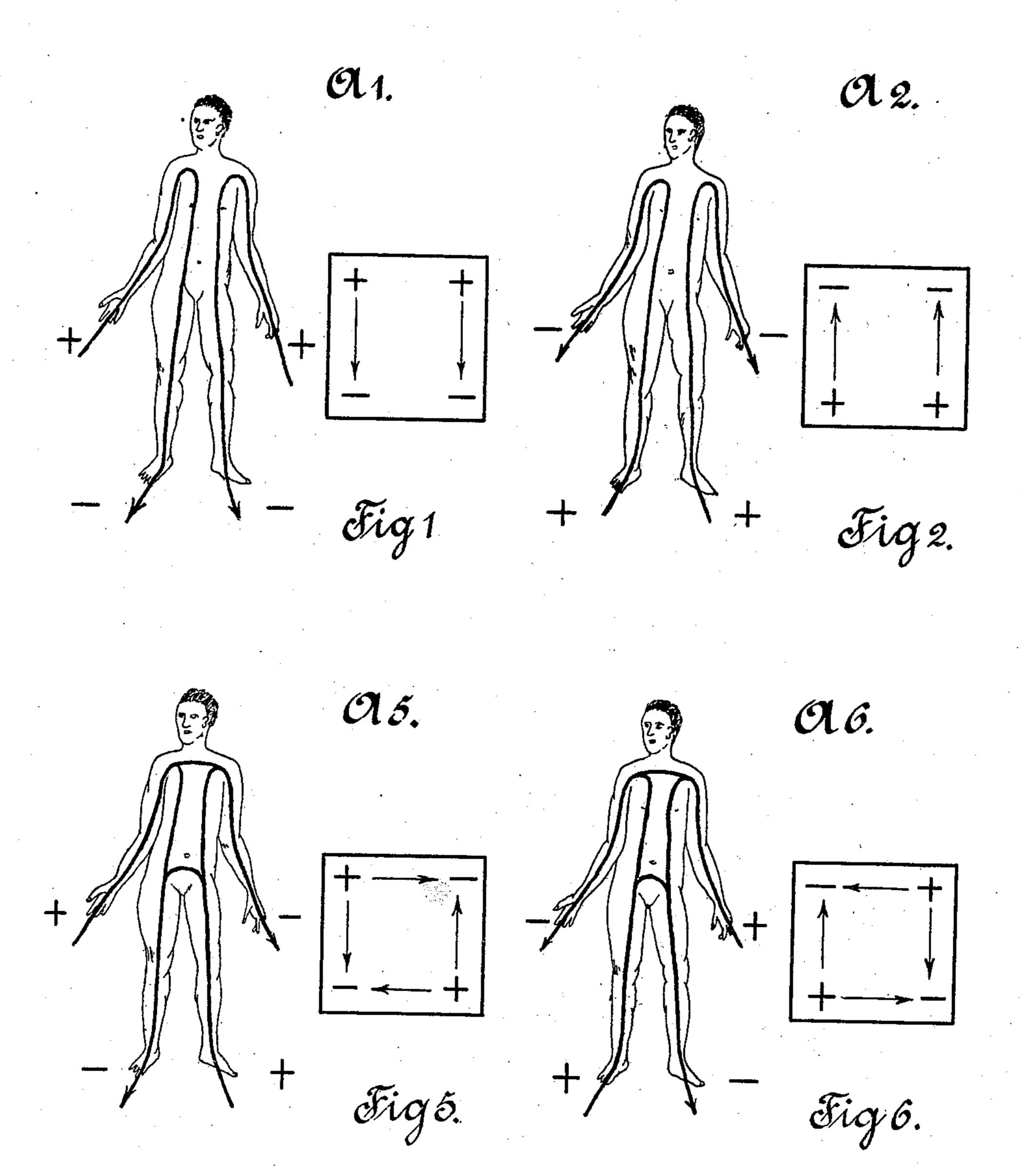
Patented Feb. 28, 1899.

C. E. SCHNÉE. FOUR TUB ELECTRIC BATH.

(Application filed Dec. 15, 1898.)

(No Model.)

15 Sheets—Sheet 1.



William Sahuby. William Miller

Onventor. Carl Emil Schnee by his attorneys Roeder & Briese

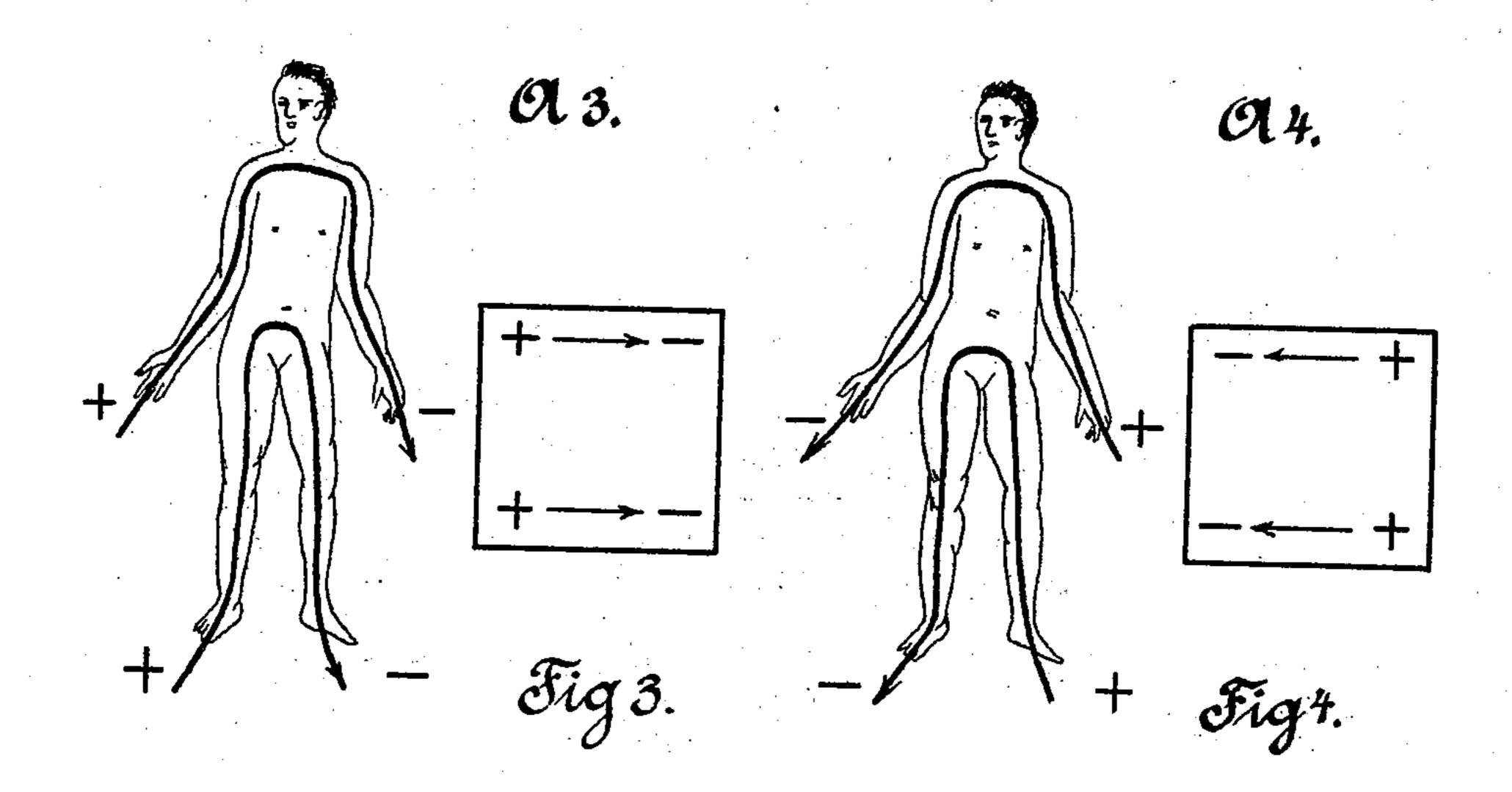
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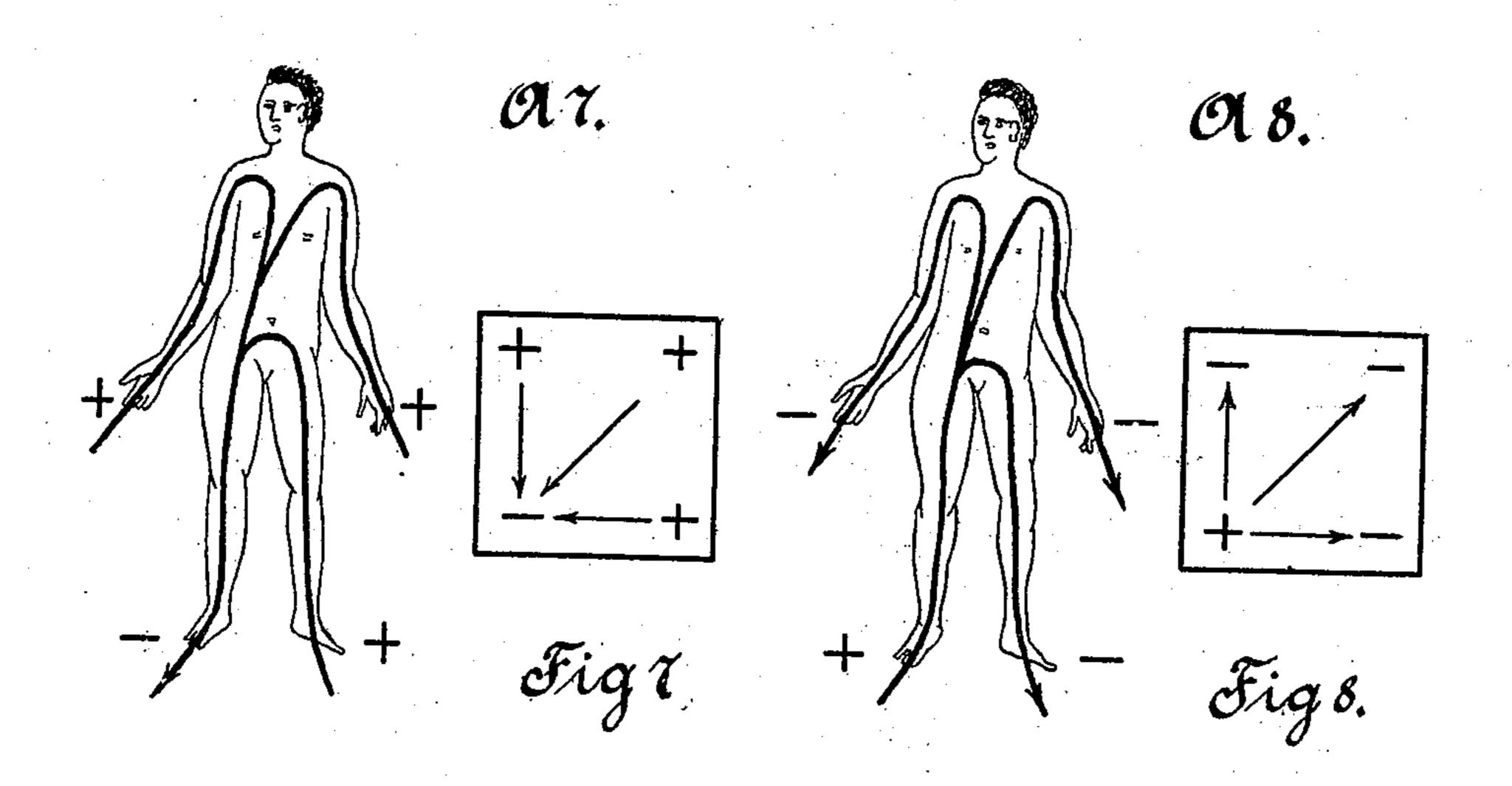
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Milliam Schulz William Miller

