

No. 701,955.

Patented June 10, 1902.

R. R. SPEARS.
AUTOMATIC REGISTERING DEVICE.

(Application filed June 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.

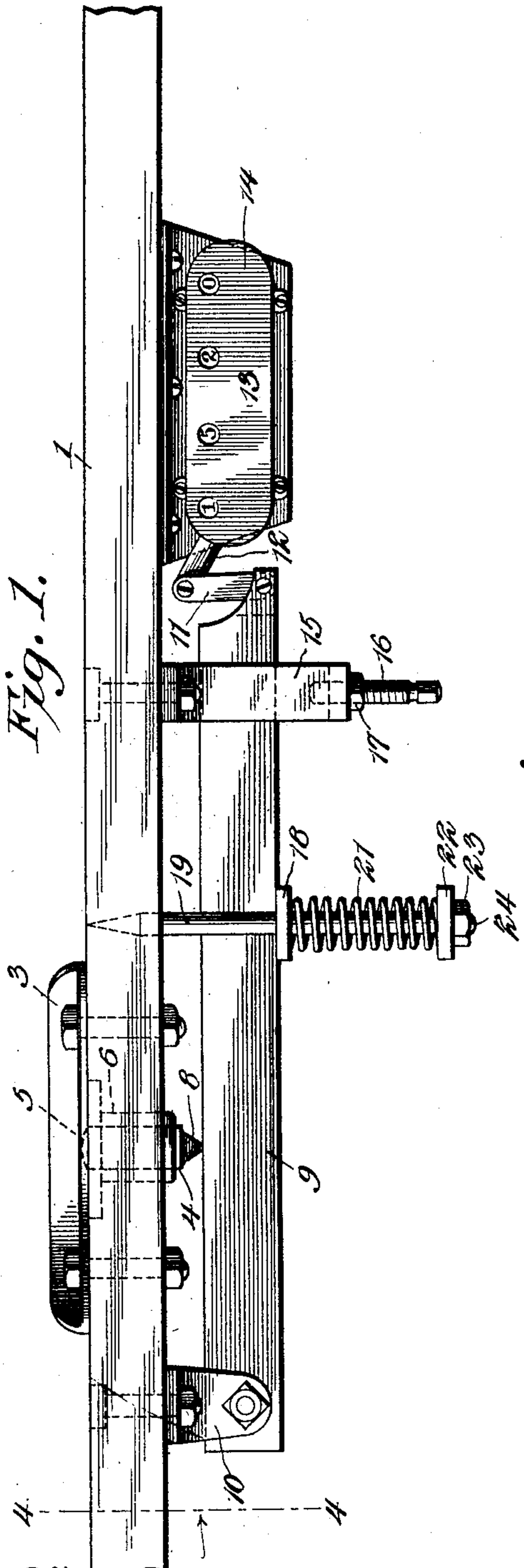
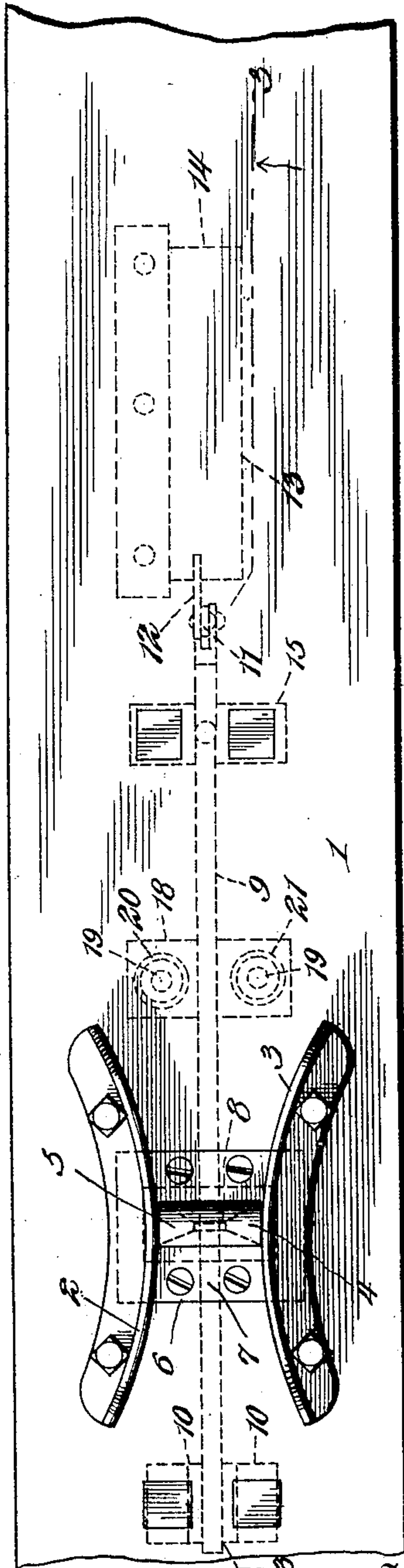


Fig. 2.



