

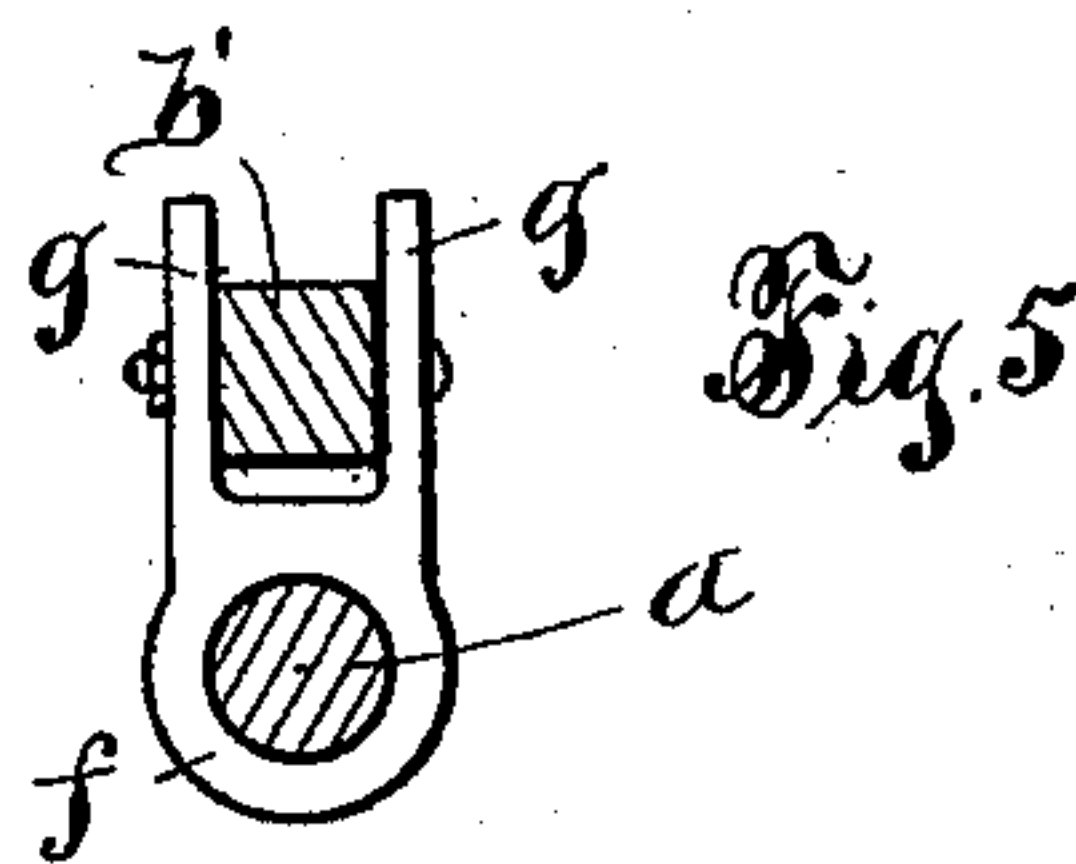
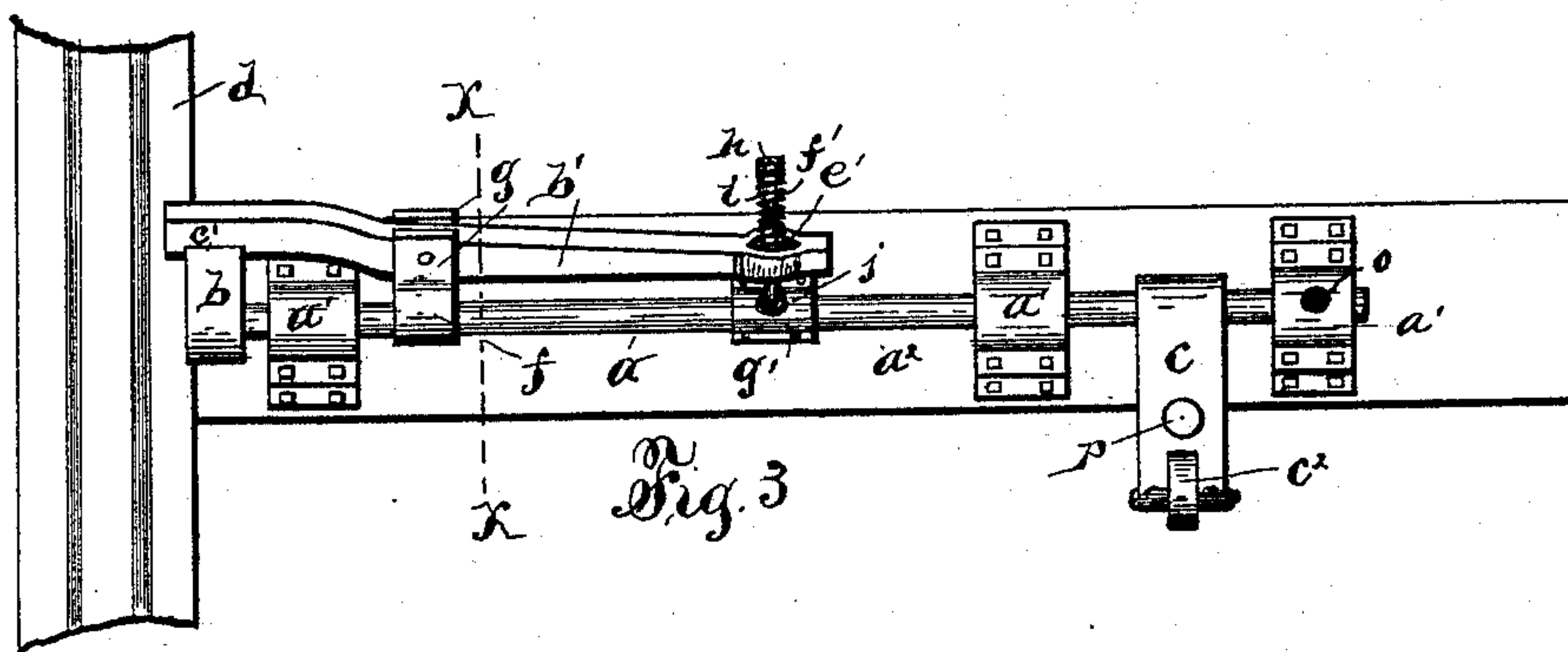
