

PETITION

To the Commissioner of Patents:

Your petitioner (1) LARS O. GRONDAHL, a
citizen.

of the United States,
residing at Pittsburgh,
in the county of Allegheny, and State of Pennsylvania,
and whose post-office address is care of - The Union Switch & Signal Company,
Swissvale, Pa.,

prays that Letters Patent may be granted to him for the improvements in
APPARATUS FOR THE CONTROL OF TRAIN BRAKES,
set forth in the annexed Specification.

And he hereby appoints (2) A. L. VENCILL,

of The Union Switch & Signal Co.,
~~XXXXXXXX~~ his Attorney with full power of substitution and revocation,
to prosecute this application, to make alterations and amendments therein, to sign his
name to the drawings, to receive the Letters Patent, and to transact all business in the United
States Patent Office connected therewith.

Signed at Swissvale, in the
County of Allegheny, and State of
Pennsylvania, this 3rd day of April, 1930.

(SIGN here FIRST name in FULL.) Lars O. Grondahl

(1) In case of assignment of the invention, application and oath must be made by actual inventor, even if patent issue to assignee.
(2) If the power of attorney be given to a firm, the full name of each member of firm must be given, or it will be ignored.

SPECIFICATION.

To All Whom it May Concern:

BE IT KNOWN, That I, LARS O. GRONDAHL, a
citizen of the United States,
residing at Pittsburgh,
in the County of Allegheny, and State of Pennsylvania,
have invented certain new and useful improvements in
APPARATUS FOR THE CONTROL OF TRAIN BRAKES,

of which the following is a specification:

12-0

My invention relates to apparatus for the control of railway train brakes, and has for an object the provision, in combination with the usual engineer's valve on the locomotive, of auxiliary brake controlling mechanism at another point on the train capable of reproducing the functions of the engineer's valve, and means for causing the condition of such auxiliary mechanism to register with the positions of the engineer's valve.

I will describe several forms of apparatus embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawings, Fig. 1 is a diagrammatic view showing one form of locomotive-carried apparatus embodying my invention for transmitting influences to the auxiliary mechanism. Fig. 2 is a diagrammatic view showing one form of auxiliary mechanism located at another point on a train for reproducing the functions of the engineer's valve, together with means responsive to the influences transmitted by the locomotive-carried apparatus for controlling such mechanism, all embodying my invention. Fig. 3 is a diagrammatic view showing one form of apparatus located at a second point on the train and controlled by the auxiliary mechanism for transmitting influences to the locomotive to indicate to the engineer the condition of the auxiliary mechanism. Fig. 4 is a diagrammatic view showing one form of locomotive-carried apparatus responsive to the influences transmitted from the second point on the train for indicating to the engineer the condition of the auxiliary mechanism. Fig. 5 is a diagrammatic view showing a modification of a portion of the apparatus shown in Figs. 1 and 3, which modification may be used when the influences from the locomotive to the second point on the train and/or vice versa are transmitted by radio.

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Similar reference characters refer to similar parts in each of the views.

Referring first to Fig. 1, the reference character B designates the usual engineer's brake valve having a handle 67 capable of assuming the usual functional positions known as "release", "running", "lap", "service" and "emergency." Operatively connected with the handle 67 of the brake valve B is a circuit controller E, comprising a contact member 52 which moves with the brake valve handle, a fixed contact member 16 with which the member 52 constantly engages, and a plurality of fixed contact members 17, 18, 19 and 20. When the engineer's brake valve handle is in the release position, the contact member 52 engages with member 17. When the handle is in the running position, the movable member 52 engages with fixed member 18. When the handle is in the lap position the movable member 52 engages the fixed member 16 but does not contact with any of the other members of the circuit controller. The member 52 engages contact member 19 or 20 according as the engineer's brake valve handle is in the service or the emergency position.

STATISTICAL EXPERIMENTAL

Located on the locomotive is a generator F of alternating carrier current, the frequency of which may, for example, be 3500 cycles per second. As here shown, this generator is of the vacuum tube oscillator type, comprising an electron tube T^F containing the usual filament 1, grid 2, and plate 3. The filament 1 is constantly heated by a battery 36, and the tube is provided with a grid circuit including a reactor 5. The tube is also provided with a plate circuit including a battery 4, and the primary 6 of a transformer 9. Connected in series with the reactor 5, battery 4, and primary 6, is a condenser 68. In accordance with usual practice, the windings 5 and 6 are closely coupled to provide for mutual inductance between them, although to simplify the drawing they are shown spaced apart. The output frequency of the generator F is determined by the characteristics of the condenser 68, the reactor 5, and the primary 6. The secondary 7 of transformer 9 is included in a series circuit with two windings 26 and 27 located in inductive relation with the two track rails 28 and 29, respectively, which circuit is tuned by a condenser 32 to the output frequency of the generator F.

Also located on the locomotive is a second generator M, which I will term a "modulation" generator, because its output is used to modulate the high frequency output of the generator F. Generator M is, likewise, of the electron tube oscillator type, comprising a tube T^M , together with a reactor 69, a battery 8 and a transformer primary 12, all of which are associated with the tube T^M in the same manner as the corresponding elements, 5, 4 and 6 of the generator F. Windings 12 and 69 are closely coupled to each other for the reason stated above in discussing windings 5 and 6. The secondary 13 of the transformer 10 is connected with the primary 14 of a transformer 11, the secondary 15 of which is included in the grid circuit of the carrier current generator F, whereby the output of the generator F is modulated at the frequency of the current delivered by generator M.

The frequency of the output of the modulation generator M is determined by condensers 22, 23, 24 and 25, of different capacities, one or another of which is connected in series with elements 69, 8 and 12 according to the condition of the circuit controller E. When the engineer's brake valve is in the release position, condenser 22 will be connected with the generator M, and this condenser may be so adjusted that the oscillation frequency of the generator M will be 80 cycles per second. When the engineer's valve is in the running position, condenser 23 is connected with the modulation generator, and this condenser may be so adjusted that the oscillation frequency will be 150 cycles per second. When the engineer's valve is in the service position, condenser 24 will be connected with the modulation generator, and this condenser may be so proportioned that the oscillation frequency will be 350 cycles per second. When the engineer's valve is in the emergency position, condenser 25 will be connected with the modulation generator, and this condenser may be so adjusted that the oscillation frequency will be 500 cycles per second. When the engineer's valve is in the lap position, the condenser circuit is opened and the carrier current delivered by the generator F will be unmodulated. It follows from the foregoing, that the output current of generator F will be modulated at 80, 150, 350 or 500 cycles per second, according as the engineer's brake valve is in the release, running, service or emergency position, and that the output of generator F will be unmodulated when the engineer's valve is in the lap position. It is understood that all of the frequencies hereinbefore mentioned are chosen for purposes of illustration only, and that frequencies differing widely therefrom may equally well be used.

