

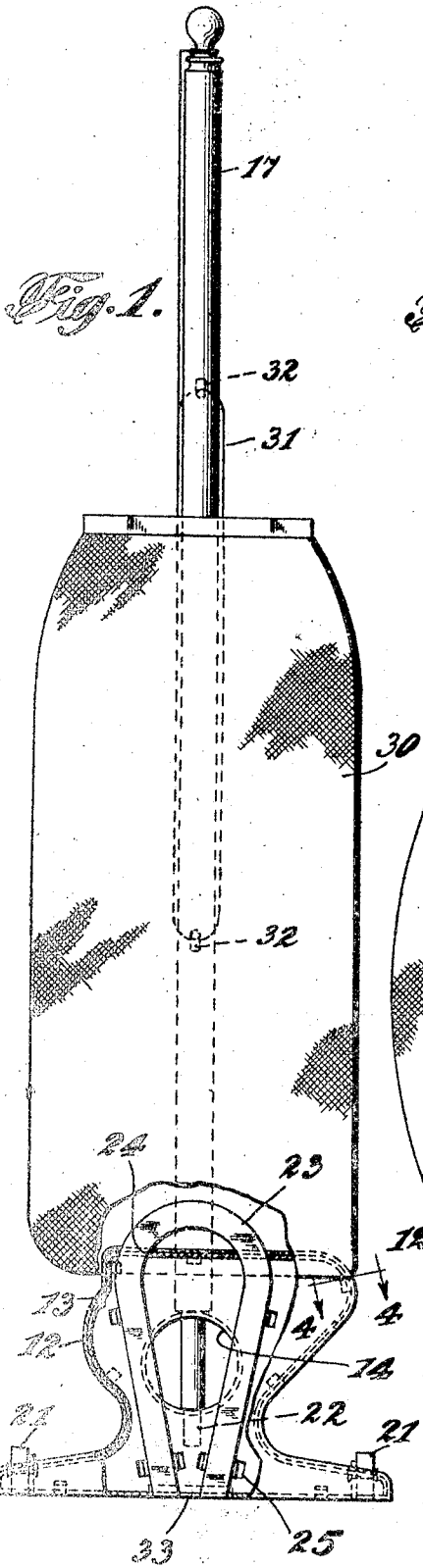
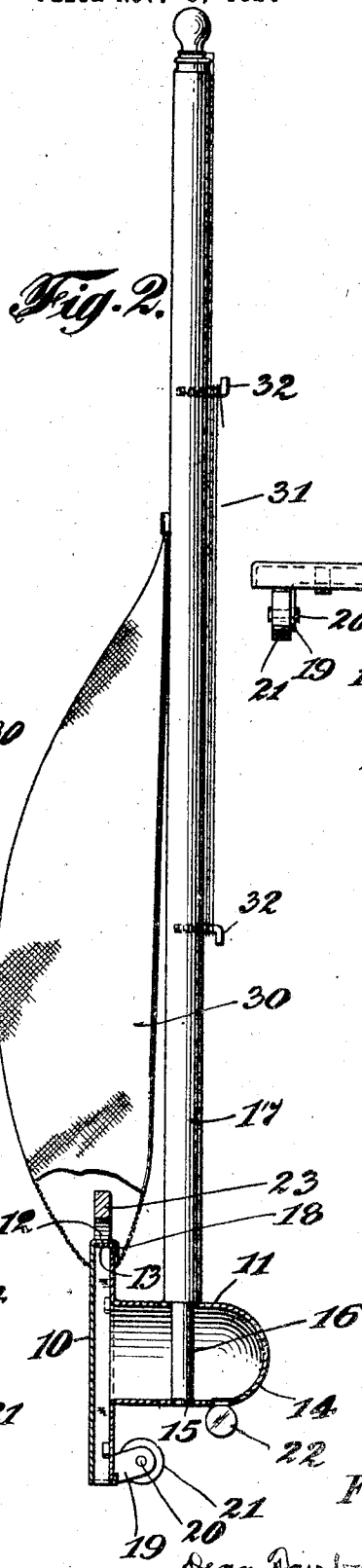
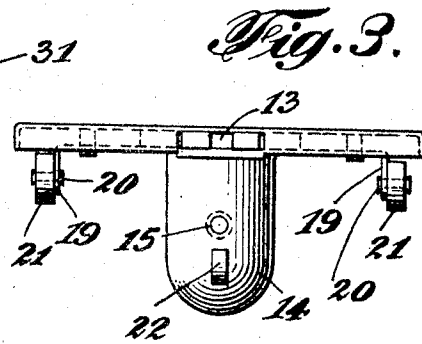
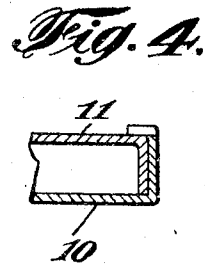
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TOY

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UNITED STATES PATENT OFFICE.

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TOY.

Application filed November 6, 1924. Serial No. 748,005.

To all whom it may concern:

Be it known that I, FRANK HIRSCH, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Toys, of which the following is a specification.

