

March 7, 1944.

R. J. WISE ET AL

2,343,353

SYSTEM AND APPARATUS FOR FACSIMILE TELEGRAPHY

Original Filed April 22, 1939 3 Sheets-Sheet 1

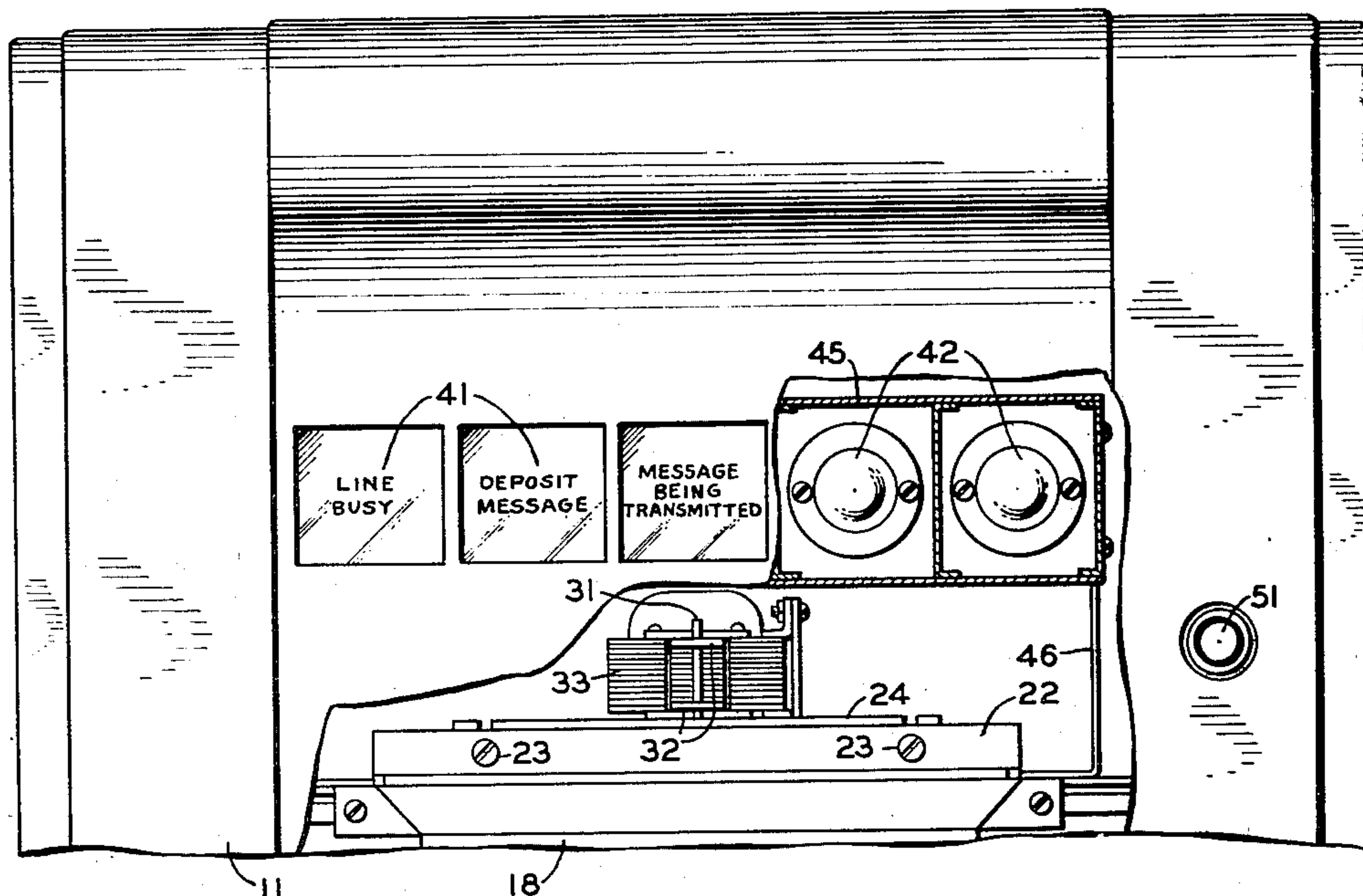


FIG. 1

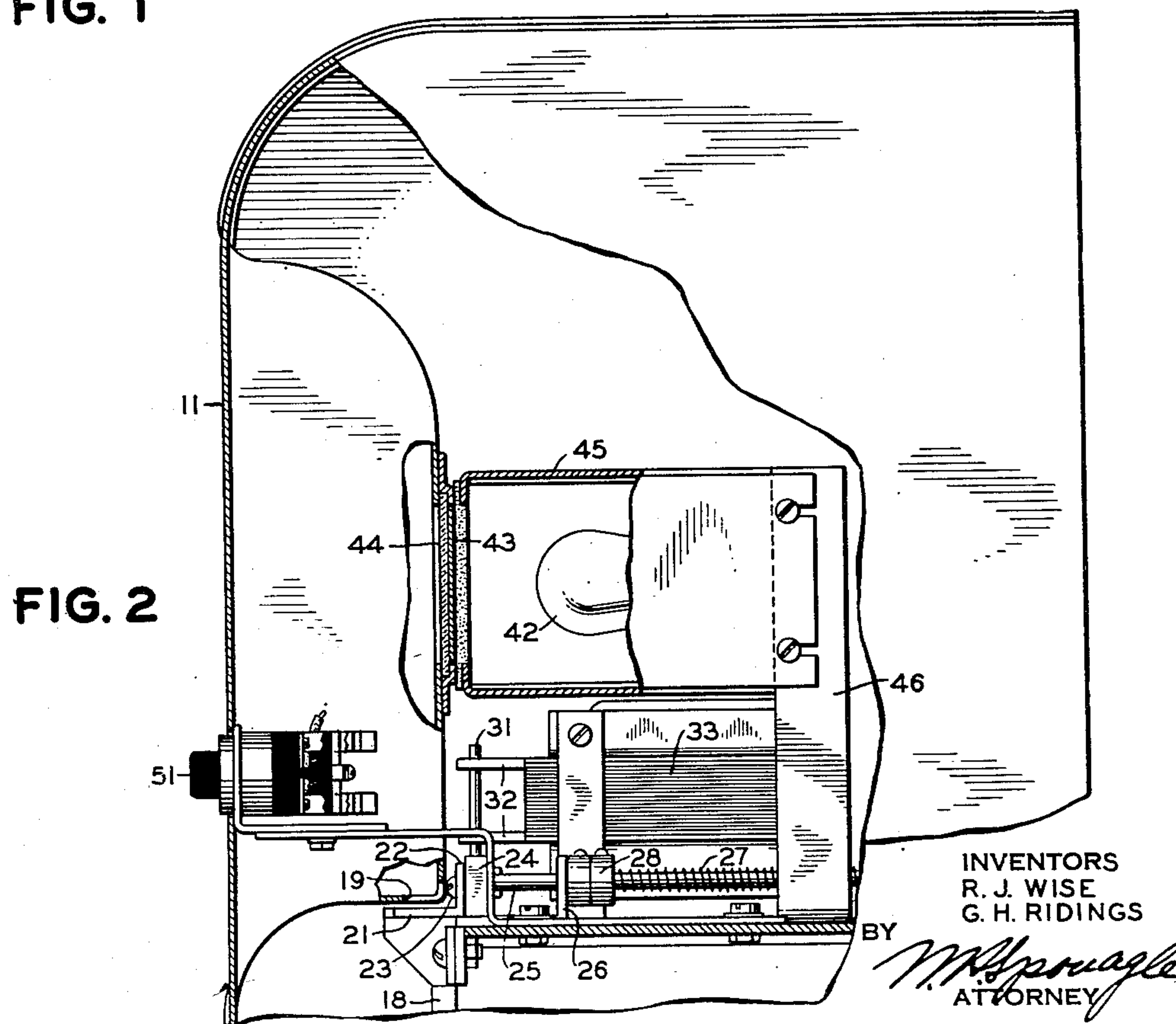