Enventor: barl Emil Schnee by his attorneys Roeder & Briesen

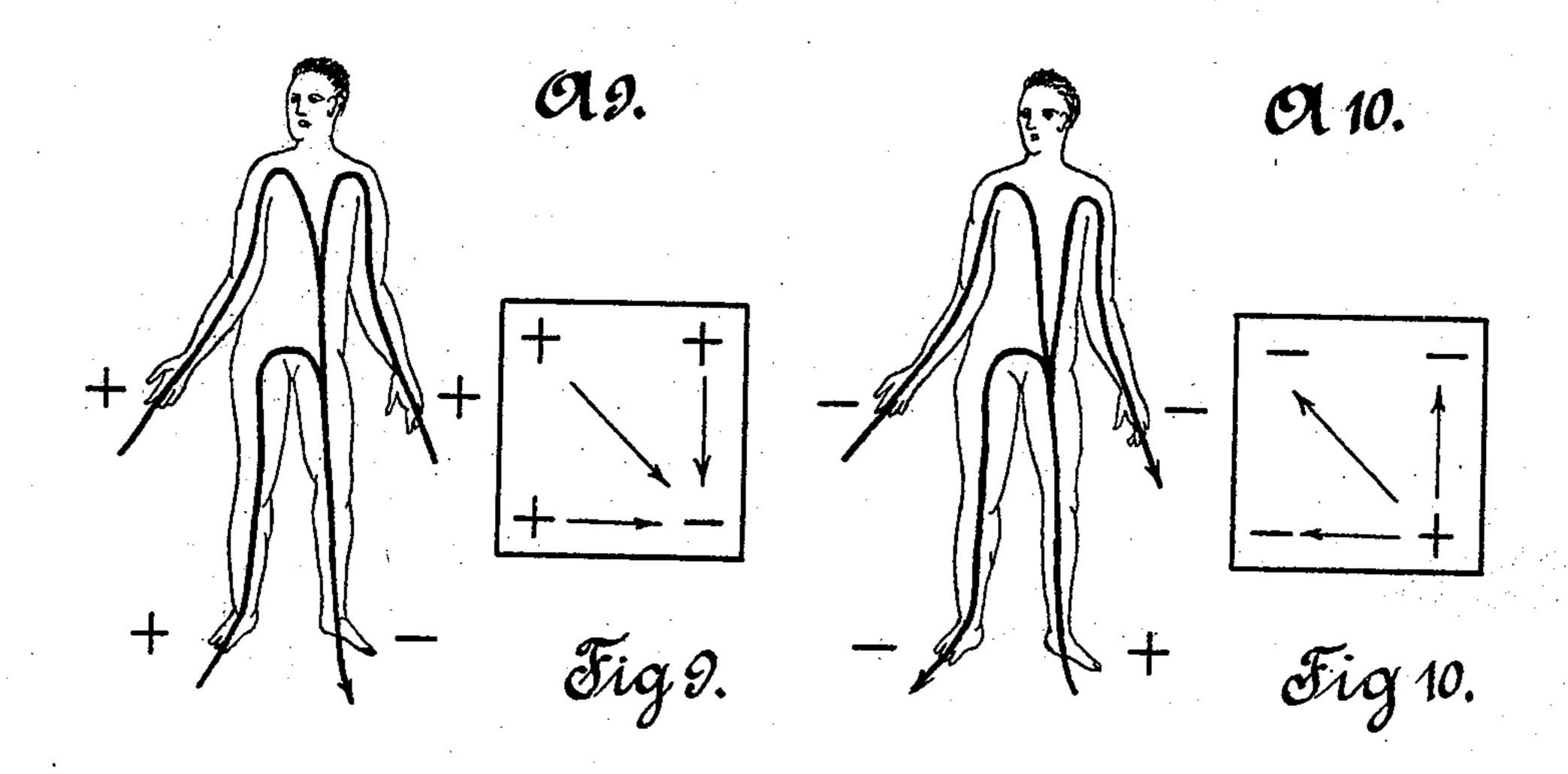
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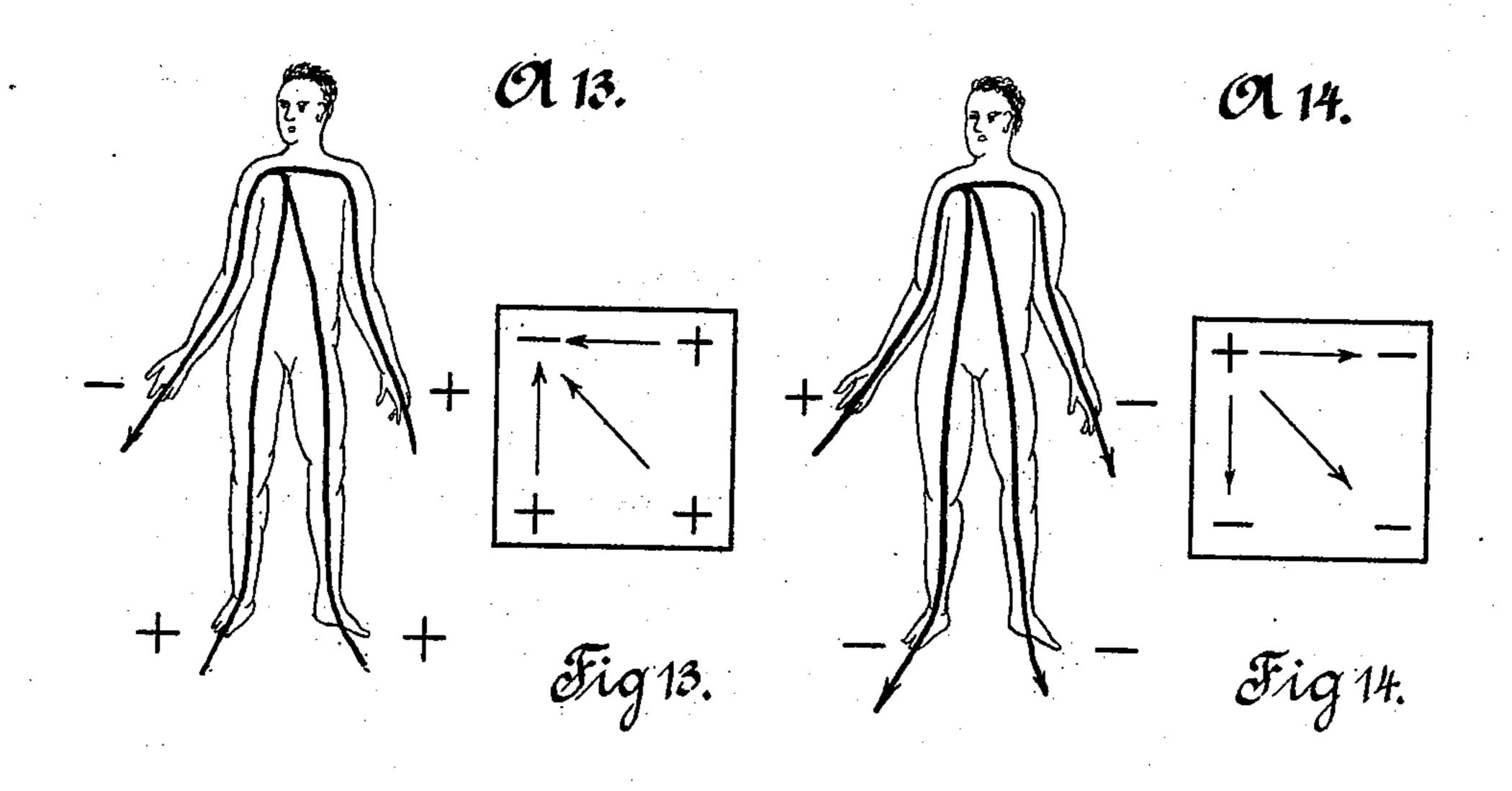
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(Application filed Dec. 15, 1898.)

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William Schulz. William Stuller

Breventor: barl Emil Schnee by his attorneys Roeder & Briesew

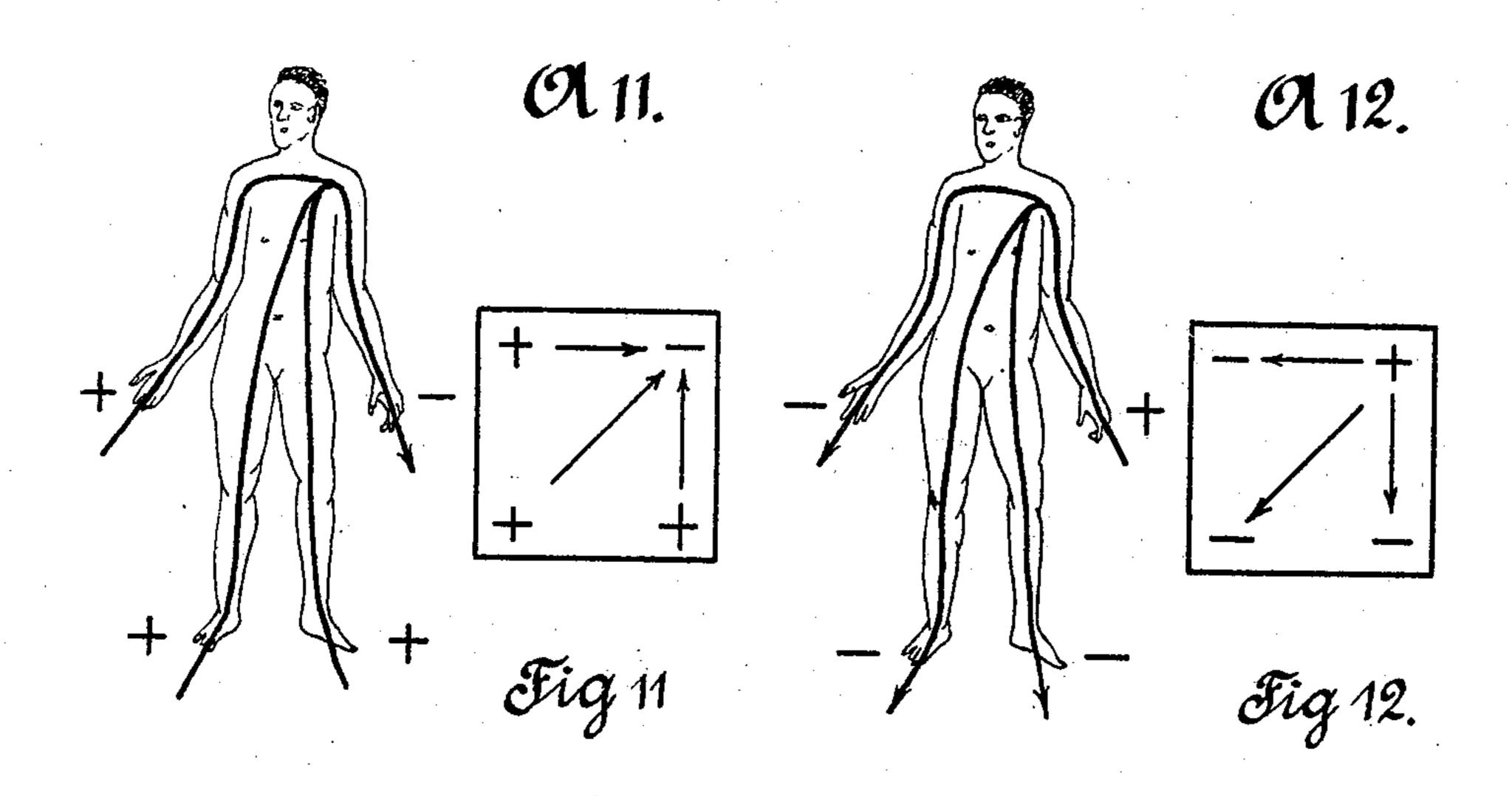
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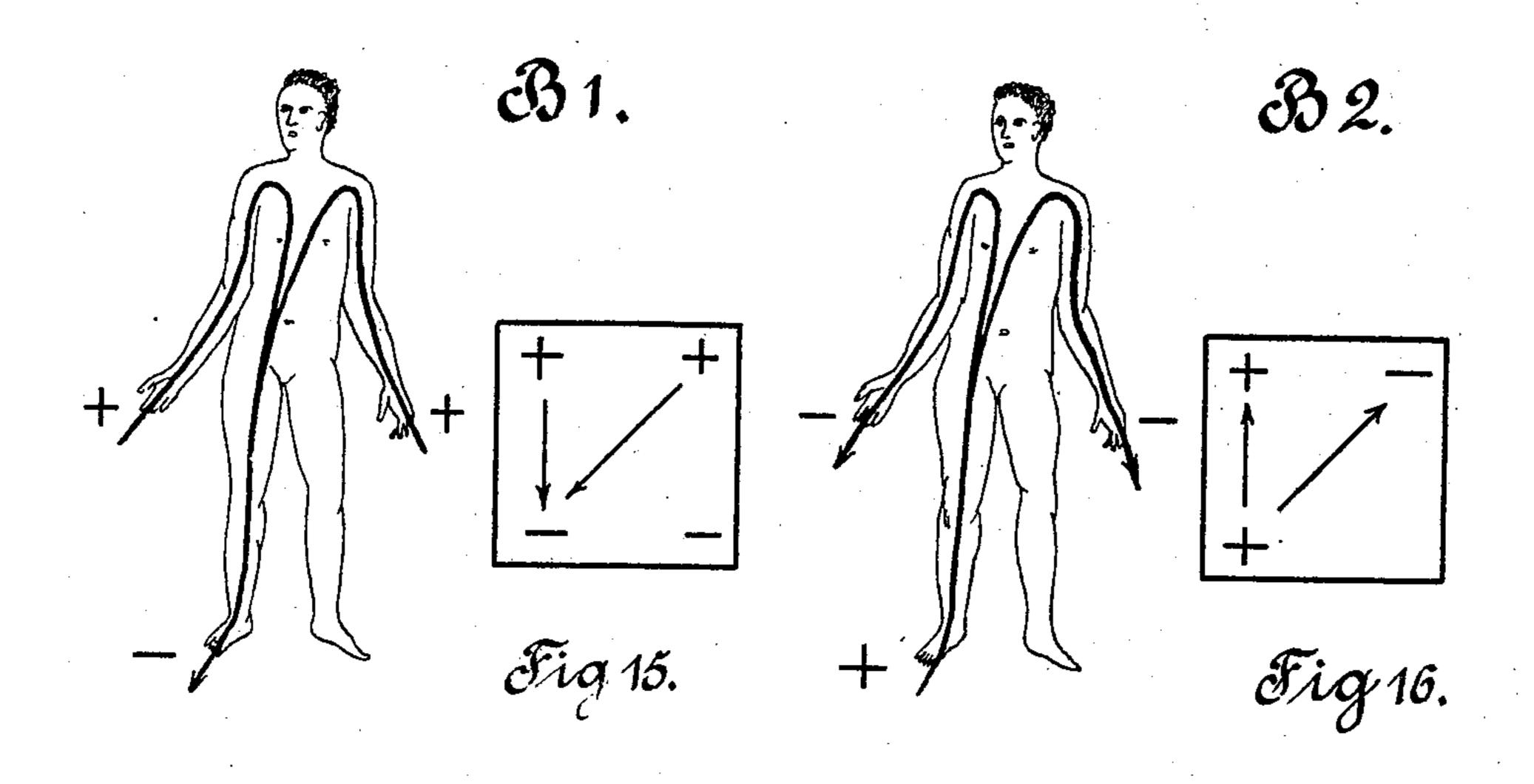
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(Application filed Dec. 15, 1898.)

