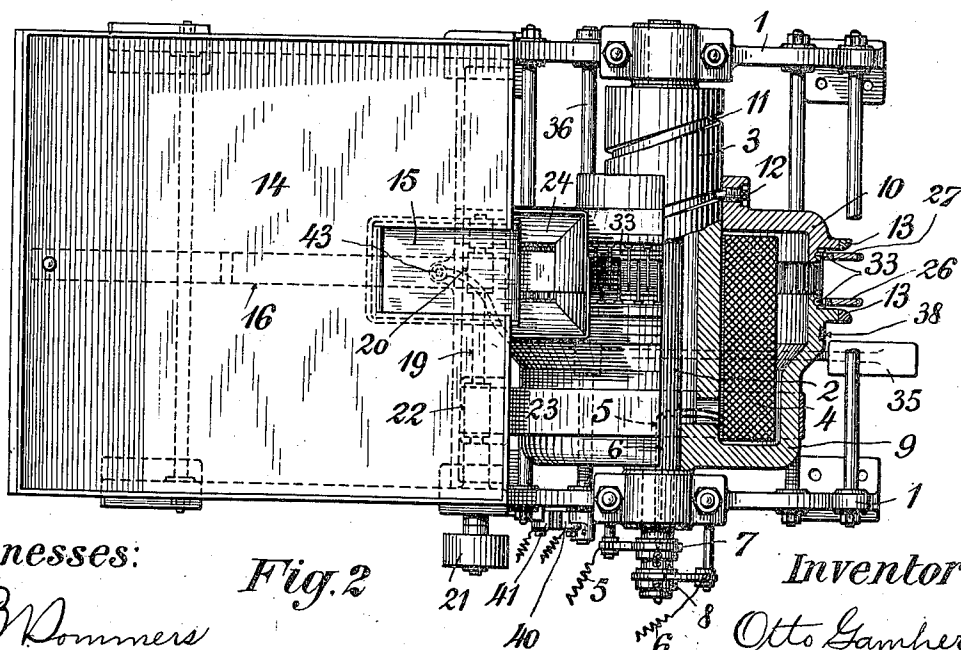
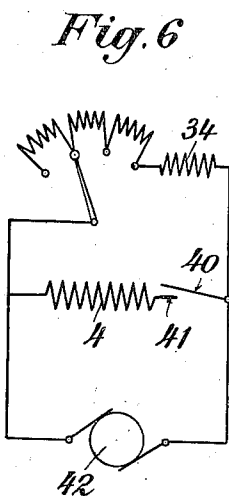
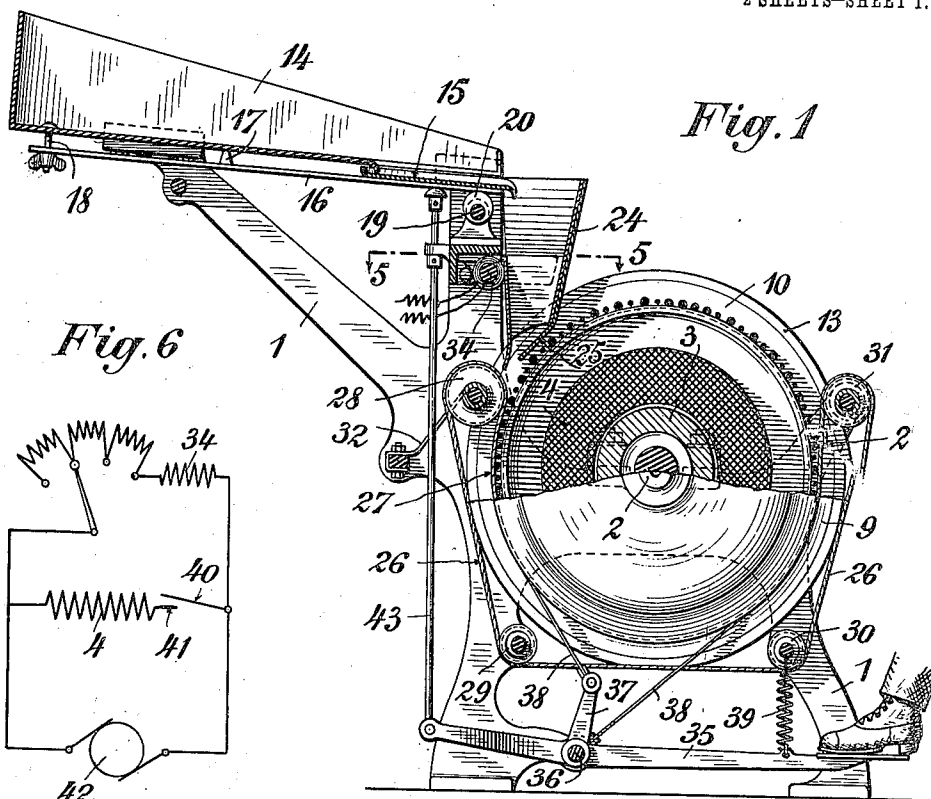