R. R. Spears, Inventor;

By

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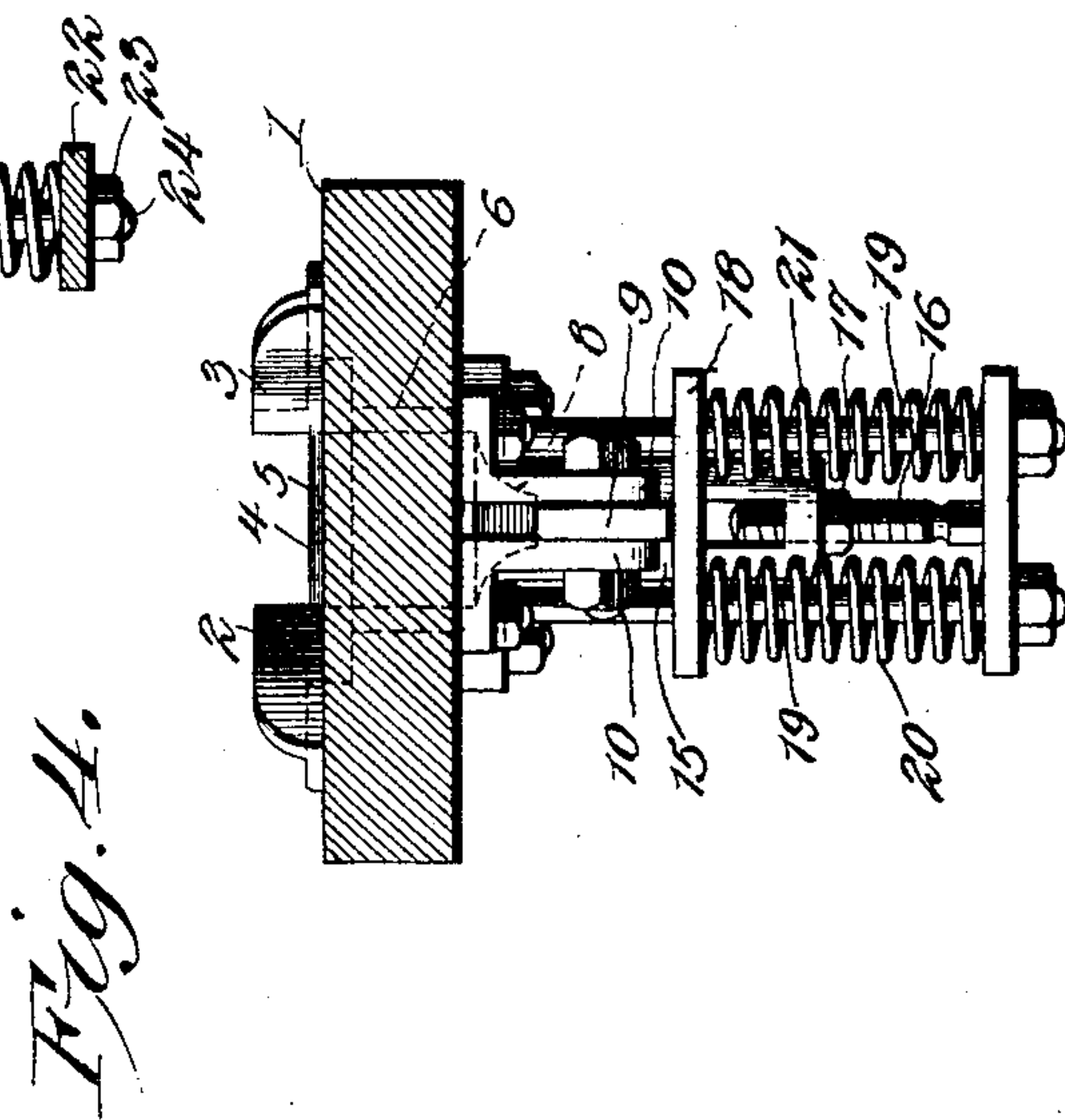
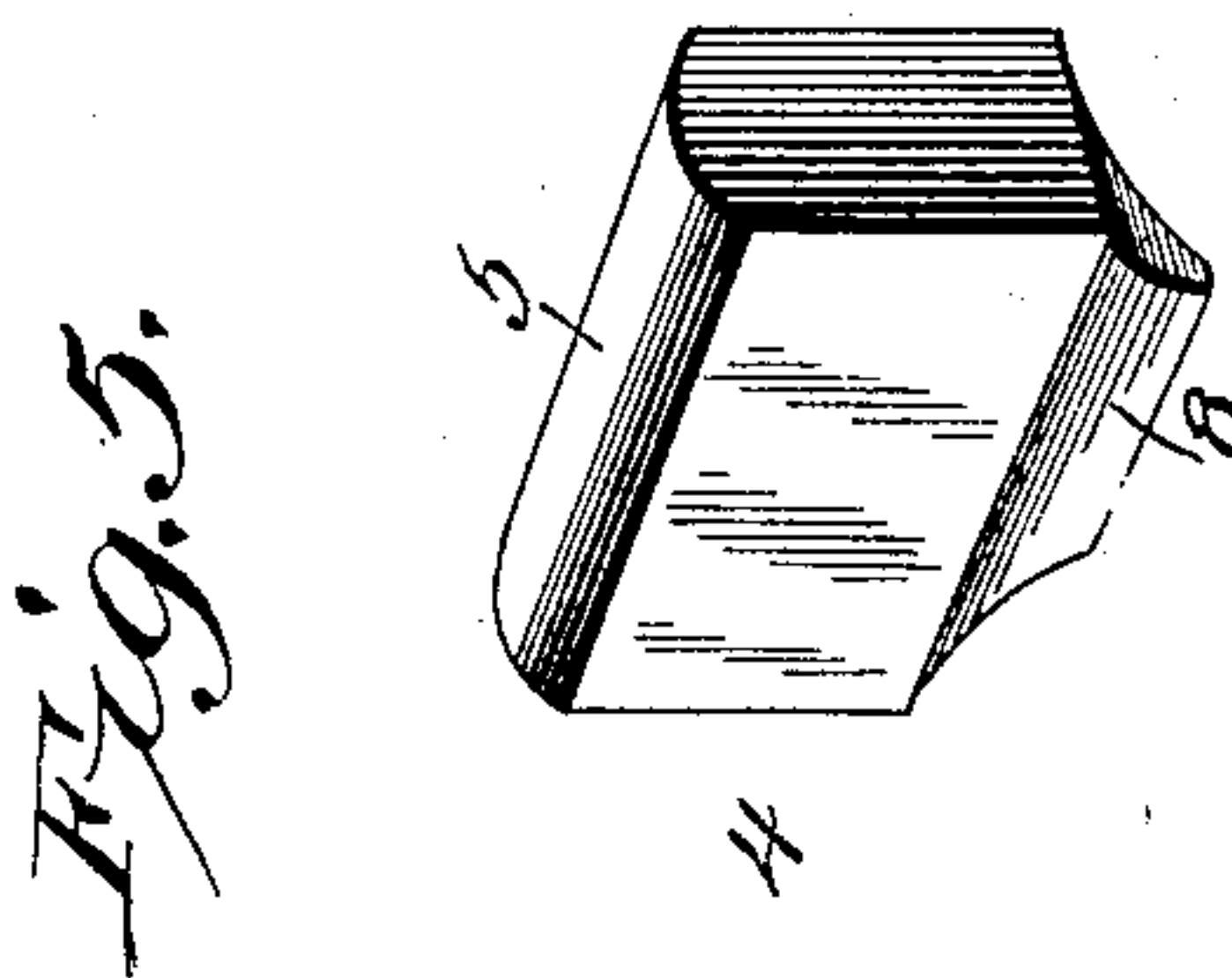
