

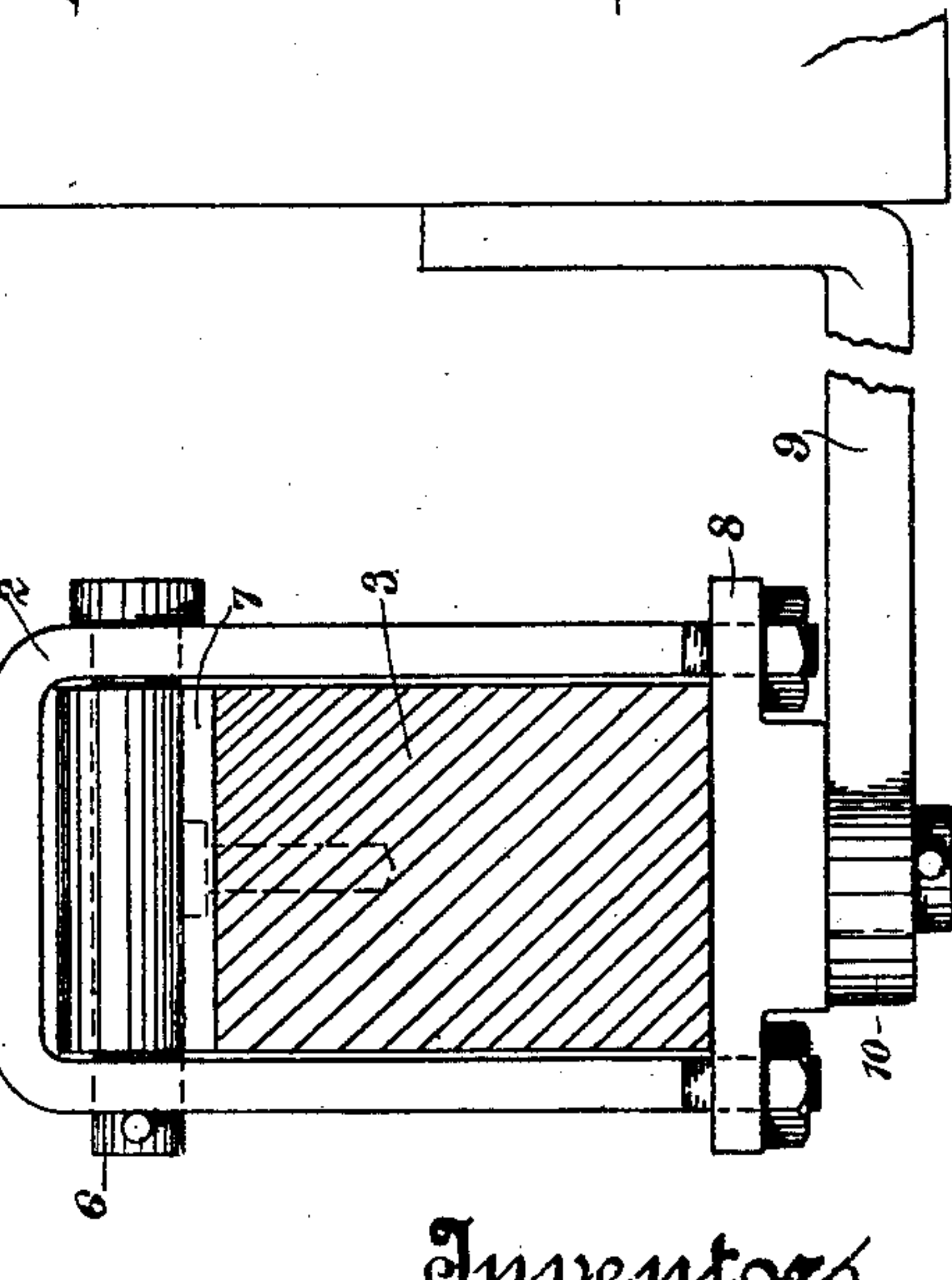