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William Schulz. William Schulz.

Conventor: Carl Emil Schnee by his attorneys Roeder & Brieson

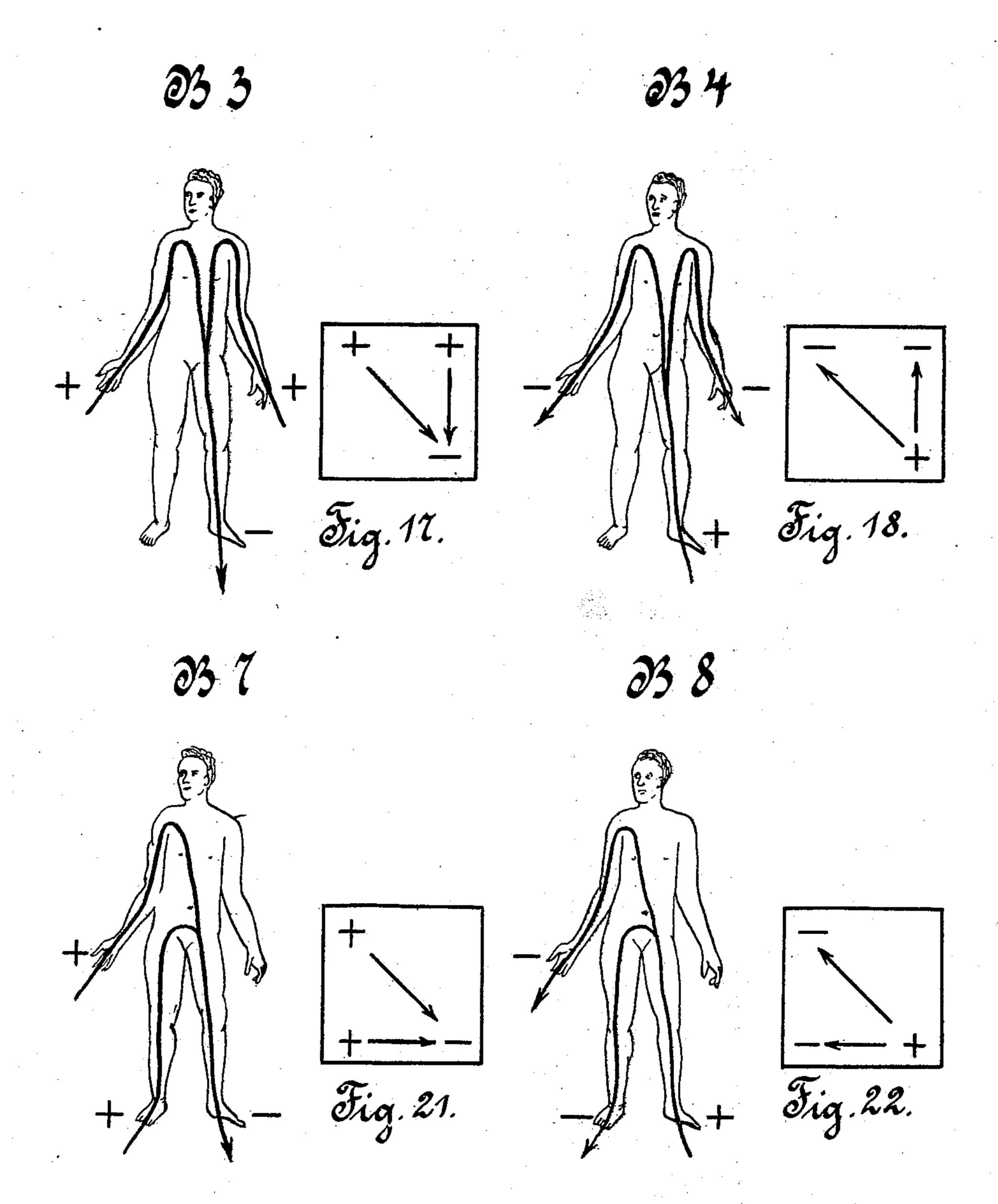
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Carl Emil Schnee by his attorneys Rectors Briesers

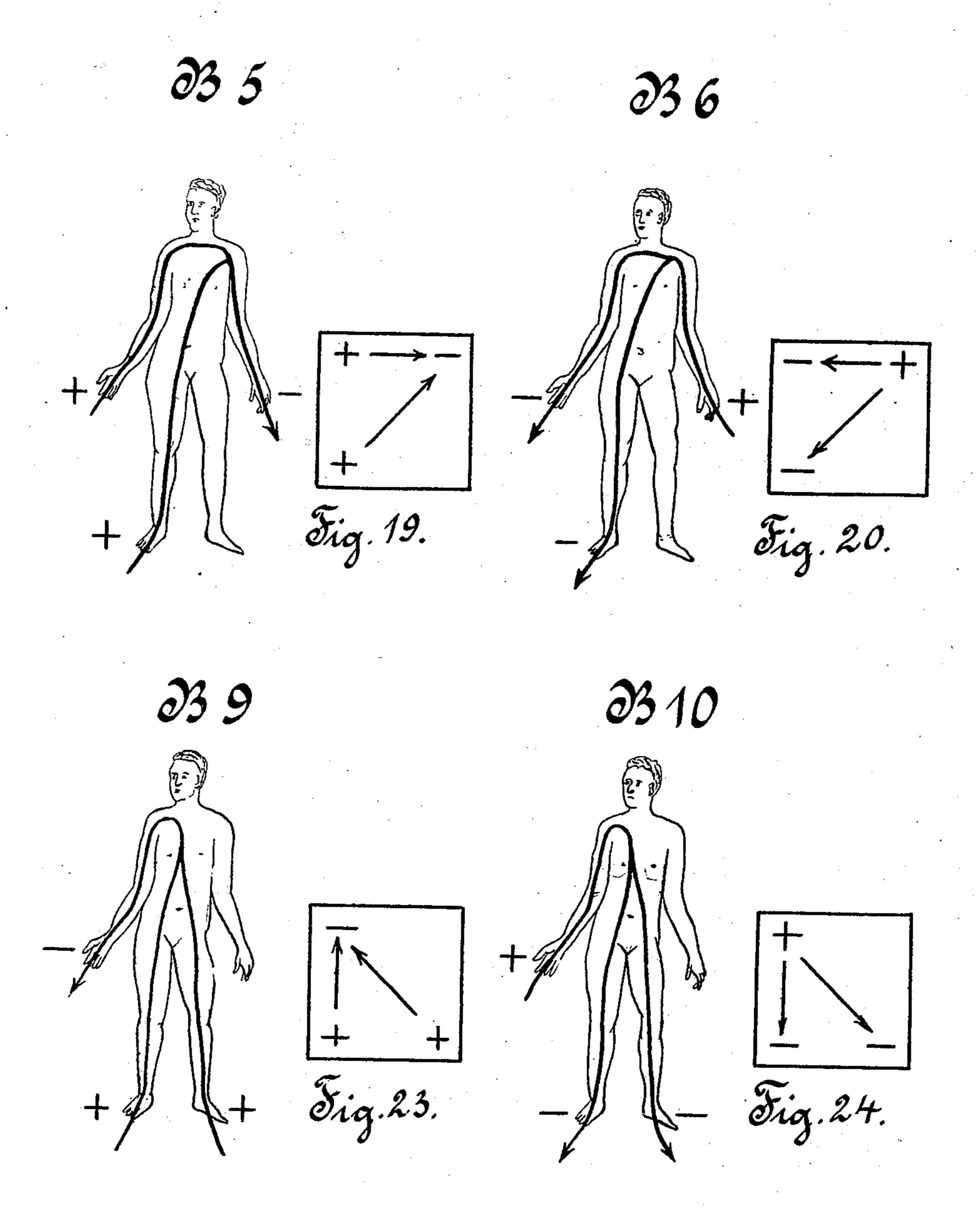
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William Schubz. William Muller