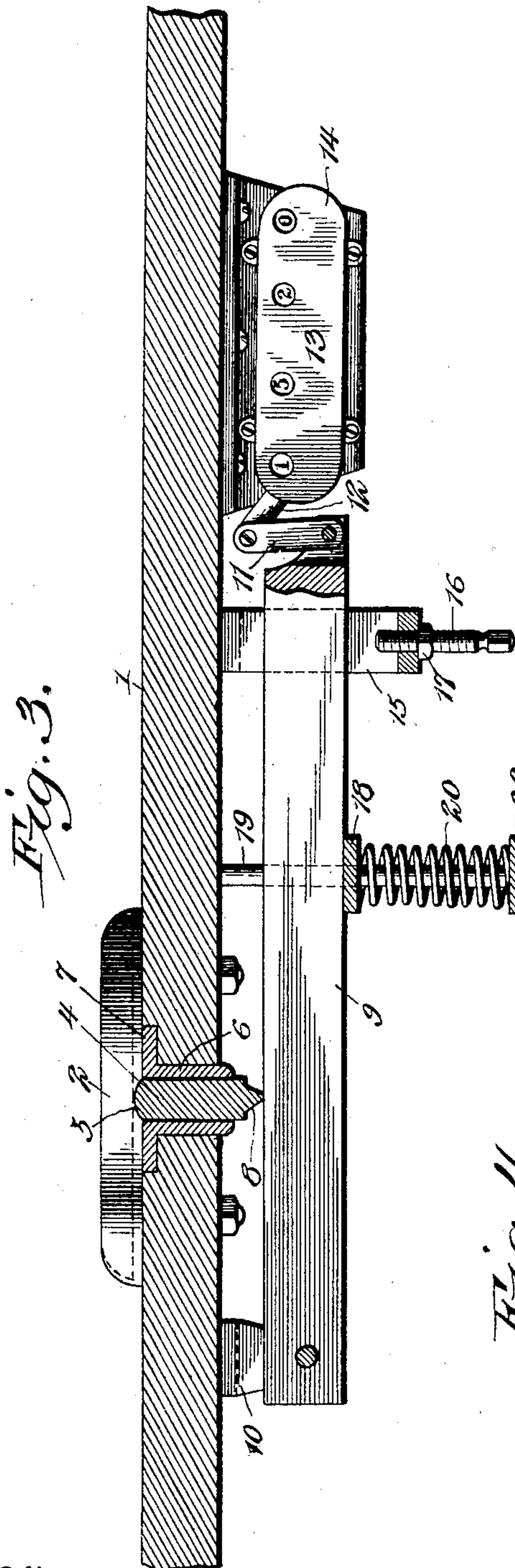
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Witnesses
Howard W. Orr.
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2 Sheets—Sheet 2.