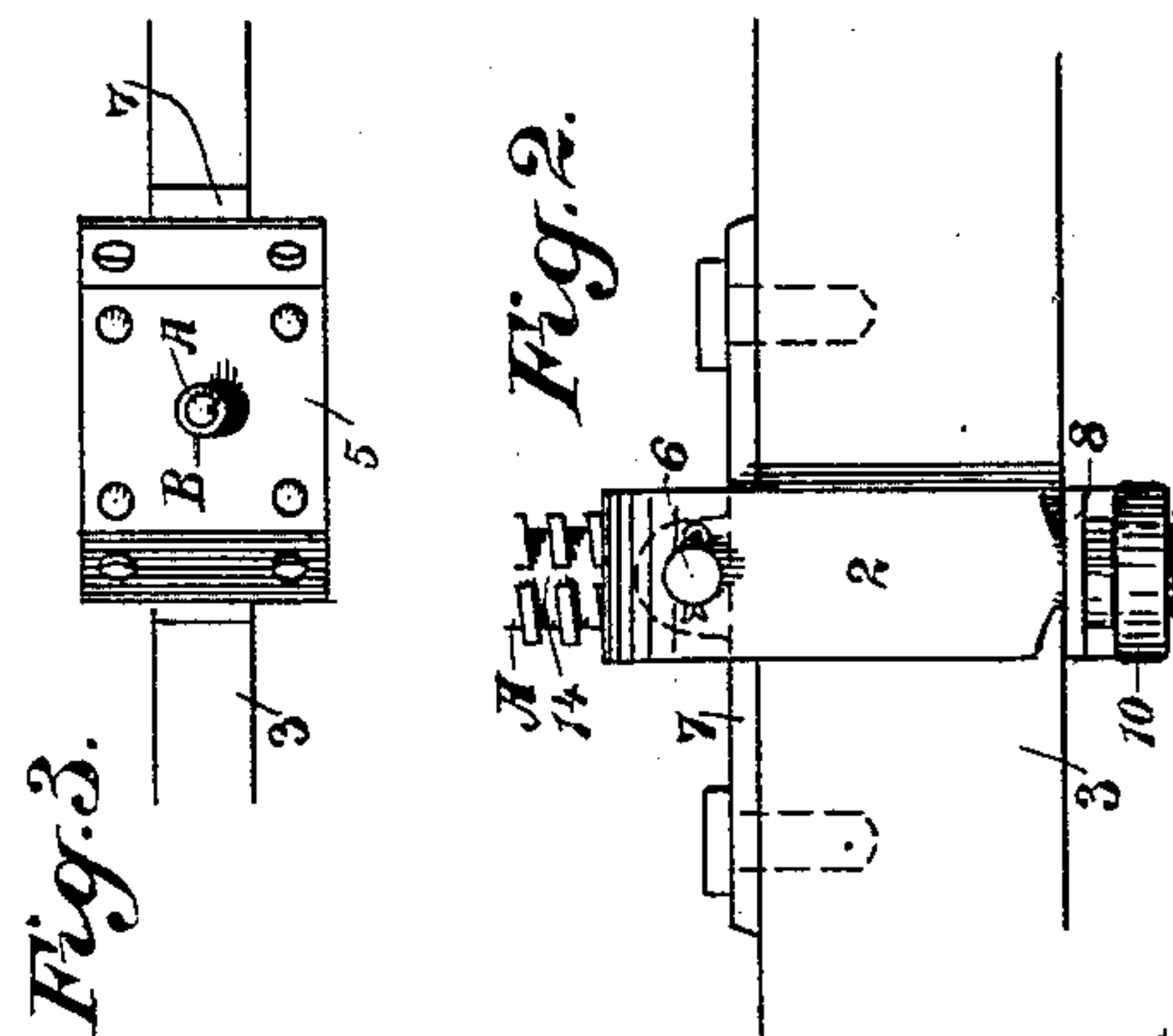
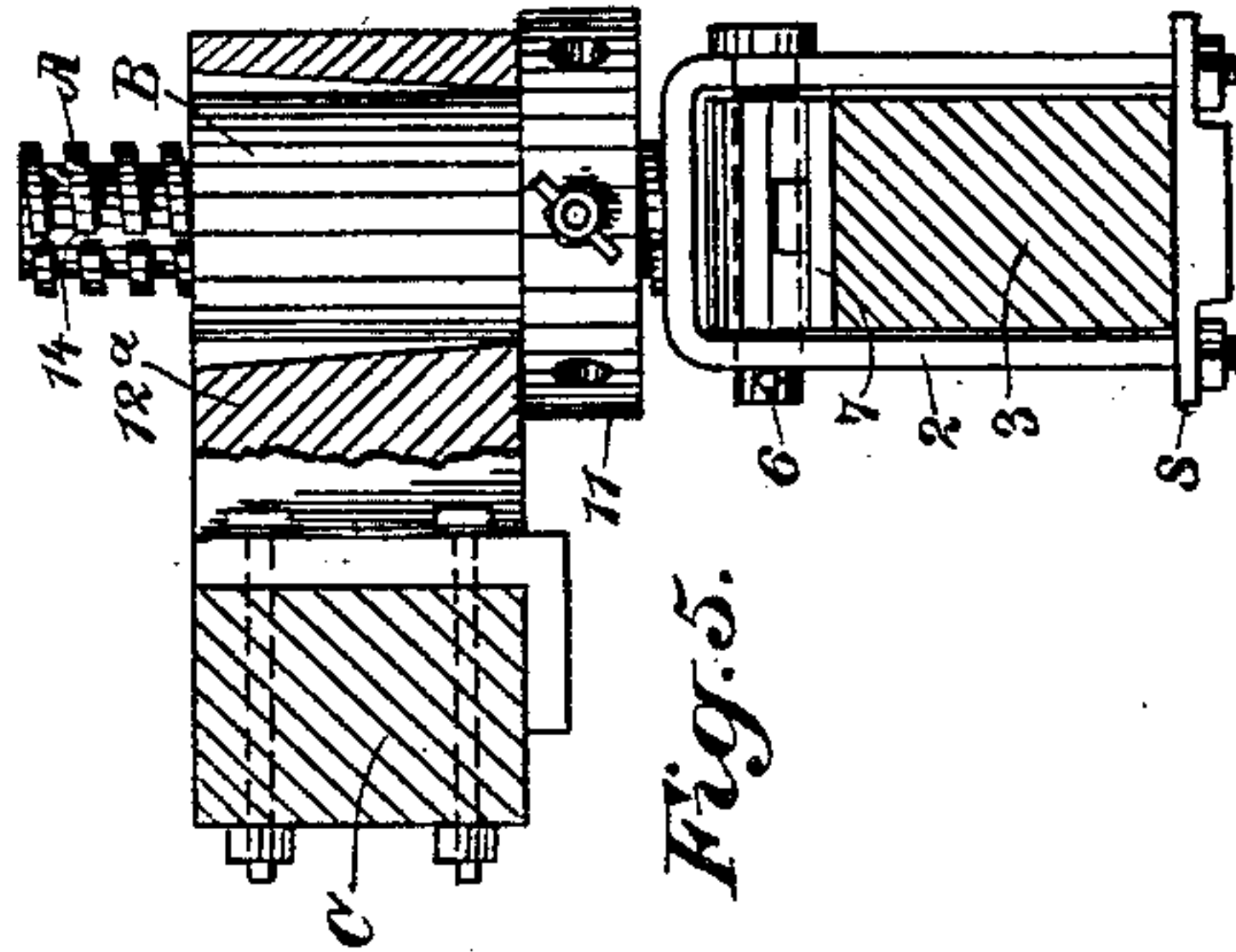
