

No. 614,280.

Patented Nov. 15, 1898.

N. WESTON.
DRAFT APPLIANCE.
(Application filed Oct. 9, 1897.)

(No Model.)

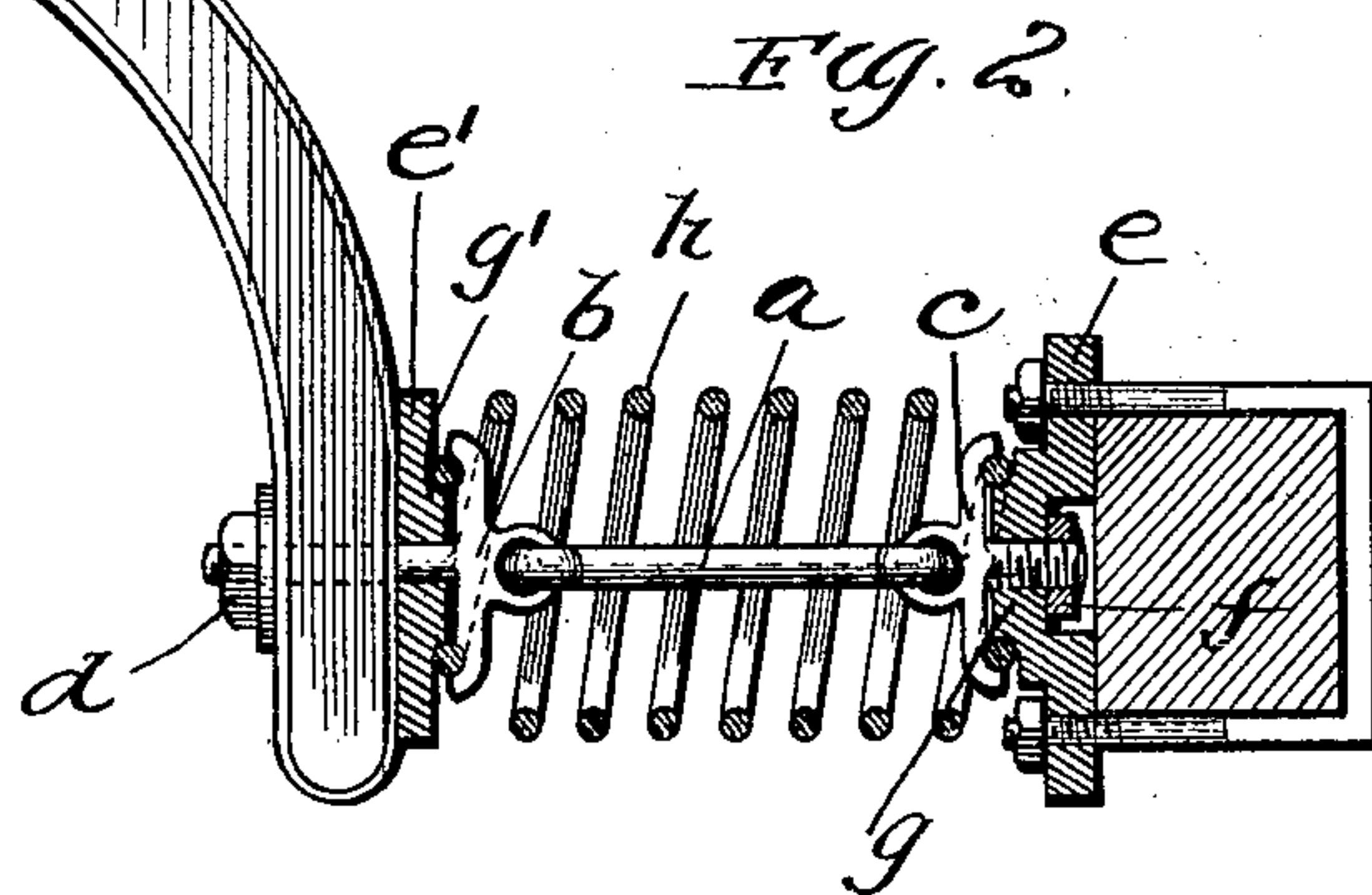
