3 Sheets—Sheet 1.

G. EDARD.

Magnetic Battery for Curative Purposes.

No. 198,008. Patented Dec. 11, 1877.

Fig: 1.

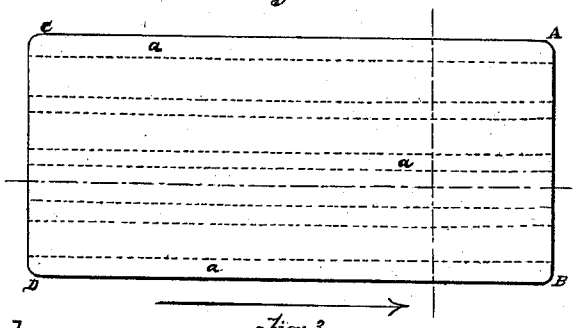


Fig: 2.

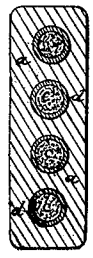


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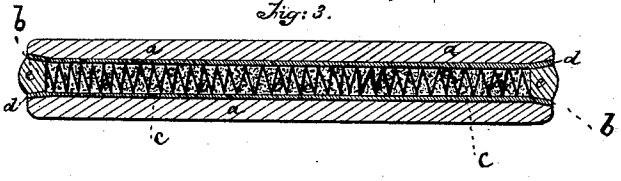


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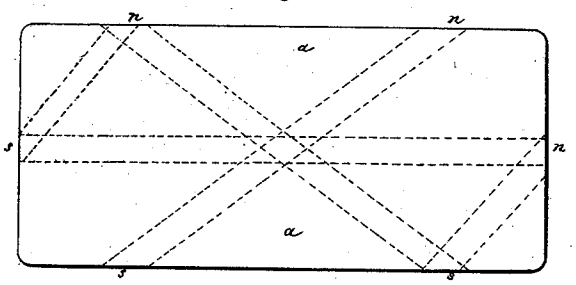


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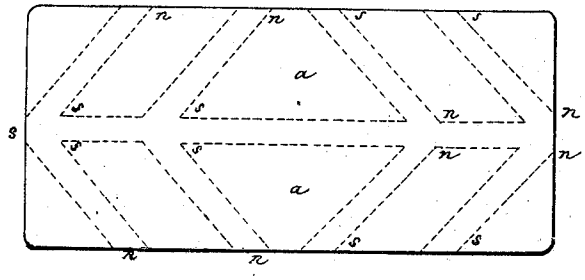
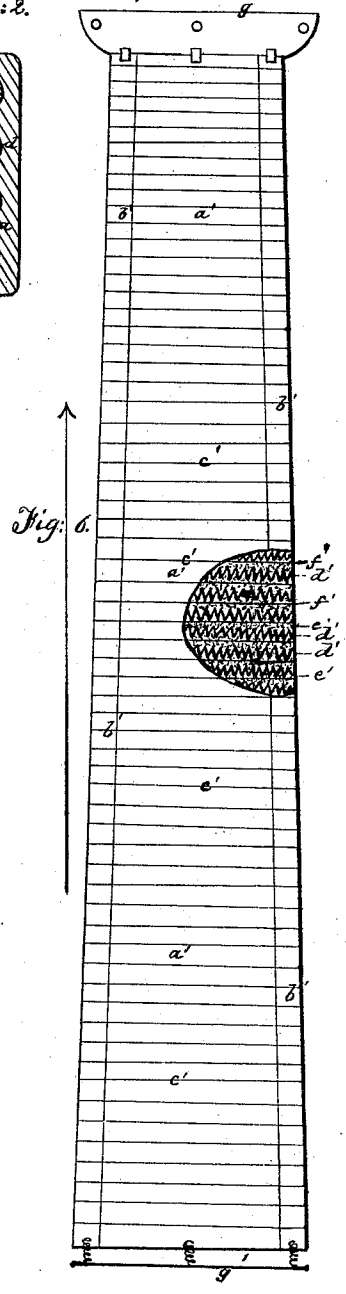


Fig: 6.



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Magnetic Battery for Curative Purposes.

No. 198,008. Patented Dec. 11, 1877.

Fig: 8.