FIG. 2

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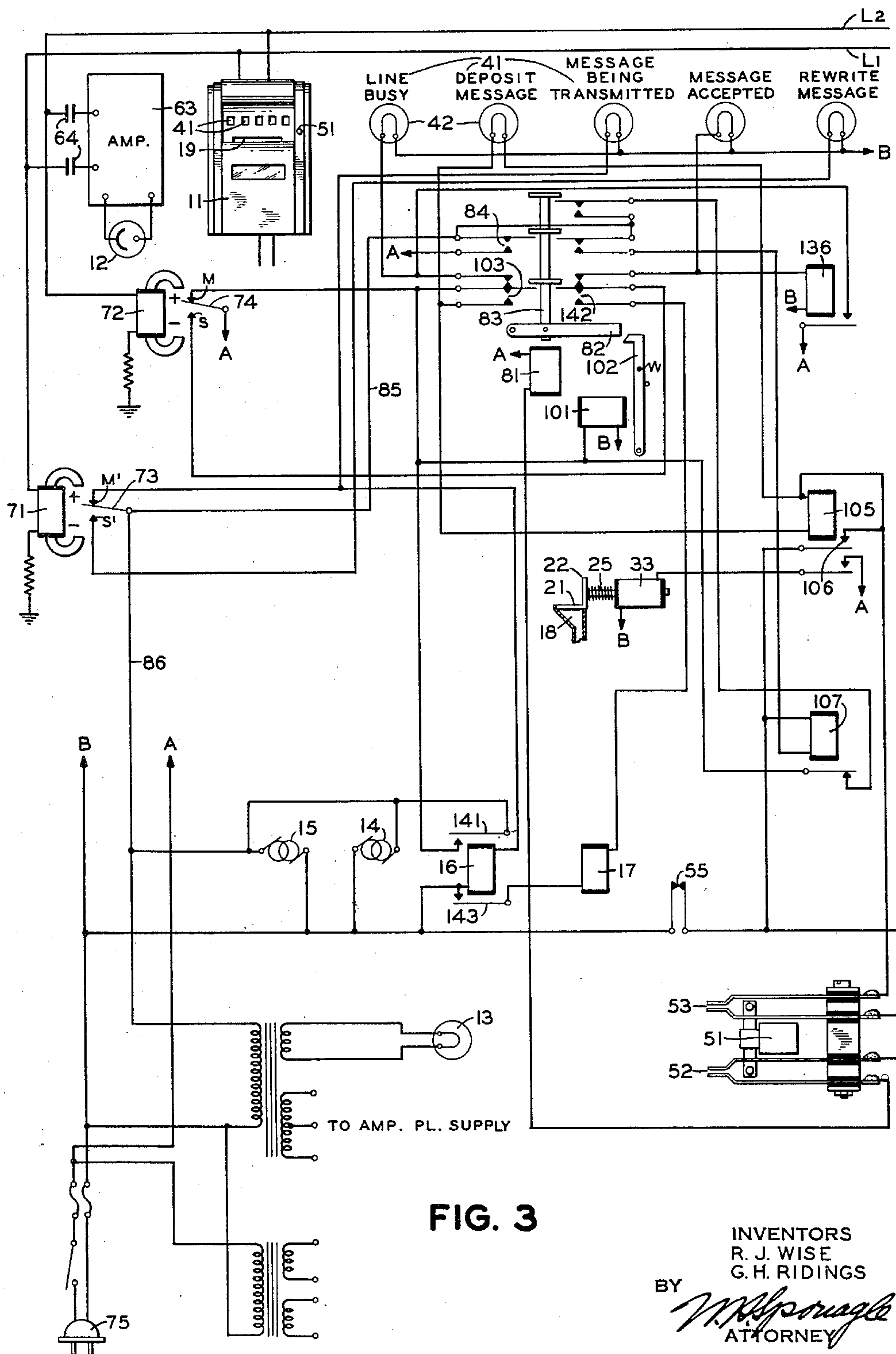
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## SYSTEM AND APPARATUS FOR FACSIMILE TELEGRAPHY

