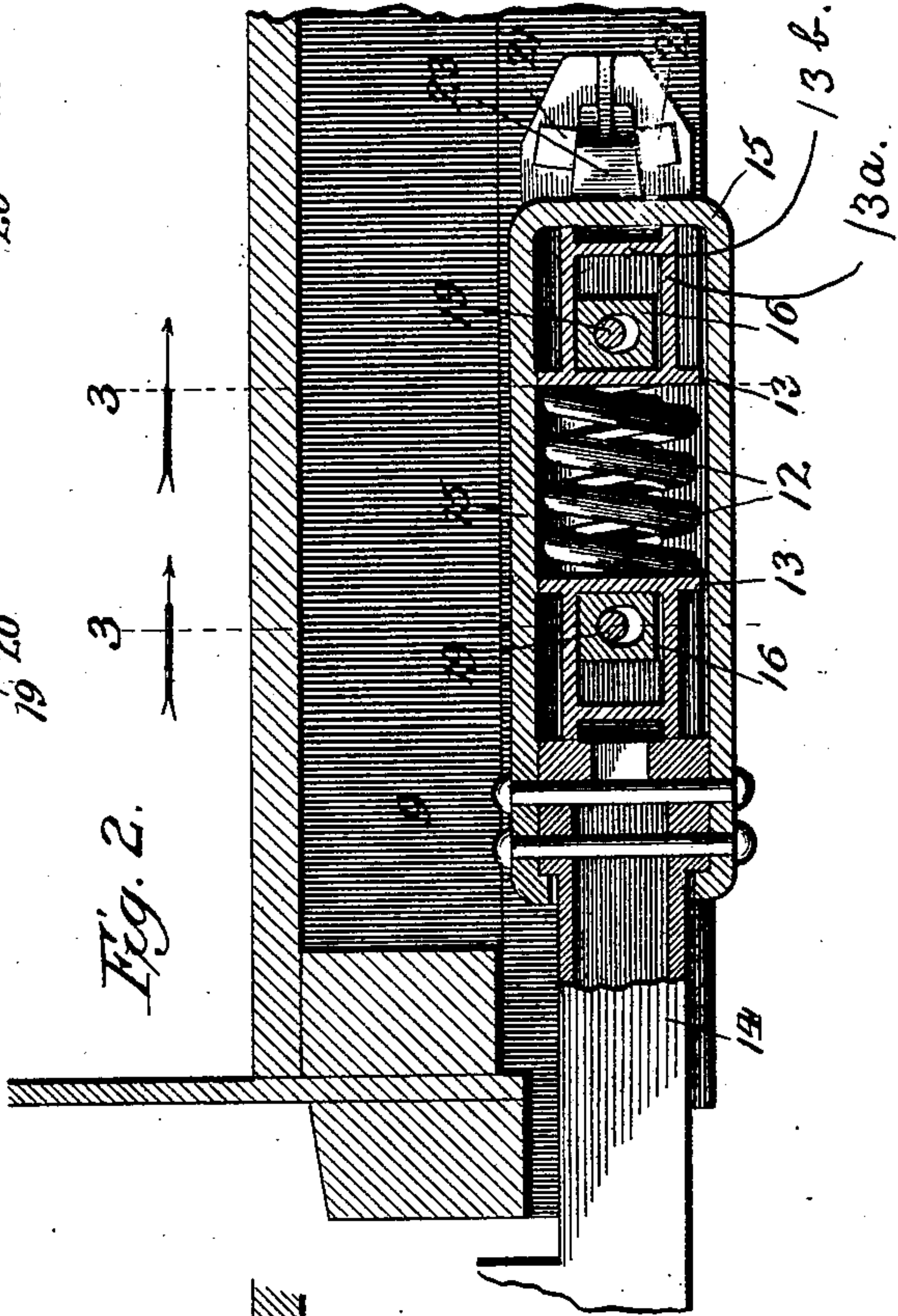
