

(No Model.)

2 Sheets—Sheet 1.

J. GRAY & W. HOLLENBACK.
RAILROAD SWITCH.

No. 256,798.

Patented Apr. 18, 1882.

Fig. 1.

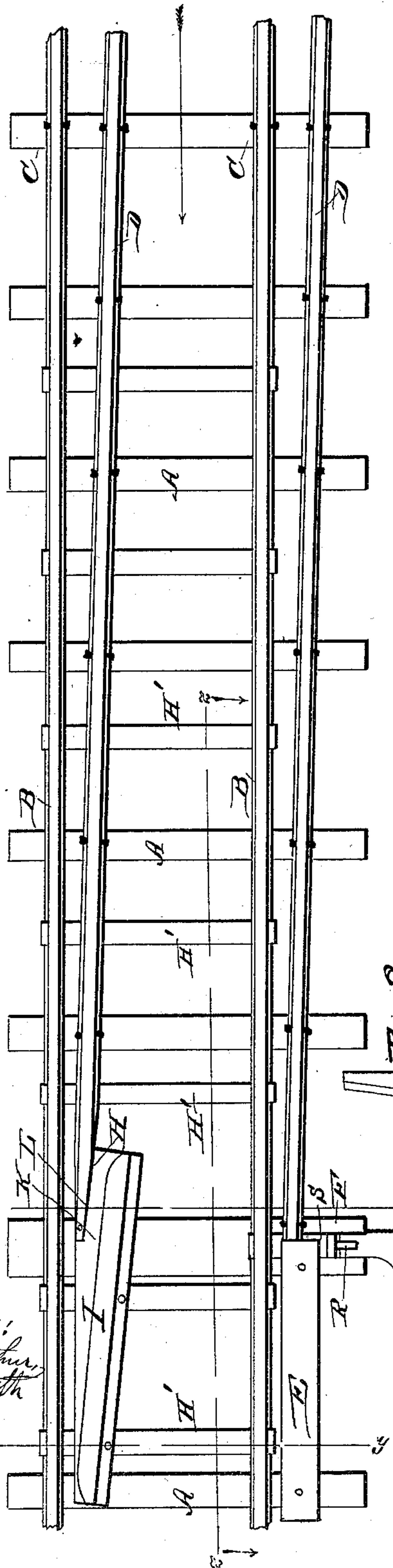


Fig. 6.



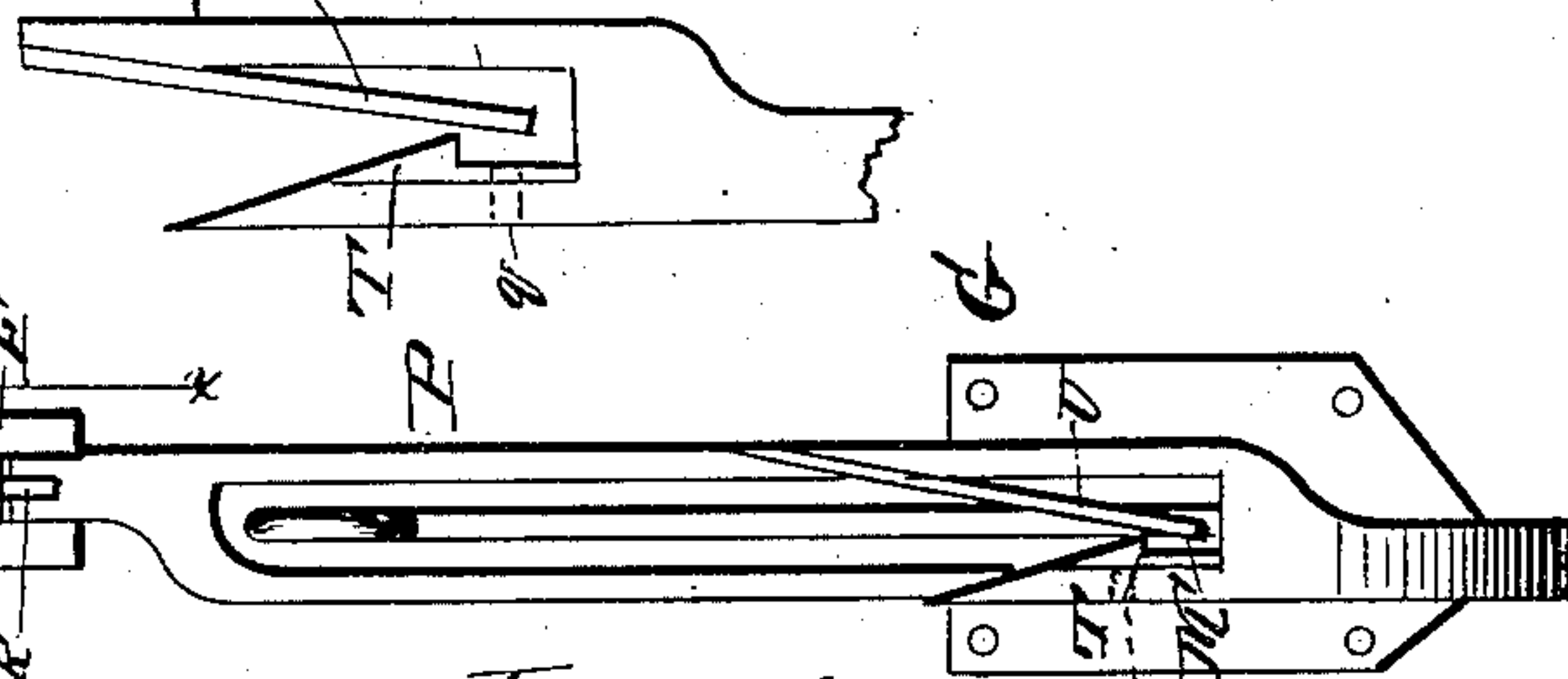
Fig. 5.