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**FIG. 3**

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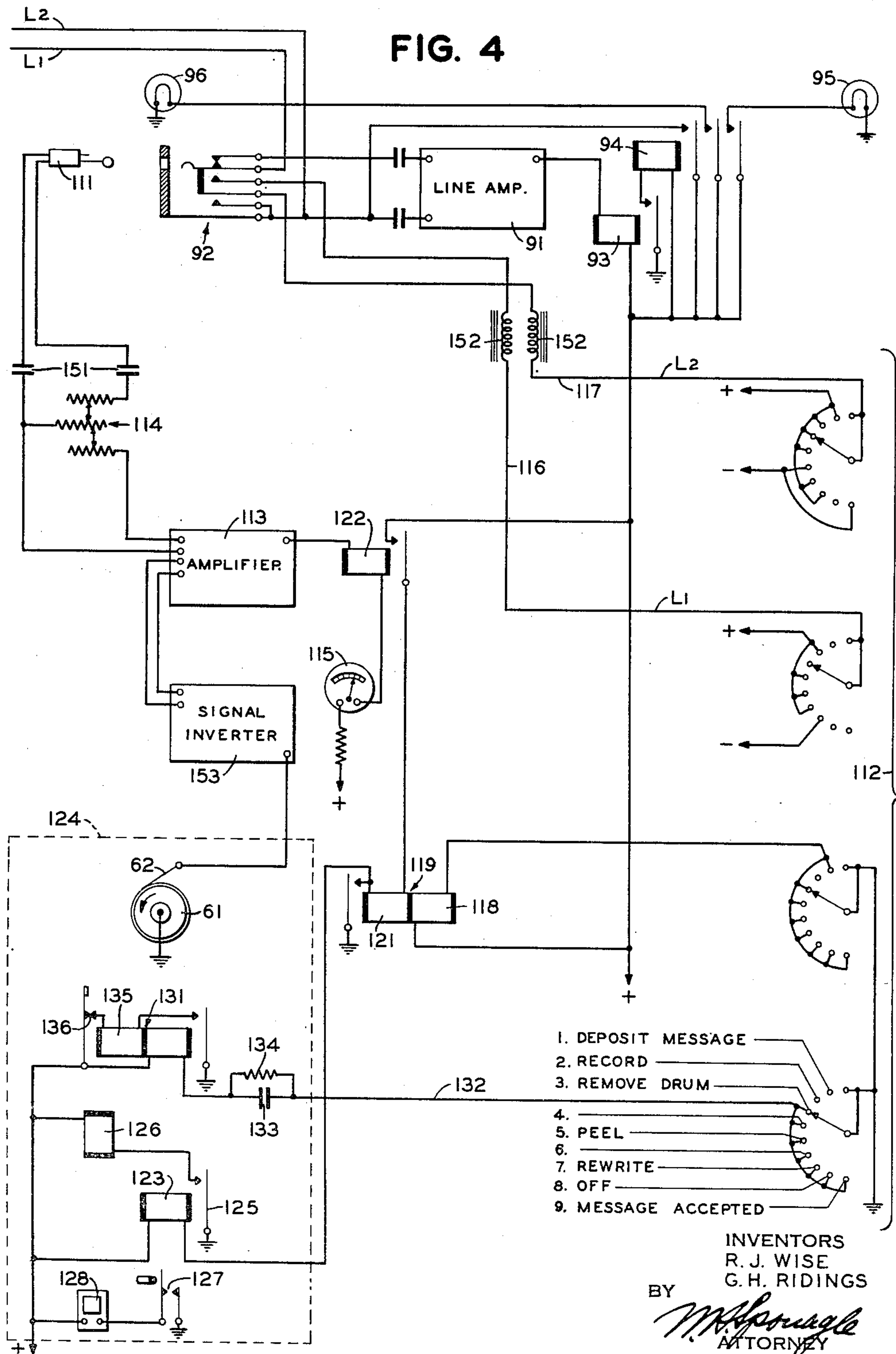
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SYSTEM AND APPARATUS FOR FACSIMILE TELEGRAPHY