Carl Emil Schnie by his attorneys Roeders Brienen

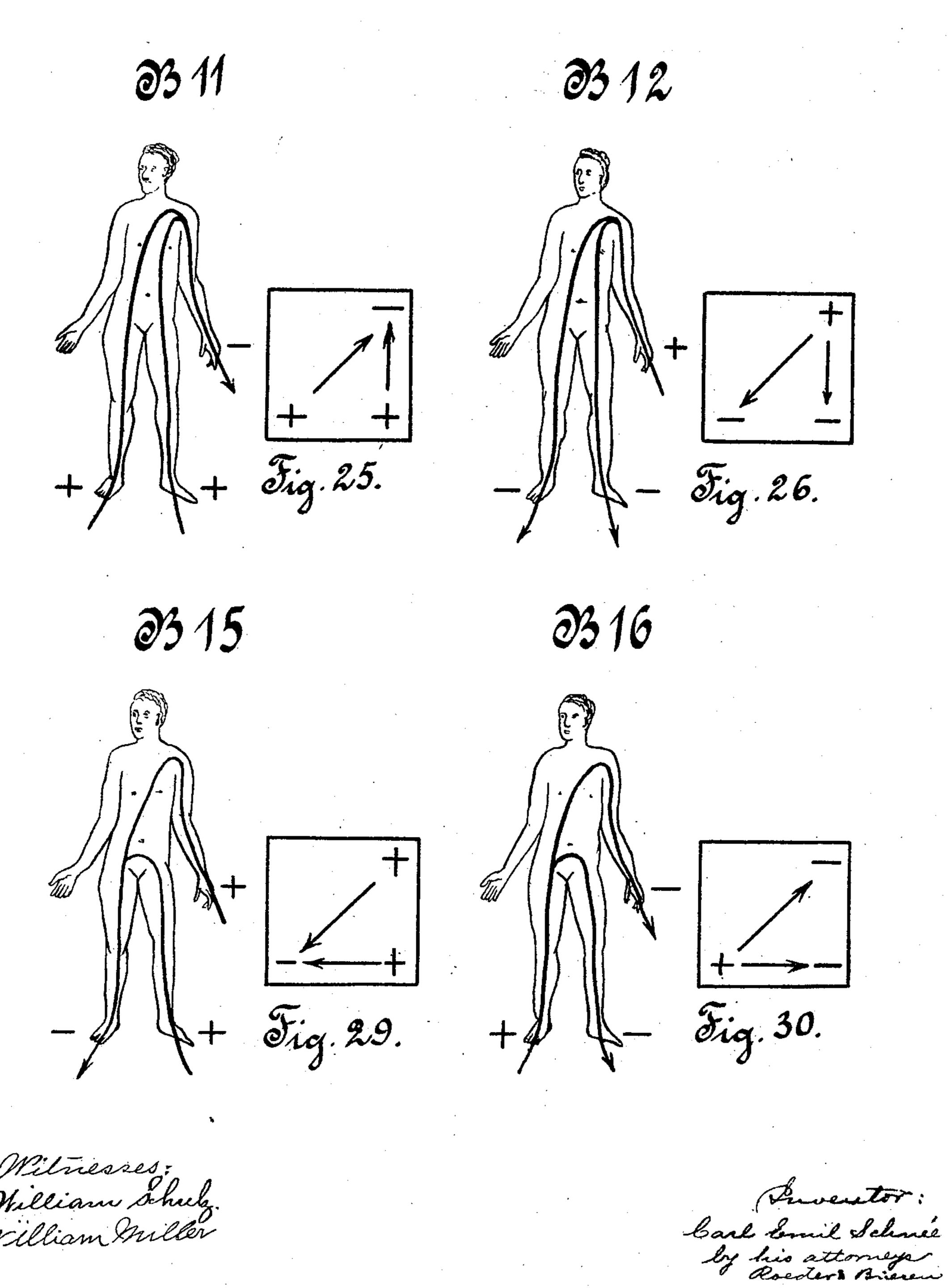
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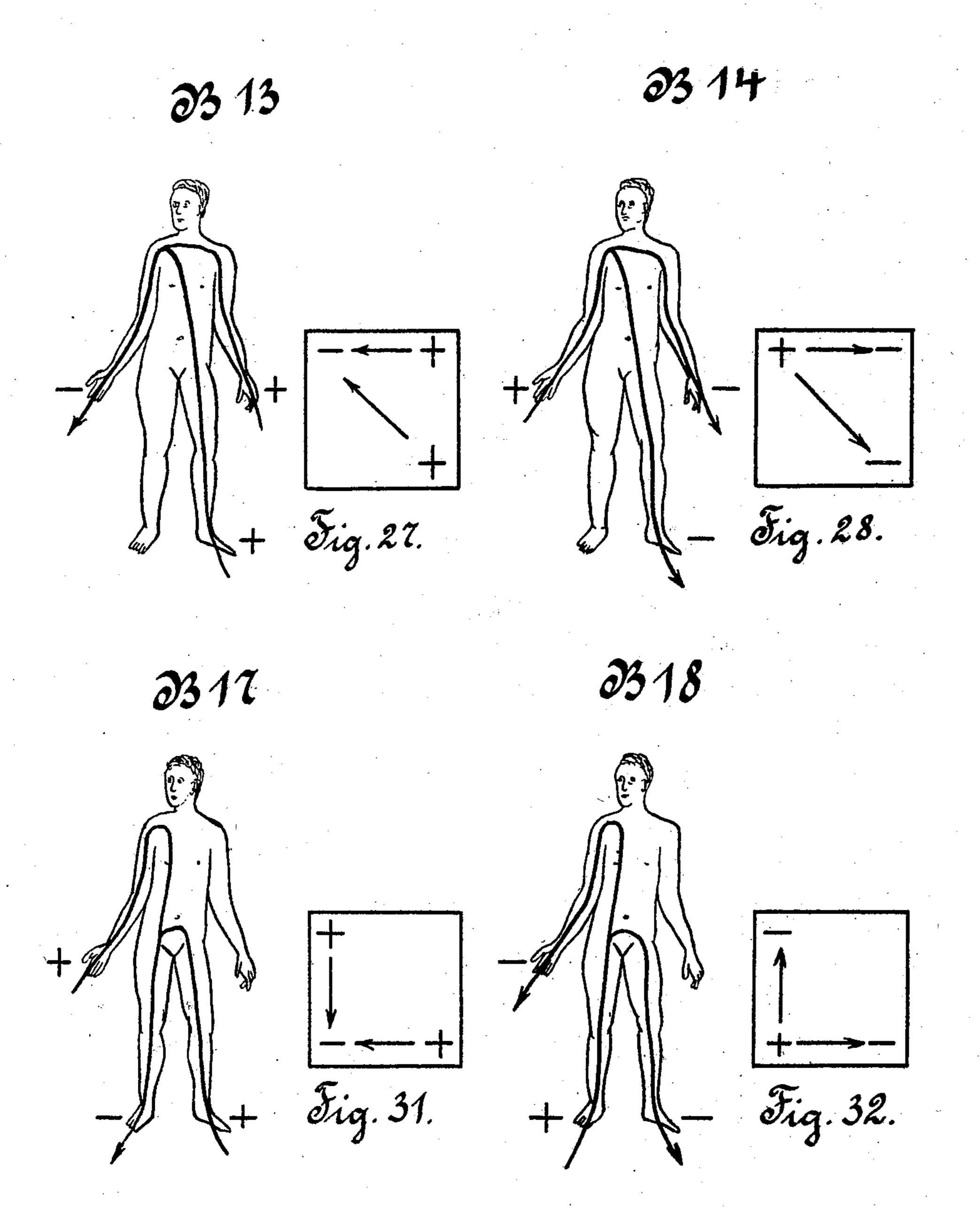
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William Schulz. William Schulz.

Inventor: barl barril Schmer by his attornejs Roeders Briesen

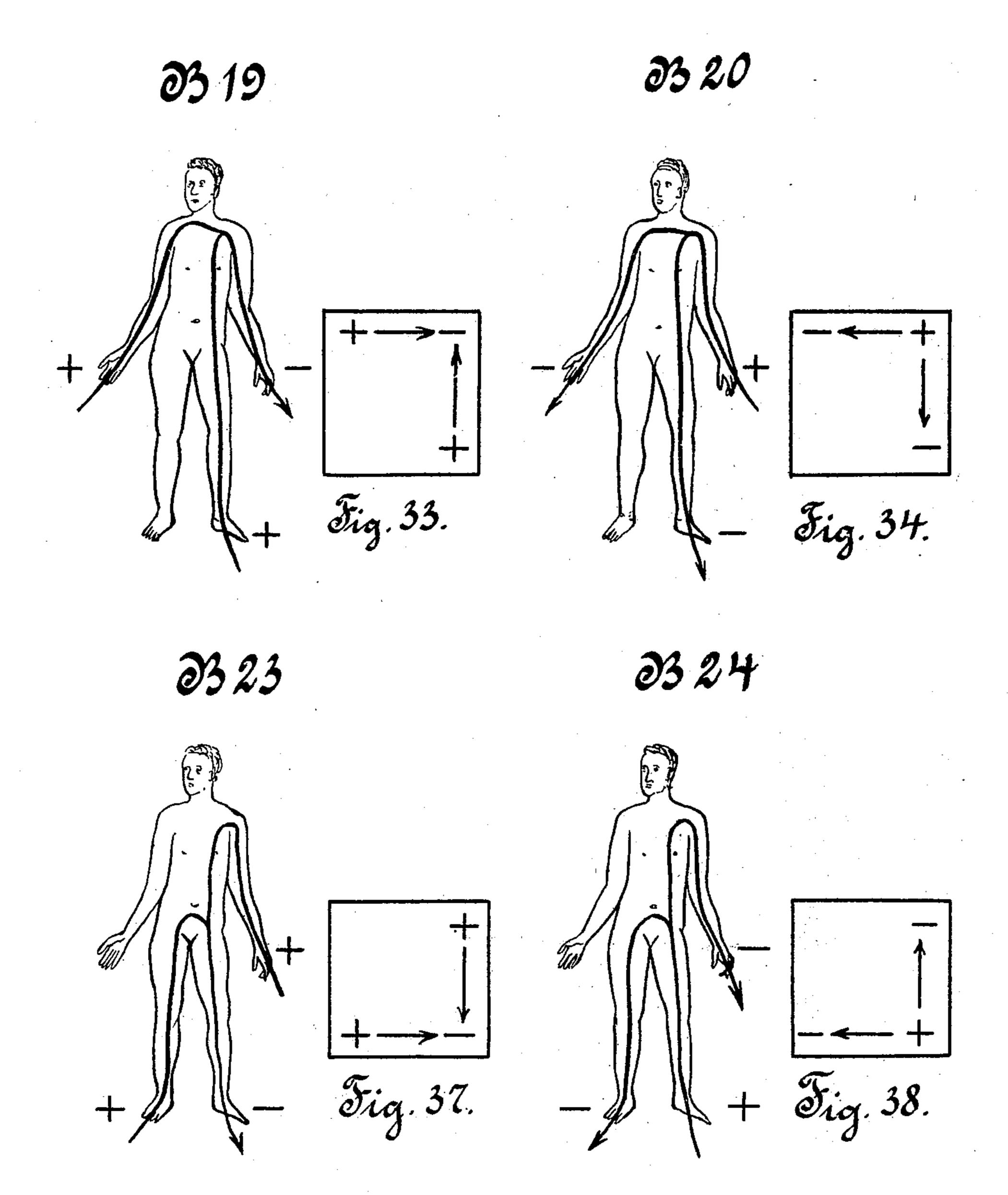
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William Schulz. William Incler

Greventor: 6 arl Emil Schnie by his attorneys Roeder & Brierow.