Fig. 7.



Fig. 8.



Witnesses:
H. C. McArthur,
W. R. Reynoldson

Inventors:
J. Gray
W. Hollenback,
J. M. Alexander
Attorney.

(No Model.)

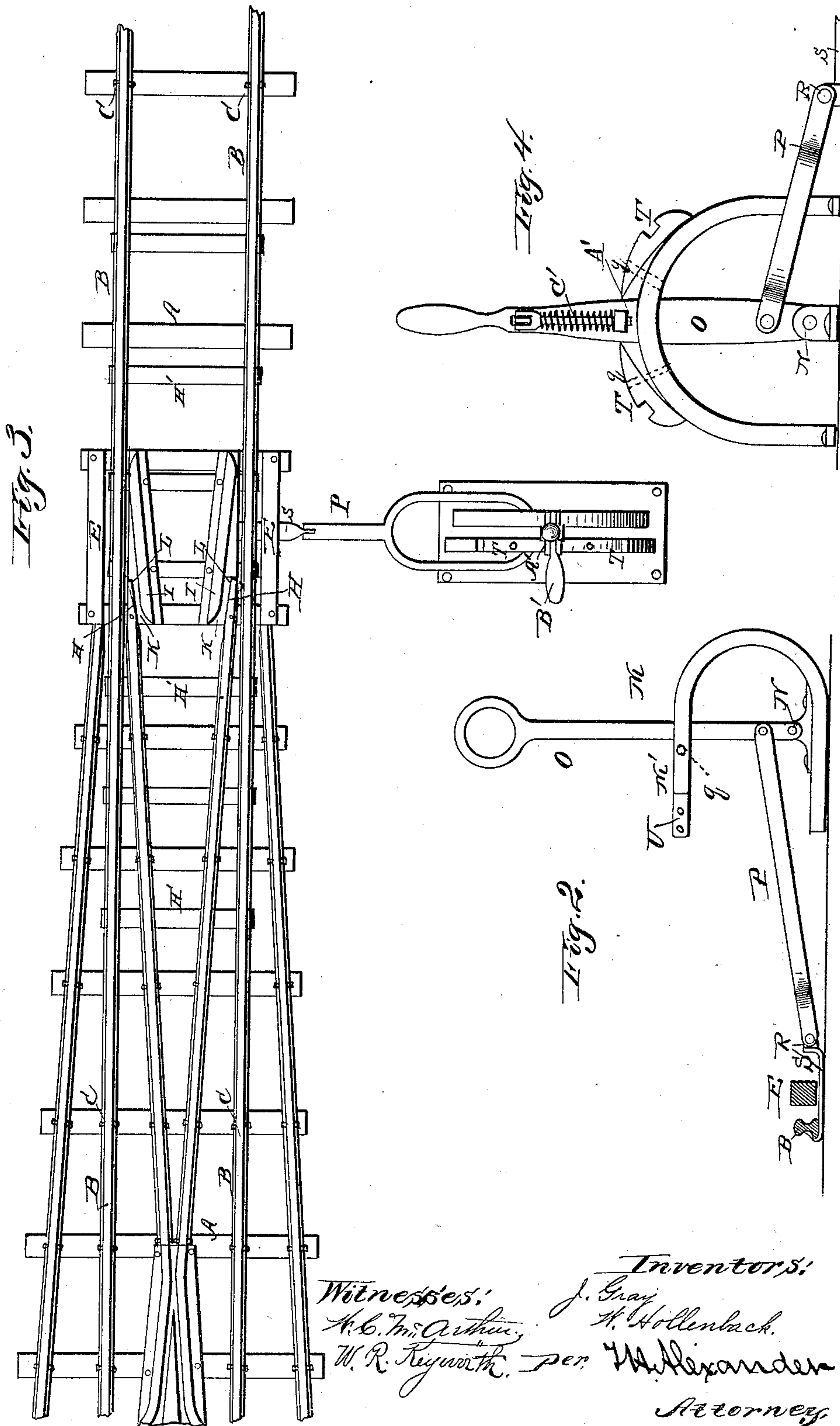
2 Sheets—Sheet 2.