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FIG. 4





## UNITED STATES PATENT OFFICE

2,343,353

## SYSTEM AND APPARATUS FOR FACSIMILE TELEGRAPHY

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Original application April 22, 1939, Serial No. 269,314, now Patent No. 2,262,715, dated November 11, 1941. Divided and this application April 19, 1941, Serial No. 389,278

20 Claims. (Cl. 178—7.1)

This invention relates to telegraph systems, and more particularly to an automatic telegraph system for transmitting in facsimile messages, photographs and other forms of copy, and this application is a division of our application Serial No. 269,314, filed April 22, 1939, for System and apparatus for automatic facsimile telegraphy, now Patent No. 2,262,715, granted November 11, 1941.

An object of this invention is to provide a system of the type specified constructed and arranged to facilitate operation by a customer who need not be experienced in such operation.

In accordance with the present invention, messages, pictures, or other subject matter are transmitted from a compact transmitting apparatus in accordance with information communicated from a central office or other point of reception to the person sending the subject matter. In the preferred form of the invention, information and directions are given by a series of signs which are selectively illuminated to disclose appropriate wording indicating the steps to be followed in the use of the apparatus to send any suitable subject matter. When the invention is embodied in apparatus suitable for sending telegrams over the wire facilities of a telegraph company or other communication company, the transmitter may be mounted in a conspicuous public place so that a prospective customer, or a representative of the company, can send a message to the central office of the company for routing to its destination from the central office either by facsimile retransmission or by any other facilities available.

A further object is to provide a facsimile transmitting apparatus having means controlled from an associated receiving office for signaling to the user information useful in its operation.

These and other objects which will be apparent to those skilled in the art are accomplished by the present invention, one embodiment of which is illustrated in the accompanying drawings, in which:

Fig. 1 is a front elevation of the upper portion of the box within which the transmitting apparatus is housed, showing one arrangement of the indicating signs which form a part of the signalling system employed in the present invention, a part of the box front being broken away to disclose parts within;

Fig. 2 is a side elevation of the elements shown in Fig. 1;

Fig. 3 is a wiring diagram showing one circuit arrangement for use in operating the transmit-

ting apparatus including the indicating signs shown in Fig. 1; and

Fig. 4 is a wiring diagram showing one circuit arrangement for use in operating the receiving apparatus, and to control the operation of the indicating signs at the transmitter.

The present invention is particularly designed for use in an automatic telegraph system in which a communication circuit connects a plurality of different facsimile transmitting apparatus located at different places, to a receiving apparatus located, for example, in a central telegraph office, but it will be apparent that various features of the invention are adapted to other systems.

As illustrated, a box 11 houses the transmitting apparatus, which is not shown herein in detail but is fully described in our above noted original application. The upper portion only of such box is shown in Figs. 1 and 2. As described in said application and as diagrammatically shown in Fig. 3, the transmitting apparatus includes a message scanning mechanism including a photoelectric cell 12, exciter lamp 13, synchronous or other speed controlled motor 14 for driving the scanning mechanism, a driving motor 15 for the light chopper (not shown), a half-nut magnet 16 for controlling the scanning mechanism half-nut (not shown), and a peel magnet 17 for operating a stripper device for removing the message blank from the scanning mechanism at the end of a transmitting operation. A chute 18 extends from a slot 19 in the front wall of the box 11 downwardly to the scanning mechanism for delivering thereto copy or message forms to be sent.

To prevent insertion of the message blank at an inappropriate time as hereinafter described, a closure slide 21, see Figs. 2 and 3, is adapted to be moved into position to close the mouth of the chute 18. The slide 21, as illustrated, is of angle shape, having an upwardly extending flange 22 secured by fastening means 23 to a member 24 carried by rods 25, only one of which is shown, the latter sliding in spaced, apertured brackets 26. A compression spring 27 encircling each rod tends to retain the closure slide 21 in chute closing position, forward movement of the slide being limited by stop collars 28 secured to the rods. The slide is retracted by a link 31 which connects the member 24 to the core 32 of a solenoid magnet 33, the control of which will be described hereinafter.

In order to permit the transmitter to be operated by an inexperienced customer, the front of the box is provided with a plurality of indicator



signs 41, illustrated as five in number, each bearing a legend informing the customer of the operation of the machine or directing him as to the procedure for him to follow. Each legend is invisible until illuminated by an associated lamp 42. Each legend is stenciled, printed, or otherwise applied to a transparent or translucent plate 43 mounted between a glass window 44 and the adjacent open end of a lamp housing 45 enclosing the associated lamp 42. The lamp and housing assembly is supported between a pair of upright brackets 46, only one of which is shown.

As illustrated, the legends or signs are as follows: "Line busy," "Deposit message," "Message being transmitted," "Message accepted" and "Rewrite message," see Figs. 1 and 3.

To start the device, a push button 51, or any other desired form of switch, is provided on the front of the box 11. The button operates a pair of contacts 52 and 53, see Fig. 3, for a purpose to be later described.