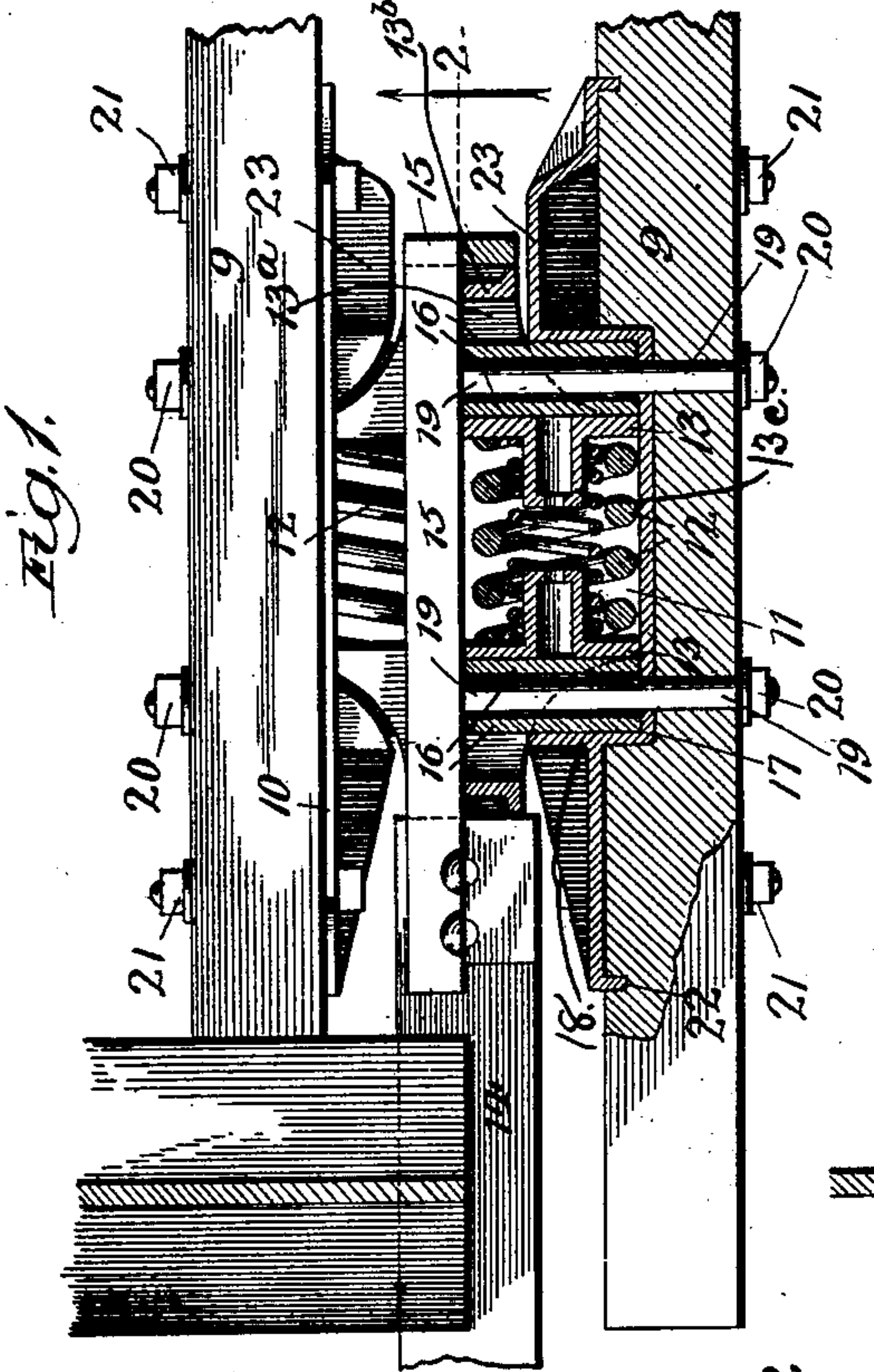