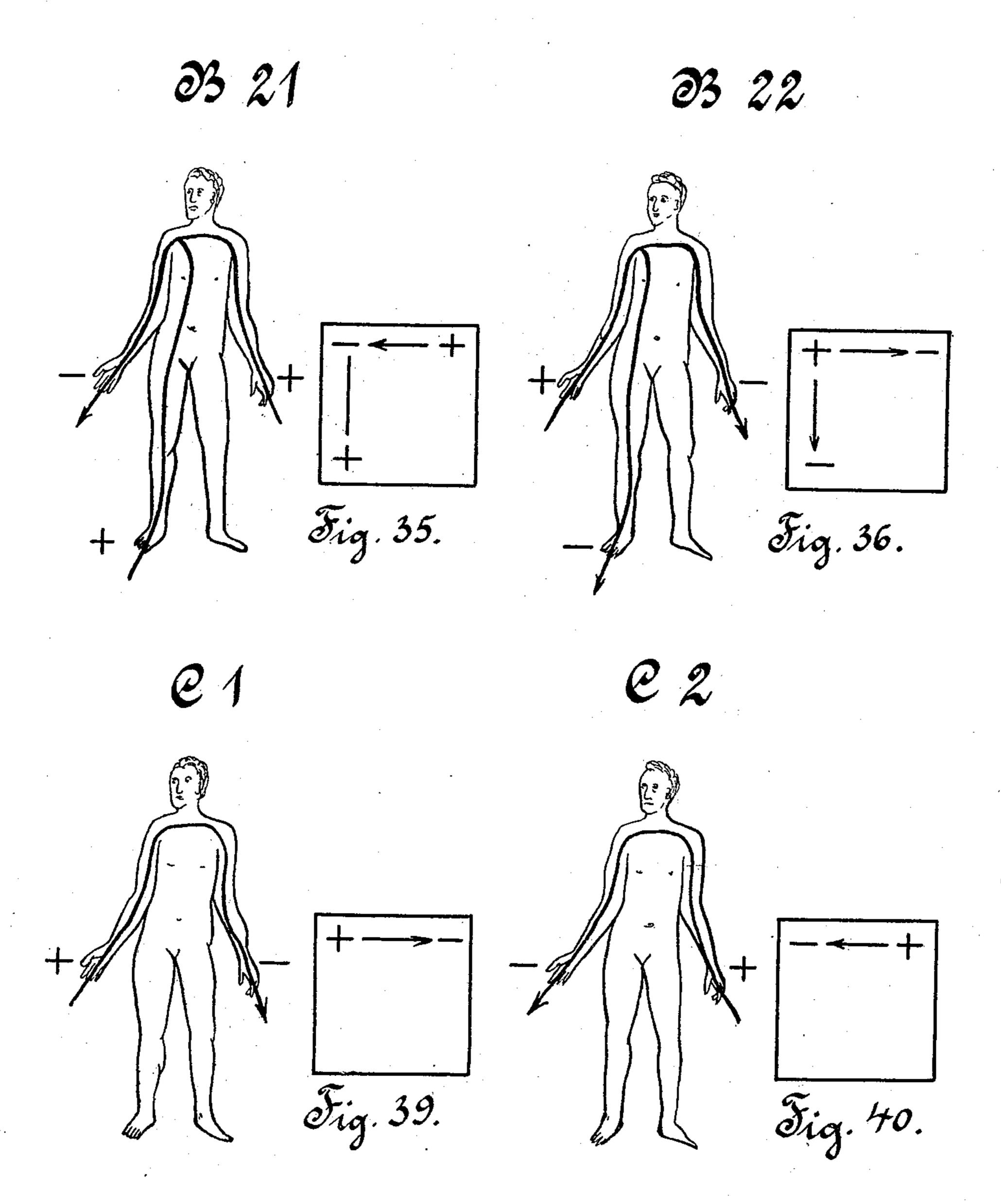
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Milliam Schulz. William Sniller

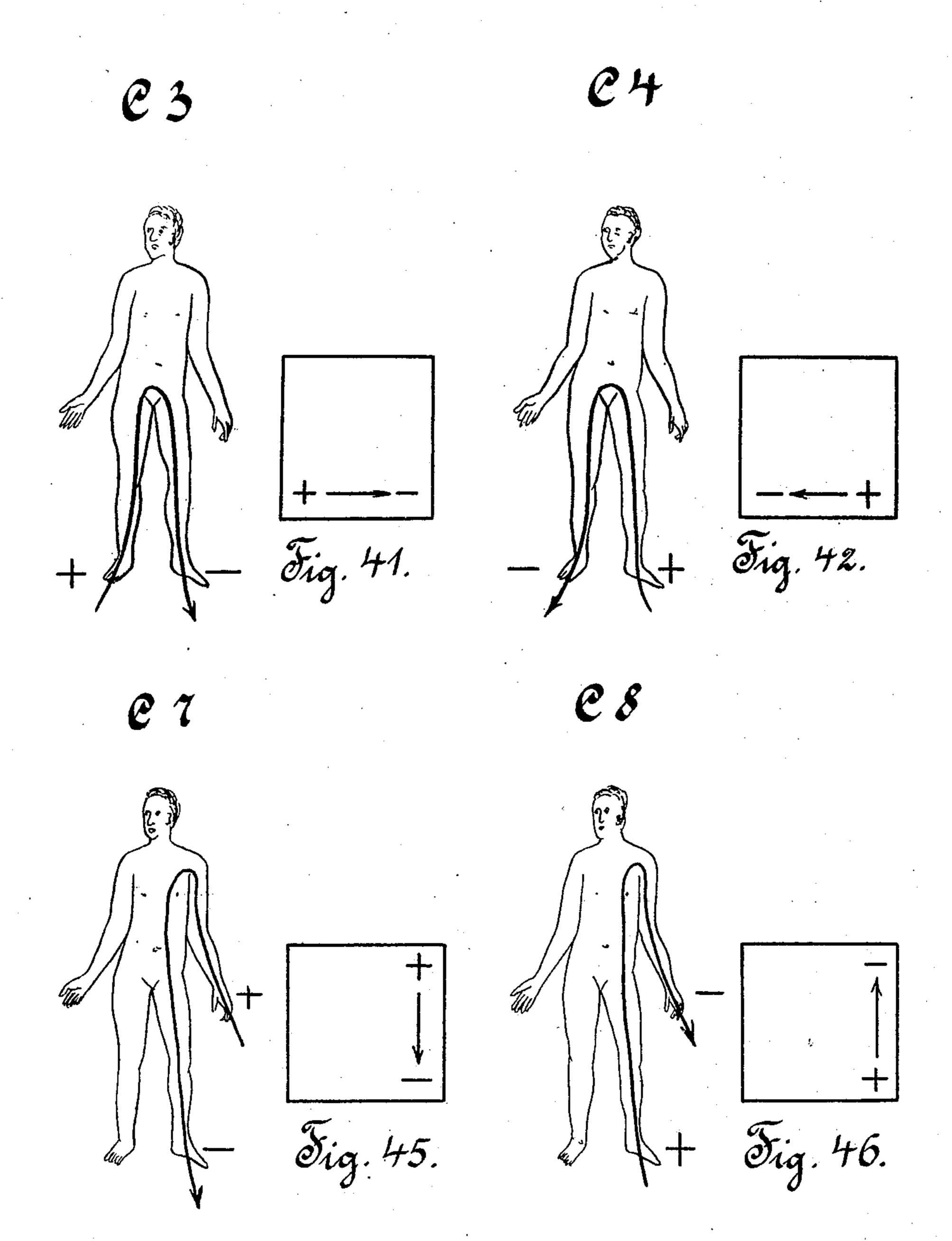
Enventor: barl Emil Schnee by his attorneys Roeder & Briesen

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15 Sheets—Sheet II.



William Schulz William Schulz William Miller Luventor Carl Emil Schnee by his attorneys Roeder & Brienen

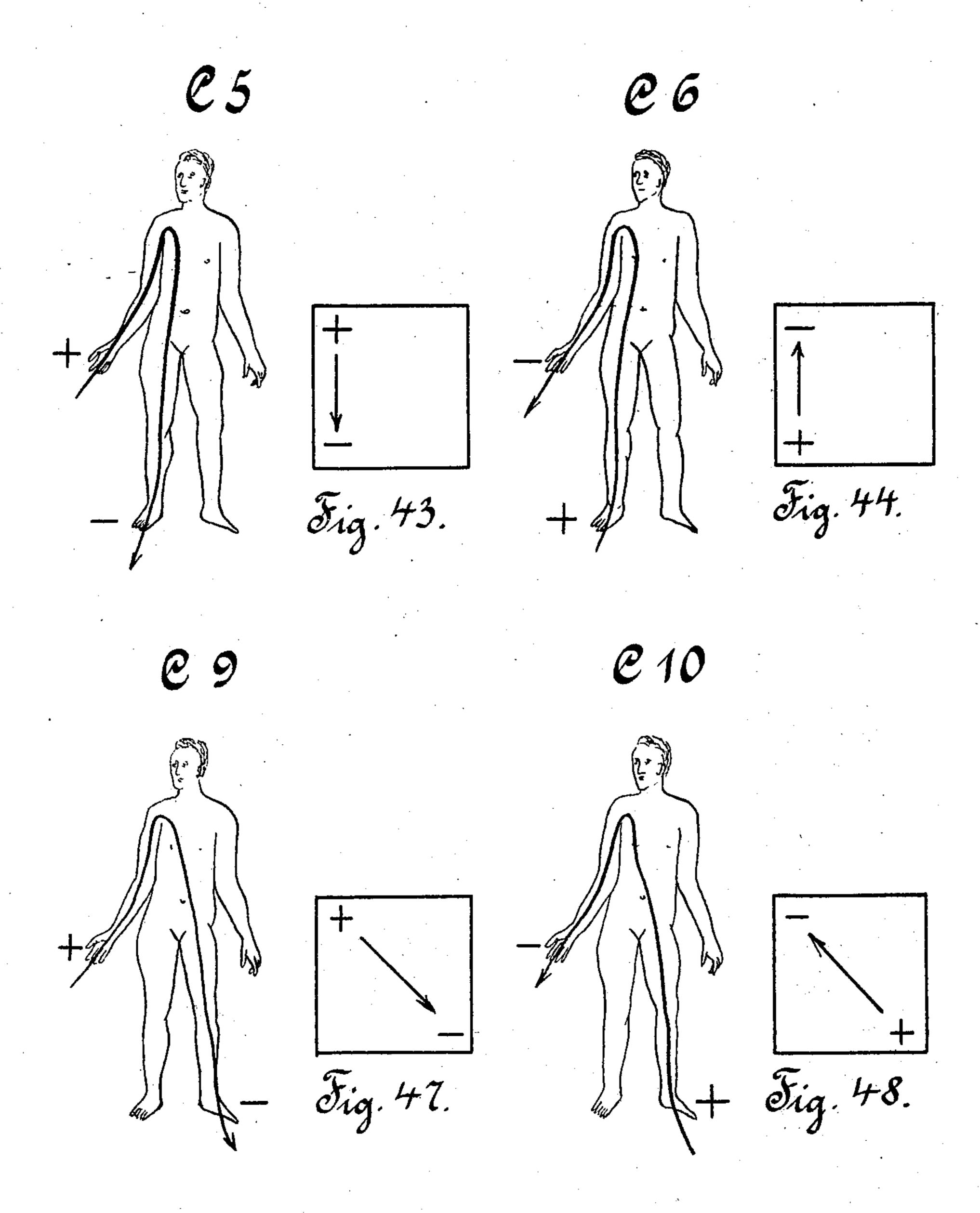
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Miliam Schulz.

Enventor: barl Emil Schnel by his attorneys Roeders Brieser.