As pointed out in said application, a pair of contacts 55, see Fig. 3, are closed when no message or other copy is on the scanning mechanism, but any copy sheet on such mechanism causes the contacts 55 to open.

#### Recording apparatus

As in the said original application, the receiving or recording mechanism is indicated diagrammatically in Fig. 4, and shown in complete detail in the copending application of Wise et al., Serial No. 110,760, filed November 13, 1936, for System and apparatus for facsimile telegraphy. Certain of the parts are shown in Fig. 4 within the dotted line area and include a recording scanning cylinder 61 and recording stylus 62, together with certain control relays which will be hereinafter referred to.

#### Communication circuit

The communication circuit which connects the transmitting apparatus shown in Fig. 3 and the receiving apparatus of Fig. 4 comprises a pair of lines L1 and L2 which are used simultaneously for the transmission of the alternating current facsimile signals or message impulses and the direct current control signals by which not only is the operation of the transmitting and receiving apparatus controlled, but also the indicator signs of the present invention are operated.

The facsimile signals originate at the photoelectric cell 12 which is connected to an amplifier 63, the output circuit of which is connected through a pair of blocking condensers 64 to the lines L1 and L2. The purpose of the blocking condensers is to isolate the alternating current facsimile signals from the direct current control signals. The polarity of the direct current potentials which are applied to the conductor L1 is controlled by the apparatus at the receiving station for the purpose of operating a polar relay 71 connected to the line L1 at the transmitting station. Similarly, the polarity of the direct current potentials which are applied to the line L2 is controlled by the apparatus at the receiving station for the purpose of operating a polar relay 72 connected to the line at the transmitting station. Each of these polar relays is of the three-position type, in which the tongue is moved to one extreme contact in response to one polarity of potential, to the other extreme contact in response to the other polarity of potential, and to a mid-position disengaged from both of the extreme contacts in response to a no-current con-

dition. The tongue 73 of the relay 71 cooperates with contacts  $m'$  and  $s'$ . The tongue 74 of the relay 72 cooperates with contacts  $m$  and  $s$ .

It should be understood that a number of separate transmitting mechanisms may normally be connected to a single communication circuit in a party line system and that each transmitter is adapted to be locked against operation when any other transmitter on the same line is operating, as will be described hereinafter and as is fully set forth in the said original application, Serial No. 269,314.

#### Operation

The operation will be described in connection with Figs. 3 and 4 taken together. It is assumed that power is applied to the transmitting apparatus by connecting any suitable source of alternating current potential through connection 75 to the bus bars A and B.

Assuming a customer has a suitably prepared message or other copy to be transmitted, he presses the push button 51 closing the contacts 52 to operate the coil of a relay 81 drawing downwardly the relay armature 82 and a multi-contact switch arm 83 connected to the armature. One set of contacts 84 of the multi-contact switch through conductors 85 and 86 connects power to the exciter lamp 13 of the photocell system, and also to the synchronous motor 14, driving the scanning mechanism, and to the light chopper motor 15 and also the plate supply for the tubes of the amplifier 63. The filaments of the amplifier tubes are left on at all times. The beam from the exciter lamp 13 in the scanning mechanism is reflected through the optical system of the photocell 12 and causes a carrier to be generated and passed through the amplifier to the line wires L1 and L2 of the communication circuit. This operation indicates that the transmitter and other parts of the system are ready to operate. At the central station where the receiving apparatus is usually located, see Fig. 4, this carrier is picked up by a line amplifier 91 which is floating on the circuit at all times through normalization of the line jack 92. This signal operates a relay 93 in the plate circuit of an output tube, which in turn operates a relay 94 one of the contacts of which lights a lamp 95 to attract the attention of a station operator. Another contact of the relay 94 also lights a lamp 96 over the line jack 92, and a third contact puts positive potential on line L2 which operates the polar relay 72, moving the tongue 74 into engagement with the marking contact  $m$ . This energizes a magnet 101 moving the armature 102 thereof to the left in Fig. 3 and positioning the hooked end thereof over the end of the armature 82 and locking the multi-contact switch arm 83 in depressed position.

As hereinafter pointed out, the magnet 101 will also be energized under certain conditions without first energizing the magnet 81, in which case the armature 102 would be positioned under the armature 82 and prevent downward movement thereof, thus locking the transmitting apparatus against operation.

Operation of the push button 51 also closes the contacts 53. Hence, operation of the multi-contact switch to close lower contacts 103, together with engagement of tongue 74 of polar relay 72 with contact  $m$ , as a result of positive potential on line L2, operates relay 105 and lights the lamp 42 which illuminates the indicator sign "Deposit message." At the same time, operation



of relay 105 energizes the magnet coil 33 to retract the chute closure slide 21 and open the chute 18 to permit deposit of the copy sheet therein by the customer in accordance with the signal given him. The relay 105 being self-locking through a locking contact 106, the push button can now be released.

The customer may thereupon insert the message in the chute 18 down which it passes to the scanning mechanism which causes the contacts 55 to open, as described in our original application Ser. No. 269,314. This extinguishes the lamp illuminating the "Deposit message" sign, releases relay 105 permitting spring 27 to close the chute slide 21, and also releases relay 107 permitting a back contact thereof to close which keeps power on the transmitting apparatus as long as a message is on the scanning mechanism. This prevents the central office operator from turning off the machine by mistake.