C. F. STREET.  
DRAFT GEAR.

(Application filed Dec. 2, 1901.)

3 Sheets—Sheet 1.

(No Model.)



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No. 714,058.

Patented Nov. 18, 1902.

C. F. STREET.  
DRAFT GEAR.

(Application filed Dec. 2, 1901.)

(No Model.)

3 Sheets—Sheet 2.

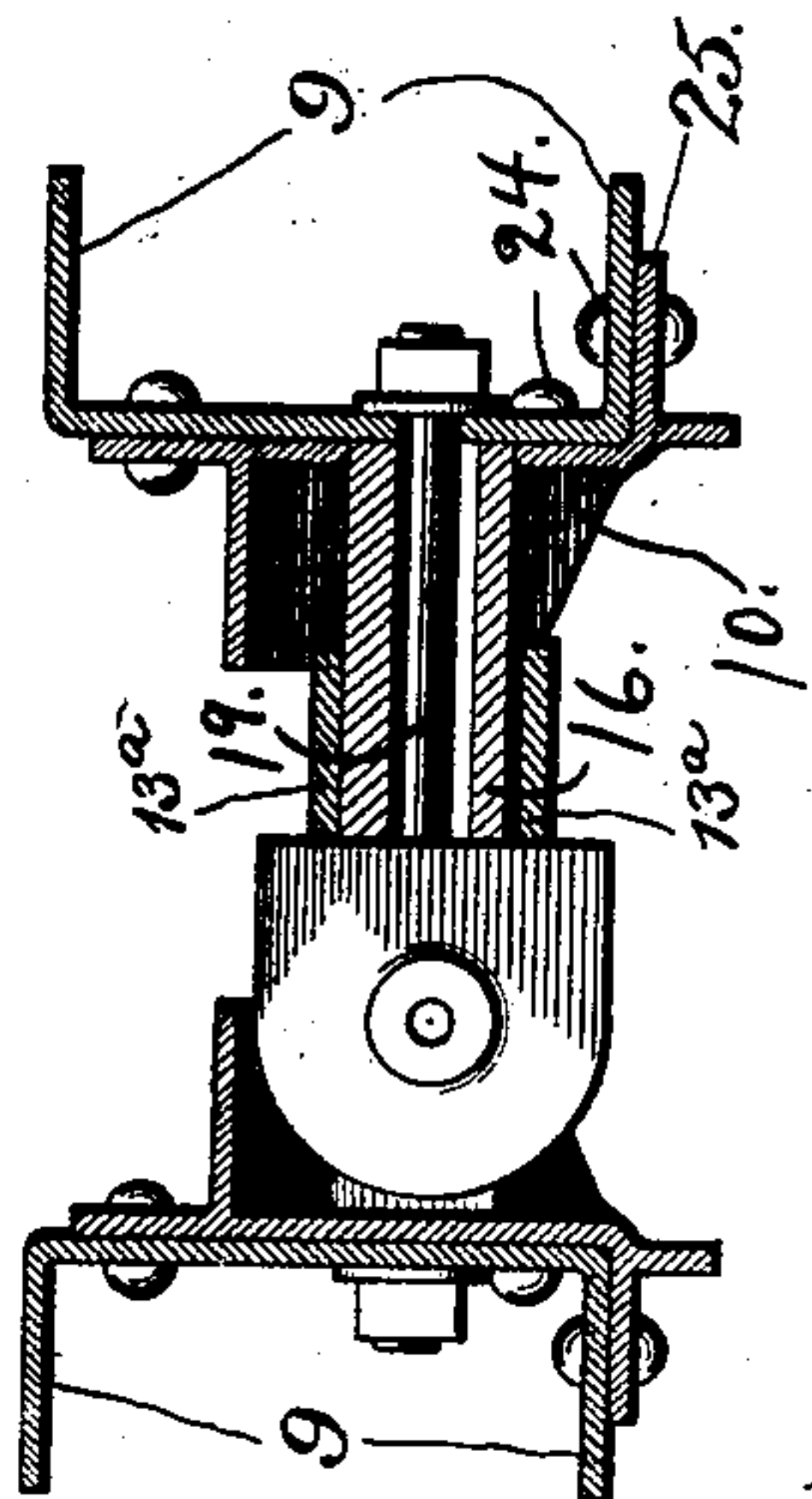
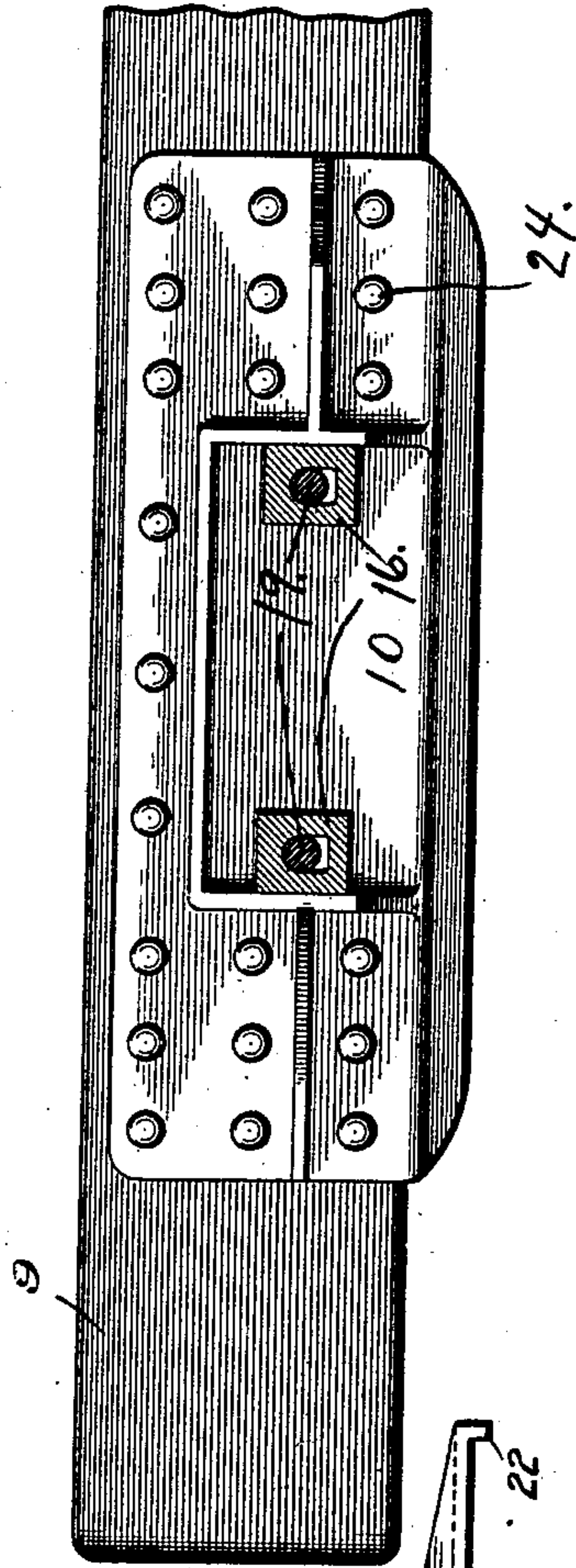
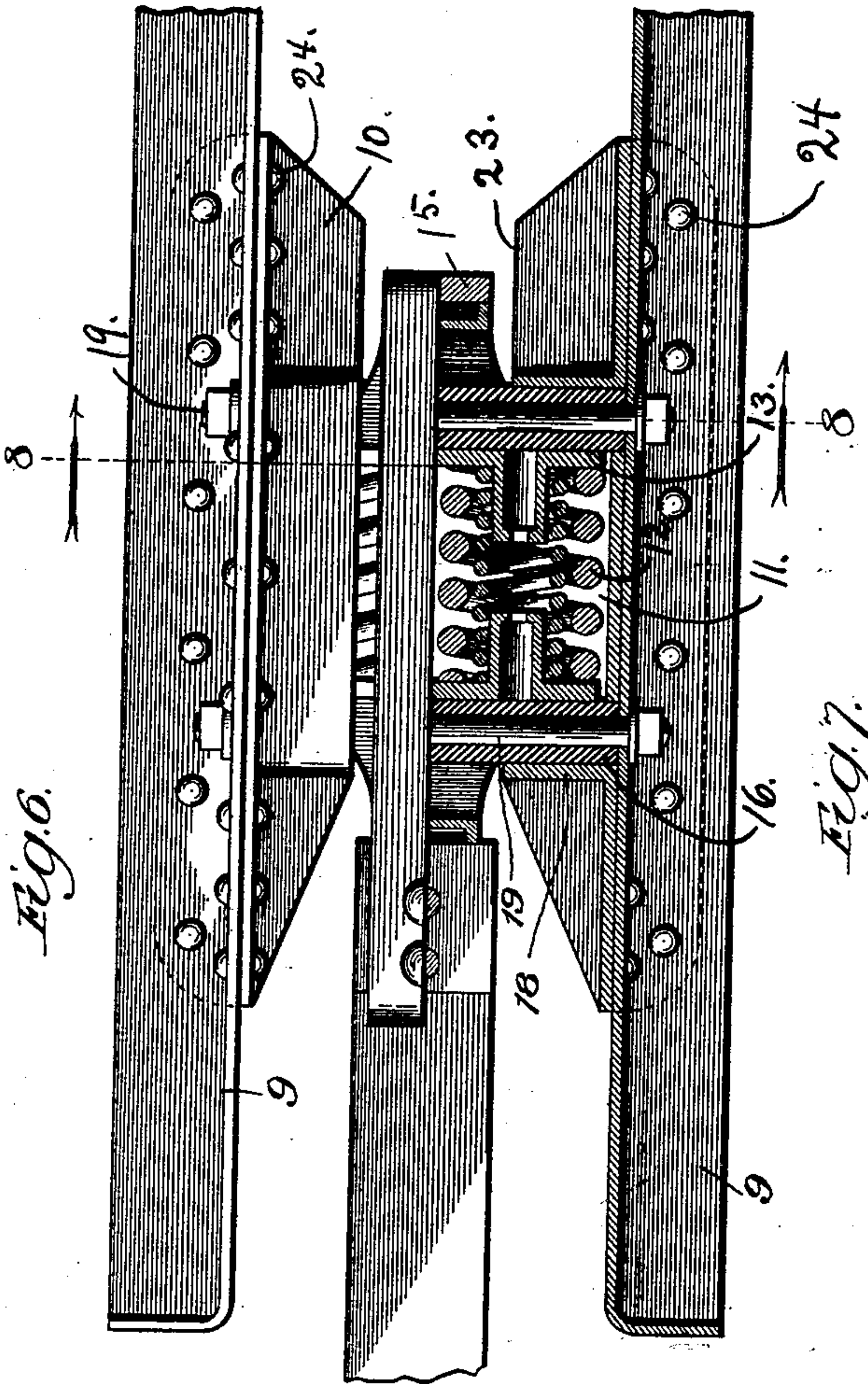