O. GAMPER.
MACHINE FOR FACILITATING THE PACKING OF MAGNETIC OBJECTS OF OBLONG SHAPE.
APPLICATION FILED JAN. 26, 1911.

1,014,869.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.



Witnesses:

B. Rommers
M. H. Darg

Fig. 2

Inventor:

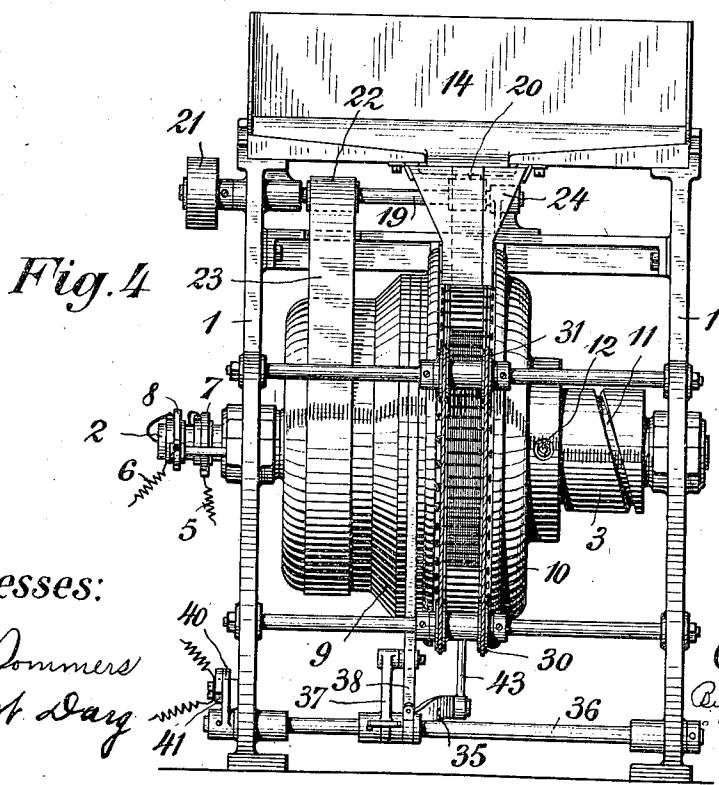
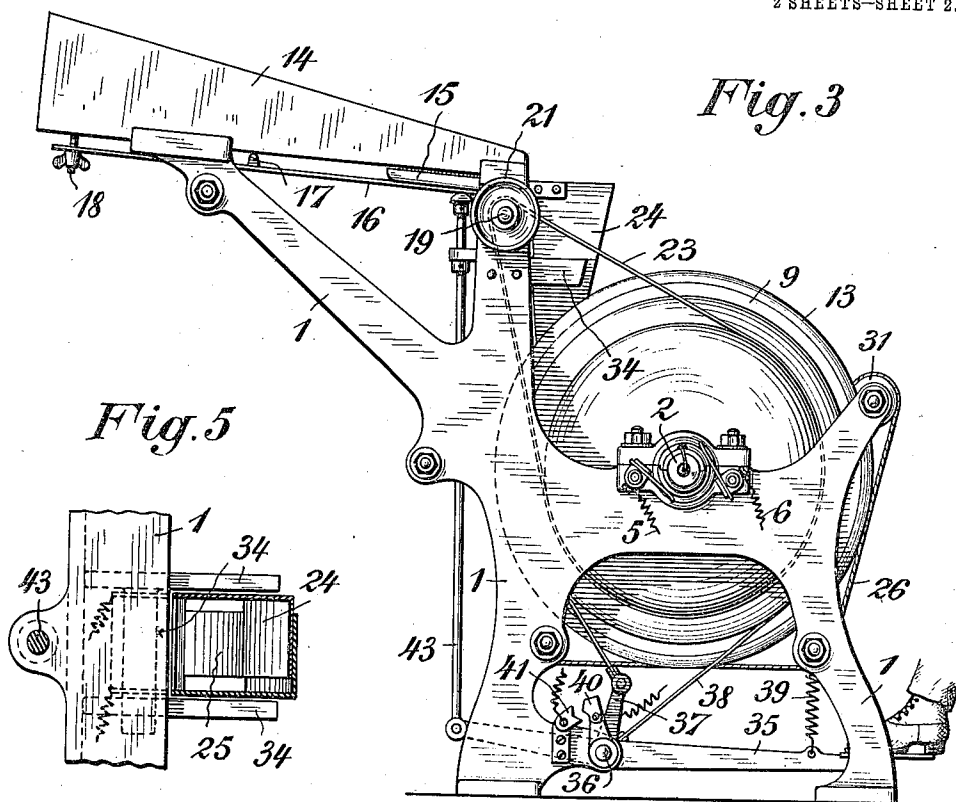
Otto Gamper.
By *[Signature]* atty