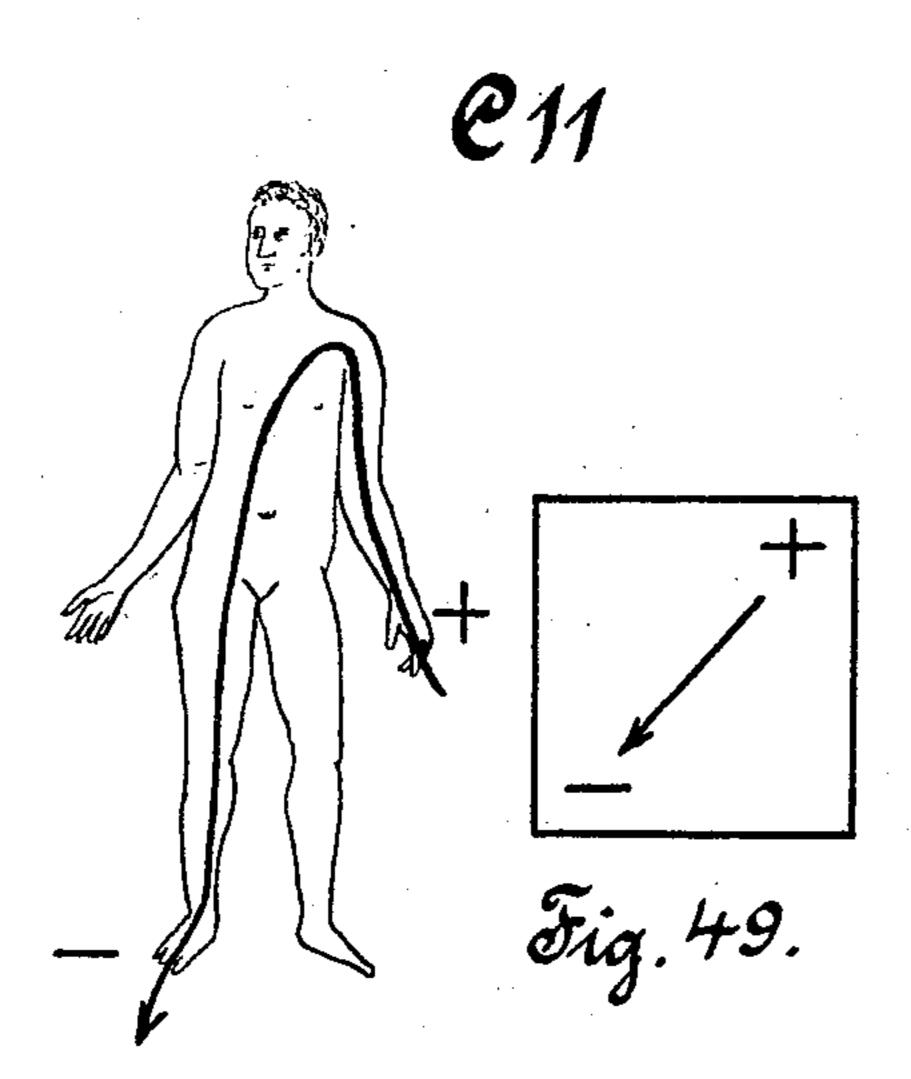
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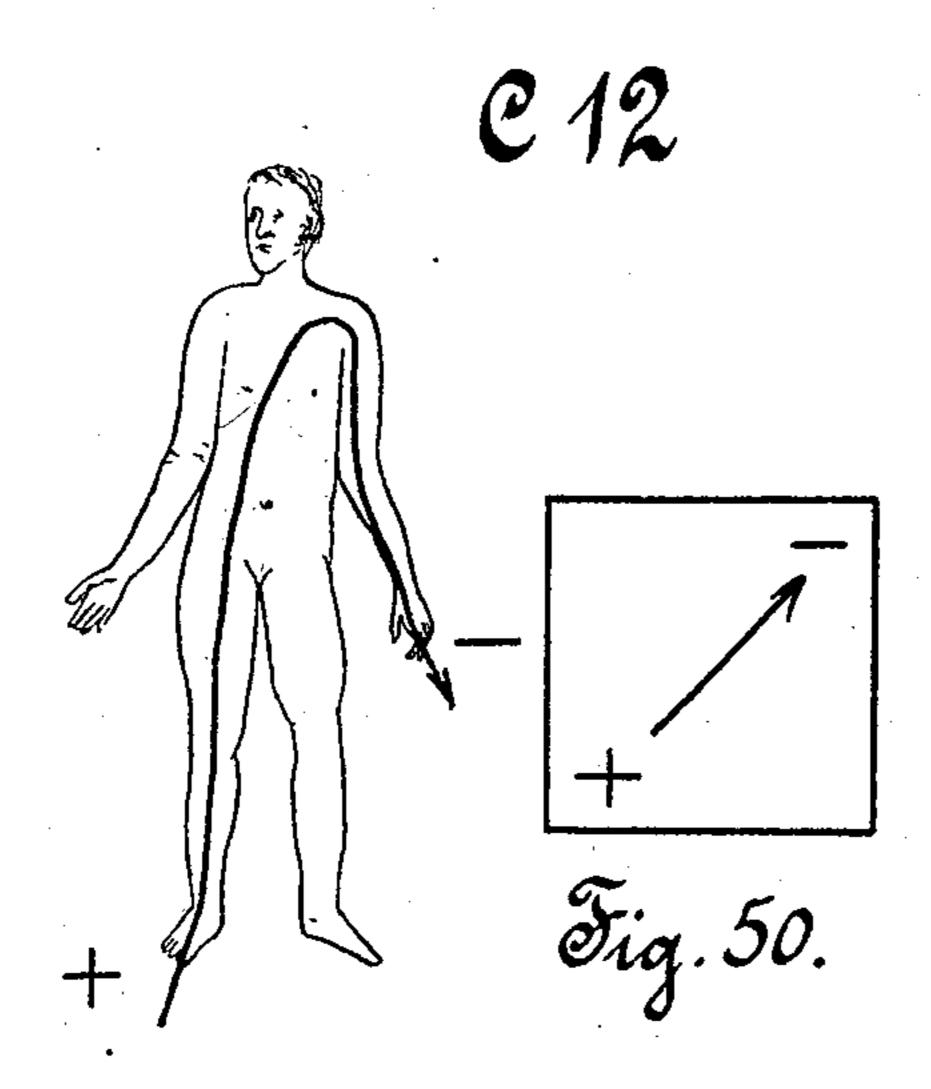
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William Schulz. William Miller

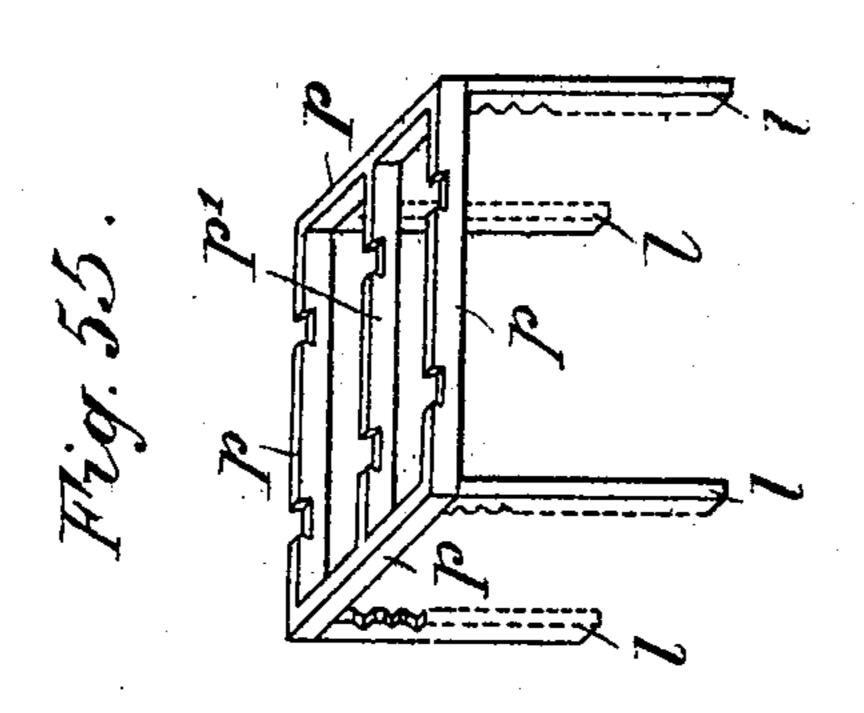
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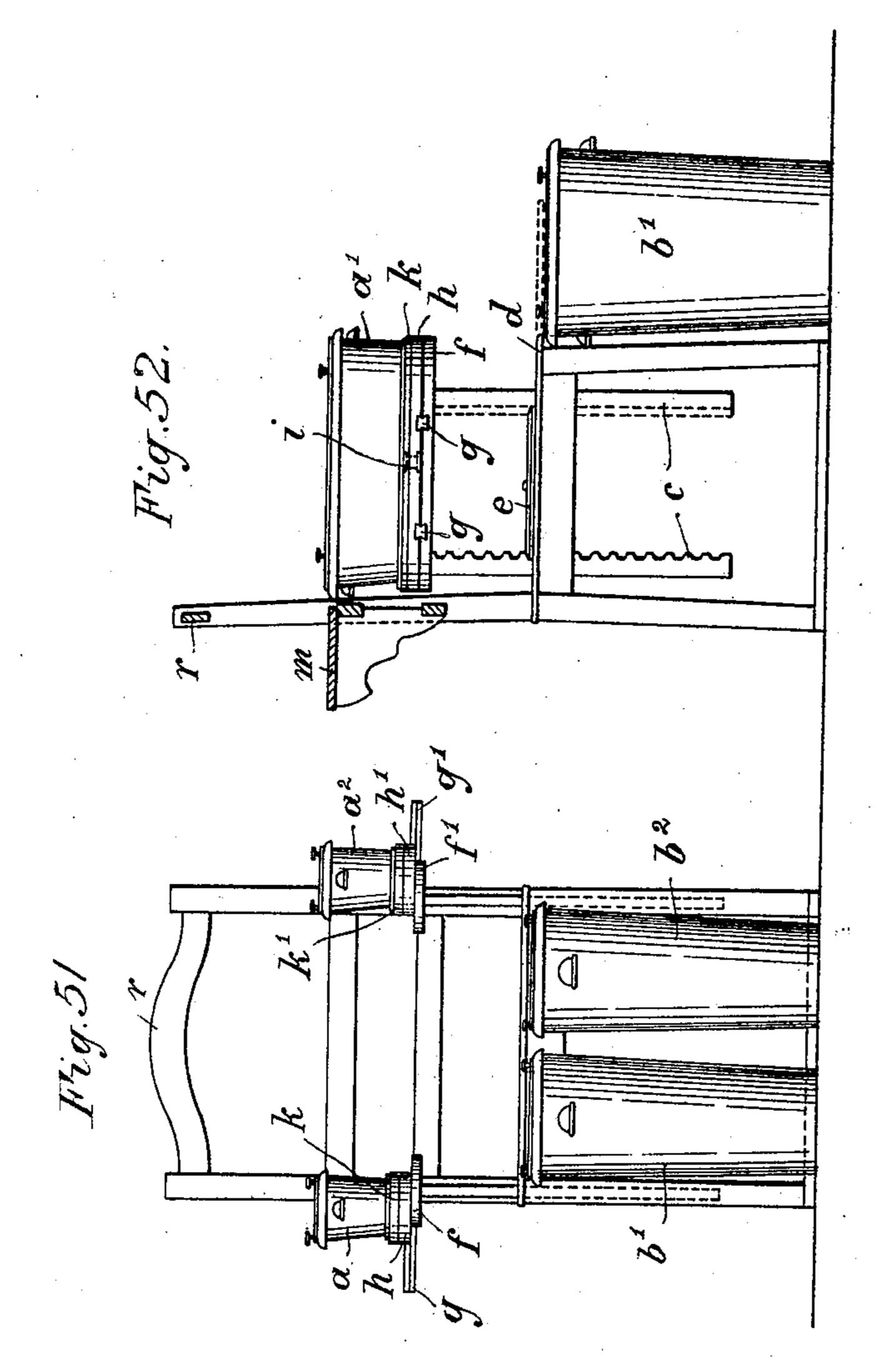
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(Application filed Dec. 15, 1898.)

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William Schuly. William Schuly.

