

(No Model.)

W. F. FRENCH.
RAILROAD SIGNAL.

No. 575,601.

Patented Jan. 19, 1897.

FIG. 1.

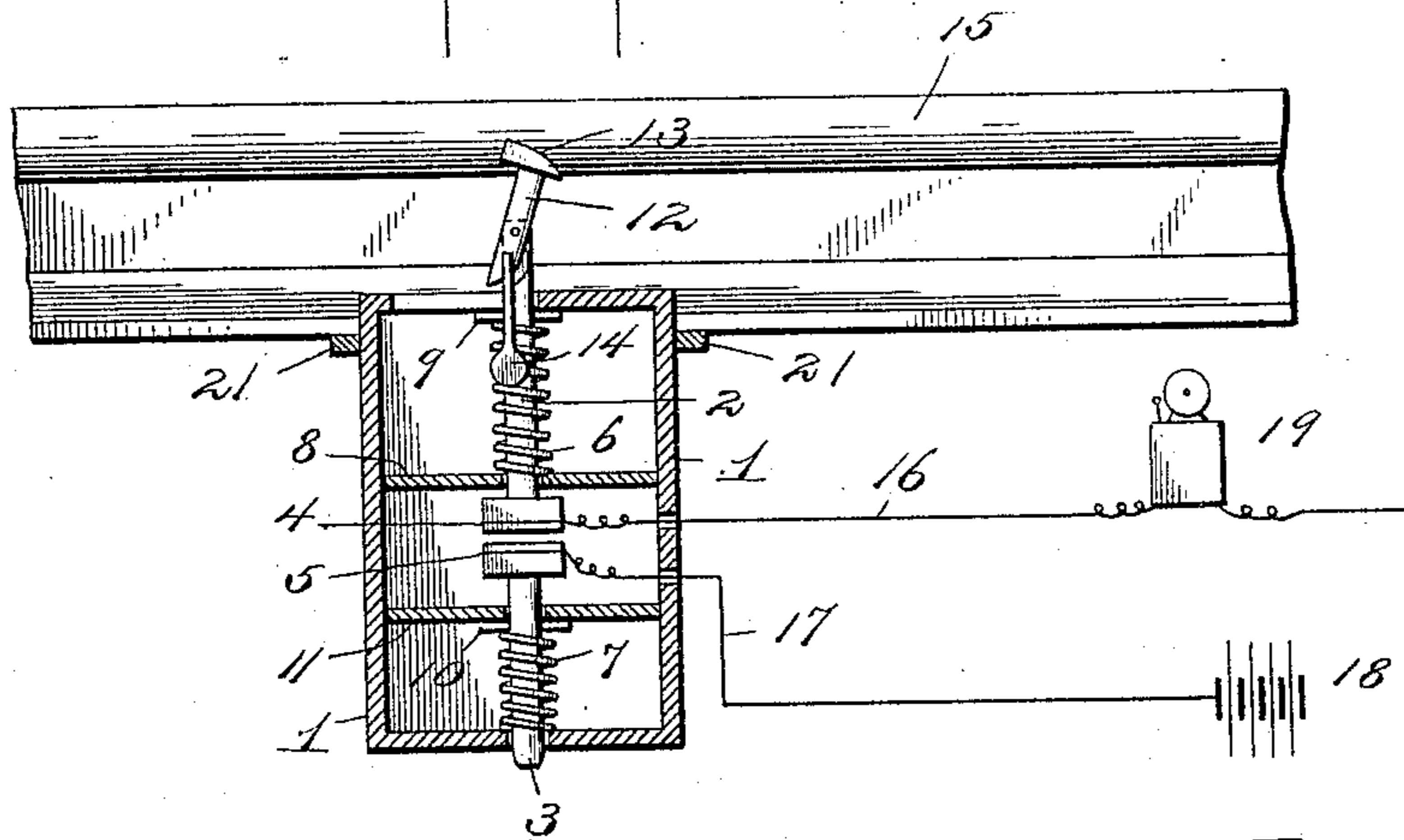


FIG. 2.