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UNITED STATES PATENT OFFICE.

OTTO GAMPER, OF MÜNCHWILEN, SWITZERLAND.

MACHINE FOR FACILITATING THE PACKING OF MAGNETIC OBJECTS OF OBLONG SHAPE.

1,014,869.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed January 26, 1911. Serial No. 604,870.

REISSUED

To all whom it may concern:

Be it known that I, OTTO GAMPER, a citizen of the Republic of Switzerland, residing at Münchwilen, Switzerland, have invented 5 new and useful Improvements in Machines for Facilitating the Packing of Magnetic Objects of Oblong Shape; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 10 will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this 15 specification.

This invention relates to a machine for facilitating the packing of magnetic objects of oblong shape, such as nails, screws, etc. To enable objects of this kind to be packed 20 into a receptacle such as a paper bag it is necessary that they should all be parallel with each other, because, when they stick out in various directions, they are difficult to put into the bag. It may also occur that 25 they pierce the bag, and fall out. It is very difficult and tedious to place the objects into the desired position by hand.

The object of this invention is to overcome these drawbacks by placing the objects 30 between parallel poles of a magnet so that the action of the lines of force tends to place them at right angles to the parallel poles.

In the drawings an example of the machine forming the subject matter of this invention is shown.

Figure 1 is a sectional elevation of the machine, Fig. 2 is a plan view of the same partly in section, Fig. 3 is a side elevation, 40 and Fig. 4 a front end view of the machine, Fig. 5 is a section on line 5—5 of Fig. 1, on an enlarged scale, Fig. 6 is a diagrammatic view of the circuit for the magnet exciting current.

1 designates the frame of the machine in which is carried the shaft 2 of a hollow roller 3. On this roller is fixed a coil 4 to which current is supplied through wires 5, 6 over contacts 7, 8. One end of the roller 50 is shaped into an annular north magnetic pole piece 9 while the other and south magnetic pole piece 10 is adjustably carried on roller 3. In order to facilitate the adjusting of this pole, the roller 3 is threaded as 55 at 11 and a screw 12 carried by the pole piece 10 is adapted to engage the thread.

