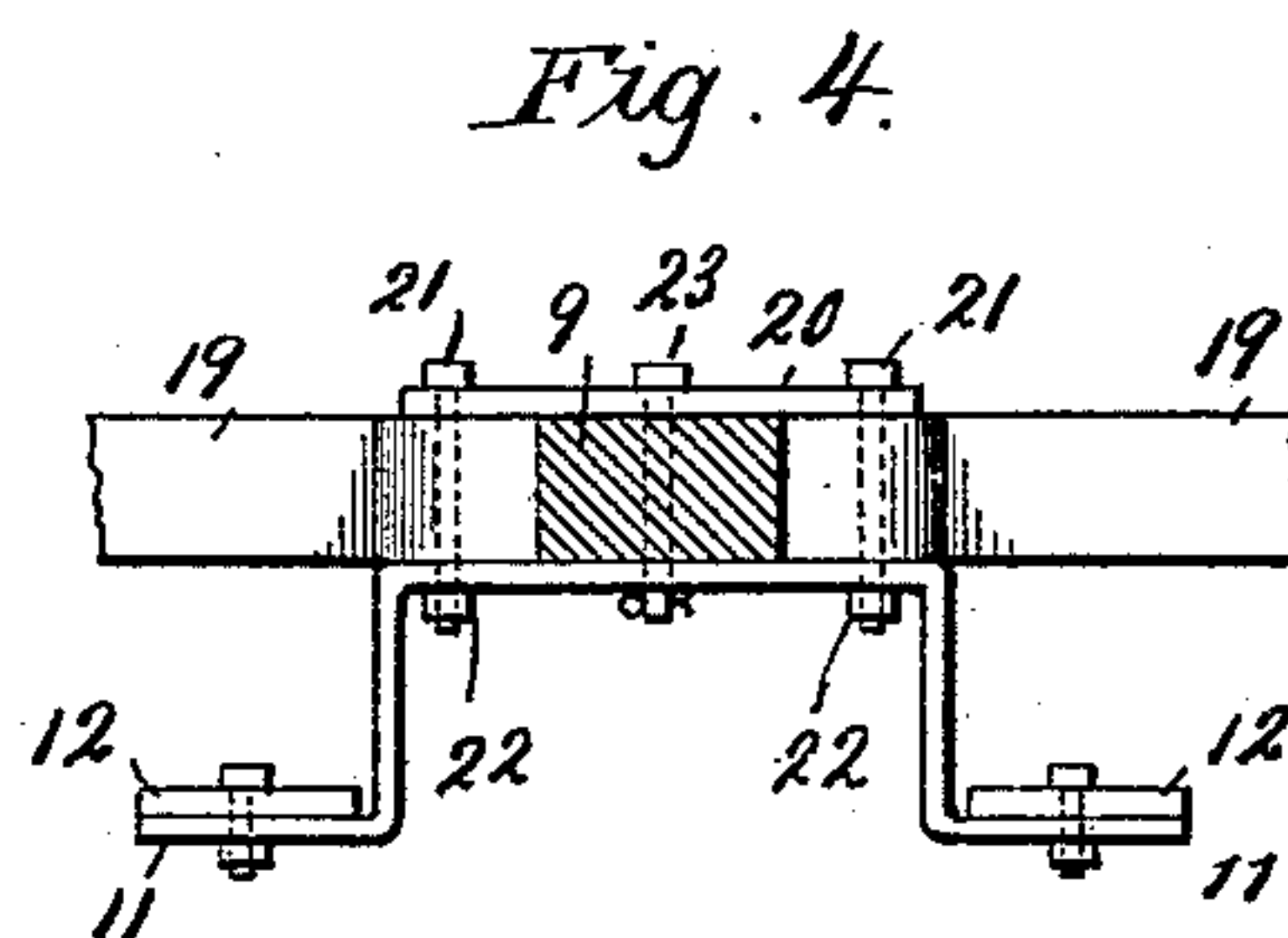