This invention relates to improvements in magnetic toys, particularly to a toy intended to magnetically simulate the pneumatic action of a vacuum cleaner and mechanically simulate its outward form.

An object of the invention is to provide a toy which will not only prove interesting and amusing to children but which will have considerable educational value. Further objects of the invention are to provide a device of this character which will be of neat and attractive appearance, simple and inexpensive construction and yet comparatively rugged and durable.

In accordance with a preferred embodiment of the invention, I employ a box-like housing member simulating the cleaning head of a vacuum cleaner and mount therein a permanent magnet. A handle member is attached to the housing and the latter is mounted upon rollers, skids or other anti-skid devices so that it may be rolled or slid across the surface of a floor or table and guided by the handle member. The poles of the magnet are arranged so that they will come close to the surface over which the device is moved and will magnetically attract and pick up fine particles of paramagnetic material such as iron filings, small shot, etc. In using the toy, a child sprinkles the iron filings or other suitable material, upon a table or floor and guiding the toy with the handle rolls or slides it over the surface. The magnet will pick up the filings and closely simulate the pneumatic action of a conventional type of vacuum cleaner.

Various structural expedients may be resorted to for increasing the outward similarity between the toy and regular vacuum cleaner. I may, for instance, employ a bag attached to the handle and to the housing which will look like the conventional dust bag of a cleaner and I may wrap cord on or about the handle in a suitable manner to represent the flexible lead wires used on electrical machines.

The invention may be more fully under-

stood from the following detailed description in connection with the accompanying drawings, wherein—

Figure 1 is a view mainly in front elevation of a toy embodying the invention, parts of the housing being broken away and in section for clearness.

Figure 2 is a side elevation partly in section.

Figure 3 is a bottom plan view of the device.

Figure 4 is a fragmentary section detail on the line 4—4 of Figure 1.

In order to expedite the assembly of the device as well as to insure a rugged and durable construction, I prefer to form the casing or housing of a pair of complementary metallic stampings 10, 11. Stamping 10 is in the nature of a plate having its marginal edges turned over to form flanges 12 embracing similar flanges 13 at the edges of the stamping 11. The irregular shape of plate 10 simulates the appearance presented by the front end of the cleaning head of a conventional vacuum cleaner and is, of course, subject to considerable variation. The flanged stamping 11 is of corresponding shape but includes approximately at its middle, a cup-like socket 14 drawn from the flank and having diametrically opposed openings 15 therein, into which I may fit the reduced extremity 16 of an elongated handle member 17, the latter being of any appropriate design and of any material which will combine lightness and strength. A wooden stick will serve the purpose.

The flange 12 of member 10 is provided at its outer edge with a number of bendable tongues 18 which may be bent over the back of stamping 11, into substantial parallelism with the plate 10, to effect firm interlocking engagement of the two stampings. If desired, the bottom flange of member 11 may be eliminated, and the lower corners of the flat portion of member 11 turned rearwardly to provide brackets 19 carrying pins which mount traction wheels 21. The device is adapted to be moved about on the traction wheels by tilting the handle rearwardly from the position shown. If desired, I employ in addition to the traction wheels, a guiding tail skid 22 secured under the rear end of the socket 14 on the back stamping. A conventional permanent horseshoe mag-

net 23 is adapted to be secured in place at the time that the two stampings are assembled and with this end in view, the upper flanges of the stampings are provided with aligned cut away portions 24 and the body portion of one or both stampings provided with a number of inwardly struck out tongues 25 cooperating with the cut out portions to provide a support for retaining the magnet in vertical position. The width of the flanges is approximately equal to the thickness of the magnet so that it can have no forward or backward movement and due to the converging arrangement of the legs thereof, the tongues 25 wedge against the legs and prevent it from slipping downward.

In order to more closely simulate the appearance of a vacuum cleaner, I attach a bag 30 to the handle. The upper end of the bag may be rigidly secured to the handle in any appropriate manner as by pasting or by a light securing device. The intermediate portion of magnet 23 which projects above the casing is enclosed in the lower end of the bag, the bag end being secured to the casing by suitable adhesive material or in any other convenient manner. To represent the usual lead wire employed with electrical machines, I may arrange a length of cord or string 31 upon the handle, using hooks or cleats 32 as anchoring devices therefor. The bottom of the housing is cut away at 33 to expose the end faces of the poles of the magnet. Whether the magnet poles project slightly through the cutaway portion or whether they terminate flush with the outer surface of the flange as shown is largely a matter of choice but it is desirable that the cut away portion be of sufficient size and the magnet legs project far enough so that a child using the toy may manually wipe the iron filings or other paramagnetic material from the poles of the magnet.

In assembling the device, the magnet is laid on the stamping 11, being centered by the tongues and the openings 24. Stamping 10 is then placed over the magnet and its tongues bent over the back of stamping 11. The reduced end of the handle is inserted through the aligned openings 16 of the cup shaped extension of the member 11, the bag and cord applied, and the rollers 26 mounted on the brackets 19. It will be seen that the operation of firmly securing the magnet in place is merely an incident of the assembly of the stampings.