Coul Emil Schnee by his attorneys Roeder & Brienens

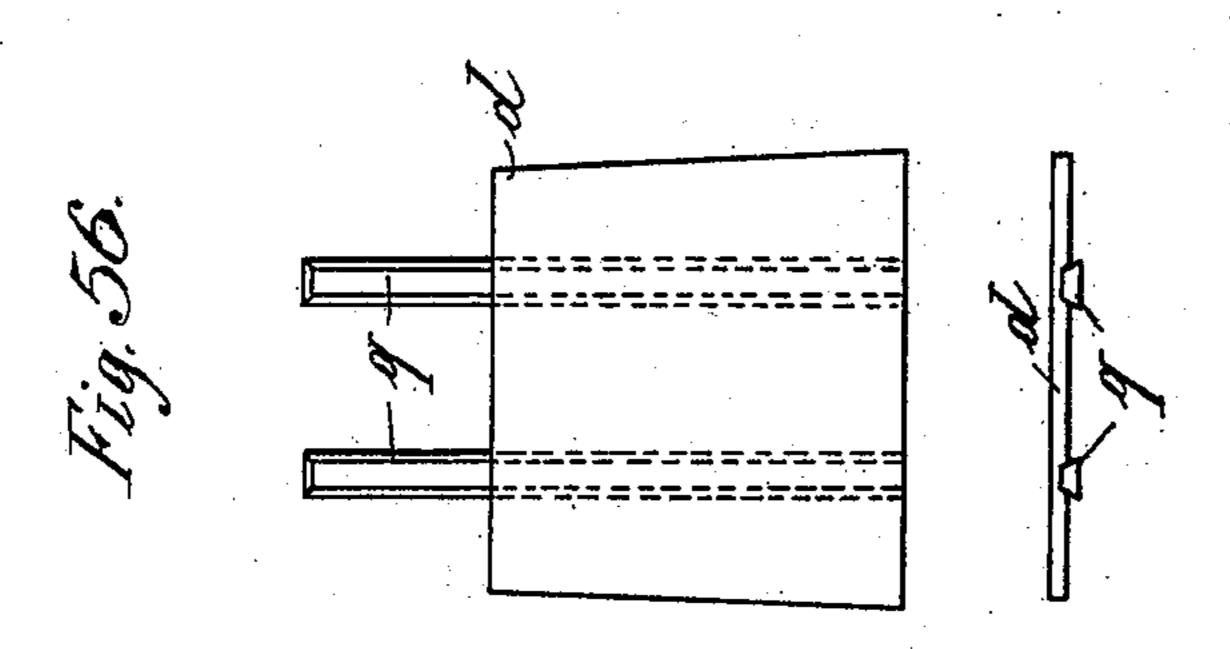
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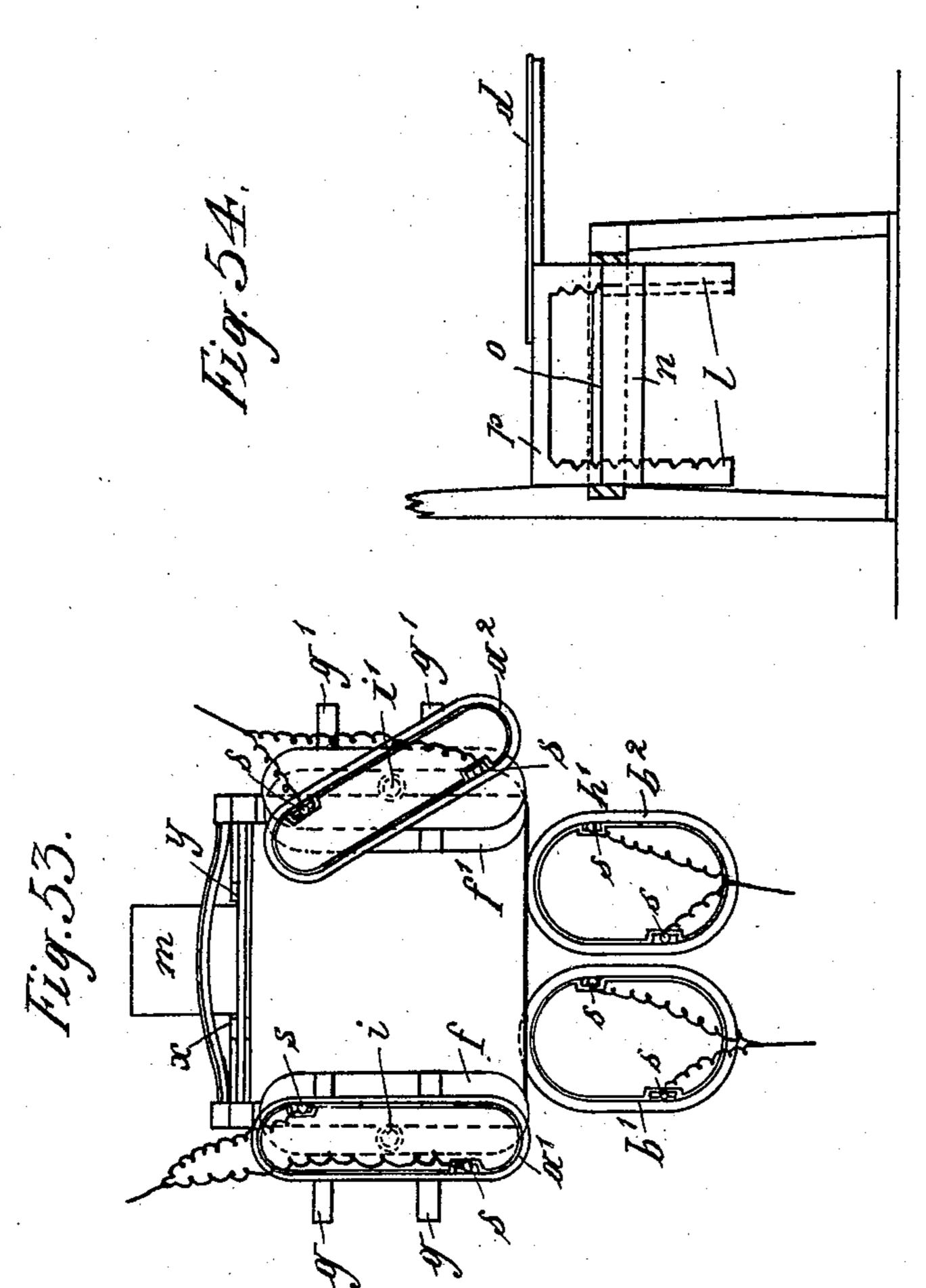
C. E. SCHNÉE. FOUR TUB ELECTRIC BATH.

(Application filed Dec. 15, 1898.)

(No Model:)

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Witnesses: William Schulz. William Skiller

Earl Comil Schnel by his attorneys Roeder & Briesen

United States Patent Office.

CARL EMIL SCHNÉE, OF CARLSBAD, AUSTRIA-HUNGARY.

FOUR-TUB ELECTRIC BATH.

SPECIFICATION forming part of Letters Patent No. 620,254, dated February 28, 1899.

Application filed December 15, 1898. Serial No. 699,318. (No model.)

To all whom it may concern:

Be it known that I, CARLEMIL SCHNÉE, doctor of medicine, a subject of the Emperor of Austria-Hungary, residing at Carlsbad, Austria-Hungary, have invented certain new and useful Improvements Relating to Four-Tub Baths, of which the following is a specification.

This invention relates to an arrangement for carrying out several kinds of treating the human body—*i. e.*, commonly by electrification as well as by cataphoresis or introduction of medicaments in the human body.

The apparatus represents a four-tub bath 15 with four separate tubs, each of which receives only one limb at a time, these four tubs being so combined with an adjustable chair that the body to be treated may assume a comfortable position during the treatment. 20 The four separate tubs can be connected with the electric circuit as required, so that the current flows through the body in fifty different directions. For seating the body as comfortably as possible the chair combined 25 with the four tubs is so constructed that the arm-tubs may be elevated and lowered as well as removed and turned horizontally. The body of the patient is brought in the right position to the four tubs by elevating 30 or lowering the movable seat of the chair.

The fifty different current directions (bathing combinations) are shown in the accompanying drawings in Figures 1 to 50, wherein the reproductions of a human body by its ar-35 rows represent the special manner of treatment, while in the squares the same schematically is shown. According to the kind of connection of the tubs with the electric circuit and by reversing each kind, the current flows 40 through the body in the directions hereinafter described. Using all the four tubs the fourteen bathing combinations A' A² A³, Figs. 1 to 14, are possible. By disconnecting one tub—i. e., by using three tubs—the twenty-45 four bathing combinations B' B² B³, Figs. 15 to 38, and by disconnecting two tubs the twelve bathing combinations C' C² C³, Figs. 39 to 50, can be carried out.

Fig. 51 of the accompanying drawings shows 50 the apparatus in front elevation. Fig. 52 shows the same in side elevation, and Fig. 53 in a plan view. In Fig. 54 the adjustment of

the seat is illustrated, in Fig. 55 the seatframe, while Fig. 56 shows the seat itself.

The electric current flows as follows: A', 55 Fig. 1: The current flows from both arms through the body in vertical direction downward to both legs. A², Fig. 2: By reversing the direction A' the current flows from both legs through the body upward to both arms. 60 A³, Fig. 3: The current flows from the right limbs through the body horizontally from the right to the left and through both left limbs. A⁴, Fig. 4: By reversing the direction A³ the current flows from the left limbs horizontally 65 through the body to both right limbs. A^5 , Fig. 5: The current flows from the right arm through the upper part of body (horizontally from the right to the left) and through the left arm, as well as through the right-hand 70 part of body, (vertically downward,) and through the right leg, at the same time through the left-hand leg and the lower part of the body (horizontally from the left to the right) and through the right leg, as well as through 75 the left part of body, (vertically upward,) and through the left arm. A⁶, Fig. 6: By reversing the direction A^5 the current flows along the same lines in the direction opposite to that shown in A^5 . A^7 , Fig. 7: The current 80 flows from the upper limbs through the body and the left leg (on the right hand vertically downward, as well as diametrically from the right to the left downward and in the lower part horizontally from the left to the right) 85 and through the right leg. A⁸, Fig. 8: By reversing the direction A⁷ the current flows along the same lines as in Fig. 7, but in opposite direction of that in Fig. 7. A⁹, Fig. 9: The current flows from both upper limbs 90 through the whole body (on the left hand vertically downward and diametrically downward from the right to the left, as well as in the lower part of body horizontally from the right to the left) and through the left leg. 95 A¹⁰, Fig. 10: By reversing the direction A⁹ the current flows along the same lines as last described, but in opposite direction. A¹¹, Fig. 11: The current flows through the lower limbs, the right arm, and the whole body, (on 100 the left hand vertically upward and diametrically from the right to the left upward and in the upper part horizontally from the right to the left,) as well as through the left arm.

A¹², Fig. 12: By reversing the direction A¹¹, Fig. 11, the current flows the same way as that of the kind A¹¹, but in opposite direction. A¹³, Fig. 13: The current flows from both lower limbs through the body, the left arm, (on the right hand vertically downward, as well as diametrically from left to right upward and in the upper part horizontally from the left to the right,) and through the right 10 arm. A¹⁴, Fig. 14: By reversing the direction A¹³ the current flows in opposite direction, but along the same lines.