Fig. 12.



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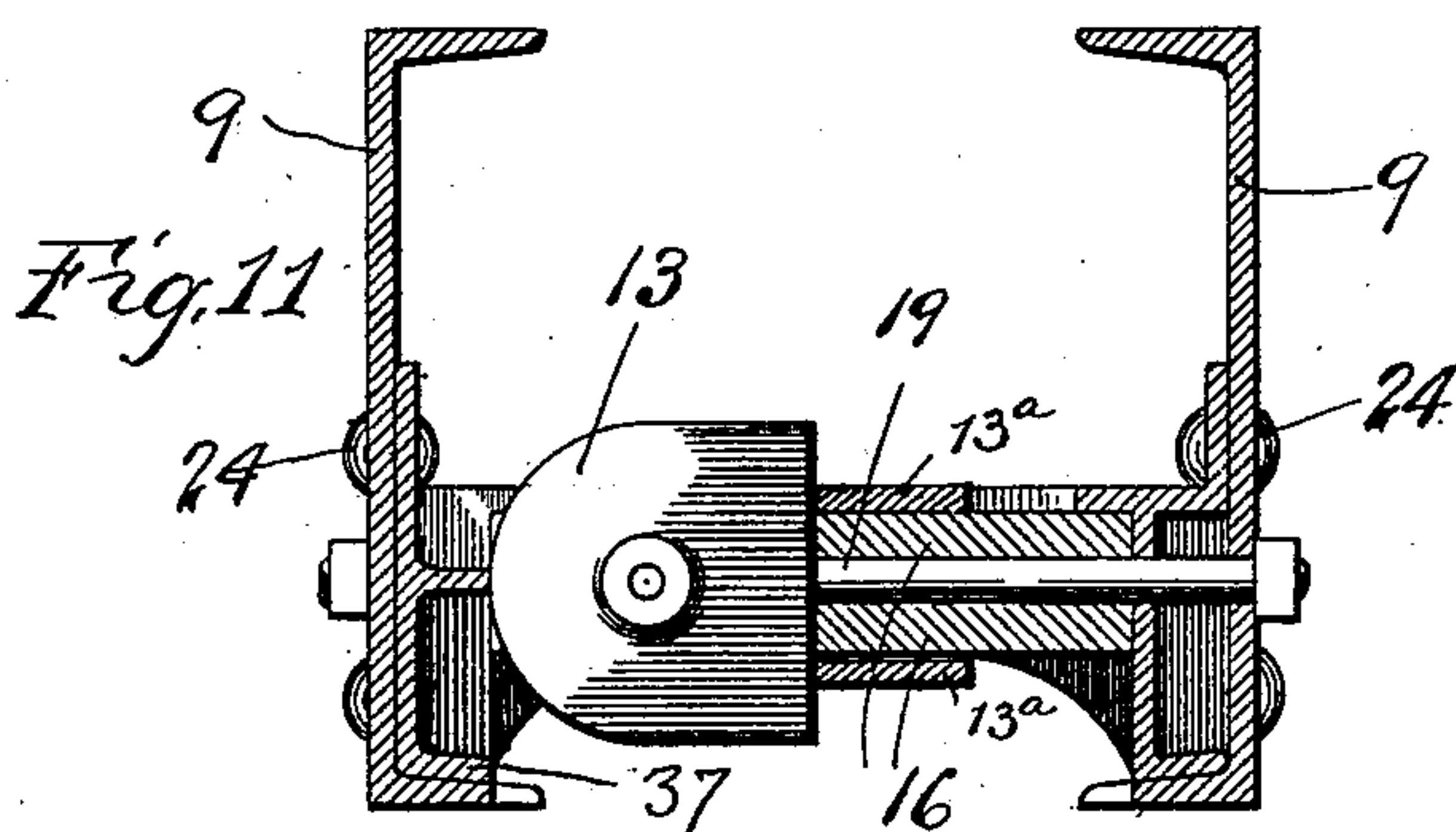
