

C. S. PAYNE.
DRAFT CONNECTION FOR RAILWAY CARS.
APPLICATION FILED MAY 13, 1903.

NO MODEL.

Fig. 1.

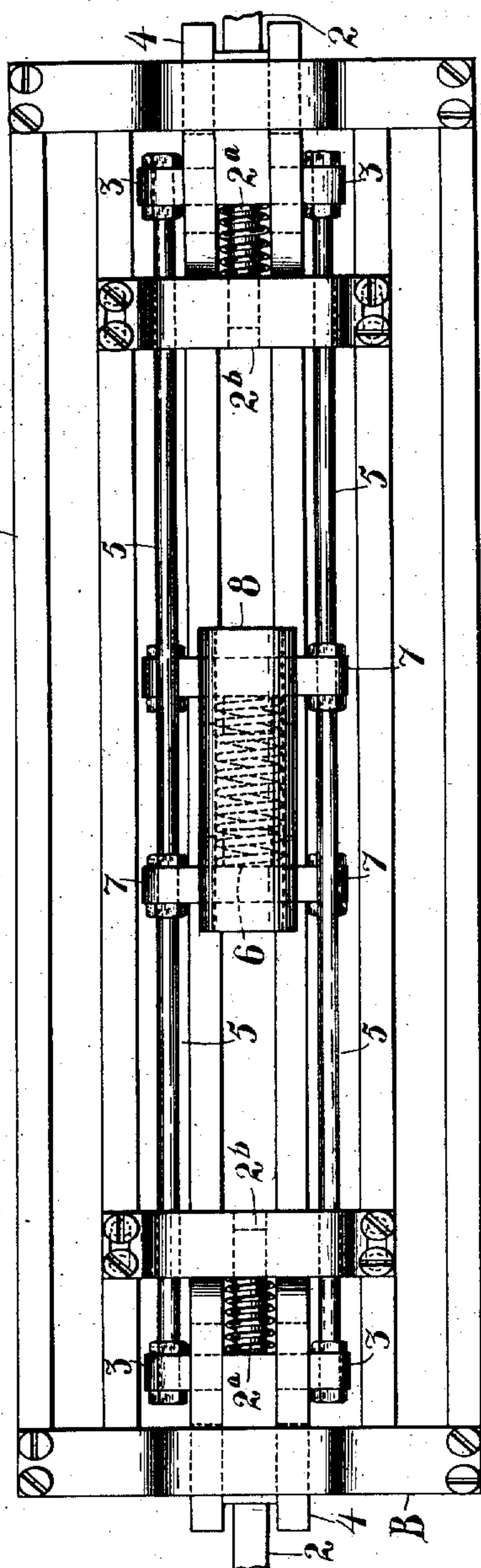


Fig. 2.