This is for the purpose of adapting the distance between the poles to the size of the nails. The north and south magnetic poles 9 and 10 respectively form between them a 60 circular groove with said north and south magnetic poles on opposite sides and which serves to receive the nails. The outer edges of the pole rings 9 and 10 are covered with rings 13, 13 of non-magnetic material. The 65 nails are in an open feeding receptacle or box 14 which is fixed on the frame 1 and has a movable part 15 which is adapted to be engaged by a spring 16. The spring turns on a wedge 17 and its position is adjusted 70 by a screw 18. On the driving shaft 19 is fixed an eccentric 20 which on rotation of shaft 19 imparts a rocking motion to the movable part 15. The shaft 19 carries a pulley 21 through which it is rotated and 75 a pulley 22 transmitting its rotation to roller 3 through a belt 23 passing over the extended end of said roller. The nails on falling from the movable part 15 are received by a hopper 24 which by means of 80 plate 25 guides them into the annular groove between poles 9 and 10 where the action of the lines of force places them at right angles between the poles as illustrated at the left of Fig. 2 and in Fig. 4. In order to guide 85 the nails to the bottom of the groove two endless cords 26, 27 are provided which pass over rollers 28, 29, 30 and 31 and through the groove between the poles. When no nails are present the cords are 90 guided by two grooves 33 of the poles 9, 10 (see Fig. 2). Tension is put on the cords by means of a spring 32 carrying the roller 28. A horse shoe magnet 34 is arranged near the top of frame 1 and so that its arms embrace the hopper 24 so as to obtain a preliminary adjustment of the nails as they 95 pass between the arms of the magnet. The hopper is made in two parts as best shown in Fig. 5 so as to enable it to be adapted to 100 the distance of the poles 9, 10.

The machine is operated by means of a foot lever 35 fulcrumed at 36, on the fulcrum 36 is fixed a lever 37. One end of a brake belt 38 acting on the magnetic 105 roller is attached to this lever while the other one is fixed to fulcrum 36. When the lever 35 is depressed against the action of a spring 39 the brake is locked and the magnetic roller is stopped while shaft 19 continues to rotate, the belt 23 gliding on its 110 pulleys. By depressing lever 35 a contact

40, 41 is opened which breaks the circuit from the source of electric energy 42 (Fig. 6) to coil 4 so that the poles 9 and 10 become nonmagnetic and the nails between them can be removed by hand and placed in a packing receptacle or box, care being taken not to alter the relative positions of the objects in packing. When the lever 35 is depressed a pushing rod 43 lifts the movable part 15 so that the eccentric 20 can no longer rock the movable part 15 and no more nails fall into hopper 24.

It is to be understood that this invention is not limited to a machine having a rotary magnet as described. The magnet poles might also be straight and move in a straight line instead of being circular and turning on a shaft, without departing from the spirit of this invention.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is:

1. In a machine for facilitating the packing of magnetic objects of oblong shape, two magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, means for inserting the magnetic objects into said groove, and means for equally distributing the magnetic objects over the whole length of said groove.

2. In a machine for facilitating the packing of magnetic objects of oblong shape, two magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, a feeding receptacle for the objects having a movable chute, a rotatable cam normally engaging said chute, and means for disengaging said chute from the cam.

3. In a machine for facilitating the packing of magnetic objects of oblong shape, two magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, a feeding receptacle for the objects having a movable chute, a driving shaft, a cam on the latter engaging said chute, a lever fulcrumed on the machine frame, a belt brake operated by the lever, means operated by the lever to break the circuit of the magnetic poles, and a push bar carried by said lever to disengage said movable chute from the cam.

4. In a machine for facilitating the packing of magnetic objects of oblong shape, two magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, means for inserting the magnetic objects into said groove, means for equally distributing the magnetic objects over the whole length of said groove, and means for varying the width of said groove.

