Oct. 20, 1953 A. ZACHARY 2,656,211

MAGNETIC INSTRUMENT FOR LIFTING HAIRPINS

Filed Nov. 30, 1950

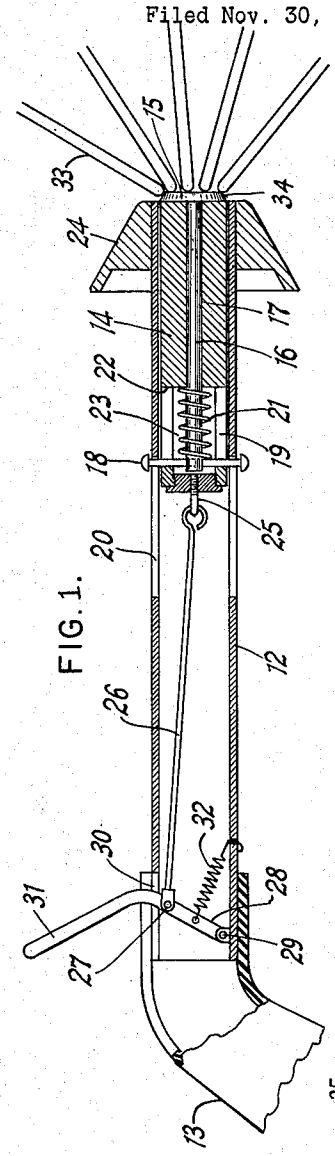


FIG. 1.

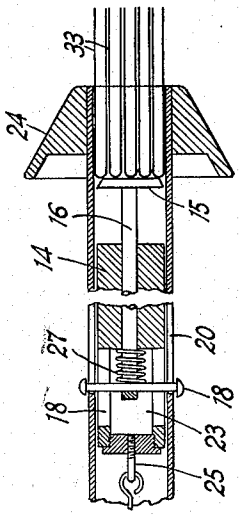


FIG. 2.

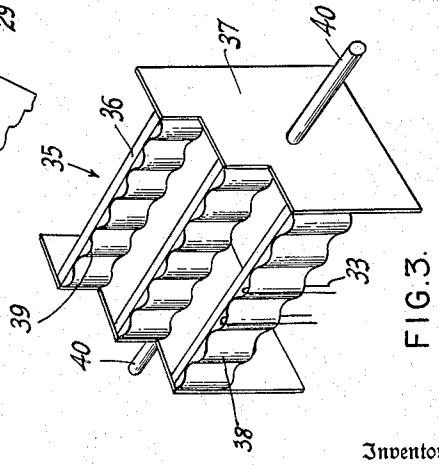


FIG. 3.

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Patented Oct. 20, 1953

2,656,211

UNITED STATES PATENT OFFICE

2,656,211

MAGNETIC INSTRUMENT FOR LIFTING HAIRPINS

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Application November 30, 1950, Serial No. 198,431

3 Claims. (Cl. 294—65.5)

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My invention is an improved instrument for removing and gathering up metal pins for the hair of the head, and is adapted both to pull the pins out of the hair after a dressing treatment has been completed, and to take up pins from the floor when they have been dropped, and deposit them in a suitable receptacle so that they will always be ready at hand for repeated use.

An important object of this improvement is to provide a lifting instrument containing a magnetic element which attracts the pins, and holds them while they are being lifted; and is so constructed that the pins can be released at will. In hair dressing establishments many hundreds of pins can be let fall in the course of a busy day, and the recovery and salvage of such pins is an important item in connection with operating costs.

Another object is to provide a magnetic device for extracting pins from the hair so devised that it will gather the pins into a sheaf or bunch and arrange them so that the pointed ends are all at the same extremity of the sheaf or bunch; therefore all the pins are in the right position to be used again.

Other objects will appear in the following description that, in conjunction with the drawings, sets forth one or more forms of the invention. But this disclosure is by way of example only and variations in structural details may be adopted without departing from the general design in which the invention resides.

On the drawings:

Figure 1 is a longitudinal section of one embodiment of my invention.

Figure 2 is a section similar to Figure 1, with the parts shown in a different position, and

Figure 3 shows a holder for the pins.

The instrument is for withdrawing metal pins from the hair on the subject's head; and then collecting the pins into a sheaf or bunch, all in proper position with the open ends of the pins adjacent one another. The tubular body 12 has at one end the handle 13. The other end of the body 12 is open and in this end is the magnet 14. One end of the magnet is normally flush with the open end of the casing and this end of the magnet is exposed through the open end of the body 12. The exposed end of the magnet is covered by a disk 15 that is attached to a stem 16 that extends inward through a longitudinal bore 17 in the magnetic element 14. At the inner end of the stem is a fixed cross pin or bar 18. This bar projects through slots 19

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in the sides of the magnet and slots 20 in the sides of the casing 12. A compression spring 21 encircles the stem 16 between the cross pin or bar 18 and a shoulder 22 in an enlarged part 23 of the bore 17 at the inner end of the magnet. The slots 19 are adjacent the enlargement 23 and the slots 20 extend from the pin 18 in the position shown on Figure 2 towards the handle or knob 13. The disk 15 is of slightly less diameter than the inside of the casing 12; and the spring 21 between the magnet and the bar 18 normally operates to hold the disk 15 against the magnet. Then the bar 18 lies in the ends of the slots 19 closest to the inner end of the magnetic element 14, when the magnet is flush with the end of the casing 12, and at the ends of the slots 20 farthest from the handle 13. The casing may have a bevelled rim 24.