It will be observed that by means of the apparatus shown in Fig. 1, power is delivered to the track rails in the form of a carrier current either unmodulated or modulated at any one of four different frequencies, and that each of these conditions corresponds to a functional position of the engineer's brake valve B.

Referring now to Fig. 2, the apparatus which is shown in this view is located at a second point on the train, which point may, for example, be the caboose of a freight train. This caboose is provided with a main reservoir M^R , a feed valve F^V , and a plurality of electromagnetic valves D arranged to reproduce the functions of the engineer's valve. Of course, the caboose will necessarily be provided with further apparatus, such as a compressor, pressure gauges, governors, etc., similar to the apparatus carried on the locomotive, but the independent brake valve, together with its auxiliary equipment, is not needed. Each valve D is biased to the closed position, and is opened when its associated magnet 70 is energized. When valve D^C is opened, that is, when its magnet 70 is energized, main reservoir M^R will be connected with the brake pipe B^P , so that the apparatus will then reproduce the condition which exists on the locomotive when the engineer's valve is in the release position. When the valve D^R is open, the brake pipe is connected with the feed valve F^V , thereby reproducing the condition existing on the locomotive when the engineer's valve is in the running position. When the valve D^S is open, the brake pipe will be connected with atmosphere through an orifice of such characteristic as to produce a reduction in brake pipe pressure at substantially the service rate of the usual brake valve to effect a service application of the brakes. When valve D^E is open, the brake pipe will be connected with atmosphere through an orifice of such characteristic as to cause an emergency rate of reduction in brake pipe pressure and an emergency application of the brakes. The magnets of the valve D are controlled by apparatus which I will now describe.

The caboose is provided with a receiving circuit comprising two windings 30 and 31 located in inductive relation with the two track rails 28 and 29, respectively, which windings are connected through a condenser 33 with a portion of a reactor 34, this circuit being tuned to the frequency of the carrier current produced by generator F on the locomotive. The reactor 34 is connected with a condenser 35, and these two elements are, likewise, tuned to the frequency of the carrier current. This apparatus, therefore, constitutes a filter G having two stages, both of which are tuned to the frequency of the carrier current, and the filter therefore serves to prevent influence of current from other sources of power on the apparatus for controlling the valves D. The voltage across the terminals of the condenser 35 is applied to the grid circuit of a first amplifier tube A¹, and this grid circuit includes the usual "C" battery 75. The plate circuit for this tube includes a battery 45 and a reactor 39. The output of this amplifier is connected with the grid circuit of a second amplifier A², the two amplifiers being coupled by a tuned circuit consisting of a condenser 37 and a reactor 38. A "C" battery 76 is included in the grid circuit for amplifier A². The plate circuit of the amplifier A² includes the battery 45 and a reactor 41. The plate circuit of the amplifier A² is tuned by a condenser 40 and a reactor 42 to the frequency of the carrier current. From suitable points on the reactor 42, the power is fed into a demodulating full-wave rectifier 43, the output of which is supplied to the primary of a low frequency transformer 44. The output of this transformer, which is of the modulation frequency, is applied to the grid circuit of a third amplifier A³, through a "C" battery 77, and the plate circuit of this amplifier includes the

battery 45 and a reactor 46, as well as the primary of a transformer 49. The plate circuit of the amplifier A^3 is not tuned, but it includes a blocking condenser 48 of large capacity. The secondary of transformer 49 is connected with a plurality of parallel, tuned, condenser-reactor combinations K , each consisting of a condenser 50 and a reactor 51.

The natural frequencies of the condenser-reactor combinations K correspond to the frequencies delivered by the modulation generator M on the locomotive. Combination K^C responds to a frequency of 80 cycles per second, K^R to a frequency of 150 cycles per second, K^S to a frequency of 350 cycles per second and K^E to a frequency of 500 cycles per second.

A portion of the reactor 51 of combination K^C is connected with the input terminals of a full-wave rectifier 52, the output terminals of which are connected with the operating magnet 70 of valve D^C . In a similar manner the magnets of valves D^R , D^S , and D^E are supplied with power from combinations K^R , K^S and K^E respectively.

The operation of the apparatus shown in Figs. 1 and 2, is as follows: When the engineer's brake valve B is in the running position, the carrier current will be modulated at 150 cycles per second, so that valve D^R on the caboose will be open, with the result that the auxiliary brake controlling mechanism will, likewise, be in the running condition. Similarly, when the engineer's brake valve is in the release, service, or emergency position, the carrier current will be modulated at 80, 350 or 500 cycles per second, with the result that on the caboose valve D^C, D^S or D^E will be open, so that the auxiliary mechanism will register with the position of the engineer's valve. When the engineer's valve is in the lap position, the carrier current will be unmodulated, so that all of the valves D on the caboose will be closed, with the result that the auxiliary mechanism will, likewise, be in the lap condition.

In the actual practice of my invention as thus far described, it will probably be desirable to provide indicating apparatus on the locomotive controlled by the auxiliary brake mechanism on the caboose, so that the locomotive driver will know whether or not the condition that he has set up on the locomotive is being duplicated in the caboose, and so that, if it is not being duplicated, he can handle the train accordingly. This necessitates the provision of transmitting apparatus on the caboose and receiving apparatus on the locomotive, and it also necessitates a different frequency for indication from that which is used for the transmitting of influences from the locomotive to the caboose. It will be noted in Fig. 2 that each valve D is provided with a contact 53 associated with a moving part of the valve and arranged to be down or up according as the valve is closed or open.