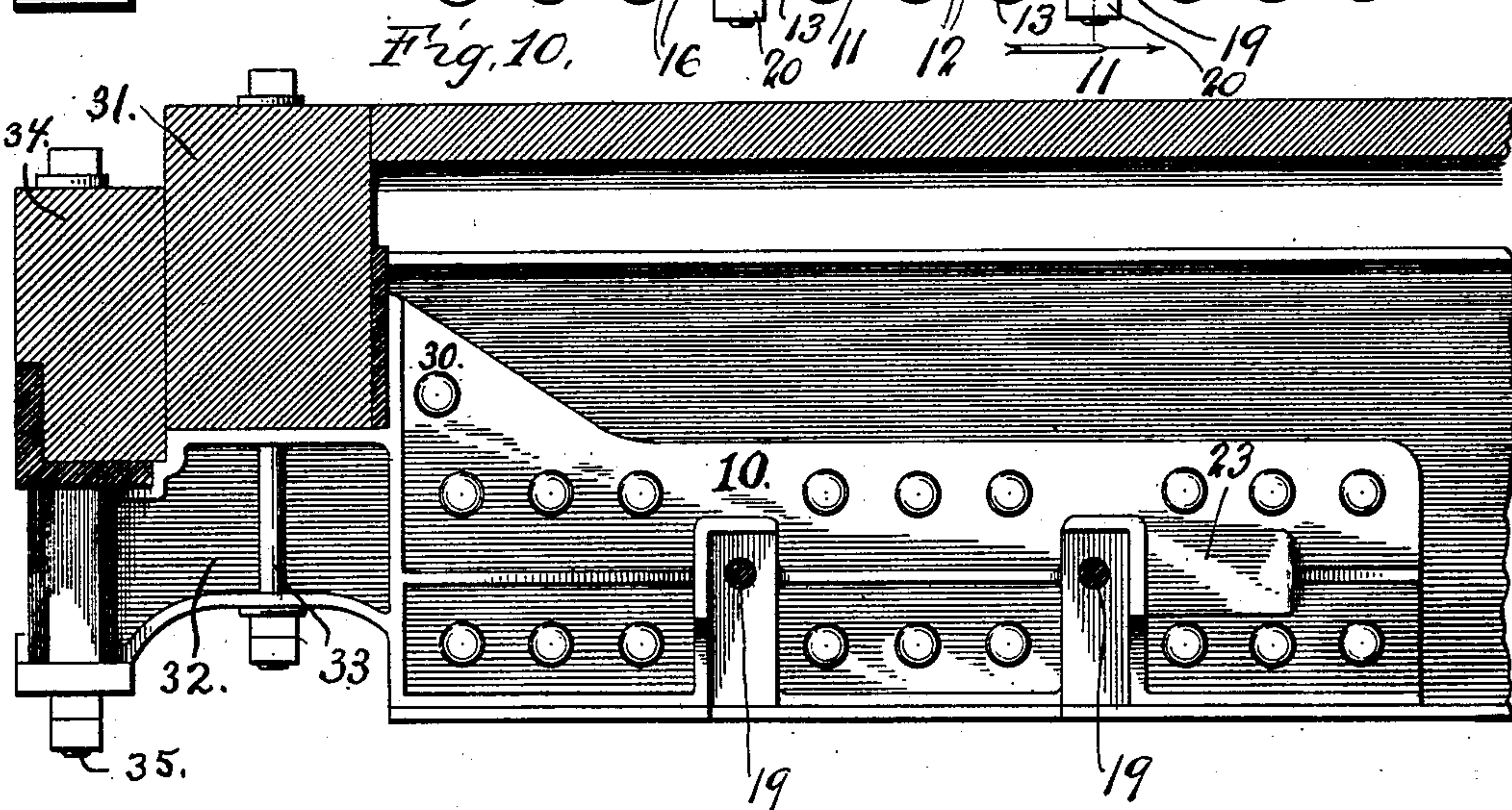
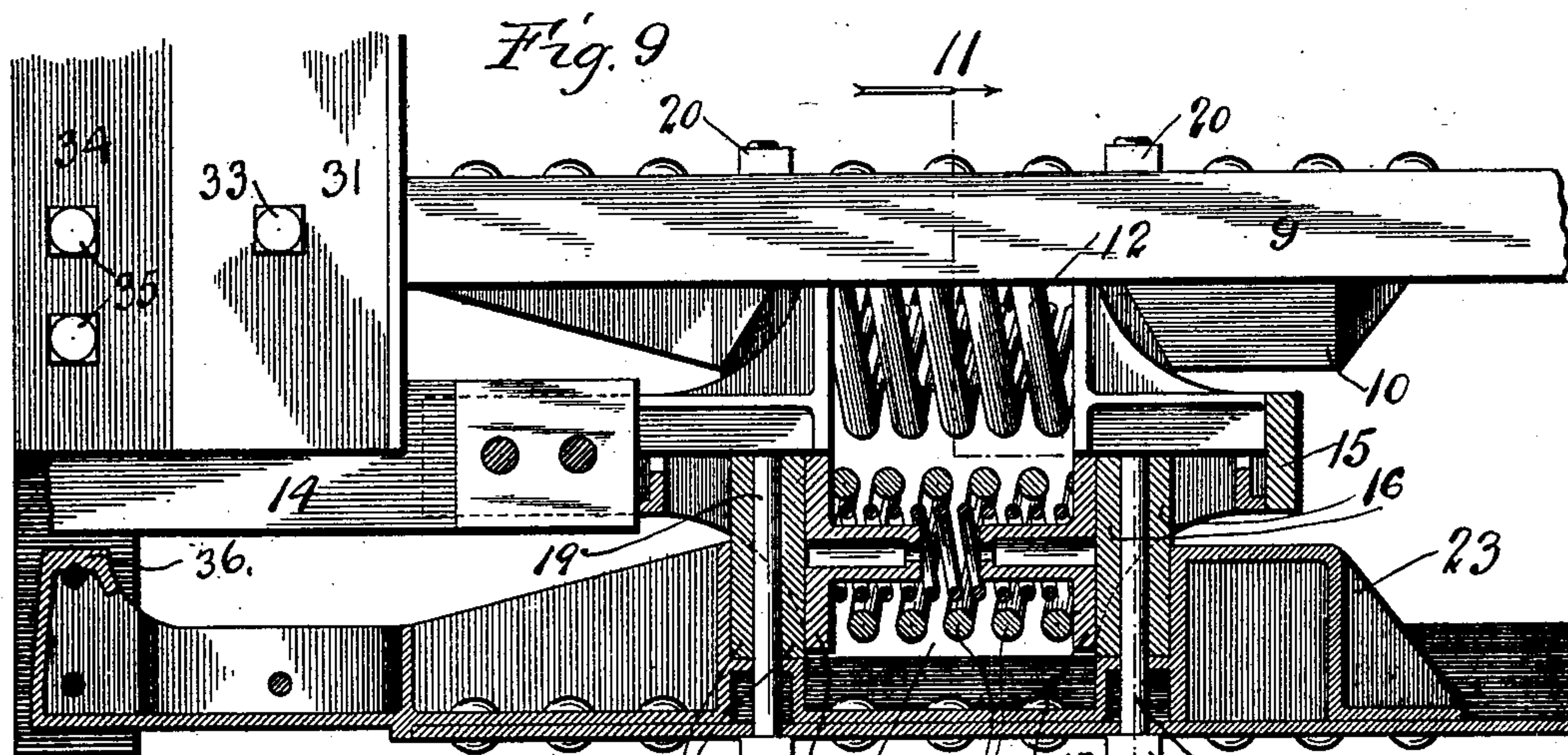