I prefer that the toy be vended together with a small container of iron filings or similar para-magnetic particles. A child sprinkles these particles upon a table or upon a floor and by tilting the toy slightly rearwardly from the position shown rolls it across the surface on the rollers and the tail skid. Tipping the toy back upon the

skid results in elevating the poles of the magnet slightly above the surface of the table and as the device is manually guided back and forth over the iron filings they will be attracted by the magnet and picked up, and a very realistic simulation of the action of a vacuum cleaner may be had.

It will be obvious that a toy operating on the same principle but constructed to represent a conventional type of carpet sweeper would be within the scope of the present invention. In addition to the entertainment and amusement which the toy will provide, it will also have a certain educational value in that it will teach the child cleanliness and familiarize it with the first principles of magnetism. After the toy has become worn and broken, the comparatively indestructible permanent magnet may be removed and used as a plaything.

It will thus be seen that there is herein described apparatus in which the several features of this invention are embodied, and which apparatus in its action attains the various objects of the invention and is well suited to meet the requirements of practical use.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

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

1. A toy vacuum cleaner including traction means, a housing member supported on said means and simulating a cleaning head, a handle member secured to said housing and a magnet in the housing having its poles disposed in operative position to pick up paramagnetic material from a surface over which the housing is moved by the handle member.

2. A toy vacuum cleaner including a housing, traction means supporting the housing, a handle member secured to the housing, a permanent magnet in the housing and means secured to the handle and housing simulating a dust bag.

3. A device of the class described including a magnet housing simulating a cleaning head, traction means therefor including wheels and a skid, a handle member secured to the housing and a magnet concealed in the housing, with its poles arranged to be closely adjacent the surface over which the device is moved.

4. A toy of the class described including a housing, representing a cleaning head, a permanent magnet in the housing, a handle

member, a bag simulating the dust bag of the vacuum cleaner attached at one end to the housing and at the other end to the handle, the poles of the magnet being exposed through the housing.

5 5. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means.

15 6. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, one of said stampings including an offset to which the handle member is attached.

25 7. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, one of said stampings including a cup-shaped socket having diametrically opposed openings therein receiving the handle.

30 8. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, a bag secured to the handle and housing representing the dust bag of a vacuum cleaner.

40 9. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, each of said stampings including overlapping marginal flanges and tongues on the flanges of one stamping embracing the other stamping.

50 10. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, one of said stampings including struck out tongues cooperating to provide a holder for a magnet.

60 11. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, said stampings including

overlapping marginal flanges having aligned cutaway portions therein accommodating the intermediate portions of the magnet.

12. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, said stampings including marginal flanges cut away to expose the poles of the magnet.

13. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, one of said stampings including a pair of rearwardly projecting ears, said traction means including rollers mounted on the ears.

14. A toy vacuum cleaner including a housing, said housing including a pair of complementary interlocking metallic stampings, a magnet in the housing, traction means for the housing, and a handle member for manually propelling the device on the traction means, one of said stampings including an offset to which the handle is attached, a skid on the bottom of said extension and rollers cooperating with the skid to provide traction means.

15. A toy vacuum cleaner including a housing, said housing including a pair of complementary stampings, overlapping marginal flanges on the stampings, tongues on the flanges of one stamping bent over the other stamping to prevent separation of the complementary members, the other of said stampings including a substantially cup-shaped socket having diametrically opposed openings therein and including at its lower end a pair of turned back brackets, a skid mounted on the socket, rollers mounted on the brackets, a handle including a reduced end accommodated in the aligned openings of the extension, a permanent magnet disposed within the housing, tongues struck from one stamping and forming a supporting rack for the magnet, the flanges at the upper portion of the housing having aligned cut-away portions accommodating the intermediate portion of the magnet, said housing being cut away at its lower end to expose the poles of the magnet, and means simulating a dust bag adhesively secured at its upper end to the handle and at its lower end to the housing.

16. A device of the class described in claim 15 wherein the lower end of the bag conceals the projecting upper portion of the magnet.

17. A device of the class described in claim 15 and including a further feature of

a cord supported upon the handle and representing an electric cable.

18. A device of the class described in claim 15 and including the further feature of cleats on the handle and a cord wrapped about the cleats to represent an electric cable.

19. A toy vacuum cleaner including a housing, said housing comprising a pair of complementary interlocking metallic stampings, a permanent magnet secured between the stampings, said stampings including means for preventing movement of the magnet in any direction, traction means for the housing and a handle member for manually propelling the device on the traction means.

20. A toy vacuum cleaner including a narrow vertically disposed housing including a pair of complementary metallic stampings, a vertically disposed magnet in the

housing, said stampings including means for preventing movement of the magnet in any direction relative thereto, traction means for the housing and a handle member for manually propelling the device on the traction means.

21. A device of the class described in claim 20 and wherein the lower end of the housing is provided with a cut-away portion to expose the poles of the magnet.

22. A device of the class described in claim 20 and wherein the intermediate portion of the magnet projects beyond the housing and a bag encloses said projecting portion.

Signed at New York, in the county of New York and State of New York, this 5th day of November, A. D. 1924.

FRANK HIRSCH.