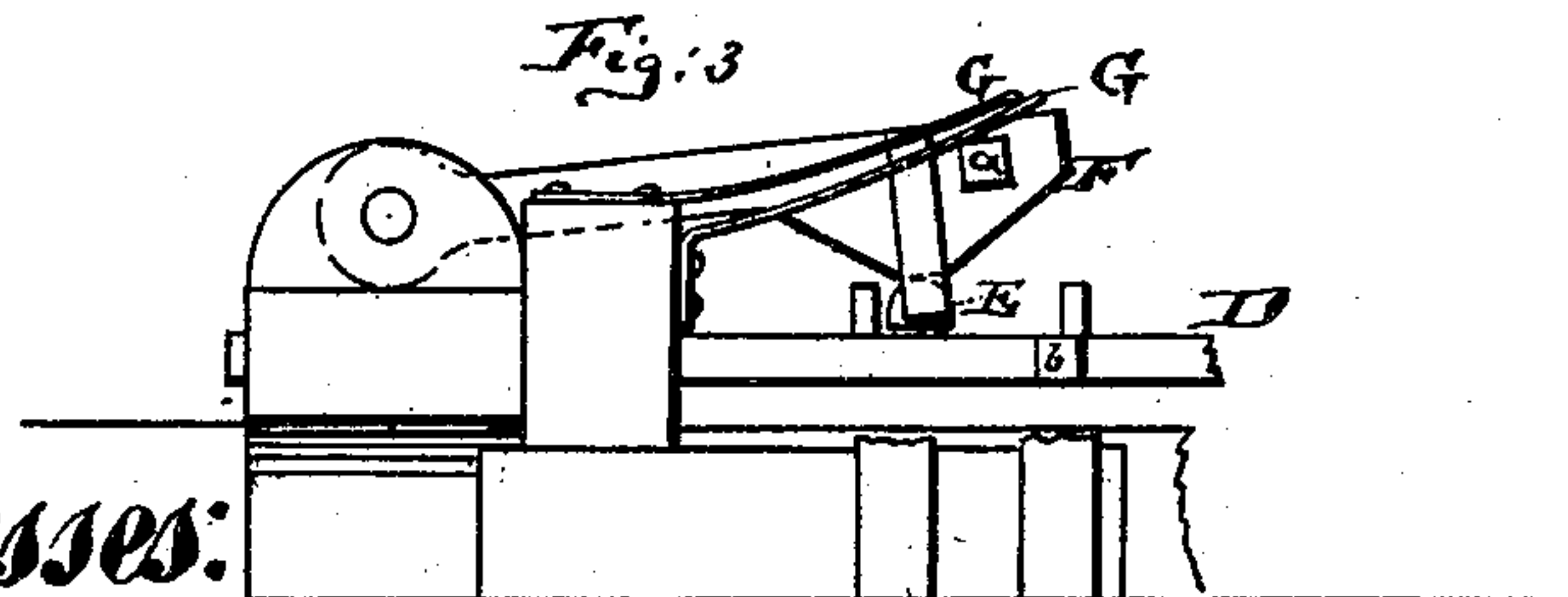
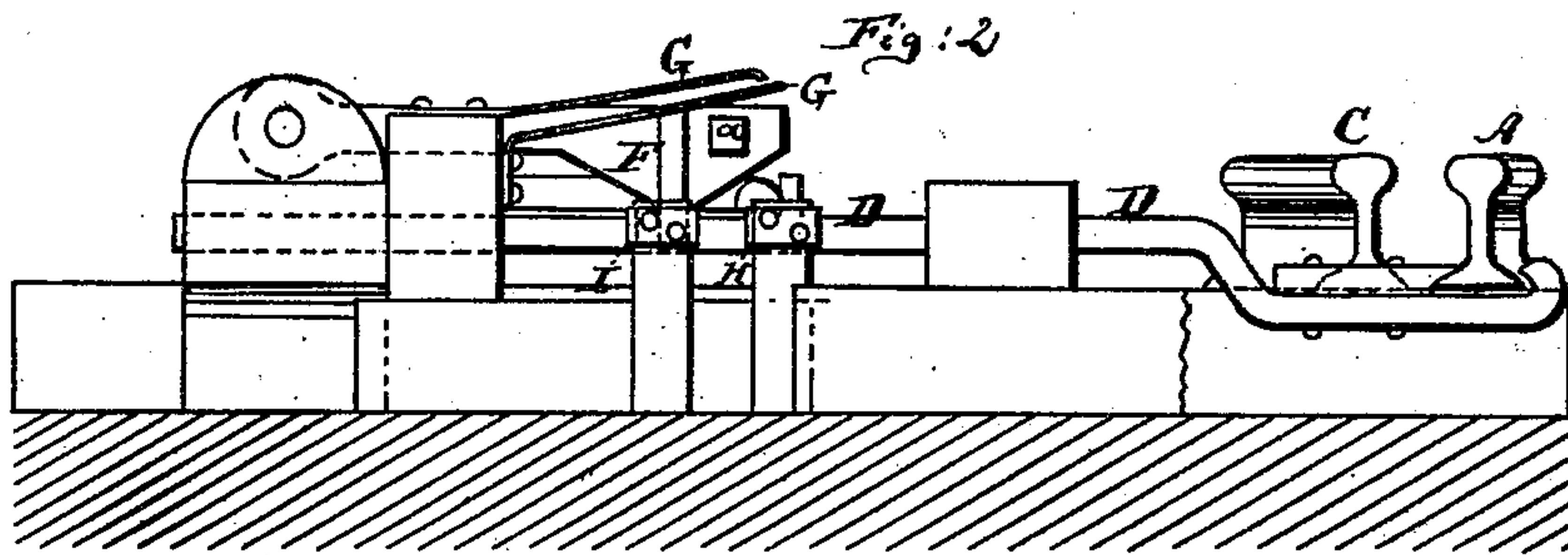