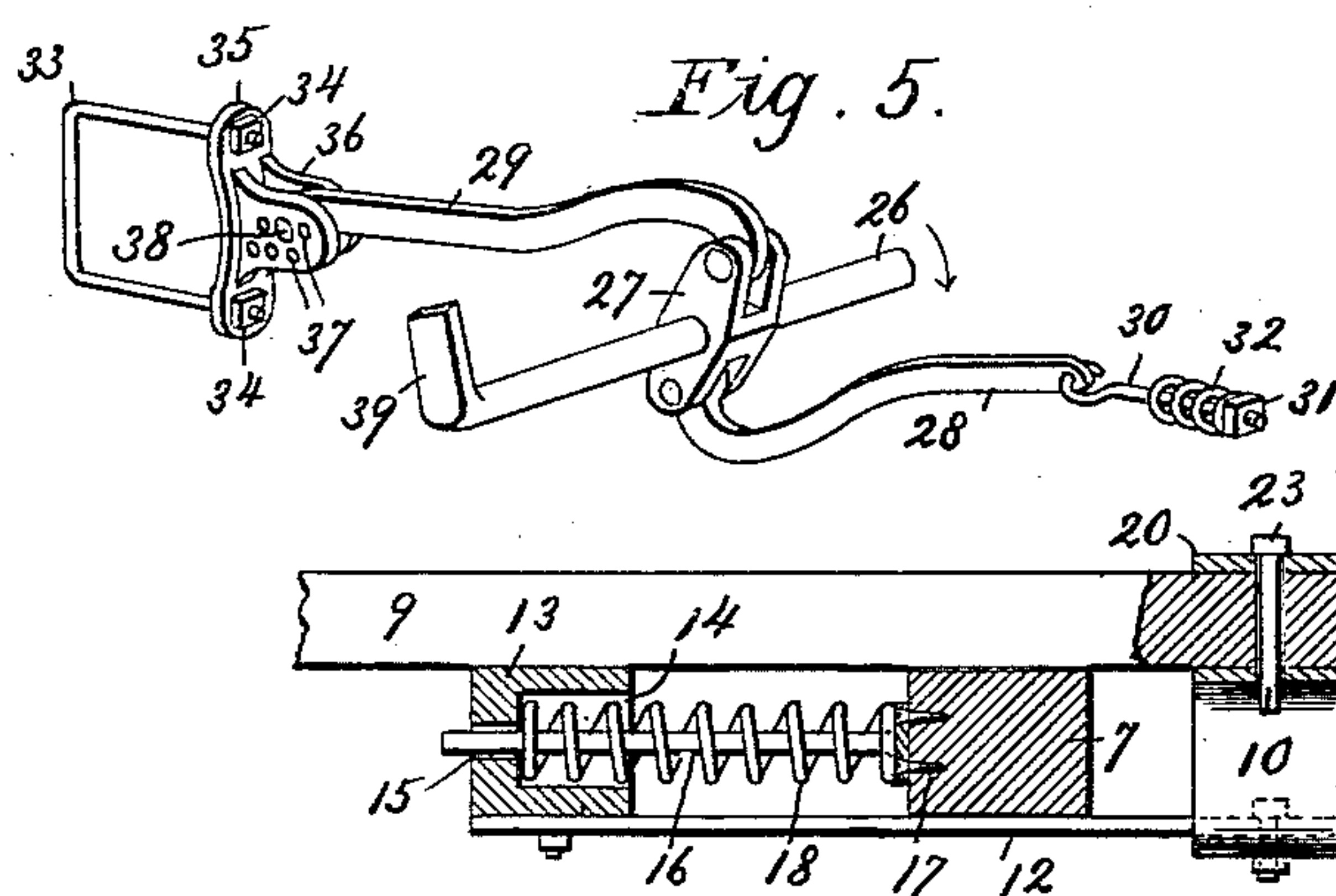