Witnesses
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UNITED STATES PATENT OFFICE.

RALPH R. SPEARS, OF WHEELING, WEST VIRGINIA.

AUTOMATIC REGISTERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 701,955, dated June 10, 1902.

Application filed June 25, 1901. Serial No. 66,028. (No model.)

To all whom it may concern:

Be it known that I, RALPH R. SPEARS, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Automatic Registering Device, of which the following is a specification.

This invention relates to a novel automatic registering apparatus, and has special reference to a registering device designed to record the number of loaded vehicles passing a given point—as, for instance, the number of loaded wheelbarrows wheeled over a platform or gang-plank from one point to another.

The invention is particularly designed for use in brickyards or other places where cars or the like are loaded or unloaded by means of wheelbarrows carrying loads of from seventy-five to one hundred bricks and wheeled over a platform, gang-plank, or stage to the car or other point of delivery. Having this particular use in view, my invention has for its object to produce a registering apparatus which will register each full load and which may be adjusted in a manner to effect its actuation by a load of any desired weight, so that while the device may be organized for use in various connections—as, for instance, in yards having different standards of loads—the registering mechanism will not be actuated by the empty barrows or other vehicles as they return over the platform after having deposited the load nor record the passage of a partially-loaded vehicle or one conveying a load of less weight than the standard required.

To this end the invention consists in providing the platform, gang-plank, or stage with a depressible actuator projecting slightly above the surface thereof and operatively connected, through suitable intermediate mechanism, with the registering device proper secured at any convenient point, but preferably below the platform, said actuator being likewise connected with an adjustable resistance device designed to regulate the resistance opposed to the depression of the actuator and to thereby determine the standard or weight of the load necessary to operate the register.

The invention also consists in certain other

details of construction and arrangement to be hereinafter described, illustrated in the accompanying drawings, and defined in the appended claims.