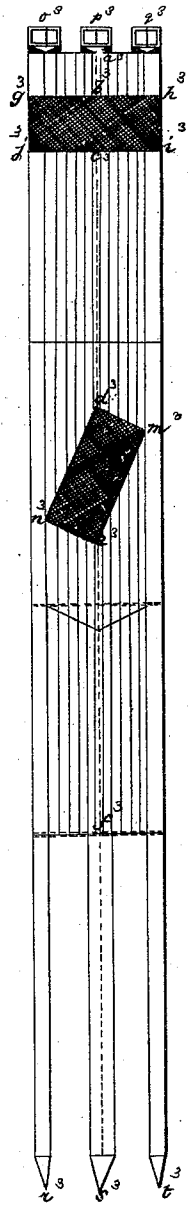


Fig: 9.

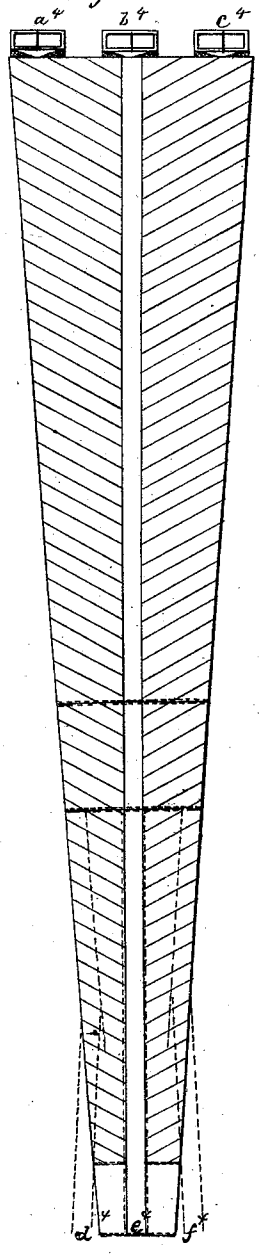


Fig: 7.



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G. EDARD.

Magnetic Battery for Curative Purposes.

No. 198,008. **Patented Dec. 11, 1877.**

Fig: 10.

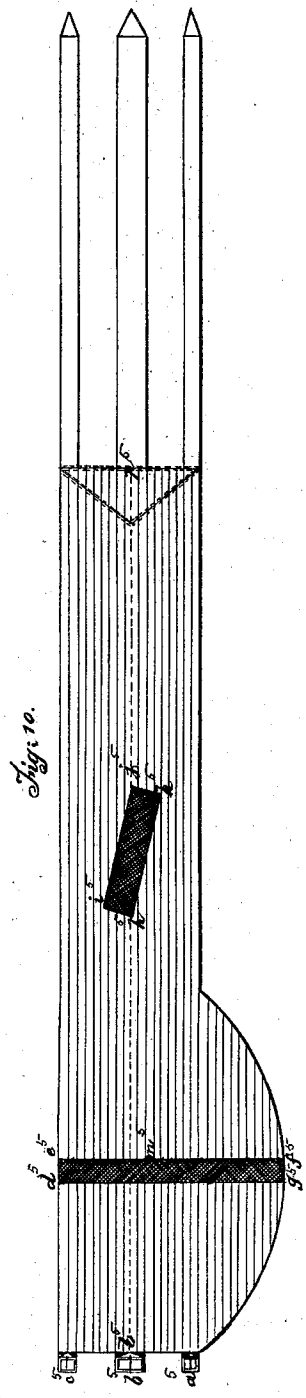


Fig: 12.

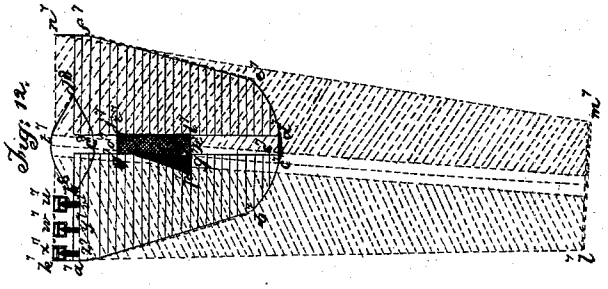
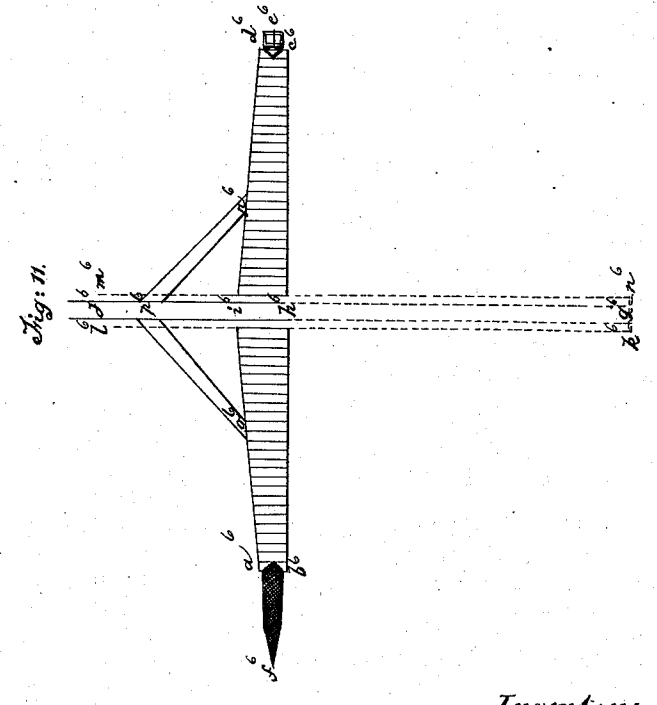