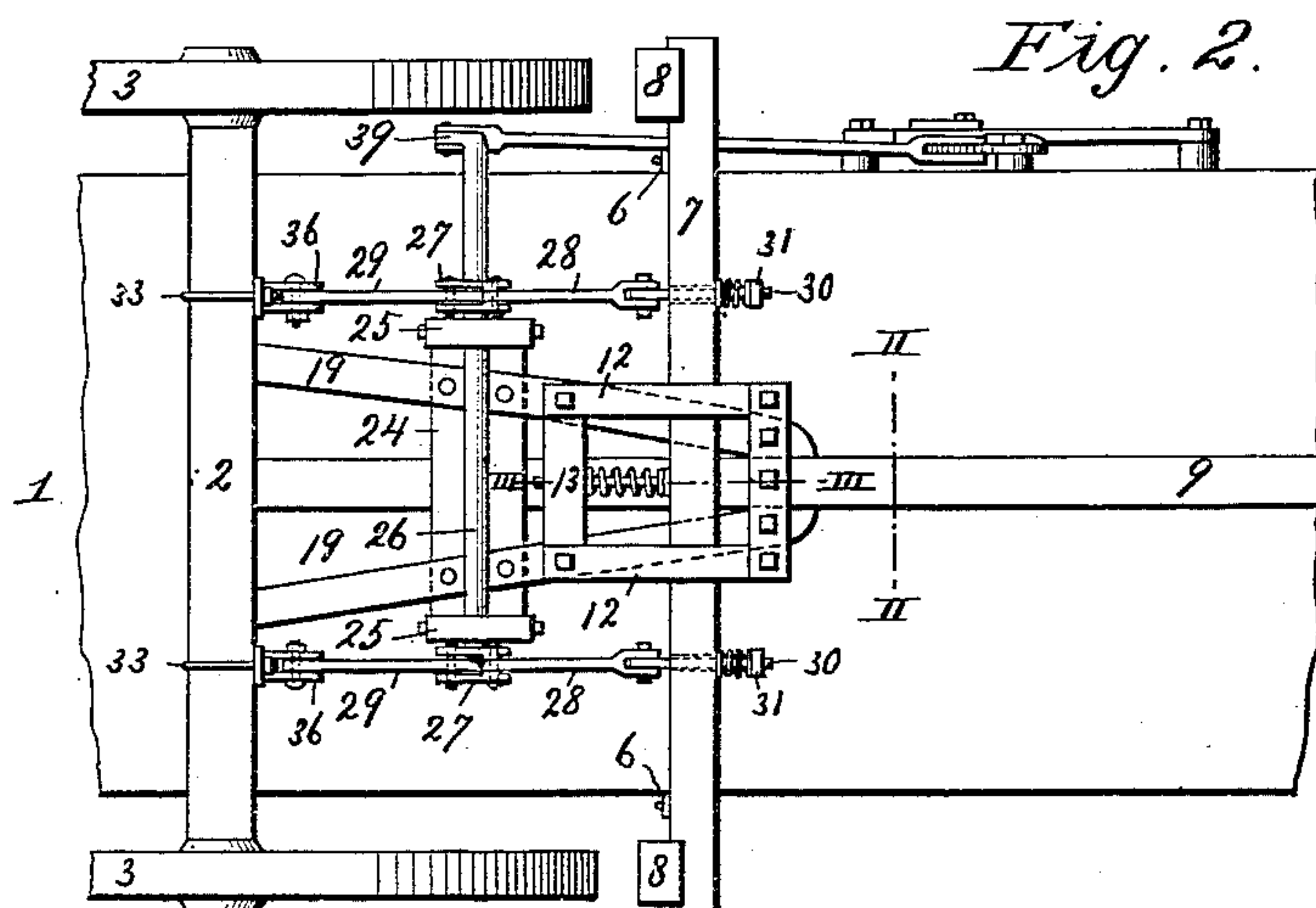