At the inner end of the magnet 14, secured in any suitable way, is a fixed eyelet 25. A rod or link 26 is joined at one end to this eyelet, and is connected at its opposite end by a pivot pin 27 to a point between the ends of a lever 28 in the casing 12 near the handle 13. This lever is secured at one end to a pivot 29 in the casing 12; and it extends through a slot 30 in the casing, the outer end 31 being rounded and bent somewhat toward the casing 12. A tension spring 32 is joined to the lever between the pivot 29 and the link 26, and to the casing between the lever and the cross pin 18. The spring 32 may be replaced by a spring at the pivot 29.

Only the element 14 is magnetic, the other parts being non-magnetic and made of metal, fiber, plastic or other suitable material. The magnet acts through the disk 15 (which also can be magnetic if desired) to pull the pins indicated at 33 one by one from the hair and hold them by magnetic attraction. When all the pins are extracted the outer end 32 of the lever 28 is pressed towards the handle 13. The magnet 14 and disk 15 are thus withdrawn into the open end of the casing 12. The closed ends of the pins cling to the disk and all the pins are thus laid side by side with their open or separated ends pointing outward. When the cross bar 18 reaches the ends of the slots 20 in the casing 12, the stem 16 and disk 15 are stopped, but the magnet 14 can go farther inward because of the slots 19 in the magnet 14. Hence the magnet 14 and disk 15 separate, the effect of the magnetic force on the hair pins is weakened, and the hair pins are released and can be pulled out of the open end of the casing 12.

When the bunched pins are taken off the in-

strument they can be stored on a rack 35 illustrated on Figure 3. This rack comprises several separated bar magnets 36 secured by connecting their ends to the sides 37 of the rack and supported at successively higher levels from front to back of the frame 35. Along the front of each magnet is a corrugated magnetic strip 38 extending from one side 37 to the other side 37.

The ridges 39 of the corrugations are suited to the pins, and several pins can be held by magnetic attraction against any point of each strip 38, with the two halves of each pin or the corrugations or otherwise. The pins are pulled off by hand as they are needed. Both sides of the strips 38 can be utilized and the sides 37 may have fixed handles or trunnions 40 to enable the frame 34 to be held by hand or mounted in bearings on a piece of equipment or any convenient fixture, so that the pins are always available. The receptacle will comprise as many magnets and strips 38 as required.

Of course the devices of this application can be used to pick up nails or any other small objects capable of being attracted by a magnet.

The open end of the casing 12 also carries a conical head 24, which prevents the pins 33 from moving along the outside of the casing and enables the magnet to pull the pins in, as illustrated in Figure 3.

Having described my invention, what I believe to be new is:

1. A casing having a magnet therein, one end of the casing being open, the magnet having an end adjacent to said open end, a disk at said end, means rigidly engaged with said disk and slidably engaging said magnet and said casing for movably connecting the disk and magnet to the casing and to each other, a yielding spring adjacent the means for holding said disk adjacent said end of the magnet, a rod in the casing connected to the magnet, and a lever joined to the rod and projecting to the outside of the casing for withdrawing the magnet and the disk into the casing for tensing said spring and separating the magnet from the disk.

2. A casing having one end open, a magnet in the casing adjacent said end, a disk outside of the casing at said open end, the magnet having a longitudinal bore, a stem fixed to the disk extending inward through said bore, a cross pin on the stem adjacent the inner end of the magnet, a yieldable spring between the pin and the magnet, the casing and the magnet having slots in the sides receiving the ends of the pin, and means for pulling the magnet and disk inward, the slots in the casing limiting the movement of the pin and disk and the slots in the magnet permitting further movement of the magnet against said spring to separate the magnet and the disk.

3. A casing having one end open, a magnet in the casing adjacent said end, a disk outside of the casing at said open end, the magnet having a longitudinal bore, a stem fixed to the disk extending inward through said bore, a cross pin on the stem adjacent the inner end of the magnet, a yieldable spring between the pin and the magnet, the casing and the magnet having slots in the sides receiving the ends of the pin, and means for pulling the magnet and disk inward, the slots in the casing limiting the movement of the pin and disk and the slots in the magnet permitting further movement of the magnet against said spring to separate the magnet and the disk, said means comprising a rod joined to the magnet and extending towards the other end of the casing, a lever in the casing connected to the rod and having an arm projecting out of the casing, and a coiled spring secured to the lever and the casing and pulling the lever towards the magnet.

ALEXIS ZACHARY.

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