Fig: 11.



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UNITED STATES PATENT OFFICE.

GUILLAUME EDARD, OF PARIS, FRANCE.

IMPROVEMENT IN MAGNETIC BATTERIES FOR CURATIVE PURPOSES.

Specification forming part of Letters Patent No. **198,008**, dated December 11, 1877; application filed June 29, 1877.

To all whom it may concern:

Be it known that I, GUILLAUME EDARD, of Paris, France, have invented Improvements in Magnetic Apparatus for Medical Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheets of drawings, making a part of the same.

This invention relates to improvements in magnetic apparatus, and in the employment of the same for producing and applying magnetism as a substitute for Pulvermacher's chain-bands, Brandus brushes, and other analogous appliances.

The invention consists in providing an apparatus with a dry pile, which consists of a magnet or magnetized wire of suitable form and dimensions, embedded in powdered magnetic iron ore in the form of dust or sand, all as hereinafter more fully described.

The invention is applicable to magnetic friction-brushes, belts, corsets, abdominal supports, garters, hose, bonnets, and other bodily appliances.

I will describe first a brush or rubber having the dry pile above mentioned, and which is represented in Figures 1, 2, and 3 of the accompanying drawings in plan and transverse and longitudinal section, it being understood that the form of the brush may be varied.

a a are one or more thicknesses of cork inclosing the elements of the dry pile, viz., the magnetized steel spirals or magnets *b*, and the magnetic-iron-ore dust *c*. The magnets *b* and ore *c* are inclosed in metal tubes *d* of copper, or equivalent material. *e* are stoppers or plugs closing the ends of tubes *d*, to prevent the escape of the magnetic sand. A B, north pole; C D, south pole.

The brush is pierced with a number of longitudinal channels, in which are lodged the copper tubes *d*, as shown in Fig. 2. Each of the channels contains five, more or less, spirals of magnetized steel, which form, by their union, a single magnet, polarized in such manner that the friction-brush has four magnets, forming eight poles, four positive and four negative. The magnetic-iron-ore dust, with which the tubes containing the magnets are filled, excites the latter by its magnetic attraction and by reason of the special magnetic preparation to which the whole is subjected. The magnetic-ore dust is a constant reservoir of magnetic fluid, whose action is continually renewed and distributed with undiminished strength.

By holding the apparatus at its opposite poles by the hands, or holding it at one pole, and rubbing the body with the other, the muscles will be magnetized with sufficient strength to produce a continual attraction and repulsion of the fluid-currents.

Figs. 4 and 5 show different arrangements of the magnetic elements inclosed in the thickness or thicknesses of cork or hard india-rubber. The different poles are indicated in these figures.

Fig. 6 shows a magnetic belt to be used for the prevention of sea-sickness. In this figure, a' is a silk or linen fabric of two or three thicknesses, with or without a lining.

The belt, as shown, is made in the form of a trapezium. b^1 are longitudinal tubes formed in the belt, which are filled with magnetic-ore dust, serving to unite all the poles of similar name into one at each end of the belt, the one north and the other south.

The spaces in the tubes b^1 are filled with magnetic-ore dust, thus forming conductors of the permanent current developed by the following elements: c^1 are transverse cells or tubular spaces, which may, if desired, be rendered impervious, to prevent the escape of the ore-dust. d^1 are magnetized and polarized steel spirals, embedded in the magnetic ore-dust e^1, with which the cells c^1 are filled. f^1 are two strips of iron-wire gauze applied on the ends of each spiral, d^1, and embedded in the ore contained in tubes b^1; g^1, steel buckles without tongues, attached to the north and south poles, respectively. When the belt is used, the buckles are connected so as not to interrupt the current. Any other suitable attachment may, however, be employed.