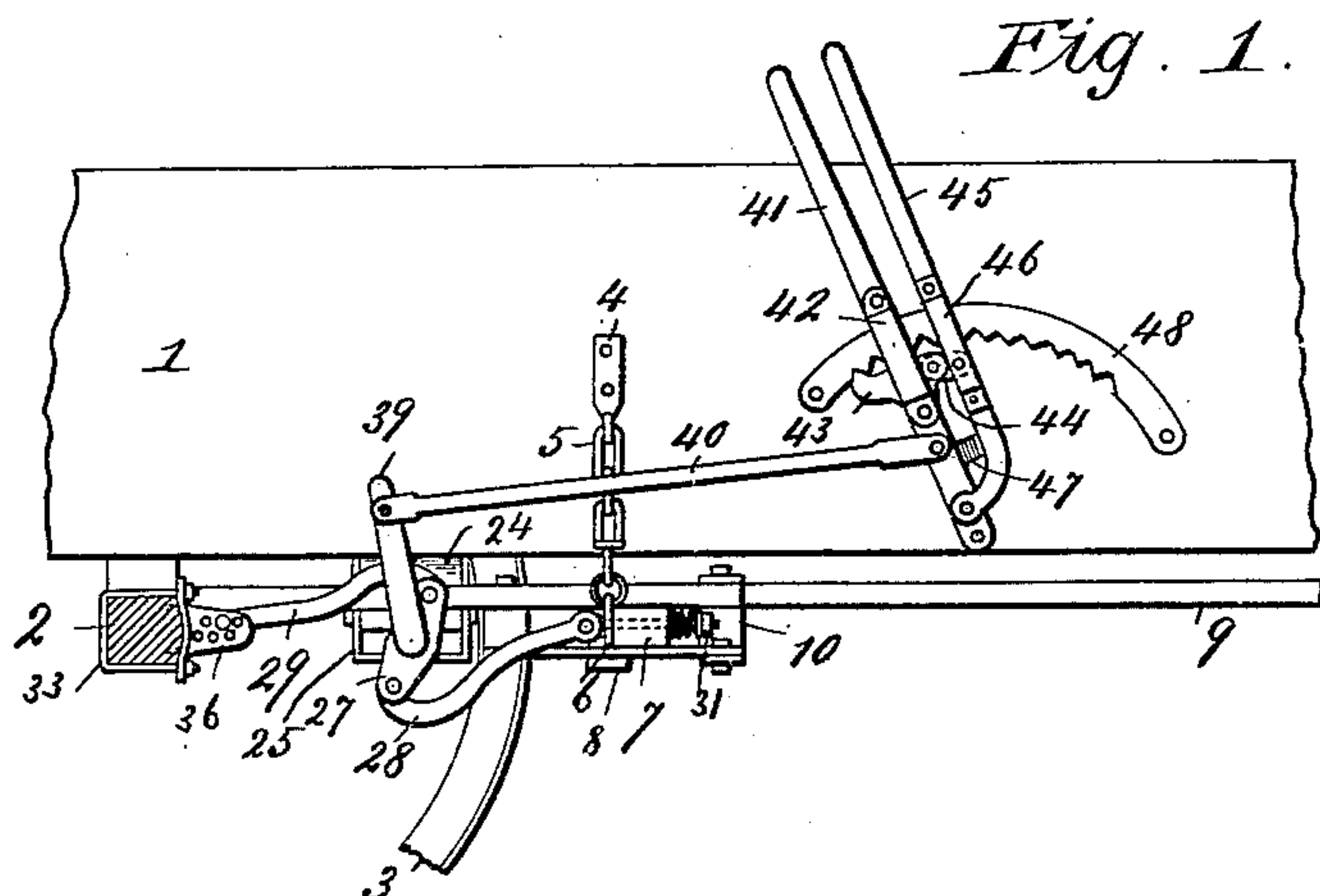