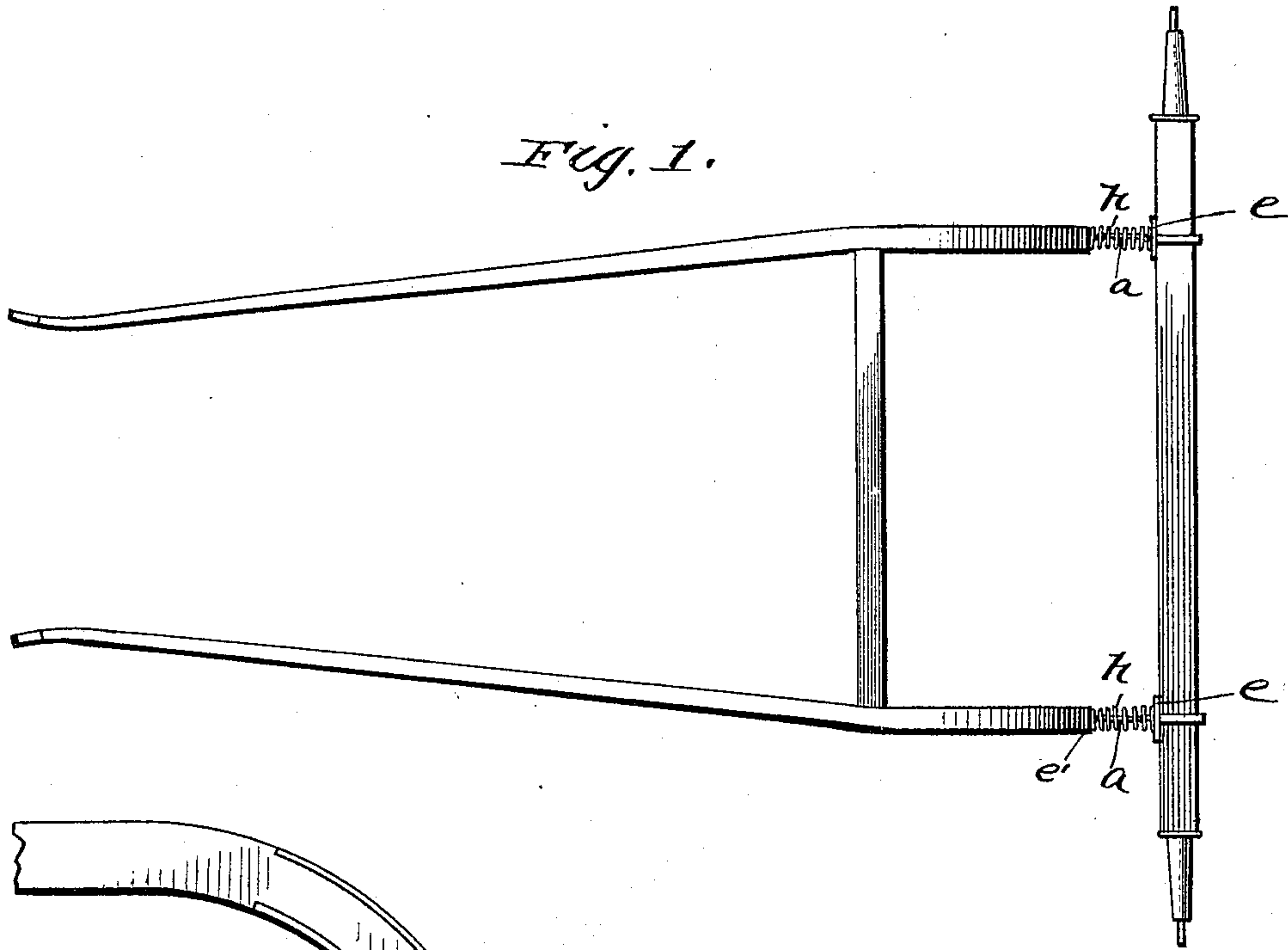
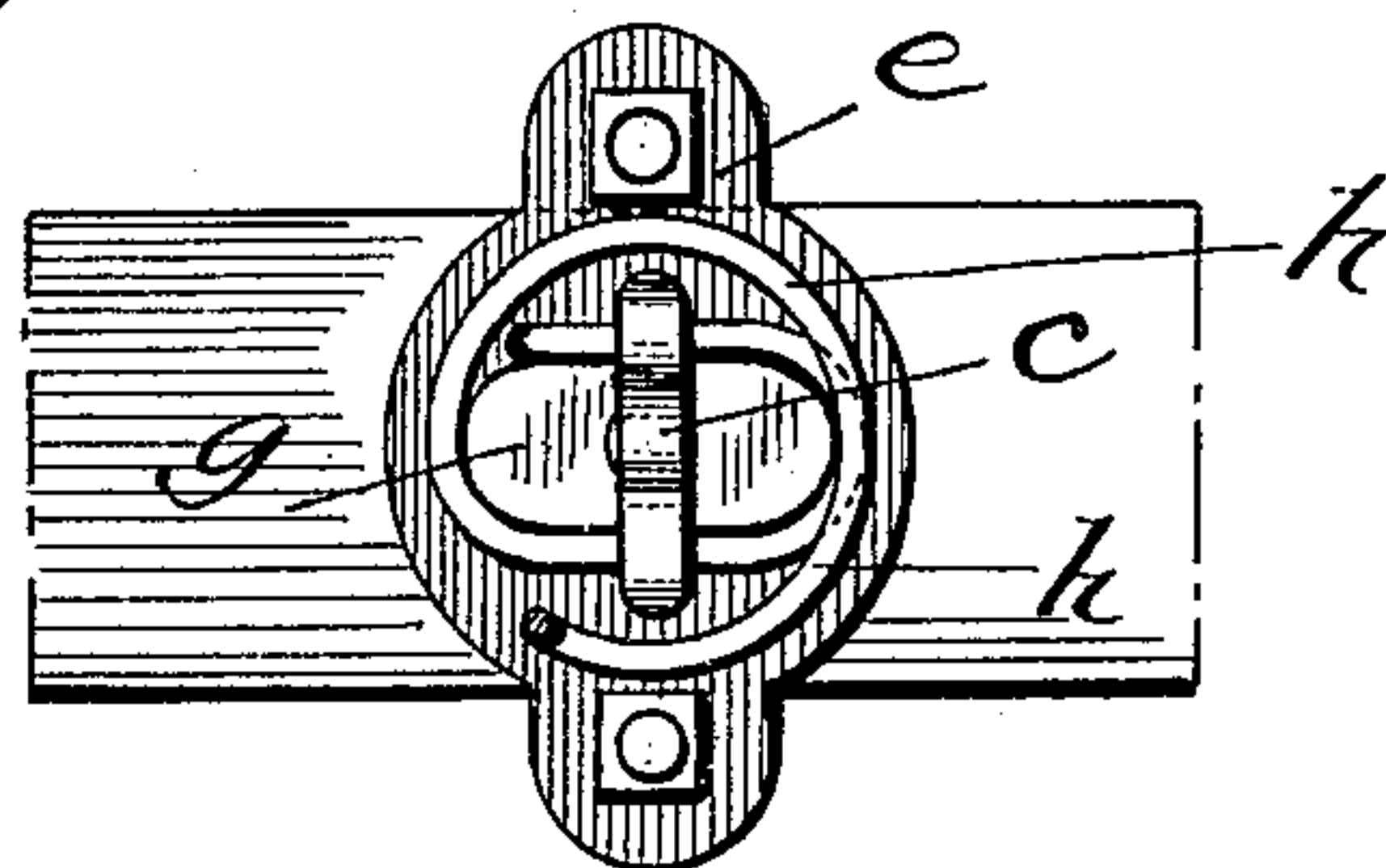