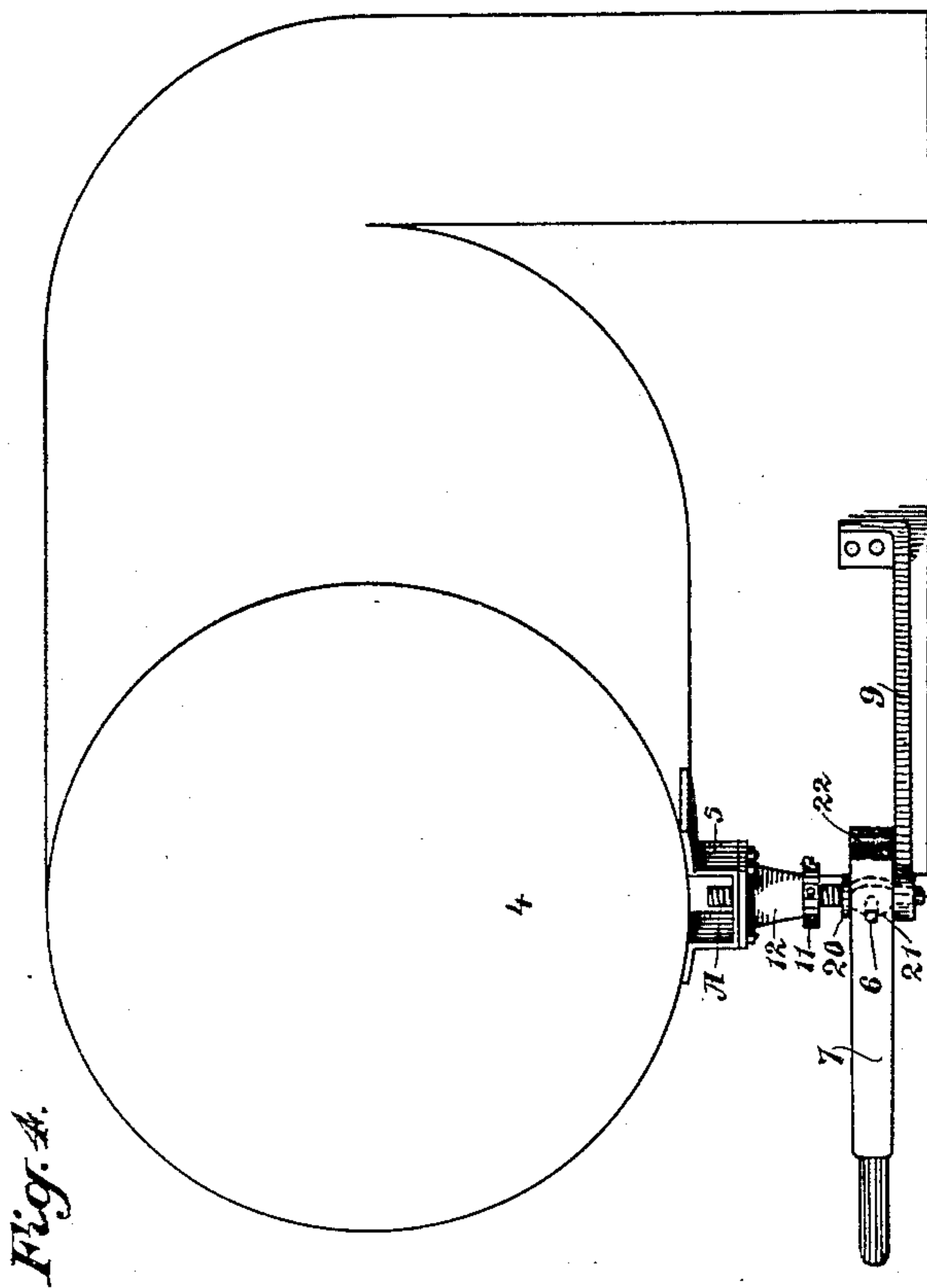
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Patented July 2, 1901.