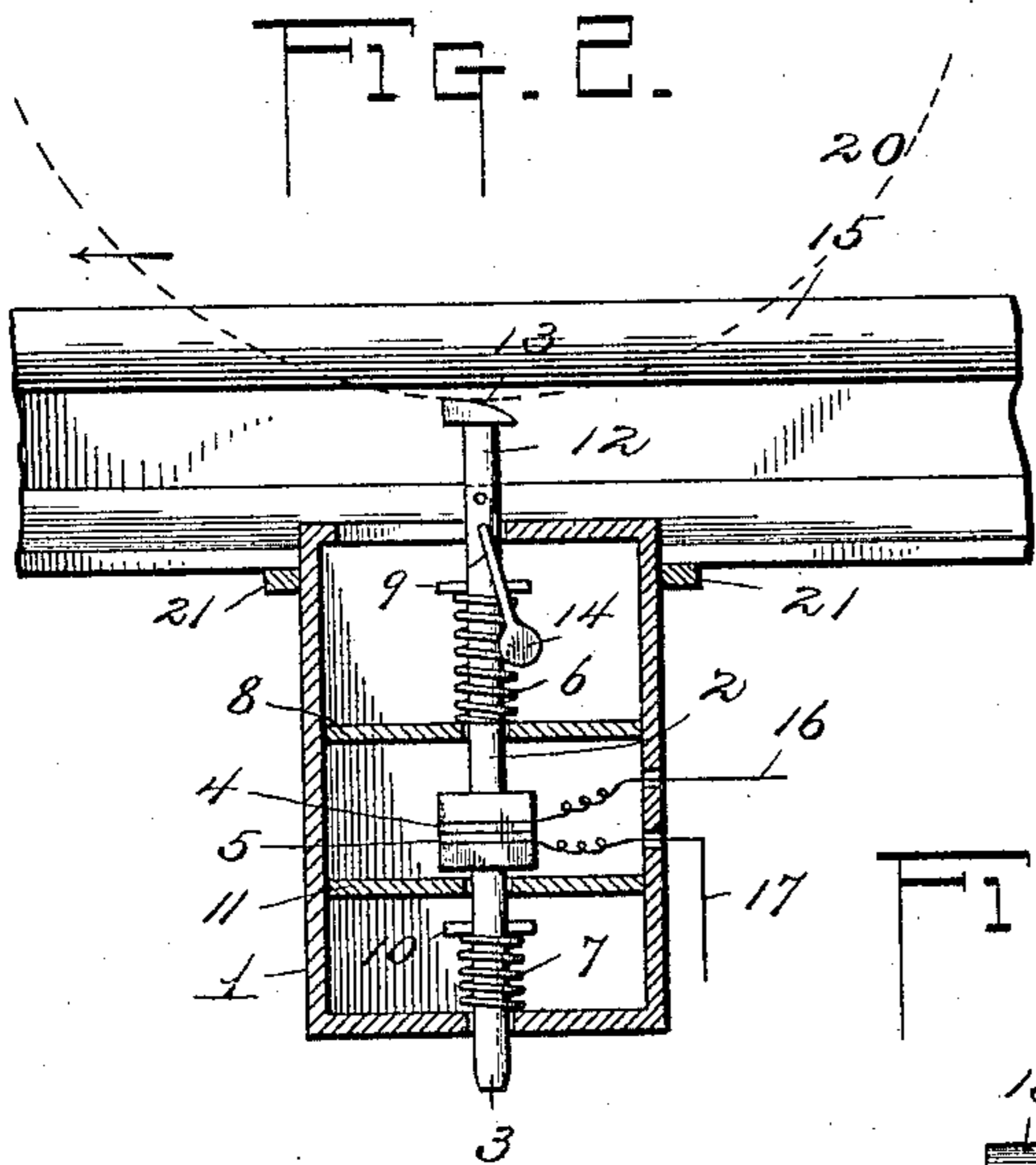


FIG. 3.