Referring now to Fig. 3, the caboose is provided with a generator F_1 of carrier current and a generator M_1 of modulating current, which generators are similar in all respects to the corresponding generators on the locomotive. The output of the carrier current generator F_1 may, for example, be 4500 cycles per second, and the output of the modulation generator M_1 may be 80, 150, 350, 500 or 700 cycles per second, according as a condenser 54, 55, 56, 57 or 58 is connected with this generator. When the charging valve D^C of Fig. 2 is open, contact 53^C will be up, so that condenser 54 will be connected with the modulation generator, and the carrier current delivered by the generator F_1 will then be modulated at 80 cycles per second. Similarly, condenser 55, 56 or 57 will be connected with the modulation generator according as valve D^R , D^S or D^E is open, with the result that the carrier current will be modulated at 150 cycles, 350 cycles or 500 cycles per second. When all of the valves D are closed, so that the auxiliary braking equipment is in the lap condition, all four of the contacts 53 will be down, so that condenser 58 will be connected with the modulation generator M_1 , with the result that the output of the carrier current generator will be modulated at 700 cycles per second.

Referring now to Fig. 4, the locomotive is provided with a receiving circuit comprising two windings 30 and 31 located in inductive relation with the two track rails 28 and 29, respectively, which windings are connected with a filter G through a condenser 33, by which the receiving circuit is tuned to the frequency of the carrier current generator F_1 . Filter G may be in all respects similar to the corresponding filter shown in Fig. 2. The output of the filter G is supplied to amplifying and demodulating apparatus H, which may, likewise, be similar to the corresponding apparatus shown in Fig. 2. The output of this apparatus H is supplied to the primary of transformer 49, the secondary of which furnishes power to a plurality of condenser-reactor combinations K_1 , similar in all respects to the combinations K of Fig. 2. These combinations K_1 are tuned to respond respectively to 80, 150, 350, 500 and 700 cycles per second. Each combination K_1 supplies current to a rectifier 52, and each rectifier in turn supplies current to a relay J. These relays control five indicator lamps L^C , L^R , L^S , L^E and L^L , indicating, when lighted, "release", "running", "service", "emergency" and "lap", respectively. When the charging valve D^C on the caboose is open, relay J^C will be energized, so that current will be supplied to lamp L^C , by a circuit which passes from terminal X of a suitable source of current, through the front point of contact 62 of relay J^C and lamp L^C to terminal 0 of the same source of current. Similarly, when relay J^R is energized in response to operation of valve D^R , lamp L^R will be lighted, the circuit being from terminal X, through the back point of contact 62 of relay J^C , front point of contact 62 of relay J^R and lamp L^R to terminal 0. In similar manner lamp L^S or lamp

LE will be lighted in response to energization of valve DS or DE. When all of the valves D are de-energized, so that the output of generator F1 is modulated at 700 cycles per second, relay JL will be energized, with the result that lamp LL will be lighted, thereby indicating that the auxiliary brake controlling mechanism in the caboose is in the lap condition.

Referring now to Fig. 5, I have here shown a modification of the locomotive transmitting apparatus suitable for use when the influences between the locomotive and the caboose are transmitted by radio. Instead of connecting the secondary 7 of transformer 9 with windings associated with the track rails, one terminal of this secondary is connected with ground 63, and the other terminal is connected with an antenna 64. The receiving apparatus on the caboose will, of course, be modified in the same manner, and the same thing will be true of the indication transmitting apparatus on the caboose and the indication receiving apparatus on the locomotive. No other changes are required, except to substitute air core reactors for iron core reactors in the carrier current circuits, and to introduce a grid leak 65 and a condenser 66 in the grid circuits of the carrier current generators TF. Of course, the carrier frequencies will be radically different from those which are used when the influences are transmitted through the track rails, but this merely means adjusting the elements associated with the carrier current generators, so that the tubes of these generators will oscillate at radio frequencies.

Although I have herein shown and described only a few forms of apparatus embodying my invention, it is understood that various changes and modifications may be made therein within the scope of the appended claims without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim is:

1. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, auxiliary brake controlling mechanism at another point on the train, and means selectively responsive to the different positions of said engineer's valve for causing said auxiliary mechanism to reproduce the brake controlling functions of the engineer's valve.

2. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, auxiliary brake controlling mechanism on a car of the train capable of reproducing the several functions of said engineer's valve, and means for causing the condition of said auxiliary mechanism to register with the position of the engineer's valve.

3. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, a source of carrier current on the locomotive, means for modulating the output of said source at different frequencies for different positions of said engineer's valve, auxiliary brake controlling mechanism at another point on the train capable of reproducing the functions of the engineer's valve, and controlling means associated with said auxiliary mechanism and selectively responsive to the several modulations of said carrier current for causing the condition of the auxiliary mechanism to register with the position of the engineer's valve.

4. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, auxiliary brake controlling mechanism at another point on the train capable of reproducing the functions of said engineer's valve, transmitting means on the locomotive including a source of high frequency carrier current, means for modulating the output of said source at different frequencies for different positions of the engineer's valve, receiving means at said second point, and demodulating means associated with said receiving means for causing the condition of said auxiliary mechanism to register with the position of the engineer's valve.

5. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, transmitting means on the locomotive including an oscillator generating a high frequency carrier current, modulating means on the locomotive including an oscillator generating low frequency modulating currents, means for coupling the plate circuit of said modulation oscillator with the grid circuit of said carrier current oscillator, a plurality of multiple shunts for the tuning circuit of said modulation oscillator including condensers of different capacities, means for closing different ones of said shunts for different functional positions of said engineer's valve, and auxiliary brake controlling mechanism at another point on the train selectively responsive to the several modulations of said carrier current.

6. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, transmitting means on the locomotive including an oscillator generating a high frequency carrier current, modulating means on the locomotive including an oscillator generating low frequency modulating currents, means for coupling the plate circuit of said modulation oscillator with the grid circuit of said carrier current oscillator, means for varying the output frequency of said modulation oscillator according to the functional positions of said engineer's valve, and auxiliary brake controlling mechanism at another point on the train selectively responsive to the modulation frequencies of said carrier current.

7. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, means on the locomotive for transmitting a carrier current modulated at different frequencies for different functional positions of the engineer's valve, means at another point on the train for receiving such modulated current, a plurality of multiple circuits receiving current from said receiving means and tuned respectively to said different modulation frequencies, and auxiliary mechanism including valves controlled by said circuits for reproducing the functions of said engineer's valve.

8. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, auxiliary brake controlling mechanism at another point on the train capable of reproducing the functions of the engineer's valve, means for causing the condition of said auxiliary mechanism to register with the position of the engineer's valve, and indicating means on the locomotive controlled by said auxiliary mechanism.

9. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, auxiliary brake controlling mechanism at another point on the train capable of reproducing the functions of the engineer's valve, means for causing the condition of said auxiliary mechanism to register with the position of the engineer's valve, transmitting means including a generator of high frequency carrier current and a generator of modulating current at said second point, means for varying the frequency of the output of said modulation generator according to the condition of said auxiliary mechanism, means on the locomotive receiving the modulated current delivered by said transmitting means, demodulating apparatus associated with said receiving means, and signals controlled by said demodulating apparatus.

10. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, transmitting means on the locomotive including a source of carrier current of one frequency modulated at different lower frequencies corresponding to different functional positions of the engineer's valve, auxiliary brake controlling mechanism at another point on the train selectively responsive to the frequencies of modulation of said carrier current to reproduce different functions of the engineer's valve, transmitting means at said second point including a source of carrier current of another frequency modulated at different lower frequencies corresponding to the several functional conditions of said auxiliary mechanism, and signaling apparatus on the locomotive selectively responsive to the frequencies of modulation of said second carrier current.

11. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, means for impressing on the track rails a carrier current modulated at different frequencies corresponding to different functional positions of said engineer's valve, and auxiliary brake controlling mechanism at another point on the train receiving energy from the track rails and selectively responsive to said modulated current to reproduce such functions of the engineer's valve.

12. Apparatus for the control of train brakes comprising, in combination with the usual engineer's valve on the locomotive, a radio transmitter on the locomotive, means for supplying said transmitter with a carrier current modulated at different frequencies corresponding to different functional positions of said engineer's valve, a radio receiver at another point on the train, and auxiliary brake controlling mechanism controlled by said receiver and selectively responsive to the modulations of said carrier current to reproduce the functions of said engineer's valve.

In Testimony Whereof I affix MY signature.

Lars O. Grondahl
(Sign here, First name in full.)

OATH

STATE OF PENNSYLVANIA }
COUNTY OF ALLEGHENY } ss:

LARS O. GRONDAHL,

the above-named petitioner..., being duly sworn, deposes and says that he is a
citizen... of (1) the United States,
and resident... of Pittsburgh, in the County of Allegheny and State
of Pennsylvania,

that he verily believes himself to be the original, first, and (2) sole
inventor... of the improvements in
RAILWAY TRAFFIC CONTROLLING APPARATUS,

described and claimed in the annexed specification; that he does not know and does
not believe that the same was ever known or used before his invention or discovery
thereof, or patented or described in any printed publication in any country before his
invention or discovery thereof, or more than two years prior to this application, or in public
use or on sale in the United States for more than two years prior to this application; that
said invention has not been patented in any country foreign to the United States on an
application filed by him or his legal representatives or assigns more than
twelve months prior to this application; and that no application for patent on said improvement
has been filed by him or his representatives or assigns in any country foreign
to the United States, ~~except as to the above~~

(Sign here FIRST name in FULL.) Lars O. Grondahl

Sworn to and subscribed before me this 3rd day of April, 1930.

W. L. McDaniel
(Official Signature.)

Notary Public.
(Official Character.)

My commission expires - Jan. 21, 1931.

Acknowledgment should be made before a Notary Public, who must affix his seal. If executed before an officer not
a Seal, the Certificate of the Judge or Clerk of County Court must be affixed, showing official character of such officer.

Applicant be an alien, the oath must show of what foreign or
overseign State he is a citizen or subject.
Joint" or "Sole."

(3) If any application for foreign patent has been filed twelve months prior
to this application, applicant will be required before issuance of patent
to show that no patent has been granted on application so filed.

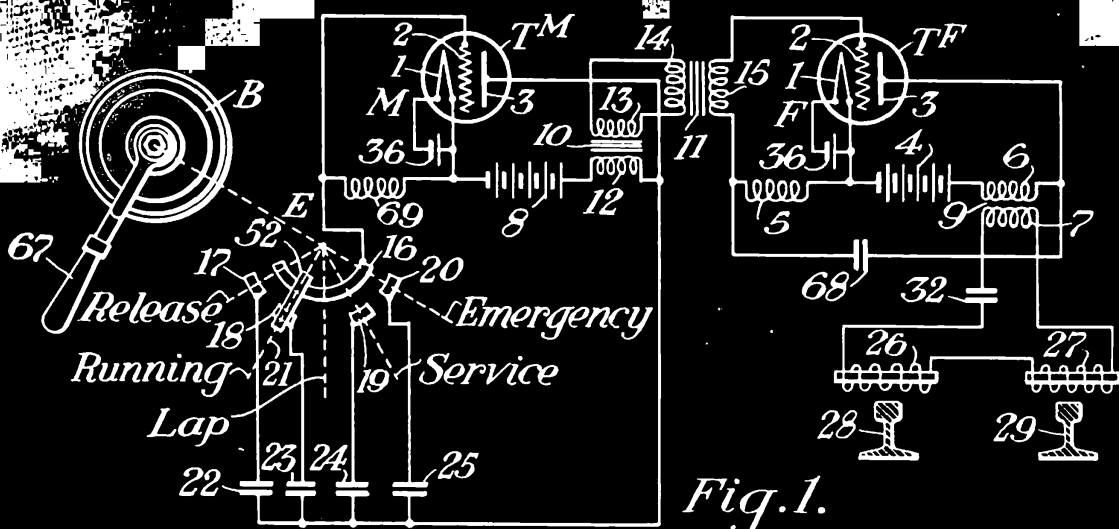


Fig. 1.