If one or two tubs are not connected with the source of electricity the following thirtyis six combinations can be made, twenty-four of which are produced by disconnecting one tub, (combinations B,) while the twelve combinations C are obtained by disconnecting

binations C are obtained by disconnecting two tubs. After having disconnected one of the tubs the electric current flows as follows: B', Fig. 15: The current flows from both upper limbs through the body and the right leg. B², Fig. 16, shows the reversal of the combina-25 tion B', wherein the current flows along same path but in an opposite direction. B³, Fig. 17: The current flows through both upper limbs, the body, (on the left hand vertically downward, as well as diametrically downward 30 from the right to the left,) and the left leg. B4, Fig. 18: By reversing the direction B3 the current flows through the left leg, the body, (on the left hand vertically upward, as well as diametrically upward from left to right,) 35 and through both upper limbs. B5, Fig. 19: The current flows from the right arm and the right leg through the body (in the upper part horizontally from the right to the left, as well as diametrically upward from the right to the 40 left) and the left arm. B6, Fig. 20: By reversing the direction B⁵ the current flows from the left arm through the body (in the upper part horizontally from left to right and diametrically downward from the left to the right) and 45 through the right arm and the right leg. B7, Fig. 21: The current flows from the right arm and the right leg through the body (in the lower part horizontally from the right to the left, as well as diametrically downward from 50 right to left) and the left leg. B8, Fig. 22: · By reversing the direction B7 the current flows through the left leg, the body, (in the lower part horizontally from the left to the right and diametrically upward from the left to the 55 right) herewith through the right arm and the right leg. B9, Fig. 23: The current flows from the lower limbs through the body (on the right hand vertically upward and diametrically upward from the left to the right) and through 60 the right arm. B¹⁰, Fig. 24: By reversing the direction B9 the current flows through the right

arm, the body, (on the right hand vertically

downward, as well as diametrically downward

from the right to the left,) and through both

from the lower limbs through the body (on the

65 lower limbs. B¹¹, Fig. 25: The current flows

left side vertically upward and diametrically upward from right to left) and through the left arm. B¹², Fig. 26: By reversing the direction B11 the current flows through the left arm, the 70 body, (on the left side vertically downward and diametrically downward from left to right,) and through both lower limbs. B¹³, Fig. 27: The current flows through the left arm and the left leg, through the body, (in the upper part 75 horizontally from the left to the right, as well as diametrically upward from the left to the right,) and through the right arm. B¹⁴, Fig. 28: By reversing the direction B¹³ the current flows from the right arm through the body, 80 (in the upper part horizontally from the right to the left and diametrically downward from the right to the left,) and through the left arm, as well as the left leg. B15, Fig. 29: The current flows from the left arm and the left 85 leg through the body (in the lower part horizontally from the left to the right and diametrically downward from the left to the right) and through the left leg. B¹⁶, Fig. 30: By reversing the direction B¹⁵ the current flows 90 from the right leg through the body, (in the lower part horizontally from the right to the left and diametrically upward from right to left,) through the left arm, as well as through the left leg. B¹⁷, Fig. 31: The current flows 95 from the right arm and the left leg through the body (on the right side vertically downward and in the lower part of the body horizontally from the left to the right) and through the right leg. B¹⁸, Fig. 32: By reversing the 100 direction B¹⁷ the current flows from the right leg through the body (on the right side vertically upward, as well as in the lower part horizontally from the right to the left) and through the right arm and the left leg. B¹⁹, 105 Fig. 33: The current flows from the right arm and the left leg through the body (on the left side vertically upward and in the upper part horizontally from the right hand to the left hand) and through the left arm. B20, Fig. 110 34: By reversing the direction B¹⁹ the current flows from the left arm through the body (on the left hand vertically downward, as well as in the upper body part horizontally from the left to the right) and through the right arm 115 and the left leg. B²¹, Fig. 35: The current flows from the left arm and the right leg through the body (on right side vertically upward and in the upper part horizontally from the left to the right) to the right arm. B22, 120 Fig. 36: By reversing direction B²¹ the current flows from the right arm through the body (on the right side vertically downward and in the upper part horizontally from the right to the left) to the left arm and the right leg. 125 B²³, Fig. 37: The current flows from the left arm and the right leg through the body (on the left hand vertically downward and in the lower part horizontally from the right to the left) to the left leg. B24, Fig. 38: By revers- 130 ing the direction B²³ the current flows from the left leg through the body (on the left side

vertically upward, as well as in the lower part horizontally from the left to the right)

to the left arm and the right leg.

If one hand-tub and one foot-tub, relatively 5 two hand-tubs or two foot-tubs, are disconnected, the electric current flows as follows: C', Fig. 39: The current flows from the right arm through the upper part of the body horizontally to the left arm. C2, Fig. 40: By re-10 versing the connection used in combination C' the current flows from the left arm through the upper part of body horizontally to the right arm. C³, Fig. 41: The current flows from the right leg through the lower part of 15 the body to the left leg. C4, Fig. 42: By reversing direction C3 the current flows from the left leg through the lower part to the right leg. C⁵, Fig. 43: The current flows from the right arm on the right side vertically down-20 ward through the body to the right leg. C⁶, Fig. 44: By reversing direction C⁵ the current flows from the right leg vertically upward on the right side through the body to the right arm. C7, Fig. 45: The current 25 flows from the left arm vertically downward through the body to the left leg. C8, Fig. 46: By reversing direction C⁷ the current flows from the left leg vertically upward through the body to the left arm. C9, Fig. 47: The 30 current flows from the right arm through the body diametrically downward from right to left to the left leg. C¹⁰, Fig. 48: By reversing direction C⁹ the current flows from the left leg through the body diametrically upward 35 from left to right to the right arm. C¹¹, Fig. 49: The current flows from the left arm through the body diametrically downward to the right leg. C¹², Fig. 50: By reversing direction C11 the current flows from the right 40 leg through the body diametrically upward to the left arm.

The apparatus used for carrying out the above-stated fifty bathing combinations is, as already mentioned, so constructed that the 45 patient therein gets a comfortable and natu-

ral position.

The apparatus comprises four separate tubs a', a^2 , b', and b^2 , of non-conducting material, which may not be disturbed by the influences 50 produced by the treatment. Such a material may be preferably porcelain, but any other material adapted for this purpose may be employed. The tub, with its oblong roundedoff and conical shape, may be longer (a' and 55 a^2) or higher, $(b' \text{ and } b^2)$, according to its purpose—i. e., to receive an arm or a leg. The four tubs are combined with an especiallyconstructed chair, so that the tub can be brought into the most suitable position for re-50 ceiving the limbs.

The arm-rests are carried by racks c, reaching through the cross-rails arranged on both sides of the chair. Upon each of those crossrails a bar e, mounted on a vertical pivot, is 55 arranged, the ends of the bars e being so sharpened that they fit with the gaps in the ing the arm-rests the bars e must be turned around their pivot. When the arm-rest is brought to the desired height, the bar e may 70 be turned back in the plane of the racks c. Both arm-rests consist of three plates, the lowest of which, f and f', is fastened upon the racks c. Plate f, as well as plate f', has two dovetailed grooves, wherein movable bars gg 75 and g' g' are loosely provided. The bars g'and g' have a double-dovetailed cross-section and lie with their upper dovetailed halves in corresponding grooves of plates h and h', the latter thereby being movable along the bars 80 gg'. Upon the plates hh' plates k and k' are provided, the latter being connected with the first by pivots i i', around which pivots the plates k k' can be horizontally turned. By this construction I render it possible to bring 85 the arm-tubs in any required position.

The seat-plate d, Figs. 54 and 56, is carried by a frame, Figs. 54 and 55, supported by racks l. The frame of the seat is composed of four bars p, forming a trapezium, the 90 four corners of which carry the racks l. On each side of the chair a rail n is provided, Fig. 54, through which the racks l are put and whereupon a bar o lies, the sharpened ends of which may fit with the gaps in the teeth of 95 the racks l. The trapezium-shaped frame is provided with a middle bar p'. In all the three bars p p' p two dovetailed grooves are secured for receiving two corresponding bars q, attached to the seat-plate. The seat ar- 100 ranged in this manner may be covered with an insulating - covering, the upper end of which reaches beyond the back-support r.

A bracket m can be attached to the backsupport of the chair for carrying, if desired, 105 electric controlling apparatus or the like.

Each of the four tubs is provided with two guides s, adapted to receive electrodes of corresponding dimensions, preferably manufactured of prepared hard carbon. To the bind- 110 ing-screw of each electrode a conducting-wire is attached, but the two wires of each tub are afterward connected, so that they form only one conducting-wire. Therefore in each separate tub only positive or negative current at 115 the time can be introduced and never positive and negative can be introduced at the same time.

When the tubs are filled with liquid (water, with or without medicaments) to the neces- 120 sary height, the apparatus is ready to be used.

Between the four tubs $a' a^2 b' b^2$ the body of the patient is the single conducting means for the electric current, the latter being therefore compelled to flow through it. The elec- 125 tric current introduced in the tubs flows through the insulated body in the abovenamed fifty combinations according to the particular circuit combination, which depends upon how many and which tubs are 130 connected with the positive pole and how many and which tubs are connected with the negative pole. All these fifty combinations teeth of the racks c. For elevating or lower- | can be employed for four different kinds of

treatment—first, for galvanization; second, for faradization; third, for galvano-faradization; fourth, for cataphoresis relatively for introduction of medicaments in the human 5 body—i. e., the human body can be treated in the fifty different combinations by galvanic current, in the fifty combinations by faradic current, in the fifty combinations by combined galvanic and faradic current, and, furto ther, by the fifty combinations medicaments can be introduced in the human body.

It will be seen from the foregoing that by my present invention I place at the disposal of medical men two hundred different meth-15 ods for treating the human body, from which they can choose the special combination or combinations adapted to the individual quali-

ties of the patient.

Having thus described my said invention,

20 what I claim is—

1. Electric four-tub bath with four absolutely-separated tubs of non-conducting material (preferably porcelain) each of which receives one limb and which can be connected 25 in different combinations for every kind of treatment of the body combined with an adjustable bathing-chair, substantially as described and for the purpose set forth.

2. Electric four-tub bath with four abso-30 lutely-separated tubs of non-conducting material (preferably porcelain) each of which receives one limb and which can be connected in different combinations for every kind of treatment of the body, combined with an ad-35 justable bathing-chair, the arm-rest of which carrying plates, receiving the arm-tubs and being capable to be elevated and lowered, to be horizontally removed and to be turned in the horizontal plane, substantially as de-40 scribed and for the purpose set forth.

3. Electric four-tub bath with four absolutely-separated tubs of non-conducting material (preferably porcelain) each of which receives one limb and which can be connected 45 in different combinations for every kind of treatment of the body combined with an adjustable bathing-chair, the seat-plate of which can be elevated and lowered and removed in front, substantially as described and for the

50 purpose set forth.

4. Electric four-tub bath with four absolutely-separated tubs of non-conducting material (preferably porcelain,) each of which receives one limb and which can be connected 55 in different combinations for every kind of treatment of the body, combined with an adjustable bathing-chair, the seat and the back

support of which is covered with an insulating-covering, substantially as described and

for the purpose set forth.

5. Electric four-tub bath with four absolutely-separated tubs of non-conducting material (preferably porcelain) each of which receives one limb and which can be connected in different combinations for every kind of 65 treatment of the body, combined with an adjustable bathing-chair, the arm-rest of which carrying plates, receiving the arm-tubs and being capable to be elevated and lowered, to be horizontally removed and to be turned in 70 the horizontal plane, presenting the following characteristics, each arm-rest consists of three plates showing a plan view corresponding to the tub form, the lowest plate f, f' being carried by two racks c held in position 75 by a pivotally-mounted bar e, the lowest plate f, f' carrying two bars g, g', guiding the middle plates h, h' with corresponding grooves, while to the latter the third plate k, k' is attached by means of pivots i, i' substantially 80 as described and for the purpose set forth.

6. Electric four-tub bath with four absolutely-separated tubs of non-conducting material (preferably porcelain,) each of which receives one limb and which can be connected 85 in different combinations for every kind of treatment of the body, combined with an adjustable bathing-chair, the arm-rest of which carrying plates, receiving the arm-tubs and being capable to be elevated and lowered, to 90 be horizontally removed and to be turned in the horizontal plane, presenting the following characteristics: dovetailed bars q provided on the under side of the seat-plate dfit in corresponding dovetailed grooves se- 95 cured in the bars p, p' of the seat-frame the latter carrying on each corner a rack l, which can be held in position by means of bars o with sharpened ends fitting with the gaps of the rack-teeth, substantially as described and 100 for the purpose set forth.

7. A bathing apparatus consisting of a chair having a vertically and laterally adjustable seat, vertically and laterally adjustable revoluble side rests, arm-tubs supported thereon, 109 and foot-tubs, substantially as specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing

witnesses.

CARL EMIL SCHNÉE.

Witnesses:

DEAN B. MASON, ROBERT T. GARRISON.