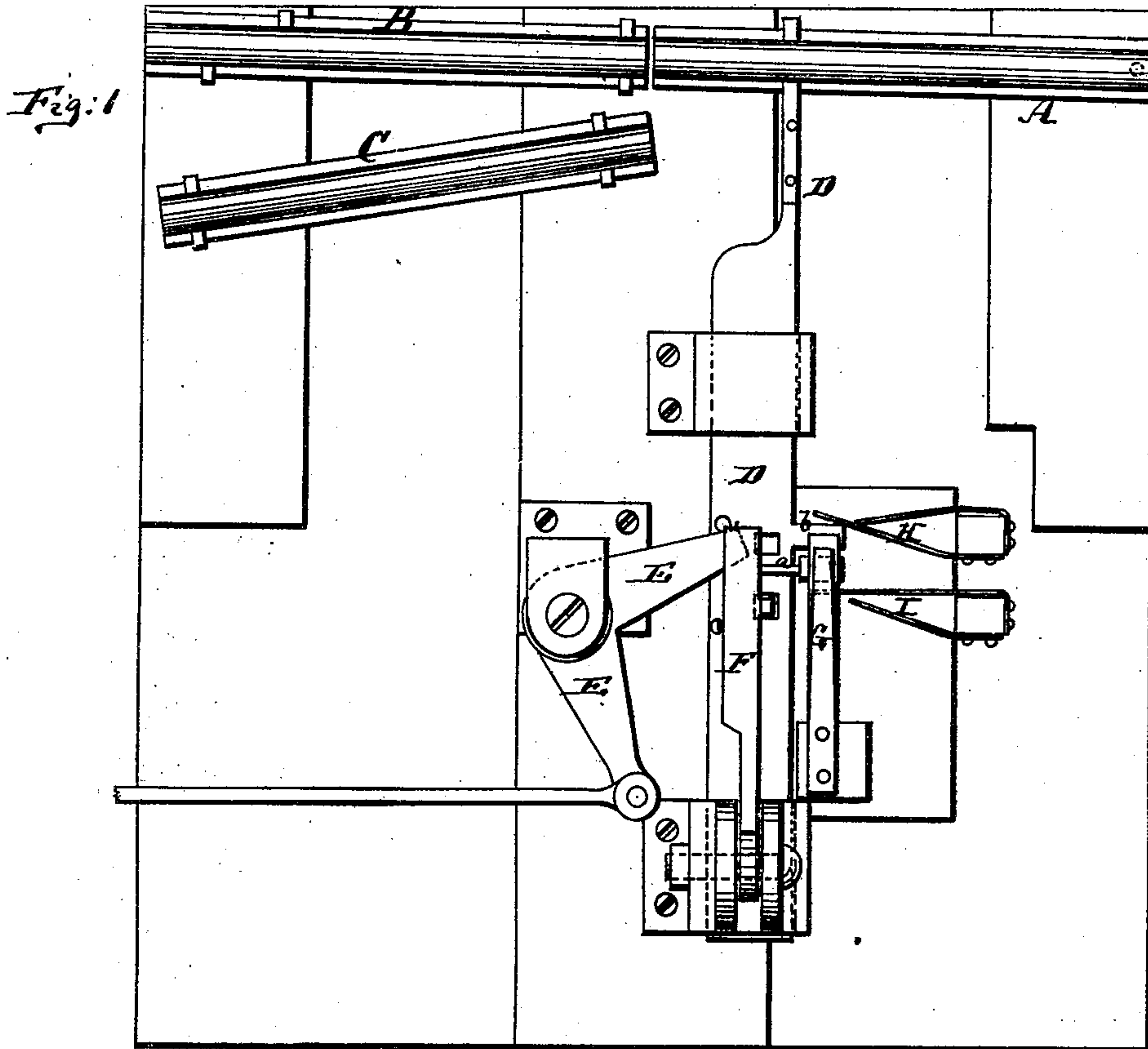