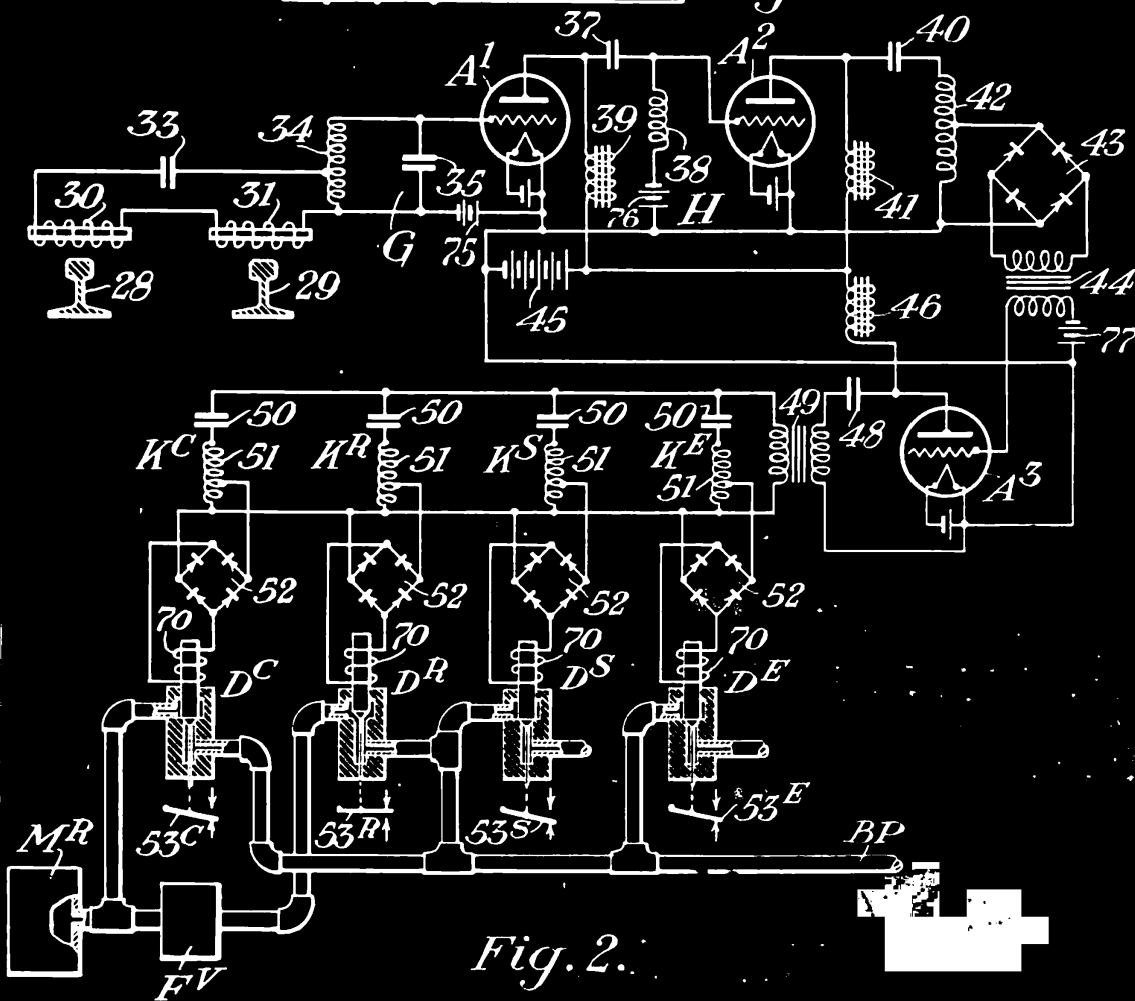


Fig. 2.

INVENTOR :

L.O. Grondahl,
 by A. D. Vercell
 His Attorney

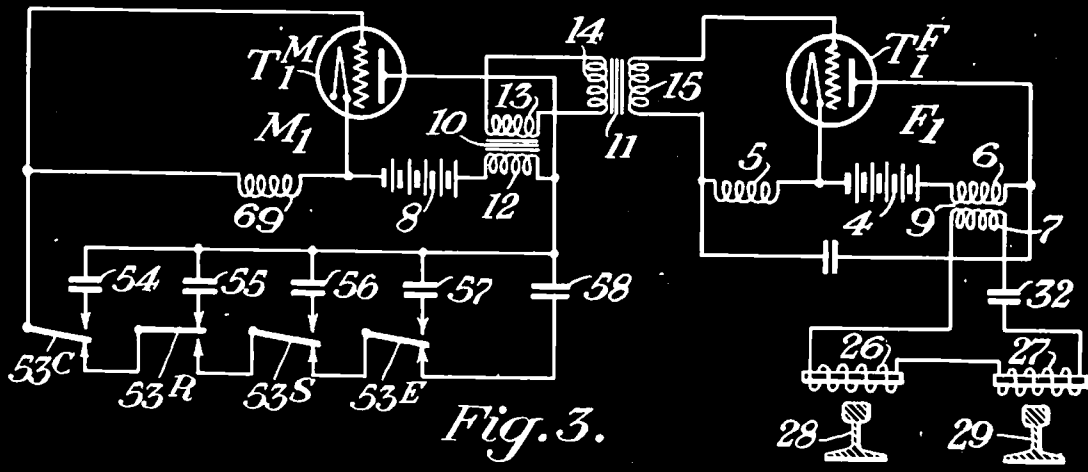


Fig. 3.

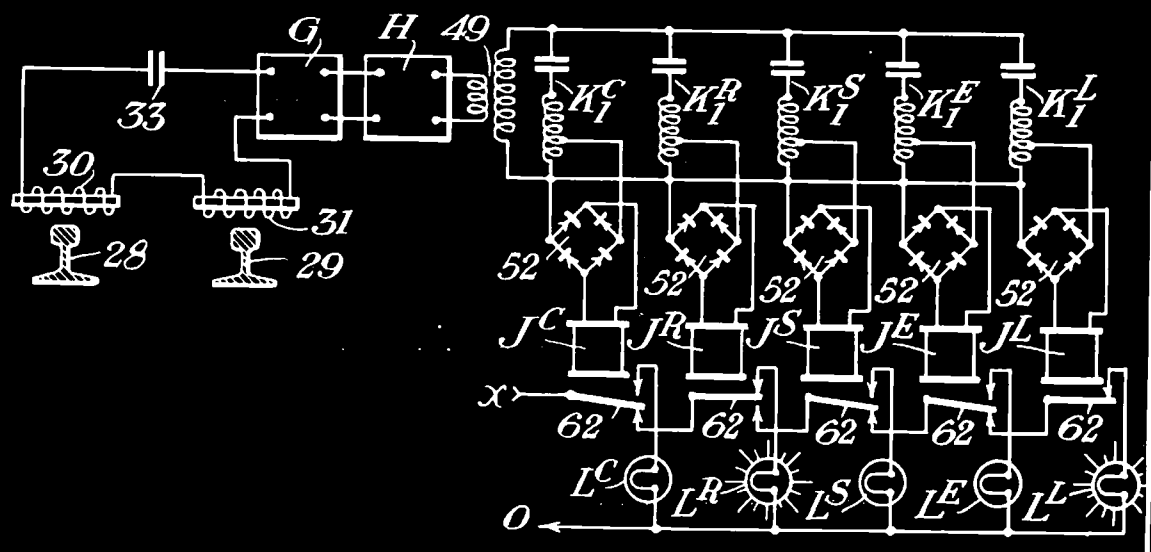


Fig. 4.