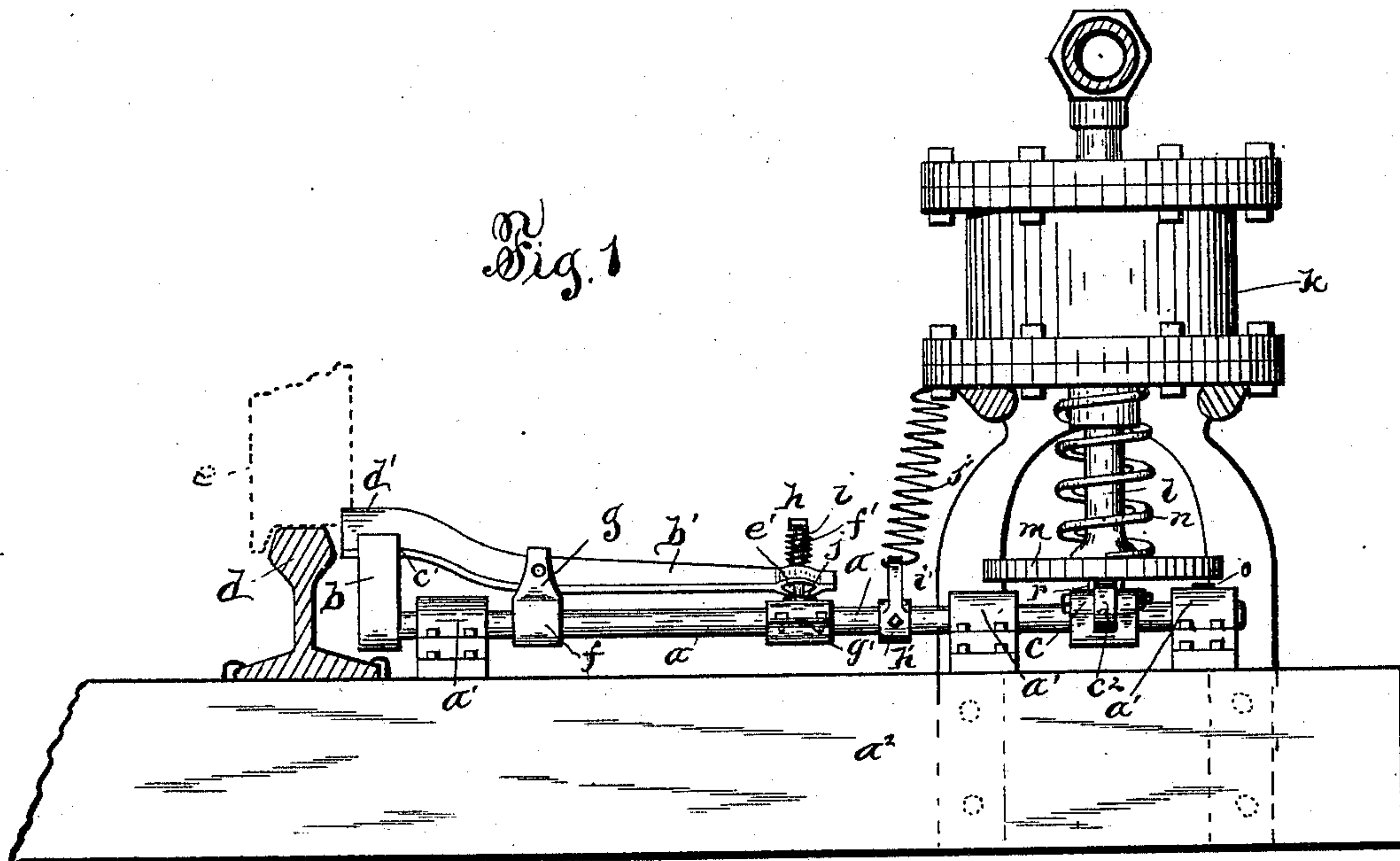
(No Model.)