Fig. 7 shows, in transverse section, a magnetic boot-sole, in which a^2 is the sole of cork; b^2, ore-dust or sand; c^2, fabric forming a covering for same; d^2, outsole of cork; e^2, fabric which is shown as enveloping the greater part of the sole; but it may be applied around the edges only. f^2 is the magnetic wire placed in the ore-dust b^2.

Fig. 8 shows a magnetic belt for preventing

sea-sickness, formed of a number of separate tubes, filled with magnetic-ore sand.

a^3 b^3 c^3 d^3 e^3 f^3 are lengths of chain to unite the two metal busks g^3 h^3 i^3 j^3 and d^3 m^3 e^3 n^3. The first is applied horizontally upon the epigastrium or pit of the stomach, while the other is applied to the vertebral column immediately opposite the first mentioned. The busks are inserted in the thickness of the belt in the positions shown. o^3 p^3 q^3 are buckles; r^3 s^3 t^3, straps. The whole of the belt is covered on the one side with an insulating material, such as silk or linen, while the inside surface of the tubes and busks are applied next the skin. This kind of belt may also be used without the busks. The belt is provided with the hollow tubes, filled with ore-dust and containing the wire, as heretofore described.

Fig. 9 shows another form of magnetic belt for the prevention of sea-sickness.

a^4 b^4 c^4 are buckles, or a single one only may be substituted, of the same breadth as the belt. The belt is divided centrally throughout its length by a tube filled with magnetic-ore sand, on either side of which extends a series of diagonal tubes, also filled with the sand, and uniting with the central tube, which receives and collects the several currents. d^4 e^4 f^4 are tabs, or one single tab only may be used. The belt is lined the same as the foregoing, and both are made wider at one end than at the other, in order to indicate in a simple manner the location of the north and south pole.

Fig. 10 shows an umbilical belt; a^5 b^5 c^5, buckles; d^5 e^5 f^5 g^5, metal busk placed perpendicular to the length of the belt; h^5 i^5 j^5 k^5, diagonal dorsal busk. The form and arrangement of the busks may be varied. l^5 m^5 m^5 h^5 j^5 p^5 are conducting-chains, connecting the busks with the end of the belt.

The tubes containing the ore-dust and wire all run in the same direction. The belt is lined, and may be used without the busks and chains, in which case it would be formed of a series of parallel tubes containing the magnetic elements.

Fig. 11 shows a magnetic head-band. a^6 b^6 c^6 d^6 are vertical tubes filled with magnetic-ore sand, and made longer at one end than at the other, so as to indicate, by a simple means, the location of the poles; e^6 f^6, buckle and tab; g^6 h^6 i^6 j^6 k^6 l^6 m^6 n^6, silk straps for holding the band in place; o^6 p^6 r^6, temple-straps. The tubes containing the ore-dust and wire are arranged, as heretofore described.

Fig. 12 shows an appliance for the chest and back, made in two parts. The part a^7 b^7 c^7 d^7 e^7 f^7, which is to be applied on the chest, is formed of two series of horizontal tubes, filled with ore-sand, with a vertical busk, g^7 h^7 i^7 j^7. The horizontal tubes unite in a central vertical tube, d^7 j^7. The part k^7 l^7 m^7 n^7 forms the back piece, and is composed of two series of diagonal tubes, united in a single vertical tube, s^7 t^7. Upon the back piece is applied the busk o^7 p^7 q^7 r^7 in a diagonal position. Chains contained in the vertical tubes s^7 t^7 d^7 j^7 serve to connect the busks. The back and front pieces are connected by buckling at the shoulders u^7 v^7 w^7 y^7 x^7 z^7. t^7 b^8 c^8 d^8 represent the opening for the neck. The front and back may also be made in one piece, by providing an opening large enough for the head to pass through.

I claim as my invention—

A magnetic apparatus for medical purposes, consisting of a perforated or hollow body, containing one or more tubes filled with magnetic-iron-ore dust, in which is embedded a magnet, whose opposite poles terminate at the ends of the tube or tubes, all arranged substantially as specified.

GUILLAUME EDARD.

Witnesses:

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