The central office operator, seeing the lights 95 and 96 plugs into the jack 92 with a plug 111. This disconnects the line amplifier 91 from the lines L1 and L2 and connects a rotary switch 112 and a recording amplifier 113 to the communication circuit. Adjustment of the power level is made by means of a pad 114 at the input of the recording amplifier 113 until the indicator of a meter 115 associated with the amplifier indicates the desired value. The rotary switch 112 has four sets of contacts and four switch arms which are operated simultaneously. The movable contact on each arm is in the form of a brush so that as the switch arms are moved, the contact on each maintains connection with a given point until after contact is made with the next succeeding point. During the above operations the rotary switch 112 has been on the No. 1 contact marked "Deposit message" in Fig. 4.

After adjustment of the power the rotary switch is moved to the No. 2 position marked "Record." This puts positive potential on the line L1 through a conductor 116 and jack 92. At the same time positive potential is maintained on line L2 through a conductor 117 and jack 92.

Positive potential on line L1 operates the polar relay 71 at the transmitter moving the tongue 73 to the marking contact *m'*. This energizes the half-nut magnet 16 which starts movement of the scanning carriage, as described in our original application, Ser. No. 269,314, and simultaneously signals the customer by lighting the signal lamp 42 which is associated with and illuminates the indicating sign bearing the legend "Message being transmitted," thus informing him that his message or other copy is being received at the central office.

Also, the No. 2 position of the rotary switch 112, by means of the third brush, releases the locking coil 118 of a relay 119 which had been energized by the previous position of the switch. This permits the other coil 121 of the relay to be released by a relay 122 in the plate circuit of one of the recording amplifier tubes. The relay 122 is operated by a signal from the transmitting apparatus, as described in our original application, by the exciter lamp beam passing over a black mark suitably located on the message sheet, as described more fully in our said application. Briefly, the scanning light at the transmitter causes a carrier signal to be received by the amplifier 113 with the plug in the jack. Incidence of the light on the black mark causes the received carrier to drop in amplitude and this releases the relay 122. This, in turn, releases re-

lay 119 which deenergizes a phasing relay 123, in the recording apparatus 124 diagrammatically indicated in Fig. 4. The tongue 125 of the relay 123 when released opens the circuit of a phasing latch relay or magnet 126 on the recording mechanism 124. A suitable recording mechanism is described in the above noted application, Ser. No. 110,760. The rotary switch is left in the No. 2 position during transmission of the message. At the end of the transmitting operation a switch 127 is operated by the scanning carriage on the recording mechanism 124, to operate a buzzer 128 or other signal to attract the operator's attention.

Upon completion of the transmission the switch 112 is moved to its No. 3 position. This removes positive potential from line L1, releasing polar relay 71 at the transmitting station, and returning the tongue 73 to neutral position. This deenergizes the half-nut magnet 16 permitting the associated scanning carriage to return to its starting position, and also extinguishes the "Message being transmitted" lamp.

With the rotary switch in the No. 3 position, the relay 119 is again locked, operating the phasing relay 123 at the recorder and energizing the latch magnet 126.

The lowest brush of the rotary switch 112 when in No. 3 position operates a drum change relay 131 to which the switch is connected by a conductor 132 through a condenser 133 having a by-pass resistance 134. The tongue of the relay 131 operates the locking coil 135, the circuit of which includes the cam controlled contacts 136 of the recording mechanism. Operation of the relay 135, as described in the said copending application of Wise et al., operates the mechanism for removing the recording cylinder with the recorded message from the recording mechanism 124 and puts a new cylinder in place. When the rotary switch 112 is put on No. 3 position the conductor 132 is grounded. The momentary surge of current charging the condenser 133 is sufficient to operate the relay 131.

The central office operator may now read the facsimile message received from the transmitter and if it is satisfactory will move the rotary switch 112 through the No. 4 to the No. 5 position. In passing through the No. 4 position a positive potential is again put on line L1, operating the polar relay 71 to its *m'* contact and energizing the half-nut magnet 16. This closes a set of contacts 141, the purpose of which is to keep the multi-switch locking relay 101 operative when positive potential is removed from line L2.

In the No. 5 position of the rotary switch 112 positive potential is supplied to line L1 and negative potential to line L2. Negative potential on line L2 moves tongue 74 of polar magnet 72 to engage spacing contact *s*. Through multi-switch contacts 142 and contacts 143 on the half-nut magnet, this operates the peel magnet 17 to remove the message or copy sheet from the scanning mechanism at the transmitter. If the message has been received satisfactorily, after peeling, the rotary switch is turned to the No. 9 position in which there is no potential on line L1 and negative potential on line L2. This places the tongue of relay 71 in neutral position and moves the tongue of relay 72 to the *s* contact. This deenergizes the multi-switch locking magnet 101 permitting the switch to move to the position shown in Fig. 3. Through polar relay 72, this illuminates the lamp associated with the



indicating sign "Message accepted" to inform the customer that the transaction is complete. This also operates a relay 136 and lights the "Line busy" signal.

