N. M. DYER & W. S. HOLBROOK.

HAND POWER VACUUM SWEEPER.

APPLICATION FILED JULY 12, 1913.

1,096,814.

Patented May 12, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

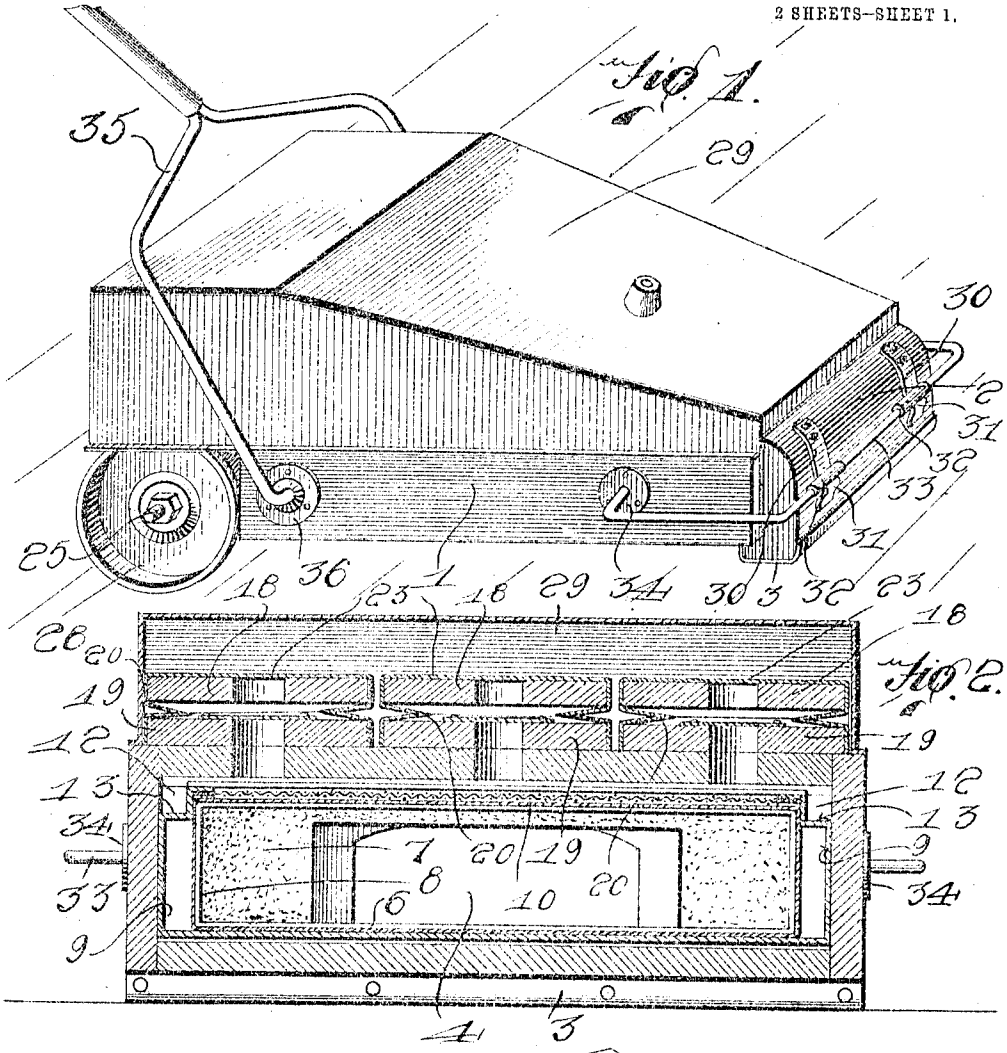


Fig. 2.

