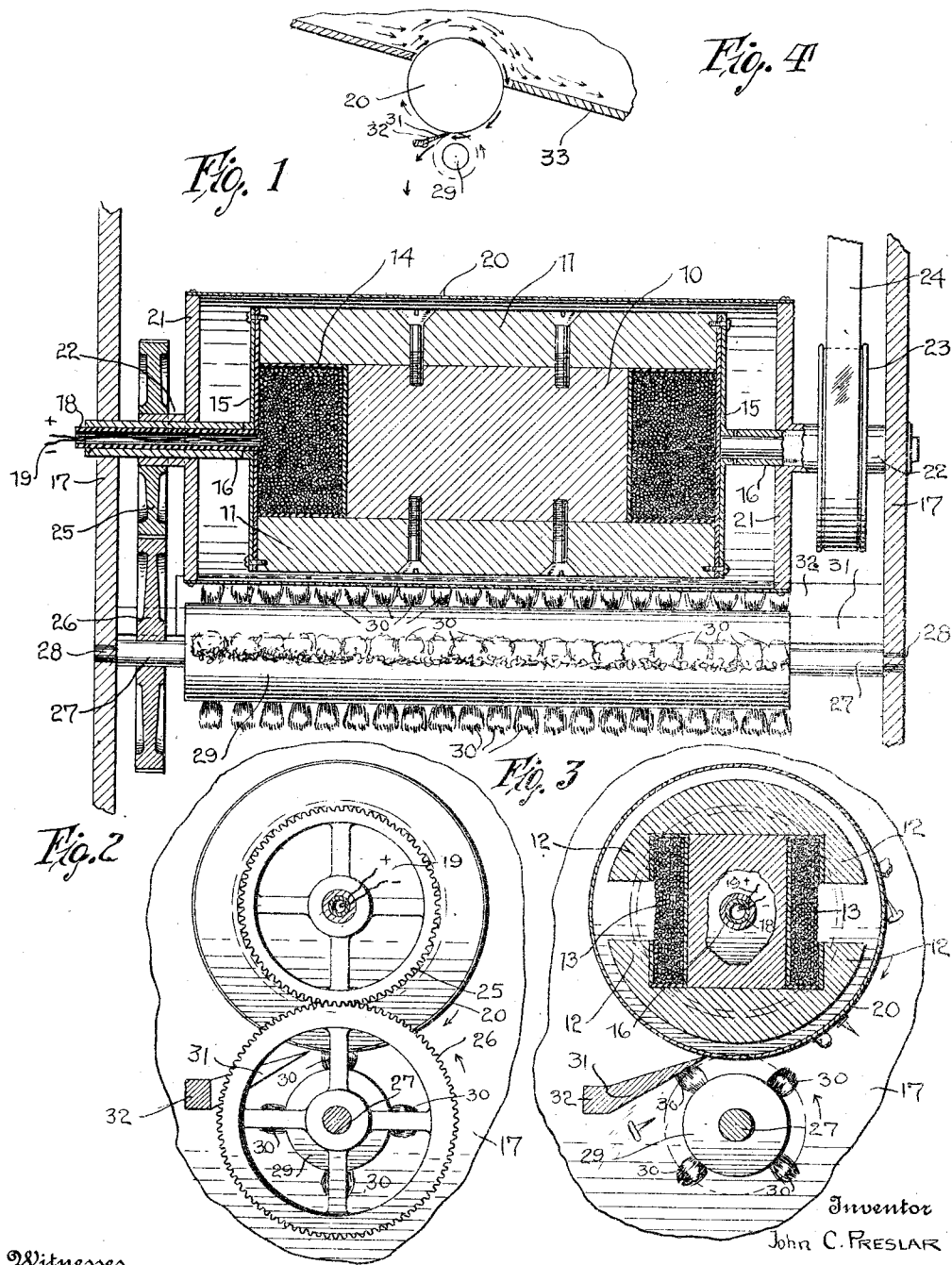


J. C. PRESLAR.  
MAGNETIC SEPARATOR.  
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1,051,758.

Patented Jan. 28, 1913.



Witnesses  
Robert M. Sutphen  
L. N. Gillis

Inventor  
John C. Preslar  
By E. C. Frooman,  
His Attorney.

# UNITED STATES PATENT OFFICE.

JOHN C. PRESLAR, OF SAN ANTONIO, TEXAS.

## MAGNETIC SEPARATOR.

1,051,758.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed June 22, 1912. Serial No. 705,282.

*To all whom it may concern:*

Be it known that I, JOHN C. PRESLAR, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Magnetic Separators, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to magnets and has special reference to magnets used in extracting particles of para-magnetic material from grain, cotton, cotton seed, and all other material which has to pass through the milling process.

15 The principal object of the invention is to improve and simplify the general construction of magnets of this description so that the same may work more positively and, at the same time, more readily release the substances which may be attracted by them when the same has been carried to the proper point.

25 Another object of the invention is to provide an improved form of magnet for use in connection with such mechanisms.

30 With the above and other objects in view, this invention consists in general of certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

35 In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a vertical median section through the apparatus, the same being shown partly in elevation. Fig. 2 is an end view of the apparatus. Fig. 3 is a transverse median section of the apparatus partly in elevation. Fig. 4 is a diagrammatic view of the course pursued by the material.

40 The magnet proper consists of a central core 10 to which is secured a pair of poles 11, each of which is provided along its sides with depending flanges 12. These poles 11 have their exterior surfaces cylindrical and the ends 12 of the respective poles are spaced from the core to form channels. Furthermore, the poles are longer than the core for the same purpose, and in these channels is

wound wire 13 surrounded by the usual insulation 14. The magnet thus constructed is substantially cylindrical in shape and to each end is secured a circular plate 15 wherefrom projects a shaft 16 which is fixed in suitable supports 17.

55 Through one of the shafts 16 extends a bushing 18 of insulating material through which pass the wires 19 which are connected to any suitable source of electricity. Surrounding the magnet is a shell of brass or the like as indicated at 20 and this shell is carried on disks 27 fixed at each end and provided with stub shafts 22. On one of the stub shafts 22 is fixed a pulley 23 which is adapted to be connected by a belt 24 with any suitable driving gear. On the other shaft 23 is fixed a gear 25 which meshes with a gear 26 fixed upon the shaft 27 which has reduced ends 28 journaled in the members 17. On this shaft 27 is mounted a drum 29 carrying a plurality of rows of bristles 30 and adjacent the drum 29 there is provided a knife 31 supported on a bar 32 fixed in the members 17, and the edge of this knife lies in close proximity to the shell 20.

60 In the operation of the device the magnet being energized by a suitable electric current the shell 20 is set in motion. If now material containing particles of iron or the like be fed down over the surface of the magnet as for instance by means of a trough 23 as indicated in Fig. 4 the particles of iron will adhere to the drum when the portion of the surface on which they are is opposite the pole of the magnet. When, however, these particles reach the position between the two poles most if not all of them will fall from the magnet. Those which do not fall will be brushed off by the revolving brush assisted by the scraping action of the knife edge 31. Thus the material which falls down the trough 33 will be entirely rid of all para-magnetic particles.

65 There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

70 In a device of the kind described, a frame, a dia-magnetic shell revolubly mounted in

said frame, an electromagnet within said shell, a scraper having its edge in contact with said shell, a brush mounted in said frame and arranged to sweep successively over the shell and scraper, and means arranged to cause the contacting portions of said brush and shell to revolve in the same direction.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN C. PRESLAR.

Witnesses:

J. R. BELT,

E. L. MARTIN.