Patented Dec. 12, 1899.

(Application filed Apr. 17, 1899.)

(No Model.)



Witnesses:
H. C. Rodgers.
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Inventor:
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UNITED STATES PATENT OFFICE.

LAURENS S. WHEELER, OF TYRO, KANSAS.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 638,783, dated December 12, 1899.

Application filed April 17, 1899. Serial No. 713,420. (No model.)

To all whom it may concern:

Be it known that I, LAURENS S. WHEELER, a citizen of the United States, residing at Tyro, in the county of Montgomery and State of Kansas, have invented new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention relates to vehicle-brakes of that class which are adapted to be applied by hand and in which the brake-beam is supported from and beneath the wagon-body and operated by mechanism attached to the wagon-body, the present invention being designed particularly as an improvement over the wagon-brake on which a patent was issued to me January 5, 1897, No. 574,694. The brake manufactured under said patent has been found defective in that no means is provided to throw the brake-shoes away from the wheels should a flexible connection be substituted for the rigid connection between the crank of the rolling shaft and the lever. Another defect in the old brake is that it is necessary to weaken the rear axle by perforating it to receive the adjusting-bolts connected by the rolling shaft and links to the bolts carried by the brake-beam. Another defect exists in that the draft between said axle and beam is not direct, because the links are pivoted to the rolling-shaft arms at the sides of the latter instead of in the plane of their centers.

The primary object of the present invention is to eliminate these defects.

The invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed, and in order that it may be fully understood I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a fragmentary side elevation of a wagon to which my improvements are applied. Fig. 2 is a bottom plan of the same. Fig. 3 is an enlarged central section taken on the dotted line III III. Fig. 4 is a cross-section taken on the line II II of Fig. 2. Fig. 5 is an enlarged detailed perspective showing the connection between the axle and brake-beam and the rolling shaft for adjusting the brake-beam.

In the said drawings, 1 designates the body

of the wagon, 2 the rear axle, and 3 the rear wheels. Secured to each side of the wagon-body is a plate 4, and depending from each of said plates is a chain 5, connected at its lower end to the plate 6, which plates are secured to the rear side of the brake-beam 7, near its ends, and carried by said brake-beam, as usual, are the brake-shoes 8.

9 designates the usual coupling or reach bar, which centrally underlies the wagon-body, and 10 a transverse inverted-U-shaped bracket which forms a support for said coupling-bar, said bracket being provided at its lower ends with outwardly-projecting arms 11, upon which are bolted the front ends of the parallel bars 12, which support the brake-beam and are bolted at their rear ends to the under side of the transverse block 13, said block being provided with a cavity 14 in its front side and the central perforation 15, registering with said cavity.

16 designates a guide-rod which is secured by screws 17 or in any suitable manner to the brake-beam and projects rearwardly from and through the perforation 15, a spiral expansive spring 18 surrounding said rod and projecting at its rear end into the cavity 14, said spring being adapted to normally hold the brake-beam so that its shoes will not be in contact with the wagon-wheels 3. Said spring also obviates rattling and reduces wear of the mechanism by keeping the various parts tight.

19 designates the hounds, which project forwardly from the axle in the customary manner and snugly embrace at their front ends the coupling-bar, slightly forward of its point of intersection with the bracket 10, the latter also serving as a support for said hounds. The latter are overlapped by the projecting ends of the plate 20 upon the coupling-bar and secured in place by bolts 21, extending through said plate, said hounds, and said bracket and engaged by the taps 22 at their lower ends. The connection between the coupling-bar and hounds is established by means of the customary coupling-pin 23, which may be held in place by gravity or by other means.

24 designates a transverse bed-plate arranged just rearward of the block 13 at the upper side of the coupling-bar and hounds

and secured to the latter, and 25 guide-plates depending therefrom, said guide-plates supporting the rolling shaft 26, extending transversely of the wagon-body and provided adjacent to said guide-plates with bifurcated arms 27, the lower ends of said arms being pivotally connected to forwardly-extending links 28 and their upper ends to rearwardly-extending links 29, said links being arranged in the bifurcations of said arms and in the same vertical plane, so that the draft or strain from the shaft will be transmitted in direct lines to the axle and brake-beam, as presently appears.

15 The forward links 28 are pivotally connected to the eyebolts 30, extending slidingly through the brake-beam and engaged at their front ends by taps 31, spiral expansive springs 32 upon said bolts being interposed between 20 said taps and the brake-beam in order that the bolts may have a limited independent movement of the beam to render the application of the brake more positive and reliable.

33 designates a pair of stirrups which embrace the axle 2, and secured upon the front ends of the stirrups, by means of taps 34, are the brackets 35, provided with forwardly-projecting parallel ears 36, each having a plurality of holes 37, arranged in staggered relation 30 to each other, and 38 designates a bolt extending through the registering sets of said openings and through the interposed links 29. By engaging said bolts with different sets of said openings it is obvious that wear 35 of the parts may be taken up or compensated for and also that the distance which the shaft 26 must roll to properly apply the brakes may be regulated.