If the recorded copy of the message is not satisfactory, the operator at the receiving station may rerun the message with either increased or decreased power, that is, after the rotary switch has been placed in the No. 3 position and the copy has been read, if a darker or a lighter copy is desired the operator can make a suitable adjustment of the pad 114 and then return the switch to its No. 2 position in which the recording operation will be repeated and the sign "Message being transmitted" kept illuminated. If, on the other hand, the original message introduced into the transmitting apparatus by the customer is not legible, it will be impossible to obtain a legible copy. In this event the operator moves the rotary switch from its No. 3 position, through the Nos. 4, 5 and 6 positions to the No. 7 position, pausing at the No. 5 position long enough to remove the message sheet from the transmitter scanning mechanism as previously described. The No. 6 position functions in the same way as No. 4 in that it puts a positive potential on both lines L1 and L2 and provides for a change in potential on one line at a time.

In No. 7 position a negative potential is on line L1 and a positive on line L2. Hence, the polar relay 71 is on its s' contact which illuminates the sign "Rewrite message" and may, if desired, operate a buzzer to attract the customer's attention. The rotary switch is then turned off and the plug removed from the jack 92. When the customer has rewritten his message legibly, he starts again at the beginning.

The magnet 101 has a dual purpose. As described above, it locks the machine in operative position. Where a plurality of machines are on a single communication circuit, the magnets of the inoperative machines will position their armatures so as to prevent movement of the multi-contact switch armature 82 when potential is on the circuit as a result of the operation of some other transmitting apparatus on the line. This will also light the lamp associated with the indicating sign marked "Line busy" and this condition will be maintained as long as positive potential is on line L2 which is throughout the recording operation. Through the relay 136 the lock and "Line busy" signal are also maintained when the machine in use is having the blank removed from its cylinder.

Condensers 151 pass the carrier current to the amplifier 113, while choke coils 152 block the carrier frequencies from the control apparatus. The output of the amplifier 113 is fed through a signal inverter 153 to the stylus 62 and passes through the grounded recording cylinder 61, the recorder being of any electro-chemical type.

It will be understood that many modifications and changes can be made in the structure and circuit arrangements shown without departing from the essential attributes of the invention, and we contemplate all such changes as come within the scope of the appended claims.

What is claimed is:

1. A facsimile telegraph system including a communication circuit, a transmitting apparatus connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said message signals, a plurality of indicating signals located respectively at said transmitting appa-

ratus and said receiving apparatus, means for transmitting a first group of supervisory signals over said circuit for controlling the operation of said transmitting apparatus and the associated indicating signals from said receiving apparatus, and means for transmitting a second group of supervisory signals over said circuit for controlling the operation of said receiving apparatus indicating signals from said transmitting apparatus.

2. A facsimile telegraph system including a communication circuit, a transmitting apparatus connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said signals, means at said transmitting apparatus for indicating the operative condition of the system, and means for transmitting supervisory signals over said circuit for controlling simultaneously the operative condition of the system and the operation of said indicating means from said receiving apparatus.

3. A facsimile telegraph system including a communication circuit, a transmitting apparatus having scanning mechanism connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said message signals, a plurality of indicating signals at said transmitting apparatus, and means for transmitting supervisory signals over said circuit for controlling simultaneously said scanning mechanism and the operation of said indicating signals from a remote point.

4. A facsimile telegraph system including a communication circuit, a transmitting apparatus including a scanner connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said message signals, a plurality of indicating signals at said transmitting apparatus, means for controlling the operation of said scanner, and means for transmitting supervisory signals over said circuit for controlling the operation of said indicating signals from said receiving apparatus in accordance with the operation of said scanner.

5. A facsimile telegraph system including a communication circuit, a transmitting apparatus connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said signals, a plurality of signs associated with said transmitting apparatus for indicating the operative condition of the system, means for selectively illuminating said signs, and means for transmitting supervisory signals over said circuit for controlling simultaneously the operative condition of said system and the operation of said illuminating means from said receiving apparatus.

6. A facsimile telegraph system including a communication circuit having a line conductor, a transmitting apparatus connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said signals, an indicator at said transmitting apparatus, means responsive to a predetermined potential characteristic of said line conductor for simultaneously controlling a function of said transmitting apparatus and for operating said indicator, and means for controlling said potential characteristic from said receiving apparatus.

7. A facsimile telegraph system including a



communication circuit having a pair of lines, a transmitting apparatus connected to said circuit for transmitting message signals over said circuit, a receiving apparatus connected to said circuit for recording said signals, a plurality of indicators at said transmitting apparatus, means responsive to a predetermined potential characteristic of one of said lines for effecting a first control of said transmitting apparatus and for operating one of said indicators, means responsive to a predetermined potential characteristic of the other of said lines to effect a second control of said transmitting apparatus and to operate another of said indicators, and means operative from said receiving apparatus for controlling the potential characteristics of said lines.

8. A facsimile telegraph system comprising transmitting and receiving apparatus, said transmitting apparatus being adapted to receive a message control form and automatically transmit the message to the receiving apparatus, signaling devices at the transmitting apparatus for indicating respectively to the sender certain conditions of the system including a busy line condition, operative transmitting condition, message accepted, request for message deposit, and request for message rewrite, and means under control of the receiving apparatus to selectively operate said signaling device.

9. A facsimile machine designed to be controlled from a remote point comprising a scanner, means to deliver a message sheet to said scanner, means to prevent the introduction of said sheet to said first named means, a signal associated with said prevention means to indicate that the line to which said machine is connected is in use at another point, and means to operate said prevention means and said signal from said remote point.