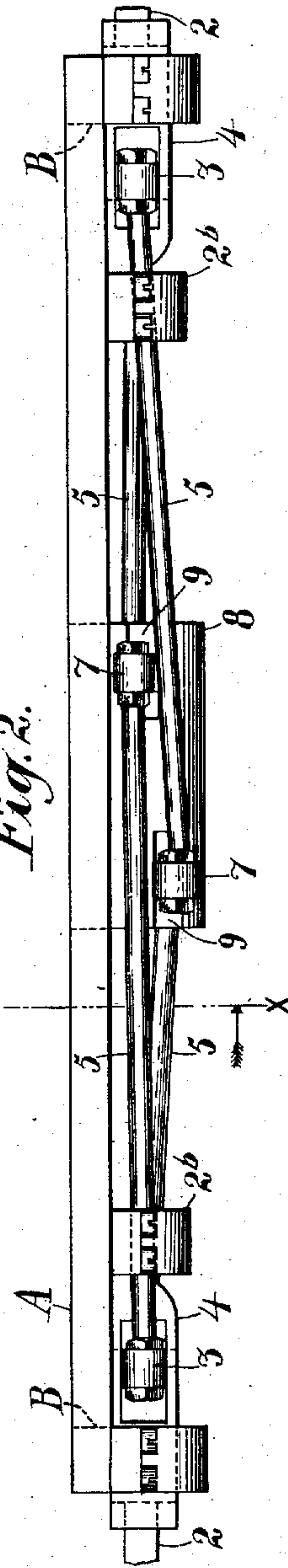
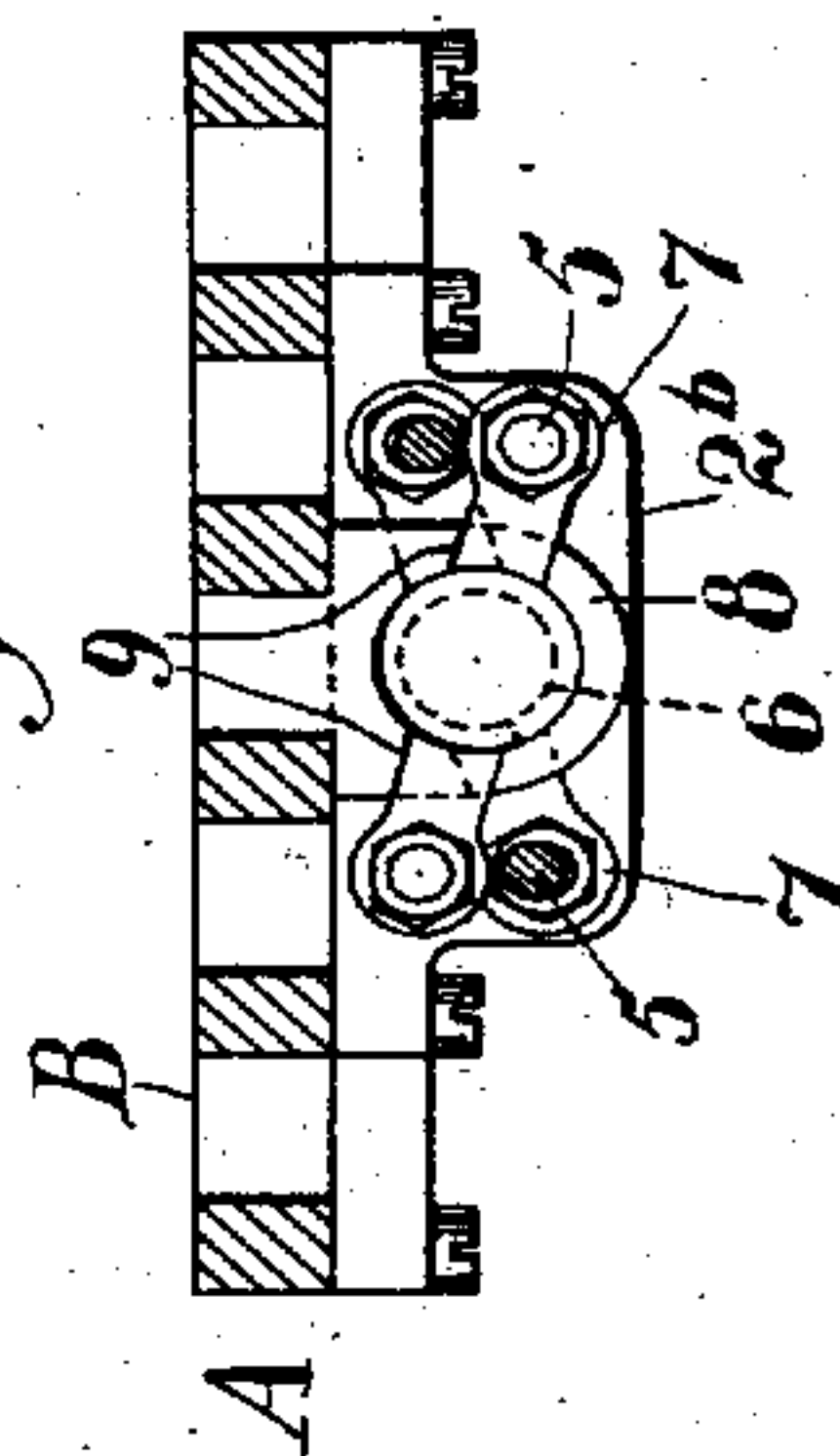


Fig. 3.



Witnesses:
F. C. Fiedner
J. H. Morse

Inventor,
C. S. Payne
Geo. H. Strong, att.

UNITED STATES PATENT OFFICE.

CARL S. PAYNE, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-FOURTH TO LOUISE J. LARNE, OF SAN FRANCISCO, CALIFORNIA, AND E. R. RICE, OF SAUSALITO, CALIFORNIA.

DRAFT CONNECTION FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 749,447, dated January 12, 1904.

Application filed May 13, 1903. Serial No. 156,876. (No model.)

To all whom it may concern:

Be it known that I, CARL S. PAYNE, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Draft Connections for Railway-Cars; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a draft connection for railway and like carriages which are made up into long trains.