C. F. STREET.  
DRAFT GEAR.

(Application filed Dec. 2, 1901.)

(No Model.)

3 Sheets—Sheet 3.



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# UNITED STATES PATENT OFFICE.

CLEMENT F. STREET, OF DAYTON, OHIO, ASSIGNOR TO THE DAYTON MALLEABLE IRON COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO.

## DRAFT-GEAR.

SPECIFICATION forming part of Letters Patent No. 714,058, dated November 18, 1902.

Application filed December 2, 1901. Serial No. 84,475. (No model.)

*To all whom it may concern:*

Be it known that I, CLEMENT F. STREET, a citizen of the United States, residing in the city of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Draft-Gear, of which the following, taken in connection with the accompanying drawings, is a specification.

One object of my present invention is the provision of an improved method of securing draft-rigging stop-bars.

Another object is the provision of improved sill-plates having formed integral therewith pockets to receive springs, projections extending under and forming a tie with the end sill, and guides for controlling the lateral movement of the coupler-yoke.

The above as well as other objects as may hereinafter appear I attain by means of a construction which I have illustrated in preferred form in the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a car-frame having wooden sills with my present invention applied thereto, part of the view being in section. Fig. 2 is a vertical section showing the construction of my improvement. Fig. 3 is a transverse section of the same, taken on the lines 3-3 of Fig. 2. Fig. 4 shows my improved form of sill-plate in side elevation. Fig. 5 is an inverted plan view of the same. Fig. 6 shows my present improvement applied to a car employing pressed-steel center sills or other equivalent metal construction. Fig. 7 is a vertical section through the stop-bars, and Fig. 8 is a part-sectional view taken on the planes indicated by the lines 8-8 of Fig. 6. Fig. 9 shows my present invention applied to a car having rolled-steel center sills and wood end sills. Fig. 10 is a side view of the sill-plate and parts to which it is attached. Fig. 11 is a transverse section taken on the line 11-11 of Fig. 9. Fig. 12 shows a sill-plate similar to that shown in Figs. 4 and 5, but with the coupler-yoke guide formed thereon at the middle instead of the inner end.

My invention can be applied to cars constructed with under frames entirely of wood, entirely of steel, or a combination of wood and steel. When steel center sills and wood

end sills are employed, my invention contemplates the provision of a form of sill-plate which provides a bond between the center and end sills, said plate being provided with a projection extending under the end sills and attached thereto and also with stiffening-flanges.

Referring now more particularly to Figs. 1 to 5, it will be seen that upon the inside of the center sills 9, which form a part of a car-frame, I arrange a sill-plate 10, constructed with a spring-pocket 11, inclosing the springs 12, which are held between followers 13, having extensions 13<sup>a</sup> and a cross strengthening-web 13<sup>b</sup>, said extensions bearing at their opposite ends upon the coupler 14 and the coupler-yoke 15, respectively. Passing between said extensions 13<sup>a</sup> are hollow or tubular stop-bars 16, having bearings or sockets, as at 17, within the sill-plates 10, the latter being provided with projecting brackets 18 to afford additional support for the stop-bars, whereby is eliminated any bending strain upon the stop-bars and also any shearing strain upon the bolts which hold the same in place. Passing through the stop-bars and carrying the same are the stop-bar bolts 19, the latter being arranged to pass entirely through the sills and provided on the outer ends with nuts, keys, or heads 20, with the purpose of tying the two sills together, thereby counteracting any tendency thereof to spread. It will be noted that there is a liberal allowance of space in a horizontal direction between the rear of the follower 13 and the web 13<sup>b</sup> to provide ample allowance for movement of the followers over the stop-bars caused by the travel of the coupler and coupler-yoke, which movement is limited by the contact of the studs or projections 13<sup>c</sup>. The sill-plates are fastened to the sills by bolts 21 and preferably mortised into the sills 9 by flanges 22 in order to make their fastening more secure.

The inner ends of the sill-plates are constructed so that they not only form projecting brackets, which protect the stop-bars against any bending strain, but are also provided at 23 with guides for limiting the lateral movement of the coupler-yoke 15, as clearly shown in Figs. 1 and 9.