J. GRAY & W. HOLLENBACK.

RAILROAD SWITCH.

No. 256,798.

Patented Apr. 18, 1882.



Inventors:
J. Gray
W. Hollenback.
Witnesses:
H. B. McArthur.
W. R. Keyworth.
Per: W. Alexander
Attorney

UNITED STATES PATENT OFFICE.

JOSIAH GRAY AND WESLEY HOLLENBACK, OF CHICAGO, ILLINOIS, ASSIGN-
ORS TO THEMSELVES, CONNELL B. SHEFLER, AND JACOB R. REED, ALL
OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 256,798, dated April 18, 1882.

Application filed January 11, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOSIAH GRAY and WESLEY HOLLENBACK, of Chicago, in the county of Cook and State of Illinois, have in-
5 vented certain new and useful Improvements in Railroad-Switches; and we do hereby de-
clare that the following is a full, clear, and ex-
act description thereof, reference being had to
10 the accompanying drawings, and to the letters
of reference marked thereon, which form part
of this specification.

This invention relates to certain improve-
ments in railroad-switches; and it has for i's
objects to provide a switch which will be prac-
15 tical and perfectly safe in its operation.

In order to enable others skilled in the art
to which our invention appertains to make and
use the same, we will now proceed to describe
its construction and operation, reference being
20 had to the accompanying drawings, in which—

Figure 1 is a plan view of the switch and its
stand. Fig. 2 is a detail view of the switch-
stand, showing its connection with one of the
switch-rails B of the main track. Fig. 3 is a
25 plan view, showing a modification of Fig. 1.
Fig. 4 is a side elevation of the switch-stand
of Fig. 3. Fig. 5 is a cross-section through
Fig. 1, taken in the plane indicated by dotted
line *y y* thereon. Fig. 6 is a cross-section
30 through Fig. 1, in the plane indicated by dotted
line *x x*. Fig. 7 is a longitudinal section through
part of Fig. 1, in the plane indicated by dotted
line *z z*, looking in the direction of the arrows.
Fig. 8 is a top view in detail of Fig. 1, show-
35 ing the spring U.

The letter A indicates the sleepers or cross-
ties, which are laid upon the road-bed in the
usual manner, and B B indicate the rails of
the main track. The said main rails at that
40 portion forming the switch-sections are bolted
or otherwise secured at their extremities to the
sleepers, as indicated by the letter C, the in-
termediate portions being left unfastened in
order that the rails may spring laterally, as
45 more fully hereinafter specified.