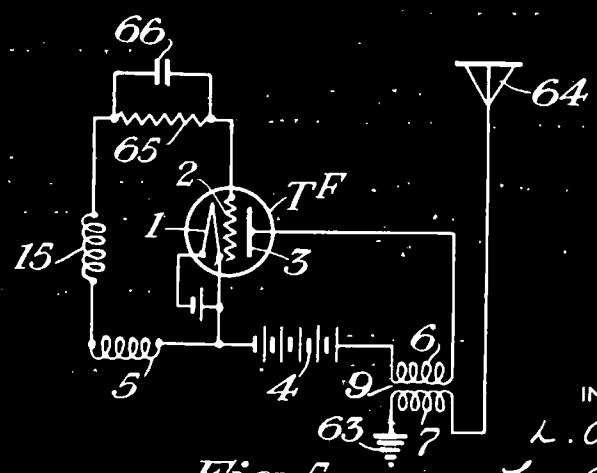


Fig. 5.

INVENTOR ;
 L. C. Grondahl,
 by A. R. Venable
 His Attorney

Ans. 172223 / 30

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U. S. & S. CO.
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PATENT DEPT.

MINISTERIO DE ECONOMIA NACIONAL

REGISTRO DE LA PROPIEDAD INDUSTRIAL

Patente de *Invencción*

Sin la garantía del Gobierno en cuanto a la novedad, conveniencia, utilidad e importancia del objeto sobre que recae

El Excmo. Sr. D. *Luis Rodríguez de Vique*

Ministro de Economía Nacional

Certifico: Que *Compagnie des Freres Vertinskyhausen*

domiciliado en *París*

ha presentado con fecha *22* de *Octubre* de mil novecientos *30*

en el *N.º 2* una instancia documentada en solicitud

de Patente de *Invencción por Mejoras en la regulación o control de los aparatos de freno por compresión de un fluido para ferrocarriles antiguos*

y por la que declara ser el inventor

Y habiendo cumplido con lo que previene sobre el particular la ley de 26 de julio de 1929, se expide a favor de dich. *Luis* la presente Patente de *Invencción* que le asegure en la Península, islas adyacentes, colonias y Protectorados españoles por el término de *veinte* años contados desde la fecha del presente título y sin perjuicio de tercero, el derecho a la explotación exclusiva de la mencionada industria en la forma descrita en la Memoria y *planes* unid. a esta Patente y con arreglo a lo establecido en el art. 45 de la Ley.

De esta Patente se tomará razón en el Registro de la Propiedad Industrial del Ministerio del ramo, y se previene que caducará y no tendrá valor alguno si *Luis* no satisface en dicho Registro y en la forma que previenen los arts. 123 y 124, el importe de las cuotas anuales que establece el art. 321 y no acredita ante el mismo Registro en el plazo improrrogable de tres años, contados desde esta fecha y del modo que señala el artículo 95, que ha puesto en práctica en territorio español el objeto de la Patente estableciendo una nueva industria en el país.

Madrid, *2* de *Noviembre* de mil novecientos *30*

MINISTERIO DE ECONOMIA NACIONAL

REGISTRO DE LA PROPIEDAD INDUSTRIAL

CERTIFICADO DE ADICION

a la patente de núm. concedida a

con fecha de de mil novecientos

por años por

Sin la garantía del Gobierno en cuanto a la novedad, conveniencia, utilidad e importancia del objeto sobre que recae

El Excmo. Sr. D.

Ministro de Economía Nacional

Certifico: Que

domiciliado en

ha presentado con fecha de de mil novecientos

en el una instancia documentada en solicitud de Certificado de adición a la referida Patente que le asegure el derecho a la explotación exclusiva de

Y habiéndose cumplido con lo que previene sobre el particular la ley de 26 de julio de 1929, se expide a favor de dich el presente Certificado de adición que le asegure en la Península, islas adyacentes, posesiones españolas y Protectorado de Marruecos, desde esta fecha hasta la en que termine la concesión de la Patente principal, el derecho a la explotación exclusiva de la mencionada industria en la forma descrita en la Memoria unid a este Certificado.

De este Certificado se tomará razón en el Registro de la Propiedad Industrial del Ministerio del ramo, y se previene que caducará y no tendrá valor alguno si no acredita en el improrrogable plazo de tres años, contados desde esta fecha, haber puesto en práctica en los dominios españoles el objeto de este Certificado.

Madrid, de de mil novecientos

18 FEB. 1931

[Handwritten signature]



4.ª CLASE 10 PESETAS

Parte inferior para unir al expediente.

B.3.651.516★

N.º _____



Reintegro de diez pesetas importe de los derechos de presentación en el expediente de patente a favor de COMPAGNIE DES FRERES WESTIN ROUEL,

Madrid 27 de diciembre de 1930

[Handwritten signature]

PROVINCIAS





4.ª CLASE 10 PESETAS

Parte inferior para unir al expediente.

B.3.660.135 ★



Unir la parte superior

Expediente n.º 121182 Reintegrar
10 pesetas importe de la Clase en
patente de invención por cañón a nombre

Compañía del Frenos Westinghouse

Concedida el 2 Enero 1921
Madrid 3 de Febrero de 1921



PÓLIZA
CL. 2ª S. A NÚMERO 24498
de " " 24489

PROVINCIAS



AÑO 1931

Extracto del expediente promovido por *Compagnie des Freres Ves-*
tinghouse
residente en *Francia* . Representante: *Blabrun*

El *R. P. J.* remite
en *29* de *Sept* de 19*30*, dicho expediente de solicitud de *pa-*
rente de Invención por *Mejoras en la*
regulación o control de los aparatos
de fríos por compresión de un
fluido para fríos caridos antiguos

cuyo objeto declara *propia y nueva*

Este expediente fué presentado en la referida dependencia en *27* de *Sept*
de 19*29* a las *12:51*, y llegó a este Negociado en *29* de *Oct*
de 19*30*.