2 Sheets—Sheet 1.

C. H. SHERWOOD.  
RAILWAY TRACK INSTRUMENT.

No. 580,906.

Patented Apr. 20, 1897.



WITNESSES:

H. B. Smith.  
M. A. Leiden.

INVENTOR

Charles H. Sherwood

By E. Laess  
his ATTORNEY

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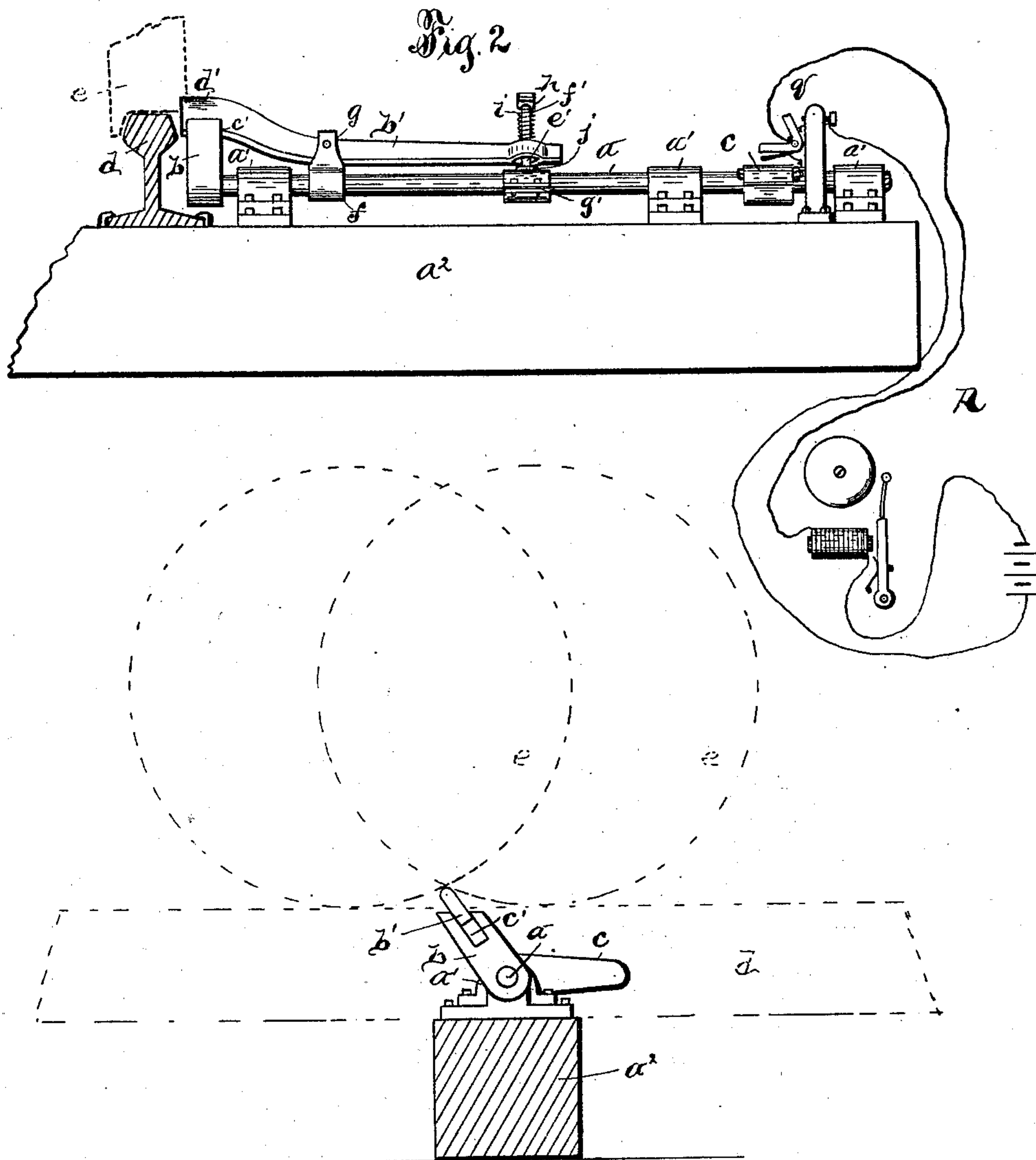