In said drawings, Figure 1 is a side elevation of the subject-matter of my invention. Fig. 2 is a plan view thereof. Fig. 3 is a vertical longitudinal sectional view on the line 3 3 of Fig. 2, and Fig. 4 is a transverse section on the line 4 4 of Fig. 1. Fig. 5 is a detail perspective view of the actuator detached.

Referring to the numerals employed to designate corresponding parts in the several views, 1 indicates a platform, gang-plank, or stage over which a wheelbarrow or other vehicle is wheeled for the purpose of transporting bricks or other merchandise to a car or other point of delivery. At a suitable point upon the platform 1 are provided a pair of arcuate approach-guides 2 and 3, between which is located a depressible plug or actuator 4, projecting slightly above the surface of the platform and designed to be depressed by the weight of a loaded vehicle.

The approach-guides 2 and 3 are preferably constructed of angle-iron, as shown, and form approaches converging from opposite directions toward the plug to guide the wheel of the barrow or other vehicle to said plug. The plug or actuator 4 is provided with a convex upper face 5 to present the least possible resistance to the progress of the vehicle and is guided in a suitable metallic plug-socket 6, extending through an opening in the platform 1 and provided with a face-flange 7, set flush with the upper surface of the platform and secured to the latter by any suitable means—as, for instance, screws, as shown. The lower end of the actuator 4 extends below the platform and is tapered, as indicated at 8, to form a narrow edge imposed against the upper edge of a registering operating lever 9. The lever 9 is disposed longitudinally of the platform below the same and is fulcrumed at one end between the depending ears of the fulcrum-bracket 10, bolted or otherwise secured to the under side of the platform. At its free end the lever 9 is pivotally connected, through an intermediate link 11, with the trip-arm 12 of the register or counting-machine 13 of any desired form.

The registering mechanism or counting-machine 13 is mounted in a casing 14, attached to the under side of the platform 1 and contains ordinary mechanism for registering the number of movements of the arm 12, the numerals representing the units, tens, hundreds, and thousands of the registered number being displayed before suitable openings in the face-plate of the casing, as shown.

10 The counting device or register proper constitutes no part of my invention so far as its specific construction is concerned, but is illustrated for the purpose of making plain the manner in which the passage of a loaded vehicle over the platform is automatically registered through the medium of my invention.

Adjacent to its free end the lever 9 is disposed within a substantially U-shaped guide-frame 15, bolted to the under side of the platform 1 and provided at its lower end with an adjustable stop-screw 16, designed to limit the depression of the lever 9 to prevent injury to the registering mechanism and locked in its adjusted position by means of a lock-nut 17. By means of this adjustable stop-screw the movement of the lever 9 may be regulated with great nicety in order to accommodate its use in connection with various types of registering devices.

30 It will now be obvious that if a wheelbarrow is propelled along the platform or gang-plank 1 the wheel thereof will pass between the approach-guides 2 and 3 and will be caused to pass directly over the plug or actuator 4.

35 The depression of the actuator by the weight thus imposed will depress the lever 9 and will cause the arm 12 of the registering mechanism to be swung by reason of the connection between said arm and the lever. The passage of the wheelbarrow over the plug will thus be registered, and an accurate record will thus be kept of the number of loads transferred to a given point of delivery by means of vehicles passing over a gang-plank

45 equipped with my device. It is obvious, however, that in order to equip the registering mechanism described for use in various lines of business provision must be made for regulating the resistance opposed to the depression of the actuator 4, so that the passage of a load of less than the predetermined weight will not be registered, and for the further purpose of adjusting the mechanism to permit the depression of the actuator under a

50 load of any predetermined weight. Thus in the handling of bricks, for instance, a standard load in some yards is one hundred bricks and in others only seventy-five bricks. Provision must therefore be made for adjusting

55 the resistance to the depression of the actuator, so that it will require the weight of one hundred bricks or the weight of seventy-five bricks, as the case may be, to effect the actuation of the registering device, and obviously

65 if such resistance mechanism is provided a weight below the predetermined load will not

be registered and the deficiency will at once be made apparent to the inspector or other person supervising the transportation of the merchandise. Many forms of such resistance mechanism might be devised; but a simple and perhaps preferable embodiment of such mechanism is shown in the drawings, and consists of a supporting-plate 18, disposed under the lever 9, preferably at a point intermediate the plug 4 and guide-frame 15, and slidably mounted upon a pair of pendent rods or elongated bolts 19, disposed at opposite sides of the lever 9 and secured at their upper ends to the platform 1. The supporting-plate 18 is yieldingly sustained by a pair of stout spiral springs 20 and 21, encircling the rods 19 and seated at their lower ends upon a plate 22, sustained in place by nuts 23, screwed upon the lower threaded extremities 24 of the rods.