It consists in connections between the couplers of the train with intermediate yielding or compressible springs, whereby the connecting-rods are taken up when the train is checked or slows down, and which springs allow the power to be applied gradually without danger of breaking the rods or connections.

Referring to the accompanying drawings, Figure 1 is a bottom view showing my device. Fig. 2 is a side elevation. Fig. 3 is a transverse section through α , Fig. 2.

As shown in the drawings, A represents the longitudinal frame-timbers, and B the transverse end timbers, of a car-body.

2 represents the couplers at each end of the car, and all the cars in a train are provided with similar or equivalent couplers. These couplers are guided and slidable longitudinally and have springs 2^a behind them. The inner ends of the springs abut against blocks 2^b, and these blocks are adjustably fixed exterior to the bolsters, which rest upon the wheel-trucks. The blocks have holes made through them in the line of movement of the couplers, and guide-rods extend from the couplers through these holes as shown. Transversely through these couplers extend the bars 3, and these are slidable in guides, as at 4. From these transverse bars rods 5 extend toward the center of the car.

Located at some point centrally or intermediate between the couplers 2 and the bars 3 is a stout spiral spring or springs, as at 6. Transverse bars 7 are adapted to engage the ends of the spring or springs, and the rods 5 connect with these bars in the following man-

ner: The rods 5 from one end of the car extend to the bar 7 on the opposite side of the spring 6, so that when the pulling strain is brought upon any coupler it will pull through its rods upon the opposite end of the spring. The draft upon the next following coupler will likewise pull through its rods 5 upon the bar 7 at the rear of the spring. Thus the strain upon the two will compress the spring, and the spring may be entirely closed when the full strain is brought upon the cars and especially in ascending grades or wherever there is a heavy pull. Whenever the train is stopped and the momentum of the rear cars causes the pulling strain to be relaxed, the springs 6 will be extended and the bars 7 correspondingly separated, thus taking up any slack which may occur between the couplers and the cars of the train. When the train again starts, the strain will be brought gradually upon the rods by the pressure upon the springs, which are closed up, and the cars are gradually started without sudden strain and a tendency to break the rods. The power being also applied gradually enables the engine to get under a little headway, so that the train is started gradually, as in the case of what are known as "loose couplers."

In my present construction I have shown the spring 6 as inclosed in an exterior casing 8, which has longitudinal slots made upon each side and each end, as at 9. The slots at one end are in a slightly-different plane from those at the other end, so that the rods 5, connecting with the bars 7 at either end, may pass the rods which connect with the bars at the other end, and, pulling in parallel lines and nearly enough in the same line to properly transmit the power from one set of rods and couplers to another, the central portion of the rods 7 may be expanded to form disks or like surfaces which fit against the ends of the springs, so that the pressure is properly distributed over the whole ends of the springs and is evenly transmitted to the projecting ends of the bars 7.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A draft connection for railway-cars including couplers and rods extending therefrom and having their inner ends overlapping and a yielding connection located between the overlapping portions of the rods.
2. A draft connection for railway-cars including couplers and rods extending therefrom and overlapping at their inner ends; a spring connection located between the overlapping portions of the rods, and pressure plates or bars at the ends of the spring connection and each connected with the rod extending from the opposite coupler.
3. A draft connection for railway-cars consisting of rods, a spring connection, springs located beneath the car with pressure rods or plates upon opposite ends with which the inner ends of the rods are connected, slidable couplers and springs by which they are normally pressed outwardly, bars extending through said couplers, with which bars the outer ends of the draft-rods are connected.
4. In a continuous coupling for railway-cars and the like, slidable couplers at opposite ends of the car, springs by which said couplers are normally pressed outward, bars projecting transversely from the couplers, and guides on which said bars are movable, rods connected with the bars and extending beneath the car, a spring having pressure plates or bars at opposite ends with which plates the rods connect whereby the springs are compressed during the pull and take up the slack when the pull is released.
5. A continuous coupling device for railway-cars and the like consisting of rods, slidable couplers, and springs by which they are normally pressed outward, stops against which the inner ends of the springs abut, connec-

tions between the outer ends of the rods and the couplers, a spring fixed intermediate between the couplers having pressure plates or bars at opposite ends, connections between each pair of rods from the coupler to the pressure-plate at the opposite end of said spring, whereby the spring is compressed by the pull and acts to take up the slack when the pull is relaxed.