P. N. GRISEZ & J. S. WALCH.
BOILER LEVELING DEVICE.

(Application filed Apr. 4, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

PETER NICHOLAS GRISEZ AND JACOB SLAINE WALCH, OF MONTAGUE,
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BOILER-LEVELING DEVICE.

SPECIFICATION forming part of Letters Patent No. 677,508, dated July 2, 1901.

Application filed April 4, 1901. Serial No. 54,269. (No model.)

To all whom it may concern:

Be it known that we, PETER NICHOLAS GRISEZ and JACOB SLAINE WALCH, citizens of the United States, residing at Montague, county of Siskiyou, State of California, have invented an Improvement in Portable Boiler and Separator Leveling Devices; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to a device which is designed for the leveling of portable boilers and of threshing-machines or separators when they stand upon uneven ground.

It consists of a screw and connections by which it is adjustably supported from the axle or bolster of the machine, a nut, and a saddle within which the nut is turnably supported, the saddle serving to support the boiler or other part to be leveled.

Our invention also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a vertical section through the leveling device. Fig. 2 is a front view of the clip and connections. Fig. 3 is a top view of the saddle. Fig. 4 shows the device attached to a split axle. Fig. 5 shows it connected to a harvester.

Threshing-machine portable boilers, which are used in connection with the engines to drive such machines or for similar purposes, are supported and made portable by means of bearing-wheels and axles, so that they can be hauled about from place to place. In setting such a boiler it is necessary to have it sufficiently level so that the boiler-tubes will not be exposed or uncovered by reason of the boiler standing at an angle, and for the same reason the threshing-machine must be set approximately level in order that the cleaning-shoes should be reasonably level and to perform their work properly. It often occurs that the most convenient place for setting these machines will be more or less inclined, and it is therefore necessary to dig out a considerable space to allow one pair of wheels to settle below the surface of the ground and to bring the machines level, which when the wheels are broad, as is the case with such machines, or the ground difficult to work takes consid-

erable time. Our invention is designed to provide a means for quickly setting and leveling these machines.

The device may consist of a screw, as A, connected with one part of the machine, and a nut, as B, through which the screw turns, connected with the other part, and means for turning the screw or nut, so as to raise or lower that part to which they form a support. As shown in the drawings, the screw has its lower end fixed to a U-shaped clip 2, which fits over the axle 3 of one pair of the wheels which carry the machine. In the drawings we have shown a portable boiler, one end, of which is supported by a saddle 5, and within this saddle is fitted the nut B, through which the screw A passes. The clip 2 has a stout bolt 6 passing through its upper part and through the central part of a plate 7, which is bolted or otherwise secured to the axle 3. The swiveling of this plate allows the axle to turn and the wheels at its ends to rise or fall and accommodate themselves to irregularities of the surface over which they pass without bringing any strain upon the screw. The clip ends may be screw-threaded, and they pass through a clip-plate, as 8, and this clip-plate is secured by nuts upon the threaded ends of the clip. As shown in the present case, 9 is a bar which practically forms a reach between the front axle 3 and the rear axle, (not here shown,) which supports the rear end of the boiler. One end of the rod 9 is bolted to the front of the fire-box water-leg, and the other end is connected directly with the clip-plate, as shown at 10. The nut B has a flange 11 at the bottom, with radial holes made in it, or it may be made polygonal. In either case the holes or the polygonal face serves to receive bars or a wrench to turn the nut, and as the nut is turned it moves up or down upon the screw A, thus raising or lowering that end of the part supported thereby.

In order to accommodate the changing position of the screw and nut, and by reason of the reach-bar 9, which rigidly connects the axle 3 with the rear portion, the socket 12, to which the saddle 5 is bolted or secured, has the opening in which the nut lies made oval at the top, with the greatest length of the oval in the line of travel of the machine, and

the bottom of the socket 12 is rounded, as shown at 13, so that it can rock easily upon the flange 11 of the nut upon which it rests. When, therefore, the screw is turned to cause
 5 the nut and the sleeve and saddle and the part supported thereby to move upwardly from the axle, these parts remain essentially in line, while the parts carried by them may assume an angle with relation to the screw
 10 without any binding of the latter in its nut.

In order to retain the parts at any point of adjustment, we have shown the screw as having a keyway 14 upon one side, and a locking-plate 15 is adapted to fit in this keyway when
 15 desired. This plate 15 is carried upon the inner end of a stem 16, which passes transversely through the flange 11. A nut 17, screw-threaded upon the outside, fits and is turnable in the socket through which the
 20 stem 16 and plate 15 pass. A spring 18, lying between the inner end of the nut and the plate 15, normally presses upon this plate and holds it against the periphery of the screw until the screw has been turned so as to bring
 25 the slot 14 in line with the plate 15, when the latter will drop into it and will thus prevent the turning of the screw and nut with relation to each other. When it is desired to turn these parts for further adjustment, it is only
 30 necessary to turn the nut 17 until the spring is released, and the nut acting against the pin which passes through the shank 16 will withdraw the latter and the plate 15 until the latter is free from the key-slot. This allows the
 35 nut and screw to be turned with relation to each other to some other point of adjustment, when the locking-plate 15 is again released, so that it may engage with the slot. This plate is guided in any suitable manner. As
 40 here shown, it is slidable in slots upon each side of the opening through which its stem passes.