A la solicitud del interesado acompañan los documentos siguientes: Memoria descrip-
tiva *y planos* por triplicado, índice de los documentos, autorización y
el acta de presentación expedida por el *R. P. J.*

Adolécete la documentación de los defectos siguientes:

N O T A

Pase a informe.

Visto lo consignado en el anterior extracto procede pase a la Asesoría técnica para que informe sobre

N O T A

Suspense por defectos.

Procede publicar en el BOLETÍN OFICIAL DE LA PROPIEDAD INDUSTRIAL los defectos antes indicados para que el interesado los subsane en el término de dos meses, a partir de la publicación de dicho Boletín.

V. S. resolverá.

Madrid, de de 19.....

Publicado en el Boletín de de de 19....., con fecha de de 19....., el interesado subsanó los defectos; procede, por lo tanto, continuar la tramitación.

Madrid, de de 19.....

El JEFE DEL NEGOCIADO,

N O T A

Concesión de *patente* Examinada la documentación de este expediente resulta:

de invención
de Despreins
Vertinghouse
con la Succión
2-1-931-

- 1.º Que la forma de la solicitud se halla ajustada a lo prevenido en el art. 112 de la ley a favor de D. *Louyrag* de 26 de julio de 1929.
- 2.º Que se han recibido las Memorias *y plans* por triplicado.
- 3.º Que están perfectamente conformes entre sí los triplicados de la Memoria.....
- 4.º Que el objeto de la Patente es de los comprendidos en el art. 46 de la citada Ley,

En vista de todo procede conceder a *Louyragne des*
preins Vertinghouse, patente de
invention pour Meijoras en la regu-
lation o' control de los aparatos de
frase por compresion o' succion
para ferrocarriles antiguos

V. I. resolverá.

Madrid, 2 de *enero* de 19 *31*

121132

Jefe del Negociado
En *de* *de* *de*
de *de* *de* *de*

de 19....., pagó los derechos correspondientes a

N O T A

Proponiendo el cambio de Memorias.

En de de 19....., el interesado remite nuevas Memorias para subsanar errores materiales o de forma padecidos al hacer la redacción; procede, con arreglo a lo dispuesto en el art. 28 de la ley de 26 de julio de 1929, acceder a lo solicitado, considerando como nulas las que se acompañaron al solicitar este expediente.

V. S. resolverá.

Madrid, de de 19.....

EL JEFE DEL NEGOCIADO,

N O T A

Proponiendo la denegación de la Patente de por

Vista la instancia presentada por en solicitud de patente de por

que se refiere a

Y considerando que el objeto de la Patente se encuentra comprendido en el art. 48 de la ley de 26 de julio de 1929, el Negociado entiende, y así tiene el honor de proponerlo a la Superioridad, que procede denegar la concesión de la Patente de referencia.

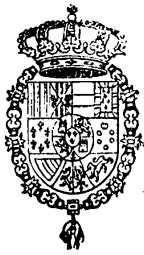
V. I., no obstante, resolverá.

Madrid, de de 19.....

EL JEFE DEL NEGOCIADO,

En de de 19....., D. remite escrito, fechado en de de 19....., manifestando que concede permiso para la explotación del objeto de la Patente de y solicitando, en su consecuencia, la declaración de puesta en práctica de la misma.

12.132



Don Evaristo Posa y Labaco

Don **EVARISTO POSEA Y LABACO,**

Encargado del Registro de entrada de los expedientes de Propiedad Industrial y Comercial.

Declaro: Que a las

vece y cuarenta y cinco

del día de hoy, me ha sido presentada una exposición dirigida al ~~Excelentísimo Sr. Ministro~~ Ilmo. Sr. Jefe del Registro de ~~la Propiedad Industrial,~~ ~~de Economía Nacional,~~ en solicitud de Patente de Invención, por VEINTE años,

por D. Alberto de Elzaburu, en nombre y representación de COMPAGNIE DES FREINS WESTINGHOUSE, constituida en Francia y establecida en Etablissements de Breinville, SEVRES, Francia, por "mejoras en la regulación o control de los aparatos de freno por compresión de un fluido, para ferrocarriles o análogos",

[Firma manuscrita]

a cuyo efecto acompaña a dicha exposición los documentos prevenidos por la Ley.

Y para que conste, libro la presente, visada por el Sr. Secretario del Registro, en Madrid,

a veintisiete de diciembre de mil novecientos treinta

V.º B.º
EL SECRETARIO DEL REGISTRO,

[Firma manuscrita]

[Firma manuscrita]

R. J. J.

DOCUMENTOS correspondientes a la solicitud de *[redacted]* de Invención,
 a nombre de *[redacted]* COLPAGNE DES FREINS
 por VEINTE años,
 WESTINGHOUSE, constituida en Francia y establecida en Etablissements de Preinville,
 SEVRAN, Francia, por mejoras en la regulación o control de los aparatos de freno
 por compresión de un fluido, para ferrocarriles o análogos.

Madrid, 27 de diciembre de 1930.

F. A.
 Alberto de Elzabur
 Por Poder

Presentada a las *12 y 15* minutos
 de hoy 27 de diciembre de 1930

14132

INDICE de los documentos que en esta fecha, en solicitud de registro de Patente de Invención, por VEINTE años, por "mejoras en la regulación o control de los aparatos de freno por compresión de un fluido, para ferrocarriles o análogos",



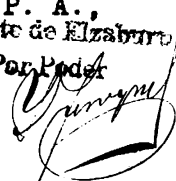
presenta al Illmo. Señor Jefe del Registro de la Propiedad Industrial D. ALBERTO DE ELZABURU, Profesor Mercantil, inscripto en el Registro oficial de Agentes de la Propiedad Industrial, del Ministerio de Economía Nacional, en representación de COMPAGNIE DES FREINS WESTINGHOUSE, constituida en Francia y establecida en Etablissements de Preinville, SEVRAN, Francia,



a saber:

- 1º. Una instancia.
- 2º. Una autorización de la peticionaria .
- 3º. Descripción por triplicado,
- 4º. Dos hojas de planos, por triplicado.
- 5º. Certificado de origen, librado por la Oficina de Patentes de Washington.

Madrid, 27 de diciembre de 1930 .