Inasmuch as the actuator 4 rests upon the lever 9, supported by the spring-sustained plate 18, it will be obvious that the resistance of the springs 20 and 21 will be opposed to the depression of the actuator, and as a consequence the regulation of the springs 20 and 21 will determine the weight required to depress the actuator, and thereby operate the registering device or counting-machine. Thus by screwing up the nuts 23 the plate 22 will be elevated, causing the compression of the springs and increasing the resistance thereof to the downward swinging of the lever 9, and the extent of this adjustment of the nuts will therefore determine the standard weight of the load to be registered by means of the apparatus described. Therefore if a wheelbarrow or other vehicle containing a load of the standard weight is propelled over the platform between the approach-guides 2 and 3 the actuator will be depressed against the resistance of the springs and will cause the load to be registered by the registering device 13. If, however, the weight of the load is below that to which the resistance mechanism is adjusted, such load will not effect the depression of the actuator 4 and will not be registered.

It is thought that from the foregoing the construction, operation, and special utility of the subject-matter of my invention will be clearly apparent; but while the present embodiment of said invention is thought at this time to be preferable I desire to be distinctly understood as reserving to myself the right to effect such changes, modifications, and variations of the illustrated structure as may be suggested by experience and experiment and fairly embraced within the scope of the protection prayed.

What I claim is—

1. In a device of the character described, the combination with a platform and registering mechanism, of a reciprocatory actuator extended through the platform and having a bearing therein, a lever supported by the platform below the same and constituting a support for the actuator, an adjustable resistance

device opposing the depression of the lever, and means operatively connecting the lever with the registering mechanism.

2. In a device of the character described, 5 the combination with a platform and registering mechanism, of a lever located below the platform and fulcrumed at one end, means connecting the free end of the lever with the registering mechanism, a resistance device 10 suspended from the platform and resisting the depression of the lever, and a reciprocatory actuator passed through the platform and having a bearing therein, said actuator being supported upon the upper edge 15 of the lever at a point between the resistance device and the fulcrum.

3. In a device of the character described, the combination with a platform and registering mechanism, of an actuator extended 20 through the platform, a lever located below the platform and operatively related to the actuator and registering mechanism respectively, an adjustable resistance device opposing the movement of the lever, and an adjustable 25 stop for limiting the movement of said lever.

4. In a device of the character described, the combination with a platform, registering mechanism and an actuator extended through 30 the platform, of an operating-lever disposed below the platform and having operative connection with the actuator and registering mechanism respectively, a supporting-plate for said lever, a spring sustaining the plate, 35 and means for regulating the tension of the spring.

5. In a device of the character described, the combination with a platform, registering mechanism and an actuator extended through 40 the platform, of an operating-lever located below the platform and operatively related to the actuator and registering mechanism respectively, supporting-rods depending from the platform at opposite sides of the lever, a 45 supporting-plate slidably mounted upon said

rods, springs encircling the pendent rods and sustaining the supporting-plate, and means for regulating the tension of said springs.

6. In a device of the character described, the combination with a platform, a registering 50 mechanism, and an actuator extended through the platform, of an operating-lever located below the platform and operatively related to the actuator and registering mechanism respectively, a guiding-bracket for 55 said lever, an adjustable stop-screw carried by said bracket and disposed to limit the movement of the lever in one direction, pendent rods located at opposite sides of the lever, a supporting-plate slidably mounted on said 60 rods, springs encircling the rods and sustaining the supporting-plate, a second plate carried by the rods and opposed to the lower ends of the springs, and nuts screwed upon the lower ends of the rods and designed to be 65 adjusted thereon to regulate the tension of the springs.

7. In a device of the character described, the combination with a platform and registering mechanism, of an actuator extended 70 through the platform and operatively related to the registering mechanism, and approach-guides disposed above the platform and defining an approach converging toward the actuator. 75

8. In a device of the character described, the combination with a platform, registering mechanism, and an actuator extended through 80 the platform, of arcuate approach-guides located at opposite sides of the actuator and defining approaches converging toward the actuator from opposite directions.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

RALPH R. SPEARS.

Witnesses:

JAMES H. RIDDLE, Jr.,
LAVINIA M. CARROLL.