Fig. 4

WITNESSES:

*H. B. Smith*  
*M. A. Leyden*

INVENTOR

*Charles H. Sherwood*  
By *E. Laess*  
his ATTORNEY



# UNITED STATES PATENT OFFICE.

CHARLES H. SHERWOOD, OF UTICA, NEW YORK, ASSIGNOR OF ONE-HALF  
TO HENRY C. LYMAN, OF SHERBURNE, NEW YORK.

## RAILWAY-TRACK INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 580,906, dated April 20, 1897.

Application filed August 10, 1896. Serial No. 602,274. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. SHERWOOD, of Utica, in the county of Oneida, in the State of New York, have invented new and useful Improvements in Railway-Track Instruments, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to an improvement in instruments which are designed to be placed along the side of a railway-track and adapted to be actuated by the wheels of a moving train or engine to automatically operate signals, gates, switches, and various other railway appliances.

The invention has special reference to the construction shown in my prior patent for railway block-signals, No. 559,954, issued May 12, 1896, in which case it consists, essentially, of a horizontal rock-shaft extending from the track, an upwardly-extending arm secured to the inner end of said shaft adjacent to the track to come in contact with the wheels of the train or engine to move the same to rock said shaft, a spring to turn the shaft to its normal position, and a horizontal arm secured to the outer end of the shaft by which motion is imparted or power transmitted to the device which it is used in connection with.

Said instrument is actuated by a train moving in either direction, but is effective only when actuated in one direction, and by the continual depression of the inner arm the instrument is subjected to a great deal of wear and strain.

The object of my present invention is to provide an instrument which will be actuated by a train moving in one direction only, and thereby greatly reduce the aforesaid wear and strain, and produce a construction which will be simple and at the same time durable and efficient in its operation; and to that end the invention consists in the novel construction and combination of the component parts, as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a side view of my improved track instrument used in connection with an air-pump. Fig. 2 is a similar view showing the same used in con-

nection with an electric signal for operating a circuit maker and breaker. Fig. 3 is a plan view of the instrument. Fig. 4 is an inner end view. Fig. 5 is an enlarged vertical transverse section on line X X in Fig. 1.

Similar letters of reference indicate corresponding parts.

In Fig. 1 of the drawings *a* represents a rock-shaft journaled in suitable boxes *a' a'*, supported on a tie *a<sup>2</sup>*. On the inner end of the shaft is secured an oblique arm *b*, and on the outer end of said shaft is secured a horizontal arm *c*. The inner arm has its upper portion cut off to bring the same slightly below the rail *d* and free from contact with the car-wheel *e*. (Shown in dotted lines.) On said shaft is secured a sleeve *f*, formed or provided with a pair of upwardly-extending arms *g g*, parallel to the arm *b*, and between said arms is fulcrumed a lever *b'*, having its inner end movable in a longitudinal slot *c'* in the end of the arm *b* and projecting above the rail *d*, as shown at *d'*. Said lever also lies in a laterally-inclined position and has its outer end formed with a slot *e'*, by which it slides on a post *f'*, secured to the shaft *a* by means of a suitable clamp *g'*. Said post is screw-threaded at its upper end and has a nut *h* thereon, and around said post, between said nut and the lever *b'*, is a coiled spring *i*, which serves to hold said lever in its normal position, and beneath the outer end of said lever is preferably provided a rubber cushion *j* to relieve the arm from jar and strain.