D. ROUSSEAU & W. C. SMITH.
ELECTRIC SIGNALING ATTACHMENT TO RAILROAD SWITCH
LOCKS.

No. 178,880.

Patented June 20, 1876.



Witnesses:

A. Moraga.
Otto A. Weldner.

Inventors:

D. Rousseau
W. C. Smith
by their attorney
Alv. Zieser

UNITED STATES PATENT OFFICE.

DAVID ROUSSEAU AND WILLIAM C. SMITH, OF NEW YORK, N. Y., ASSIGNORS
TO WILLIAM F. SMITH AND SAMUEL SAMUELS, OF SAME PLACE.

IMPROVEMENT IN ELECTRIC SIGNALING ATTACHMENTS TO RAILROAD-SWITCH LOCKS.

Specification forming part of Letters Patent No. **178,880**, dated June 20, 1876; application filed
April 17, 1876.

To all whom it may concern:

Be it known that we, DAVID ROUSSEAU and WILLIAM C. SMITH, of New York city, in the county and State of New York, have invented a new and Improved Signal Attachment to Railroad-Switch Locks, of which the following is a specification:

Figure 1 represents a top view, Fig. 2 a side view, and Fig. 3 a partial side view, of our invention.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to improvements on self-locking railway-switches of the kind, substantially, described in our application for a patent filed February 29, 1876, and allowed March 20, 1876, and to all other kinds of switch-locks, and has for its object to combine with the lock of the switch a signal apparatus which will show at a distant place whether or not the switch is locked. The invention also consists in supplying the switch-moving mechanism with a double signal attachment which will indicate at a distant place the exact position of the switch with reference to the several lines of railroad.

In the drawing, the letter A represents one of a pair of movable switch-rails; B, a rail of the main track, and C a rail of a side track. D is the rod by which the switch-rails A are moved; E, the vibrating finger or device for moving the rod D, and F the locking-lever for locking the switch-rod D in its several terminal positions. All these parts are shown to be arranged the same as they are in our aforementioned application; but they may be differently arranged. G G are a pair of electric-circuit breakers or closers, so placed with reference to the locking-lever F, or a projecting pin, *a*, thereon, that they will be affected by said lever whenever the same is raised, as in Fig. 3. Thus, when the switch is being moved, and the lever F in its unlocking position, a signal to that effect will be given at a distant station or other suitable place; and if, after the switch has been properly adjusted, the lever F should, from any cause, fail to drop into its locking position,

the station-master or other proper officer will be notified that the switch is not locked, and may then at once ascertain the cause and cure the defect.

By the above arrangement the proper locking of the switch is insured. Instead of using electric transmission, other methods of operating the distant signal may be employed, such as pneumatic, hydraulic, or mechanical, and we do not confine ourselves to any particular system of signal-operating—*i. e.*, starting—mechanism.

The rod D carries a projecting lug, *b*, which, at the end of each motion of said rod, comes in contact with one of two sets of electric-circuit closers or breakers, H and I, or other equivalent devices, reaching to different signals, to show that the switch is opened or closed, as the case may be.

We are aware that switch-rods have already been combined with single circuit-closers, to give an alarm whenever the switch is not in line with the main track; but our invention differs in this: that it enables us to show by an absolute signal on the main track that the switch is or is not in line therewith, and by another absolute signal on the side track that the switch is or is not in line with said side track. Thus we are able to give due notice to trains approaching the switch from either direction and on either track. Whenever the switch is placed in line with the side track, the lug *b* leaves contact with circuit-closer H, and by so doing opens the same and causes the proper danger-signal to be given on the main track, and reaches contact with the circuit-closer I, to give the proper safety-signal at the side track, and the reverse when the switch is set in line with the main track. The nature of the signal employed is not within the scope of our present invention, as any suitable style of signal may be used.

We claim as our invention—

1. The combination of the switch-locking lever F and sliding switch-rod D with the signal-transmitting device G, all arranged so that a signal will be given whenever said

lever does not lock the switch-rod D, substantially as herein shown and described.

2. In combination with the switch-rod D, which carries the lug *b*, the independent signal-transmitting devices H and I, to be alternately affected and moved by said lug at the two extremes of the position of the switch, substantially as specified.

The foregoing description of our invention signed by us this 14th day of April, 1876.

DAVID ROUSSEAU.
W. C. SMITH.

Witnesses:

ERNEST C. WEBB,
OTTO A. WEIDNER.