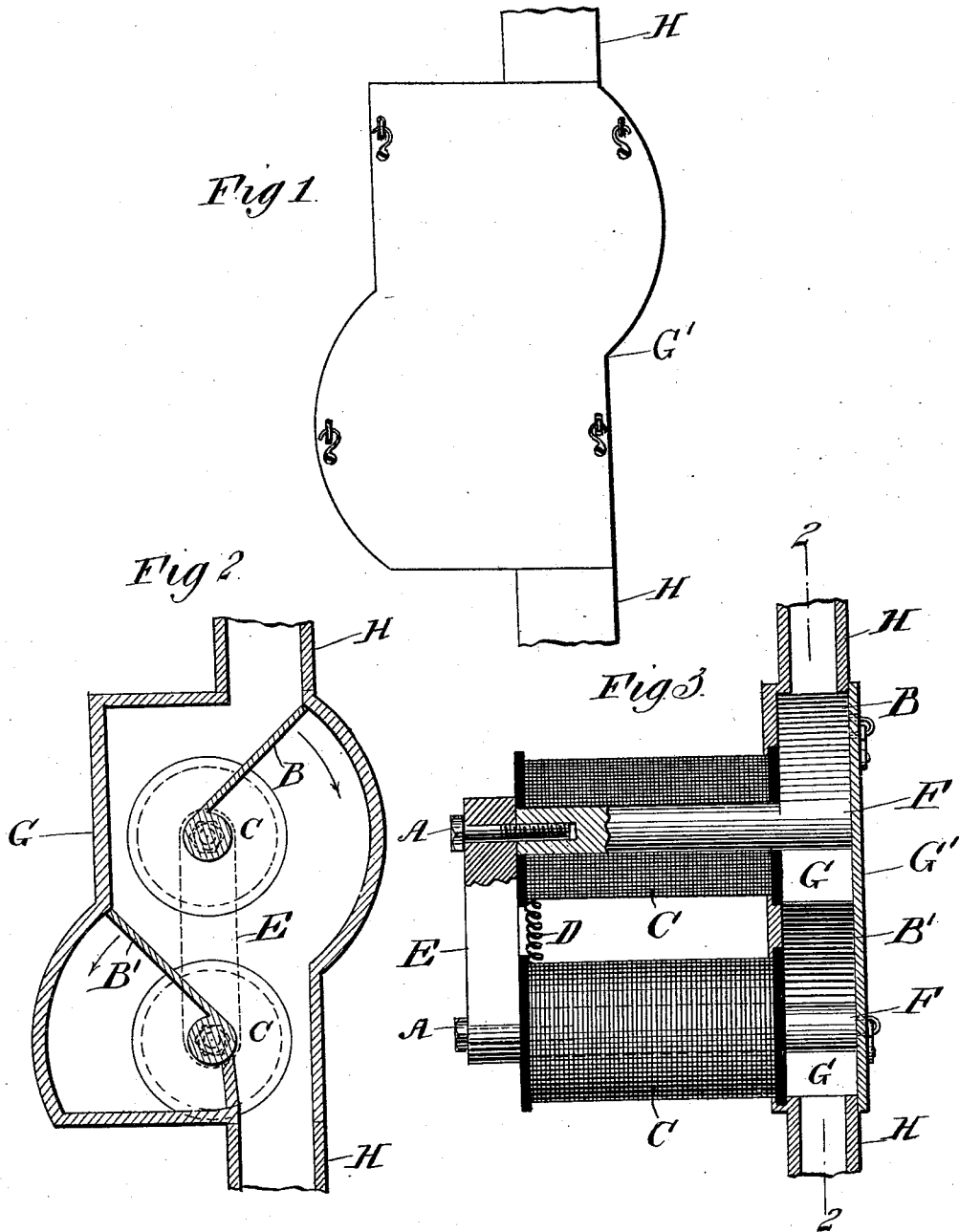


(No Model.)

G. G. BROWN.
MAGNET.

No. 581,101.

Patented Apr. 20, 1897.



WITNESSES:

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INVENTOR

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GOVEURNEER GRAHAM BROWN, OF BROOKLYN, NEW YORK.

MAGNET.

SPECIFICATION forming part of Letters Patent No. 581,101, dated April 20, 1897.

Application filed April 7, 1896. Serial No. 586,620. (No model.)

To all whom it may concern:

Be it known that I, GOVEURNEER GRAHAM BROWN, a citizen of the United States, residing at 216 Eleventh street, Brooklyn, in the county of Kings, in the State of New York, have invented a new and useful Improvement in Magnets of both the Permanent and the Excited Type, of which the following is a specification.

This invention relates to an improvement in magnets; and the object of the invention is to provide a construction that will more effectually operate to separate magnetic from other substances when in a granulated or pulverized condition in their passage through pipes or chutes in a simple and economical manner, as will be more fully described and set forth hereinafter.

In the accompanying drawings, forming a part of this specification, Figure 1 is an end elevation of the chute. Fig. 2 is a vertical section of Fig. 3 through line 2 2 of Fig. 3; and Fig. 3 is a side elevation, partly in section, to show means for adjusting the pole-pieces and plates.

In carrying out my invention I provide the coils C C, connecting-wire D, and armature E, forming a magnet of the usual construction.

The pole-pieces F F, which pass through and are revoluble in the coils C C, are extended beyond the outer ends thereof and have produced upon their free ends the flanges or shelves B B', and in their inner ends are formed screw-threaded recesses, (shown in Fig. 3,) and they are secured in the armature by means of screw-bolts A, which pass through the said armature into said recesses.

The adjustment of the flanges or shelves in the chute is accomplished by loosening the said screw-bolts and turning the pole-pieces and shelves to any desired angle in the compartment of the chute.

The chute H, through which the matters to be separated pass, is connected in any suitable manner to the outer ends of the magnets, and that portion of the chute which receives the extended pole-pieces and their flanges or shelves is enlarged to form an irregular compartment G, as shown in Fig. 2, within which the shelves may be adjusted at the desired inclination, according to the nature of the material to be treated, and a removable cover

or door G' is provided for access to said compartment.

The operation is as follows: The magnet being in working condition the plates or shelves are adjusted in the compartment to suit the nature of the substances to be treated, as shown in Fig. 2. The material is fed into the chute, and passing down into the magnetic field it strikes upon the inclined shelf B of the upper pole-piece, from which it proceeds downward and falls upon the lower shelf B'. During this passage the magnetic particles will adhere to the shelves and the non-magnetic matters will pass out below. The speed of passage is fast or slow, as regulated by the inclination of the shelves.

The magnetic particles retained by the shelves can be collected and removed therefrom in any preferred way, access being had through the door.

The adjustable shelves on the pole-pieces are an important feature of my invention.

When the magnetic particles to be separated are of low magnetic permeability, the shelves are adjusted at such an angle that their movement over them will be slower than when the material is more susceptible to the attraction of the magnetic shelves, and I thus get better results than can be obtained by the use of the magnetic separators heretofore made.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a magnetic ore-separator, the combination of a chute having a compartment therein, said compartment being adapted to contain the flanges or shelves of magnetic pole-pieces; with the coils of a magnet having pole-pieces adapted to turn therein extending beyond the outer ends thereof, said pole-pieces being provided with flanges or shelves projected laterally from the outer or free ends thereof, and having their inner ends adjustably connected with the armature, and means for adjusting said pole-pieces and flanges within said chute, substantially as shown and described.

GOVEURNEER GRAHAM BROWN.

Witnesses:

EDWARD GRAHAM BROWN,
CHARLES PERCY HODGSON.