6. A continuous draft connection for railway-cars and the like, consisting of guided longitudinally - slidable couplers, springs against which the inner ends of the couplers abut and abutments behind the inner ends of the springs, rods having the outer ends connected with the couplers and extending inwardly past each other, a spring located between said rods, pressure plates or bars abutting against opposite ends of the spring, and with which bars the inner ends of the crossed rods are connected, a guiding-case within which the spring is contained and slots in different planes at the opposite ends through which the rod-connecting bars project.

7. A draft connection for railway-cars having rods extending from the couplers and crossing beneath the car, a spring located between the rods, a fixed casing within which the spring is contained, pressure-bars abutting against opposite ends of the spring, and with the inner ends of which the rods are connected, slots made at opposite ends of the casing and in different planes through which slots the bars project so that the pull upon the rods is in parallel lines.

In witness whereof I have hereunto set my hand.

CARL S. PAYNE.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.

Correction in Letters Patent No. 749,447.

It is hereby certified that the name of the first-mentioned assignee in Letters Patent No. 749,447, granted January 12, 1904, upon the application of Carl S. Payne, of San Francisco, California, for an improvement in "Draft Connections for Railway-Cars," was erroneously written and printed "Louise J. Larne," whereas said name should have been written and printed *Louise J. Larue*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23d day of February, A. D., 1904.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.

I claim, and desire to secure by Letters Patent, is—

1. A draft connection for railway-cars including couplers and rods extending therefrom and having their inner ends overlapping and a yielding connection located between the overlapping portions of the rods.
2. A draft connection for railway-cars including couplers and rods extending therefrom and overlapping at their inner ends; a spring connection located between the overlapping portions of the rods, and pressure plates or bars at the ends of the spring connection and each connected with the rod extending from the opposite coupler.
3. A draft connection for railway-cars consisting of rods, a spring connection, springs located beneath the car with pressure rods or plates upon opposite ends with which the inner ends of the rods are connected, slidable couplers and springs by which they are normally pressed outwardly, bars extending through said couplers, with which bars the outer ends of the draft-rods are connected.
4. In a continuous coupling for railway-cars and the like, slidable couplers at opposite ends of the car, springs by which said couplers are normally pressed outward, bars projecting transversely from the couplers, and guides on which said bars are movable, rods connected with the bars and extending beneath the car, a spring having pressure plates or bars at opposite ends with which plates the rods connect whereby the springs are compressed during the pull and take up the slack when the pull is released.
5. A continuous coupling device for railway-cars and the like consisting of rods, slidable couplers, and springs by which they are normally pressed outward, stops against which the inner ends of the springs abut, connections

tions between the outer ends of the rods and the couplers, a spring fixed intermediate between the couplers having pressure plates or bars at opposite ends, connections between each pair of rods from the coupler to the pressure-plate at the opposite end of said spring, whereby the spring is compressed by the pull and acts to take up the slack when the pull is relaxed.

6. A continuous draft connection for railway-cars and the like, consisting of guided longitudinally - slidable couplers, springs against which the inner ends of the couplers abut and abutments behind the inner ends of the springs, rods having the outer ends connected with the couplers and extending inwardly past each other, a spring located between said rods, pressure plates or bars abutting against opposite ends of the spring, and with which bars the inner ends of the crossed rods are connected, a guiding-case within which the spring is contained and slots in different planes at the opposite ends through which the rod-connecting bars project.

7. A draft connection for railway-cars having rods extending from the couplers and crossing beneath the car, a spring located between the rods, a fixed casing within which the spring is contained, pressure-bars abutting against opposite ends of the spring, and with the inner ends of which the rods are connected, slots made at opposite ends of the casing and in different planes through which slots the bars project so that the pull upon the rods is in parallel lines.

In witness whereof I have hereunto set my hand.

CARL S. PAYNE.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.

Correction in Letters Patent No. 749,447.

It is hereby certified that the name of the first-mentioned assignee in Letters Patent No. 749,447, granted January 12, 1904, upon the application of Carl S. Payne, of San Francisco, California, for an improvement in "Draft Connections for Railway-Cars," was erroneously written and printed "Louise J. Larne," whereas said name should have been written and printed *Louise J. Larue*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23d day of February, A. D., 1904.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.

It is hereby certified that the name of the first-mentioned assignee in Letters Patent No. 749,447, granted January 12, 1904, upon the application of Carl S. Payne, of San Francisco, California, for an improvement in "Draft Connections for Railway-Cars," was erroneously written and printed "Louise J. Larne," whereas said name should have been written and printed *Louise J. Larue*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23d day of February, A. D., 1904.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.