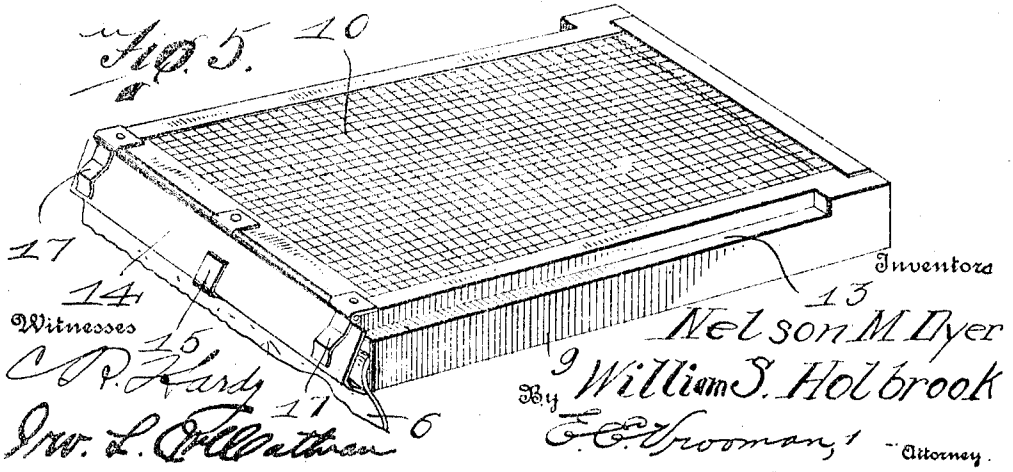


Fig. 3.

Witnesses

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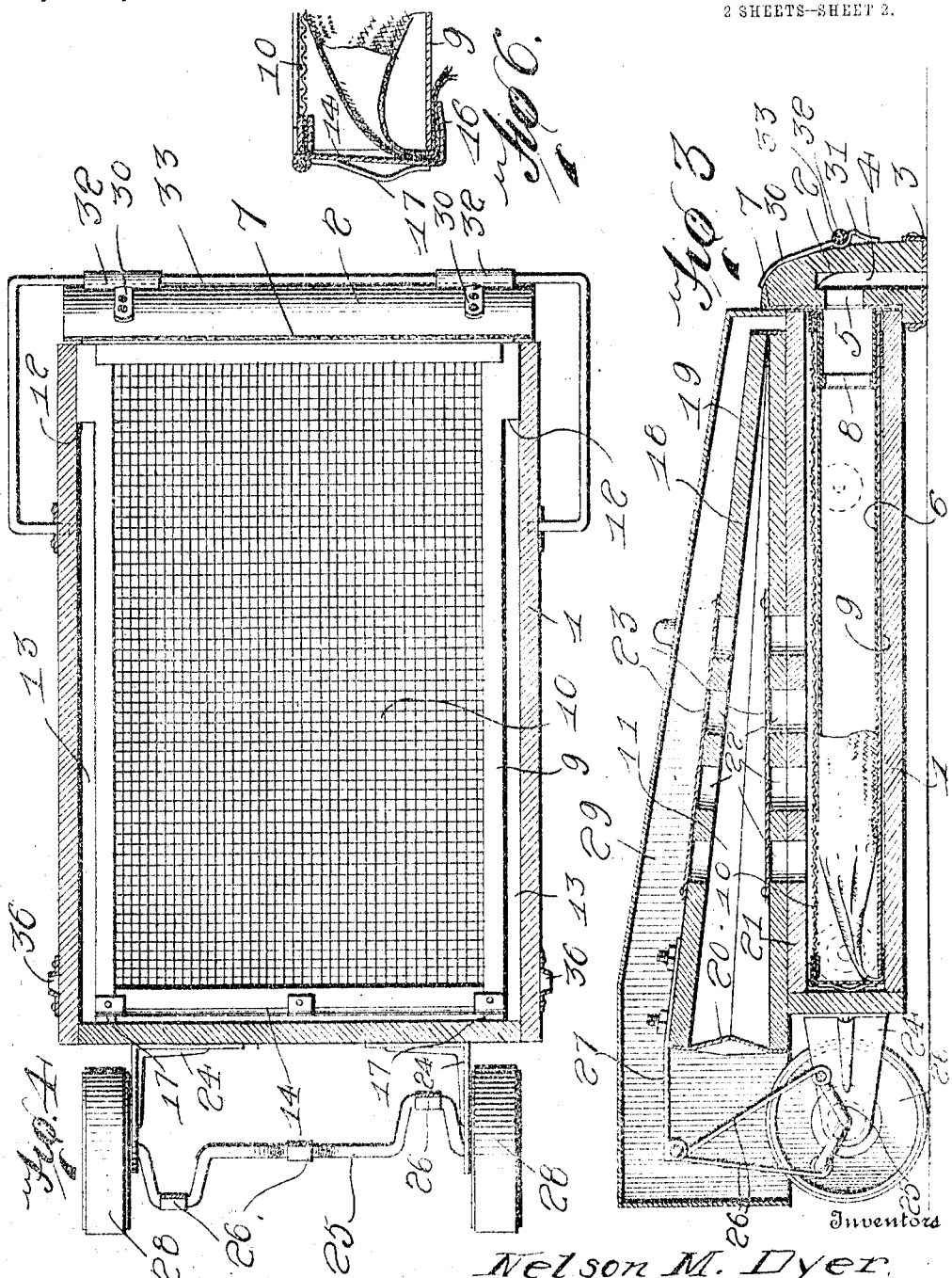