*k* represents a vertically-disposed air-pump which has its piston-rod *l* provided on its lower end with a disk or plate *m*, and between said disk and cylinder and around said rod is a coiled spring *n*, which serves to move said rod outward, as shown in my patent hereinbefore referred to. Below said disk is located the horizontal arm *c* of the track instrument, which arm is provided on its free end with a roller *c''*, on which said disk rests. Said roller also serves as a bearing for said arm in its movement to reduce the friction and resultant wear. Preferably on one of the journal-boxes *a'* below the disk is provided a rubber cushion *o*, and on the upper side of the arm *c* is also provided another cushion *p*. On the shaft *a*



is secured a collar *h'*, provided with an upwardly-extending arm *i'*, to which is connected one end of a coiled spring *j'*, which has its opposite end secured, preferably, to the pump *k*, which spring serves to draw the instrument to its normal position.

The operation of my improved track instrument, when used in connection with an air-pump, is as follows: When a train is moving in the direction in which the arm *b* is inclined, the wheels thereof strike the lever *b'* on its side, whereby the arm *b* is depressed, thereby rocking the shaft *a* and throwing up the arm *e* thereon, which forces up the pump-piston, and between each contact with the wheels the piston-rod is pushed outward by means of the spring *n*, as aforesaid. When a train is moving in the opposite direction, the wheels strike the lever *b'* in its top, whereby the same is pushed down and moves in the slot *c'* in the arm *b*, and thereby does not depress the said arm. Said lever is forced to its normal position by means of the spring *i* bearing on the outer end, as aforesaid.

In referring to Fig. 2, *A* represents an electric-bell circuit, and *q* indicates the circuit maker and breaker, which is operated by the arm *c* of the track instrument.

I do not limit myself to the combination of the track instrument with the pump or with an electric-circuit maker and breaker, as the same are shown merely for illustration of two of the various applications to which it is adapted.

What I claim as my invention is—

1. In the herein-described railway-track instrument, the combination of a rock-shaft, a power-transmitting arm secured thereto, a lever fulcrumed on said shaft and actuated by the wheels of a train moving in one direction to rock said shaft, and having a free movement when actuated by a train moving in the opposite direction, and a spring to move said lever to its normal position, as set forth.

2. In the herein-described railway-track instrument, the combination of a horizontal rock-shaft, a power-transmitting arm secured

to the outer end of said shaft, an upwardly-extending slotted arm secured to the inner end thereof, a lever fulcrumed on said shaft and having its inner end engaging said slotted arm and in the path of the car-wheels to be actuated thereby, and springs moving said shaft and lever to their normal positions, as set forth.

3. In the herein-described railway-track instrument, the combination of a horizontal rock-shaft extending from the track, a horizontal arm secured to the outer end thereof, an oblique arm secured to the inner end thereof and provided with a slot, a laterally-inclined lever fulcrumed on said shaft and having its inner end movable in said slotted arm, said lever receiving a side stroke from the car-wheels moving in one direction to move said arm, and receiving a top stroke from the wheels moving in the opposite direction to depress the same in said slot for the purpose set forth.

4. The herein-described railway-track instrument consisting of a horizontal rock-shaft *a* extending from the track-rail, a horizontal power-transmitting arm *c* secured to the outer end of said shaft and an oblique slotted arm *b* secured to the inner end thereof, a sleeve *f* secured to said shaft and formed with a pair of oblique arms *g g* parallel to the slotted arm *b*, an inclined post *f'* supported on the shaft *g'* parallel to the arms *g g* by means of a clamp *g'*, a laterally-inclining lever *b'* supported between the arms *g g* with its inner end in the slotted arm *b* and having a longitudinal slot *e'* formed in its outer end to slide on the post *f'*, a nut *h* secured to the outer end of said post, a coiled spring on the post between said lever and nut *h* and a cushion under said lever all combined for the purpose set forth.

In testimony whereof I have hereunto signed my name this 17th day of July, 1896.

CHARLES H. SHERWOOD. [L. S.]

Witnesses:

D. L. ATKYNS,  
HATTIE M. LOOMIS.