5. In a machine for facilitating the packing of magnetic objects of oblong shape, two magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, means for displacing one of the poles with relation to the other, a feeding receptacle for the objects having a movable chute, a driving shaft, a cam on the latter engaging said chute, a lever fulcrumed on the machine frame, and a belt brake actuated by the lever, means operated by the lever to break the circuit of the magnetic poles, and a push bar carried by the lever adapted to disengage the chute from the cam.

6. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove circumferentially of said circular rotary magnet, the north and south magnetic poles being on opposite sides of the groove and means for equally distributing the magnetic objects over the whole length of the groove.

7. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, rollers journaled in the machine frame, and a pair of cords passing over said rollers and over part of the periphery of one of the magnetic poles.

8. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove between them, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, and means for arresting the rotation of the magnet.

9. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, means for arresting the rotation of the magnet, and means for automatically breaking the circuit of the magnet at the same time.

10. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, means for arresting the rotation of the magnet, a lever fulcrumed on the machine frame, a belt brake adapted to be locked by said lever

and to act on the rotary magnet, and a contact in the circuit of the rotary magnet adapted to be broken when the lever is actuated.

11. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, and means for equally distributing the magnetic objects over the whole length of said groove.

12. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, a feeding receptacle for the objects having a movable chute, and means for automatically rocking said movable chute.

13. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on said rotary magnet, a feeding receptacle for the objects having a movable chute, a driving shaft, a cam on the latter engaging said chute, a belt brake, a lever fulcrumed on the machine frame adapted to lock the belt brake, a circuit breaker for the rotary magnet operable by the lever, a push bar carried by the lever to disengage said movable chute from said cam.

14. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially of said rotary magnet, means for equally distributing the magnetic objects over the whole length of said groove and means for varying the width of said groove.

15. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on the rotary magnet, means for arresting the rotation of the magnet, means for displacing one of the poles with relation to the other to vary the width of the groove, a driving shaft, a feeding receptacle for the objects having a movable chute, a cam on the shaft engaging said chute, a lever fulcrumed on the machine frame, a

belt brake operated by the lever, a circuit breaker for the rotary magnet, a push bar carried by said lever adapted to disengage said movable chute from said cam.

16. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially of the rotary magnet, means for arresting the rotation of the magnet, means for displacing one of the poles with relation to the other, to vary the width of the groove, a feeding receptacle for the objects having a movable chute, a driving shaft, a cam on the latter engaging said chute, a lever fulcrumed on the machine frame, a belt brake adapted to be locked by said lever and to act on the rotary magnet and a contact in the circuit of the rotary magnet adapted to be broken when the lever is actuated, and a push bar carried by said lever adapted to disengage said movable chute from said cam.

17. In a machine for facilitating the packing of magnetic objects of oblong shape, two parallel magnetic poles, a groove formed between them, the north and south magnetic poles being on opposite sides of said groove, means for inserting the magnetic objects into said groove and means for equally distributing the magnetic objects over the whole length of said groove.

18. In a machine for facilitating the packing of magnetic objects of oblong shape, a cylindrical rotary magnet, two parallel magnetic poles forming a groove, the north and south magnetic poles being on opposite sides of the groove, said groove being formed circumferentially on the rotary magnet, means for arresting the rotation of the magnet, means for displacing one of the poles with relation to the other to vary the width of the groove, a feeding receptacle for the objects having a movable chute, a driving shaft, a cam on the latter engaging said chute, a lever fulcrumed on the machine frame, a belt brake adapted to be locked by said lever and to act on the rotary magnet, and a contact in the circuit of the rotary magnet adapted to be broken when the lever is actuated, said lever carrying a push bar adapted to disengage said movable chute from said cam.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

OTTO GAMPER.

Witnesses:

CARL GUBLER,

GUSTAV LEHNURRENBERGER.