The letters D D indicate the rails of the side
track. These are securely spiked or otherwise
fastened to the sleepers, so as to be stationary.
The outside rail of said side track terminates

in a metallic bar or block, E, which is firmly 50
spiked or bolted to the sleepers on which it
rests, and also to a broad sleeper, F, which
may be extended out and form part of the
switch-stand G, so as to be practically immov-
able under ordinary circumstances. The inner 55
rail of the side track is beveled to an edge at
its extremity, as indicated by the letter H, and
the top of this rail is level with the tops of the
main-track rails. The switch end of the outer
rail, D, of the side track is higher than the tops 60
of the main-track rails—say about two and a
quarter inches—and this end of the said rail
abuts against the highest end of the block or
bar E, as shown in Figs. 1 and 7, which latter
inclines to a point, where it is level with its 65
adjacent main-track rail. The main rails are
connected at suitable points between the sleep-
ers or ties by means of a series of metallic ties
or braces, H', so that the said rails will move to-
gether and always be parallel with each other. 70

The letter I indicates a movable guard-rail
secured to two of the movable ties H'. The
said guard-rail is located inside of the outer
main rail, and obliquely thereto, as indicated
in the drawings. The guard-rail I is provided 75
with a broad base, K, which has a beveled re-
cess, L, at one edge, which engages the bev-
eled end of the inner side rail when the track
is in normal position. The said guard-rail is
beveled or inclined downwardly laterally to- 80
ward the main rail in order to cause the wheels
of the car to travel to the main rail while pass-
ing along said guard-rail. (Shown in Fig. 5.)

The letter G indicates the switch-stand,
which consists of a metallic frame, having ful- 85
crum-bearing N for the switch-lever O, and a
bifurcation, M', in which the upper part of
the said lever is adapted to be locked when
necessary. The switch-lever O connects with
one of the main rails by means of a bifurcated 90
link, P, the arms of which are pivoted at their
ends to said lever O, which they embrace.
The link P is pivoted to a short slide, S, which
is secured to one of the main-track rails B, as
shown in Figs. 1 and 2. The bifurcated arm 95
of the switch-stand is provided with a beveled
catch or detent, T, which is secured to said arm
by a fragile pin, q, that will break and give

way when subjected to an unusual strain, for the purpose hereinafter specified.

The letter U indicates a spring secured to one of the members of the bifurcated arm of the switch-standard for automatically throwing the lever into engagement with the detent or catch when the lever is drawn back.

In the modification shown in Figs. 3 and 4 of the drawings two sets of siding-rails, similar to those above described, are employed, the said siding-rails being so located as to switch the cars to either side of the track, the main rails in this instance being adapted to move laterally in either direction, in order to connect with the siding-rails at either side, as may be desired. Two guard-rails may be employed in this modification, which guard-rails may be similar in construction and arrangement to the aforementioned single guard-rail. In the modification the switch-standard is in the form of two parallel segments, between which the switch-lever is adapted to play, and one of the said segments is provided with three notches, with which is adapted to engage a bolt, A', adapted to slide in suitable ways on the switch-lever, and operated by a lever, B', and spring C', to lock and unlock the switch-lever in either of its three different positions, as required. As thus constructed, the rails of the main track are actually continuous and unbroken, and derailment by running off the track at a misplaced switch can never occur. When the switch is set to run a train upon a side track, if a train should approach upon the main line in an opposite direction, as indicated by the arrows in Fig. 1, it would simply shift the main rails to their normal positions, as the flanges of the wheels on the right-hand side passing between the main rail and the adjacent siding-rail would create such a strain upon the bolt holding the detent or catch as to break it and release the switch-lever and permit it to drop. Hence it will be perceived that it will

be impossible for rolling-stock having the right of way to the main track to run off the main track unless such stock should be defective in construction.

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

1. The combination of the fixed siding-rails, the continuous main-track rails adapted to spring laterally, the guard-rail section I, movable with the main-track rails, the inclined stationary block E, and means for moving the spring-sections of the main-track rails, substantially as described.

2. In combination with the laterally-movable spring-sections of the main-track rails and the fixed siding-rails, the switch-stand, its lever, the connections between said lever and the said laterally-movable sections, the detent or catch for holding the lever, the fragile pin or bolt q, and a spring, U, substantially as described.

3. In combination with the continuous main-track rails, adapted to spring laterally, and their operating mechanism, the siding-rails, constructed as described, the outer one terminating in an inclined block and the inner one in a beveled edge, substantially as described.

4. The combination of the main-track rails, adapted to spring laterally, the inner siding-rail, beveled as described, the inclined block E, and a switch-stand provided with a bifurcated arm having a beveled catch or detent and a spring, the whole arranged to operate as described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOSIAH GRAY.

WESLEY HOLLENBACK.

Witnesses:

H. D. PAUL,

H. S. ARMSTRONG.