One end of the rolling shaft is extended and 40 carries a crank 39, projecting upward at the corresponding side of the wagon-body, and connected to said crank is a forwardly-extending rod 40, having a pivotal connection with the lever 41, fulcrumed upon the wagon-body, said lever extending upward to a point 45 within convenient reach of the driver.

Rigidly carried by the lever 41 is a plate 42, between which plate and said lever a pawl 43 is pivotally mounted, said pawl having a 50 forwardly-extending lug pivotally connected by the link 44 with the lever 45 through the medium of the plate 46, similar to plate 42, the lever 45 being fulcrumed on the lever 41 and given a tendency away from said lever by means of an expansive spiral spring 47, this spring acting through the medium of the lever 45 to throw the pawl 43 into engagement with the teeth of the curved rack-bar 48, secured to the side of the wagon-body.

60 The construction just described and covered by the numerals 40 to 48 is similar in all respects to the corresponding parts of my aforesaid patent, to which reference is directed for a full understanding of their operation. It is apparent that the forward 65 movement or swing of the lever 41 through the medium of the rod 40 causes the rolling

shaft to simultaneously rotate in the direction indicated by the arrow, Fig. 5, and slide rearward, because anchored by the links 29 to the brackets 35, this operation of the shaft 70 through the medium of the links 28 throwing the brake-beam rearward until the shoes engage the peripheries of the wheels. In this operation it is obvious the spring 18 is compressed and that the latter as soon as pawl 43 is tripped from engagement with rack-bar 48 forces the brake-beam forward again and releases the brakes. Because of this action 75 it is obvious that a flexible connection between the crank-arm 39 and lever 41 would serve as well as the rigid connection shown. Consequently the simple tripping of the pawl is sufficient to insure the immediate release of the brake, while in my previous brake it 85 is necessary to pull the lever rearward after the pawl is released before the shoes are reliably disengaged from the wheels.

From the above description it will be apparent that I have accomplished the objects 90 enumerated as desirable in the statement of invention, and it is to be understood that I reserve the right to make such changes in the detailed construction, arrangement, or proportion of the parts as will not be a departure from the spirit and scope or sacrifice 95 any of the advantages of my invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is— 100

1. In a wagon-brake, the wagon-body, the rear axle, the coupling-bar, the hounds, a bracket underlying the coupling-bar and carried by the hounds, bars secured to and projecting rearwardly from said bracket, a block 105 connecting the rear ends of said bars and provided with a perforation, a brake-beam supported upon said bars below the hounds and coupling-bar and forward of said perforated block and provided with brake-shoes, means 110 to move said brake-beam rearward to apply the shoes to the wheels, and a spring interposed between the beam and said block to disengage the shoes from the wheels, substantially as described. 115

2. In a wagon-brake, the wagon-body, the rear axle, the coupling-bar, the hounds, a bracket underlying the coupling-bar and carried by the hounds, bars secured to and projecting rearwardly from said bracket, a block 120 connecting the rear ends of said bars and provided with a perforation, a brake-beam supported upon said bars below the hounds and coupling-bar and forward of said perforated block, and provided with brake-shoes, 125 means to move said brake-beam rearward to apply the shoes to the wheels, a rod secured to the brake-beam and projecting rearward through the perforation of said block, and a spiral expansive spring mounted on said rod 130 and bearing at its opposite ends against the block and the brake-beam, substantially as described.

3. In a wagon-brake, the wagon-body, the

axle, the brake-beam suitably supported, the
rolling shaft suitably supported, and linked
to the brake-beam, stirrups embracing the
axle, brackets clamped upon said stirrups
5 and the axle, and provided with parallel ears
having a plurality of openings staggered with
relation to each other, pivot-bolts extending
through certain of said openings, and links
pivotally connected at their front ends to

the rolling shaft and having their rear ends 10
mounted on said pivot-bolts between said
parallel ears, substantially as described.

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

LAURENS S. WHEELER.

Witnesses:

M. R. REMLEY,

H. C. RODGERS.