10. A facsimile telegraph system comprising a transmitting apparatus having a slot for receiving a message sheet, a closure for said slot, means for operating said closure to open said slot and permit deposit of a message sheet therein, a signal for indicating that said slot is open, and means for controlling the operation of said closure and said signal from a remote point.

11. A facsimile telegraph system including a communication circuit, a transmitting apparatus connected to said circuit and having a slot for receiving a message sheet, a closure for said slot, means for operating said closure to open said slot and permit deposit of a message sheet therein, a deposit message signal, a line busy signal, and means responsive to predetermined potential characteristics of said circuit for controlling the operation of said closure and said signals.

12. A facsimile telegraph system including a communication circuit, a transmitting apparatus connected to said circuit and having a slot for receiving a message sheet, a closure for said slot, means for operating said closure to open said slot and permit deposit of a message sheet therein, a deposit message signal, a line busy signal, means responsive to predetermined potential characteristics of said circuit for controlling the operation of said closure and said signals, a receiving apparatus connected to said communication circuit, and means in said receiving apparatus for controlling the potential characteristics of said circuit.

13. A facsimile telegraph system comprising a transmitting apparatus, a housing for said apparatus including a plurality of signs disposed in the face of said housing and capable of being viewed by the sender, said signs collectively comprising a set of instructions to be followed by the

sender in the operation of said transmitting apparatus, a receiving apparatus associated with said transmitting apparatus, illuminating means associated with said signs mounted in said housing and adapted to illuminate the respective signs, and means controlled from the receiving apparatus for controlling said illuminating means to selectively illuminate one or more of said signs in accordance with the operative condition of the transmitting and receiving apparatus.

14. A facsimile telegraph system comprising a transmitting apparatus, a housing for said apparatus including a plurality of signs disposed in the face of said housing and capable of being viewed by the sender, said signs collectively comprising a set of instructions to be followed by the sender in the operation of said transmitting apparatus, a receiving apparatus connected to said transmitting apparatus, a plurality of lights associated with said signs disposed within said housing and adapted to illuminate the respective signs, and means including control signals transmitted from the receiving apparatus to selectively illuminate one or more of said signs in accordance with the operative condition of the transmitting and receiving apparatus.

15. A facsimile telegraph system comprising a transmitting apparatus, a housing for said apparatus including a plurality of signs disposed in the face of said housing and capable of being viewed by the sender, said signs collectively comprising a set of instructions to be followed by the sender in the operation of said transmitting apparatus, a communication circuit connected to said transmitting apparatus, a receiving apparatus connected to one terminal of said circuit, a plurality of lights, one individual to each of said signs, disposed within said housing at the rear of the respective signs, and means including control signals transmitted from the receiving apparatus over said circuit to selectively illuminate one or more of said signs in accordance with the operative condition of the communication circuit.

16. In a facsimile system, a transmitting apparatus including a scanning mechanism, a housing for said transmitting apparatus including a slot accessible from the outside and communicating with said scanning mechanism, a window formed in the front side of said housing, a sign located behind said window and being normally invisible, a lamp located at the rear of said sign, a closure for said slot, means for withdrawing said closure to open said slot and permit the deposit of a message sheet therein, and means for controlling the operation of said closure and the illumination of said lamp to render visible said sign directing the deposit of the message sheet.

17. In a facsimile system, a transmitting apparatus including a scanning mechanism for receiving a message sheet, a housing for said transmitting apparatus, a window formed in the front side of said housing, a sign located behind said window and being normally invisible, a lamp located at the rear of said sign, means for initiating movement of said scanning mechanism, means for actuating said movement initiating means to start transmission of signals representative of the subject matter of said message sheet, and means for controlling the operation of said actuating means and the illumination of said lamp to render visible said sign indicating the transmission of the subject matter of the message sheet.

18. In a facsimile system, a transmitting apparatus including a scanning mechanism for a



message sheet, a housing for said transmitting apparatus, a window formed in the front side of said housing, a sign located behind said window and being normally invisible, a lamp located at the rear of said sign, means for removing a message sheet from said scanning mechanism, and means for actuating said sheet removing means and for subsequently controlling the illumination of said lamp to render visible said sign directing the rewriting of the message.

19. In a facsimile system, a transmitting apparatus including a scanning mechanism for a message sheet, a housing for said transmitting apparatus, a window formed in the front side of said housing, a sign located behind said window and being normally invisible, a lamp located at the rear of said sign, means for removing a message sheet from said scanning mechanism, means for actuating said sheet removing means and for controlling the illumination of said lamp to render visible said sign indicating the acceptance of the message, and means for rendering said transmitting apparatus inoperative.

20. In a facsimile system, a communication line, a plurality of facsimile machines connected to said line, one of said machines comprising a transmitting apparatus including a scanner, a housing for said transmitting apparatus including a slot accessible from the outside, a chute connecting said slot with said scanner, a closure for said slot, a window formed in the front side of said housing, a sign located behind said window and being normally invisible, a lamp located at the rear of said sign, and means for maintaining said closure in a blocking position relative to said slot to prevent the introduction of a message sheet into said chute and for controlling the illumination of said lamp to render visible said sign indicating that the line to which said transmitting apparatus is connected is in use by another of said facsimile machines.

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