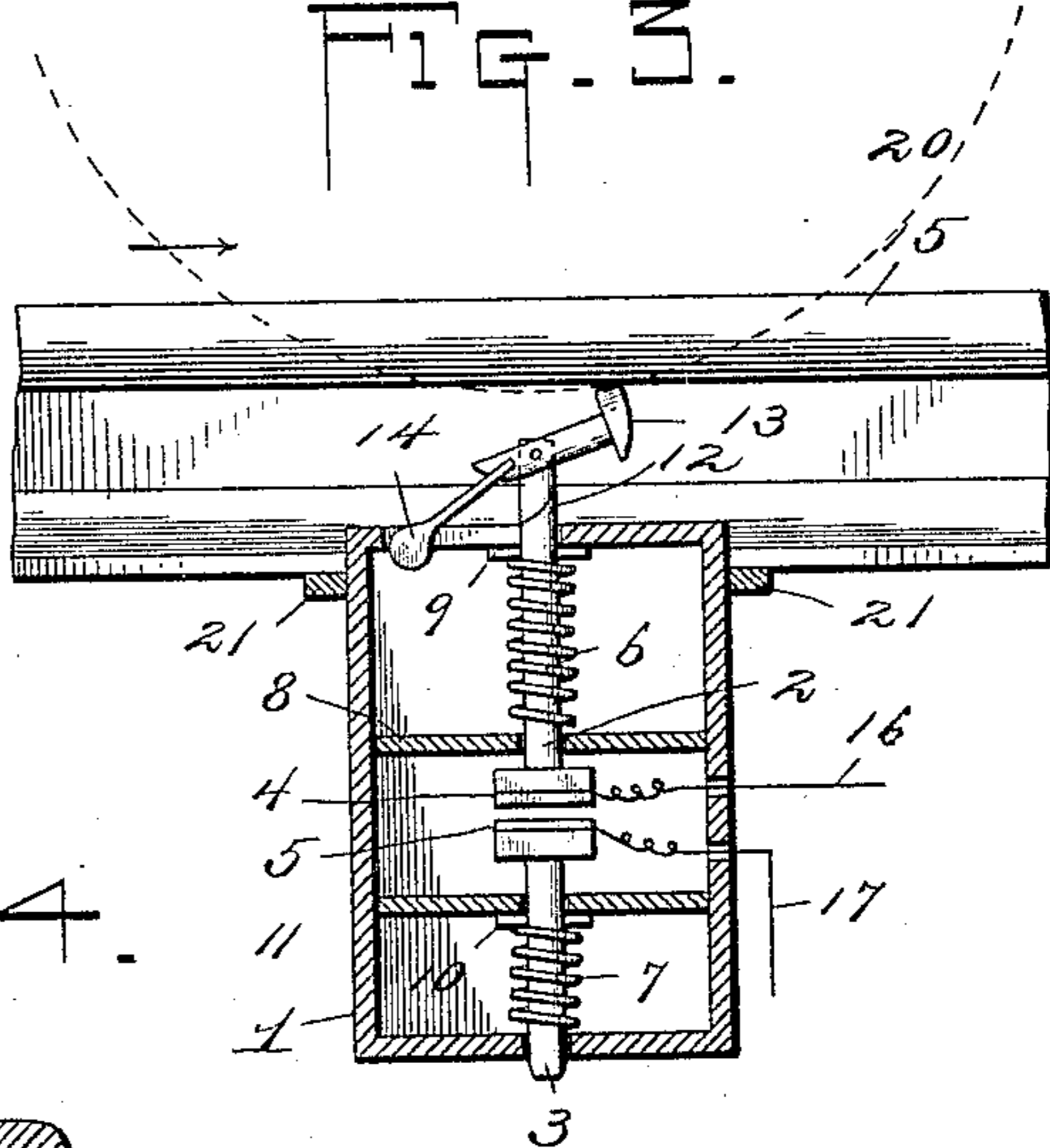