The method of applying my present im-



provements to a construction employing pressed-steel or other metal center sills is clearly shown in Figs. 6, 7, and 8, and to these figures I have in general applied the same reference-numerals as have been used by me in describing my invention as applied in constructions shown in Figs. 1 to 5, inclusive. In connection with the steel-sill construction these sill-plates are of course secured to the sill by a plurality of rivets or bolts 24 and are preferably arranged to extend under the sills by the flange 25. (Shown in Fig. 8.)

The method of applying my present improvement to a construction employing steel or other metal center sills and wood end sills is clearly shown in Figs. 9, 10, and 11, and in these figures also I have applied to corresponding parts the same reference-numerals as have been used by me in describing my invention as applied to the constructions shown in Figs. 1 to 8, inclusive.

Referring to Fig. 10, it will be clearly seen that the sill-plates 10 are projected upwardly at 30, forming a bracket or bearing against the end sills 31, which also form part of a car-frame, and other projections 32, extending outwardly from the main portion of the sill-plate 10, the end sills and projections 32 being securely held together by means of bolts 33. The buffer-blocks 34 on the outside of the end sills are also provided with supporting projections or saddles by continuation of the projections 32 underneath the buffer-block, and here again bolts 35 are employed to bind the buffer-blocks to the sill-plate projections. The forwardly-extending projections of the sill-plates are formed with guides or bearings 36 (see Fig. 9) to limit the lateral movement of the shank of the coupler, lateral movement of the coupler-yoke 15 being limited by the guides 23.

Where my present improvements are applied to a car employing rolled channel center sills with the flanges thereof directed inwardly, as indicated in Fig. 11, the said plates 10 are preferably constructed to rest upon the upper side of the lower flanges of the center sills, as shown at 37, whereby more secure support for the sill-plates may be obtained.

The drawings herein show an embodiment of my improved construction at both ends of the gear; but it is obvious that, if desired, this construction can be used at one end only, the other end being made in any other suitable manner which may be preferred.

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

1. A draft-gear comprising the combination of a draw-bar, a draw-bar spring having transversely-apertured followers, a pair of stop-bars extending through the followers, and a pair of sill-plates each formed with a socket at each end for support of the stop-bars, substantially as described.

2. In a draft-gear the combination of a coupler, a spring, a transversely-apertured

follower, a stop-bar extending through the followers, sill-plates, and a bolt passing through said stop-bar and sill-plates, substantially as described.

3. In a draft-gear the combination with a coupler, coupler-yoke, spring, a transversely-apertured follower, a stop-bar extending through the follower, and sill-plates, of a bolt passing through said stop-bar and sill-plates, substantially as described.

4. The combination with two adjacent cars, a draw-bar, a draw-bar spring, followers and stop-bars; of sill-plates attached to said sills, and provided with recesses for the ends of said stop-bars, and bolts passing through the sills and stop-bars to keep the sills from spreading apart, substantially as described.

5. A draft-gear sill-plate formed with a pocket having a stop-bar bearing at each end and shelves constructed to form supports for stop-bars and relieve the same of bending strains, substantially as described.

6. A draft-gear sill-plate formed with a spring-pocket, stop-bar bearings at opposite ends of said pocket, and ribbed brackets constructed to form supports for the stop-bars, and relieve the same of bending strains, substantially as described.

7. A draft-gear sill-plate having a forwardly-extending projection adapted to engage an end sill, and formed with a spring-pocket and stop-bar bearings at opposite ends of said pocket, and having projections constructed to form supports for the stop-bars and relieve the same of bending strain, substantially as described.

8. The combination with a car-frame of a draft-gear provided with a coupler, one or more coupler-springs, and sill-plates, having integrally-formed projections extending under and brackets bearing against the end sill of the car-frame, pockets to receive said springs, and stop-bars having bearings within said pockets, substantially as described.

9. The combination with two center sills, of a draft-gear having a coupler, a spring, spring-plates, stop-bars, and sill-plates forming sockets for said stop-bars, said sill-plates being provided with outwardly-extending projections under the end sill and provided with guides to limit the lateral movement of the coupler-shank, substantially as described.

10. The combination with a car-frame of a draft-gear provided with a coupler, one or more coupler-springs and sill-plates, having integrally-formed projections extending under and brackets against the end sill of the car-frame, pockets to receive said springs, stop-bars having bearings within said pockets, a coupler-yoke, and a coupler-yoke guide, substantially as described.

11. The combination with the draw-bar and yoke, of a pair of parallel springs, apertured followers for the springs, stop-bars passing through the apertures of the followers, and sill-plates having recesses forming socket-abutments for the ends of the stop-bars, by



which the thrusts on the stop-bars are taken directly on said abutments and the stop-bars are relieved of bending strain.

12. The combination with the draw-bar and yoke, of a pair of springs arranged side by side and parallel with the sills, apertured followers for the springs, stop-bars passing through the followers and a sill-plate having pockets for the springs and end abutments

for the stop-bars in line with the thrust of the springs, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CLEMENT F. STREET.

In presence of—

J. SPRIGG MCMAHON,

R. B. RETTER.