P. A.,
Alberto de Elzaburu
Por Poder




ILLMO. SR. JEFE DEL REGISTRO DE LA PROPIEDAD INDUSTRIAL.

D. ALBERTO DE ELZABURU, Profesor Mercantil inscripto en el registro especial de Agentes de la Propiedad Industrial, con domicilio profesional en Madrid, calle del Barquillo nº 16 y con cédula personal de la tarifa 3ª, clase 3ª núm 489,616 expedida el 22 de julio último, como representante de COMPAGNIE DES FREINS WESTINGHOUSE, constituida en Francia y residente en Etablissements de Freinville, SEVRAN, Francia,

~~de nacionalidad:~~

a fin de asegurar el derecho exclusivo de MEJORAS EN LA REGULACIÓN O CONTROL DE LOS APARATOS DE FRENO POR COMPRESION DE UN FLUIDO, PARA FERROCARRILES O ANALOGOS, invención propia y nueva de mi referida poderdante, que ha adquirido los derechos para España del inventor M. Lars Olai GRONDAHL, y que se acoge a los beneficios del artículo 51 de la Ley de Propiedad Industrial, por corresponder a la patente presentada en los Estados Unidos de América, el 4 de abril de 1930, bajo el número 441,593, acomodándose a las disposiciones vigentes

A V. I. suplica se sirva disponer la formación del oportuno expediente y, llenos que sean los requisitos legales, se expida, a favor del mandante, el correspondiente título de Patente de Invención, por VEINTE años.

Madrid, 27 de diciembre de 1930 .

ILLMO. SR.

P. A.,
Alberto de Elzaburu
Por Poder

6020 1052

SPAIN.
No legalization required.

PODER.

11/12/30

La que suscribe COMPAGNIE DES FREINS WESTINGHOUSE,

domiciliada en Etablissements de Freinville, SEVRAN, Francia,

autoriza á D. Alberto de Elizaburu, Agente de Propiedad Industrial, vecino de Madrid,

con facultad de delegar el encargo para que en su nombre

y representación haga toda clase de diligencias y firme

cuantas solicitudes y documentos sean necesarios presentar en

España á S. M. el Rey, ó á sus Ministros, Autoridades y Funcionarios

de todas clases solicitando, cuantas Patentes de Invención, o de In-

troducción, Certificados de Adición, Marcas, Modelos, Dibujos y

todo cuanto relacionado con la Propiedad Industrial le convenga

obtener, según instrucciones que privadamente le ha comunicado.

En su virtud la poderdante reconoce desde hoy

como si personalmente lo hiciese, cuanto haga en su

nombre su referido apoderado

en la gestión del asunto para que está autorizado por

este documento y cuanto más sea necesario hacer en cualquier tiempo, de

conformidad con las instrucciones que al efecto puedan serle

comunicadas.

Firmado en Sevran á 18 de

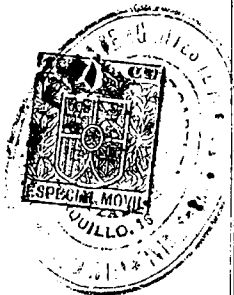
diciembre de 1930.

COMPAGNIE DES FREINS WESTINGHOUSE
Le Directeur Général

ACEPTO ESTA AUTORIZACION

Alberto de Elizaburu

Por Poder





NUMERO 19,750.

12 11 10

Traducción de un certificado de origen, escrito en inglés.

-----o-----

Departamento de Comercio.-Oficina de Patentes de los Estados Unidos.- A todos aquellos a quienes las presentes interesen, salud; por las presentes se certifica que los documentos adjuntos son copia fiel obtenida de los archivos de esta Oficina de la solicitud, memoria, declaración y dibujos, tal y como se presentaron en un principio, con respecto a la solicitud de patente que se halla en tramitación a nombre de Lars O. Grondahl, depositada el 4 de abril de 1930, con el N.º. 441,593, por «Mejoras en los aparatos para la regulación o control de los frenos de ferrocarril».- En testimonio de lo cual he firmado las presentes y he ordenado que se estampe el sello de la Oficina de Patentes en la ciudad de Washington hoy 29 de agosto del año de Nuestro Señor mil novecientos treinta y de la Independencia de los Estados Unidos de América el ciento cincuenta y cinco.- Thomas R. Robertson, Comisario de Patentes.- Certificado; D. E. Wilson, Jefe de Negociado.- (Sigue una copia, en inglés de los documentos antes referidos así como de los dibujos, relacionados con «MEJORAS EN LA REGULACION O CONTROL DE LOS APARATOS DE FRENO POR COMPRESION DE UN FLUIDO, PARA FERROCARRILES O ANALOGOS»).

-----o-----

La precedente es una traducción fiel, exacta y literal del certificado adjunto, escrito en inglés, hecha con arreglo a lo dispuesto en el artículo 103, de la vigente Ley de Propiedad Industrial vigente, y cuya autenticidad me allano a que sea comprobada por la Interpretación de lenguas en el caso de que fuese impugnada por un tercero.

Madrid, 27 de diciembre de 1930.

P. A.
Alberto de Elizaburu
Por Poder

DEPARTMENT OF COMMERCE
UNITED STATES PATENT OFFICE

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of the office of the Petition, Specification, Oath and
Drawings, as originally filed, in the matter of the

Pending Application of

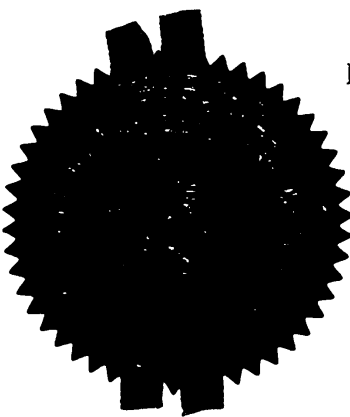
Lars O. Grondahl,

Filed April 4, 1930,

Serial Number 441,593,

for

Improvement in Apparatus for the Control of Train Brakes.



IN TESTIMONY WHEREOF I have hereunto set my
hand and caused the seal of the Patent Office to be
affixed, at the City of Washington, this **twenty-ninth**
day of **August**, in the year of our Lord one
thousand nine hundred and thirty, and of the
Independence of the United States of America the
one hundred and fifty-fifth.

ATTEST:


Chief of Division.


Commissioner of Patents.