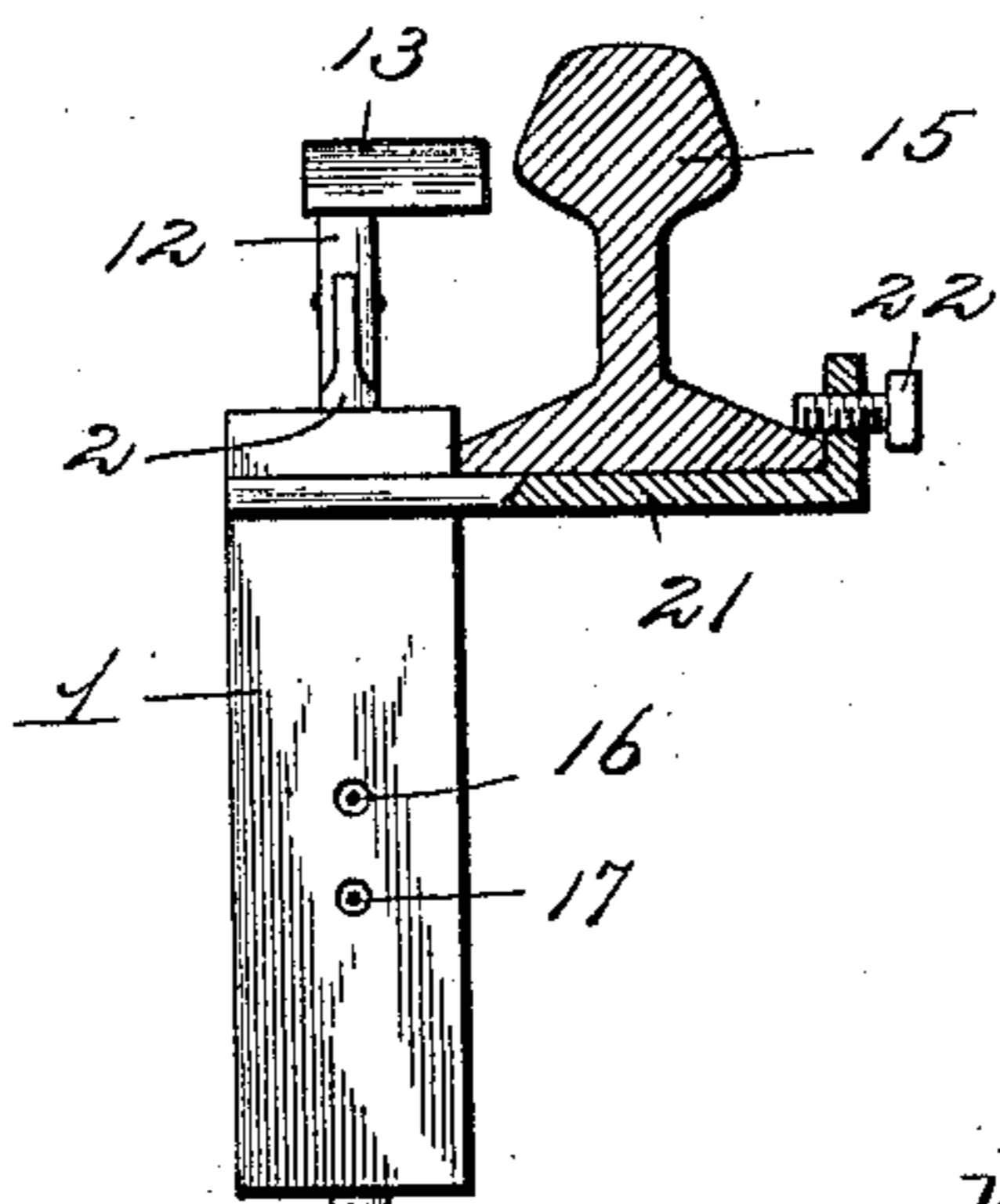