When the device is to be employed in connection with a threshing-machine where the
 45 distance between the front and rear wheels is so great that it is desirable to provide for a more considerable elevation or adjustment of the parts, we have shown the clip as secured to the bolster, so that the socket 12^a
 50 projects horizontally from the bolster, and the nut B is carried in the socket in the same manner as previously described, with the latter resting upon the flange 11 of the nut. The screw A, passing through the nut, is carried, as previously described, by the clip 2,
 55 which is secured to the axle 3, with the swivel-plate, in the same manner as previously described. This carries the axle out of the vertical plane of movement of the bolster, and
 60 thus enables us to use a much longer screw and to provide for a greater vertical adjustment than could otherwise be effected. In this manner we are able to level up the boiler and the threshing-machine without any excavation and to do it while the machines are
 65 being set in readiness for their work.

Fig. 4 shows an arrangement of the screw

which adapts it to fit certain axles which are made in two parts, with a vertical slot through them. In this case the screw has a collar 20,
 70 which rests upon the top of the axle, and below this collar is a flattened extension 21, which is adapted to pass through the slot 22 of the axle, where it is secured by a pin passing through the two similar to the pin 6
 75 where the clip is used. This connection allows the axle to tilt, as in the previous construction, and the reach 9 is connected with the extension below the part 21 and the axle.

Having thus described our invention, what
 80 we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a boiler or threshing-machine and the bearing-wheel axle thereof of an adjusting screw and nut, a clip to
 85 which the lower end of the screw is secured, and a plate secured to the axle and pivoted within the clip whereby the axle is allowed to turn with relation to the clip and screw.

2. The combination with a vehicle and a
 90 wheel-axle thereof, of a stirrup upon which the end of the vehicle is supported, a nut carried within the stirrup, a screw passing through said nut, and upon which the part carried thereby may be raised or lowered by
 95 turning the nut, a clip upon which the lower end of the screw is carried, said clip fitting the vehicle-axle, a plate fixed to the axle and passing through the clip, a swivel-pin passing through a socket in the plate at right angles with the axle, and a reach-rod and connection from the clip to the opposite end of the vehicle.

3. The combination with a vehicle and the bearing-wheel axle thereof of an adjusting
 105 screw and nut, a swivel-clip turnably connected with the axle, upon which the lower end of the screw is supported, a reach extending between said axle and the rear portion of the vehicle, a stirrup or support within which
 110 the nut is contained and upon which the vehicle is carried above the axle, said support having an oval opening within which the nut is seated, whereby the latter maintains its alinement with the screw when the parts are
 115 raised or depressed.

4. The combination with a vehicle and the wheel-axle thereof, of a screw connected with the axle, a nut fitting said screw, a sleeve and support upon which the vehicle rests,
 120 said sleeve having a socket within which the nut is turnable, said socket having the opening within which the nut rests, made oval and the lower end which rests upon the flange of the nut made convex to allow automatic adjustment with relation to the nut and screw.

5. The combination with a vehicle and the wheel-axle thereof of a screw supported from the axle, a nut fitting the screw, a sleeve and support upon which the vehicle is carried and
 130 within which sleeve the nut is turnable, a keyway made longitudinally upon the screw, a spring-pressed latching-plate passing through the nut and adapted to engage the

keyway to hold the nut and screw at any point of adjustment.

6. The combination with a vehicle and the wheel-axle thereof of a screw supported from the axle, a support for the vehicle having a sleeve, a nut loosely fitting the sleeve, and a means whereby the nut is turnable to raise or lower it upon the screw, a keyway cut longitudinally in the screw, a latching-plate extending through the side of the nut adapted to engage said keyway, a spring by which

said plate is normally pressed against the screw, and a nut turnable to retract the plate and disengage the latch when the device is to be operated to raise or lower the vehicle. 15

In witness whereof we have hereunto set our hands.

PETER NICHOLAS GRISEZ.

JACOB SLAINE WALCH.

Witnesses:

W. E. TEBBE,

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