Fig. 3.



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DRAFT APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 614,280, dated November 15, 1898.

Application filed October 9, 1897. Serial No. 654,627. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL WESTON, a citizen of the United States, residing at Redmonds, in the county of Albemarle and State of Virginia, have invented certain new and useful Improvements in Draft Appliances, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention consists of a stiff coil-spring compressed between the thill-iron or other draft device and the axle or other part of the vehicle and having a flexible or pivotal connecting link or chain, preferably inclosed in the spring, to take up the draft strain and 15 keep the spring compressed, whereby the shafts or other draft device may have a yielding vertical movement with respect to the axle or other part of the vehicle and will be practically unyielding sidewise and in the 20 line of draft, the wear and looseness in the connecting link or chain being taken up by the compressed spring, whereby a perfectly noiseless and reliable coupling is obtained.

25 In the drawings, Figure 1 is a plan view of a pair of shafts connected to an axle by means of my improved coupling; Fig. 2, a vertical sectional view of one of the couplings; Fig. 3, a transverse sectional view of the same, the connecting-link being removed. 30

Referring to the drawings by letters, *a* designates a swinging link connected loosely at its respective ends to eyebolts *b* and *c*, the eyebolt *b* being connected to the rear end of the shaft or thill, its threaded shank passing 35 through the shaft and provided with a nut *d*, and the eyebolt *c* having its threaded shank pass through a central hole in the plate *e*, bolted to the front side of the axle, a nut *f* on this eyebolt lying in a recess between the 40 plate and the axle. A compressed coil-spring *h* is interposed between the shaft and the axle and surrounds the connecting-link and eyebolts, the rear coil of the spring being 45 substantially elliptical in shape and fitted over a similarly-shaped boss *g* on the plate *e*, and the front coil of the spring being similarly shaped and fitted over a boss *g'*, formed on a plate *e'*, clamped to the shaft by the 50 bolt *b*. The heads of the eyebolts are elongated, so as to extend over and engage the

respective end coils of the spring and clamp them to their respective plates. The end coils are elongated—that is, made approximately elliptical-shaped—in order that the 55 eyebolts may be inserted through the coils and turned quarter around to engage over said end coils, as shown.

Before the parts are attached to the vehicle the spring is compressed between the 60 plates *e* and *e'* and the nut *f* is riveted on its shank.

The advantages of this simple device will be obvious. The expansive tendency of the spring prevents noise at the joints in the connecting device and automatically takes up 65 the wear, rendering the device practically noiseless. The shafts are free to swing vertically; but owing to the unstretchable connecting-link there will be no endwise or sidewise yielding or sidewise swinging independently of the axle. In pulling the strain will be taken up by the connecting-link, and in 70 backing the strain will practically be all taken up by the spring, it being intended that the spring shall be so fully compressed that its coils will almost touch each other, so that if the compressing strain be severe enough the coils will come together and form 75 practically a solid abutment. 80

It is obvious that any other suitable form of flexible or swinging connection between the eyebolts may be used, the main function of that connection being to take up the draft strain and keep the spring compressed. It 85 will be observed that the shafts will be connected positively to the axle, so that the axle will follow the shafts the instant a pull is exerted upon them. It will also be observed that even should a chain or other loose flexible device be employed in view of the connecting-link there will be no appreciable side- 90 wise swinging of the shafts independently of the axle in turning curves, as the springs will be so compressed as to bring their coils very close together in order that when there is a 95 back pressure on one or the other of the shafts the coils of that spring will move but slightly before they come together to form a solid abutment. 100

It is obvious that this invention is applicable to connect draft devices other than

thills or shafts to a vehicle. For instance, it may be used to connect poles to the vehicle, neck-yokes to poles, singletrees to plows, &c.

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

1. In a thill-coupling the combination of the shaft and axle, a swinging connecting device therebetween, and a compressed coil-spring between the shaft and the axle and keeping said connecting device drawn taut.

2. The combination of an axle and a shaft, a swinging device connecting the same, and a compressed coil-spring interposed between the shaft and the axle and surrounding said connection.

3. The combination of an axle, a shaft or thill, an eyebolt connected to the shaft or thill, an eyebolt connected to the axle, a swinging connecting device connecting the eyebolts, and a compressed coil-spring surrounding the eyebolts and connecting device and keeping the connecting device taut.

4. The combination of a shaft or thill, an axle, a plate bolted to the axle, an eyebolt secured to this plate, another plate and an eye-

bolt clamping the same to the thill or shaft, the heads of said eyebolts being elongated, and a compressed coil-spring having its end coils bearing on said plates and being engaged by the elongated heads of the eyebolts, and a device connecting the eyebolts.

5. In combination with a vehicle, of a draft device, a swinging connecting device therebetween, and a compressed coil-spring between the vehicle and the draft device and keeping said connecting device drawn taut, as and for the purposes set forth.

6. In combination with a vehicle, of a draft device, a swinging connection connecting the draft device to the vehicle, said swinging connection being non-extensible, and a compressed coil-spring between the vehicle and the draft device and keeping said swinging connection taut.

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

NATHANIEL WESTON.

Witnesses:

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