FIG. 4.



Inventor

William F. French.

By his Attorneys,

Witnesses

Harry L. Ames.

[Signature]

[Signature]

UNITED STATES PATENT OFFICE.

WILLIAM F. FRENCH, OF OMAHA, NEBRASKA.

RAILROAD-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 575,601, dated January 19, 1897.

Application filed April 23, 1896. Serial No. 588,733. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. FRENCH, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Railroad-Signal, of which the following is a specification.

My invention relates to railroad-signals, and has for its object to provide a railway track-signal adapted to be sounded by the wheels of a train moving in one direction only, the same being idle when encountered by a train moving in the opposite direction.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view, partly in section, of a signal constructed in accordance with my invention arranged in operative relation with a track-rail. Fig. 2 is a similar view showing the positions of the parts when encountered by a wheel moving in the direction to sound the signal, the wheel being shown in dotted lines in operative relation therewith. Fig. 3 is a similar view showing the positions of the parts when encountered by a wheel moving in the opposite direction, the wheel being shown in dotted lines. Fig. 4 is an edge view showing the means for securing the device to a rail.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a case or box in which are mounted upper and lower slidable pins 2 and 3, arranged in alinement and provided at their contiguous ends with contact blocks or plates 4 and 5, normally held out of contact by return-springs 6 and 7, which are coiled, respectively, around the pins. The spring 6 bears at its lower end against a partition 8 in the box or case and at its upper end against a transverse key 9, whereby the spring normally holds the pin 2 elevated. The spring 7 bears at its lower end against the bottom of the box or case and at its upper end against a transverse key 10, which strikes a lower partition 11 to limit the upward movement of the pin 3. The upper pin is provided with a pivotal arm or section 12, terminating at its upper end in a

beveled tread or pressure-block 13 and at its lower end, below its pivotal point, in a weight 14, whereby said arm or section is normally held in the upright position indicated in Fig. 1, with its tread or pressure-block in the path of the flanges of wheels traversing the track 15.

Connected with the contact blocks or plates 4 and 5 are the terminals 16 and 17 of an electrical circuit, one terminal 17 extending to a battery 18 and the other terminal 16 to an alarm-bell or its equivalent, (indicated at 19 in Fig. 1.) When a wheel, which is indicated in dotted lines at 20, approaches the signal in the direction indicated by the arrow in Fig. 2, the flange thereof rides upon the beveled surface of the tread or pressure-block and depresses the pin 2 to bring its contact-plate 4 into engagement with the contact-plate 5, the latter being yieldingly held in its operative position, whereby it is adapted to be depressed by the plate 4. The arrangement of the plates 4 and 5 in contact completes the circuit and causes the alarm to be sounded.

When a wheel approaches the signal in the direction indicated by the arrow in Fig. 3, the flange thereof trips the arm or extension 12 and swings it against the resistance of the yielding means, as the weight 14, whereby it is normally held in its operative position, and hence the wheel is allowed to pass the signal without sounding the alarm.

Various means may be employed for securing the signal apparatus to a rail, that illustrated in the drawings consisting of arms 21, fixed to the box or case 1, and extending under the base of the rail, as illustrated in Fig. 4, the upturned extremities of said arms being fitted with set-screws 22, which engage the opposite side of the rail.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a railroad-signal, the combination of contact-plates yieldingly mounted for linear movement in alinement with each other and provided with resilient means whereby their

movement in a common direction is resisted, and a tread operatively connected with one of said contact-plates and arranged in the path of car-wheels whereby when the tread is encountered by a wheel the contact-plate connected therewith is moved into contact with the other plate against the tension of said resilient means, and the second contact-plate yields to cushion the movement of the parts, substantially as specified.

2. In a railroad-signal, the combination of contact-plates arranged in an electrical circuit, spring-actuated pins carrying said contact-plates and normally holding them out of contact, an arm pivotally mounted upon one of the pins and carrying a tread arranged in the path of wheels, and means, adapted to yield in one direction, for holding said arm in its operative position, substantially as specified.

3. In a railroad-signal, the combination of contact-plates arranged in an electrical circuit and adapted to yield in a common direction, a spring-actuated pin connected to the upper plate and adapted when depressed against the tension of its actuating-spring to be brought into contact with the lower plate,

and an arm pivotally mounted upon said pin and having a tread arranged in the path of wheels, said arm being weighted to yieldingly hold it in its operative position, said arm being adapted to yield in one direction, substantially as specified.

4. In a railroad-signal, the combination with a box or case provided with intermediate partitions, alined vertical pins mounted in said box or case and provided at their contiguous ends with contact-plates arranged in an electrical circuit, springs connected with said pins to normally hold the contact-plates elevated and out of contact, a tread operatively connected with the upper pin and adapted when depressed to bring the plates into contact, arms on the box or case adapted to extend under a track-rail, and means for securing said arms to the rail, substantially as specified.

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

WILLIAM F. FRENCH.

Witnesses:

GEORGE H. GREEN,
JNO. L. PURSON.