Fig. 4

Fig. 5

Fig. 6

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UNITED STATES PATENT OFFICE.

NELSON M. DYER AND WILLIAM S. HOLBROOK, OF DAVENPORT, IOWA.

HAND-POWER VACUUM-SWEEPER.

1,096,814. Specification of Letters Patent. Patented May 12, 1914.

Application filed July 12, 1913. Serial No. 778,760.

To all whom it may concern:

Be it known that we, NELSON M. DYER and WILLIAM S. HOLBROOK, citizens of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Hand-Power Vacuum-Sweepers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to vacuum cleaners and has special reference to the dust receiving pan or drawer which may be readily removed and cleaned.

Another object of the invention is the production of a simple and efficient means for detachably supporting the dust bag within the dust receiving drawer.

With these and other objects in view this invention consists of certain novel combinations, constructions and arrangements of parts as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a perspective view of the vacuum cleaner. Fig. 2 is a central transverse section therethrough. Fig. 3 is a central longitudinal section through the cleaner. Fig. 4 is a central horizontal section through the cleaner taken just above the dust receiving drawer. Fig. 5 is a detailed perspective view of the dust receiving drawer. Fig. 6 is an enlarged section through the rear end of the dust receiving drawer showing the manner in which the drawer is closed in the rear end thereof.

By referring to the drawings it will be seen that 1 designates the base of the cleaner which base carries at its forward end a suction block 2. This suction block 2 carries a metallic cover 3 upon the lower face thereof, so as to produce a smooth surface along the entire lower face of the suction block 2. An aperture 4 is formed within the block 2 and this aperture 4 communicates with an aperture 5 which aperture constitutes a port for allowing the dust to pass from the aperture 4 into the dust bag 6. A felt lining 7 is placed upon the inner face of the block 2 and the metallic collar 8 is secured to the inner face of the block 2 which collar constitutes a means for connecting the body 9 of the drawer to the block 2.

The body portion 9 of the drawer comprises a metallic body having a wire mesh top 10 through which a suction may be obtained by means of the bellows 11, to be hereinafter described. The body 9 of the drawer fits snugly over the collar 8, as shown in Fig. 3, and it may, therefore, be seen that the body may be readily removed from the collar when it is desired to remove the dust bag 6 from the dust drawer. The body 1 is provided with longitudinally extending rib portions 12 upon the inner face thereof, and the body portion 9 of the drawer is provided upon each side with a ledge portion 13 which ledge portion 13 fits under the ribs 12, the ribs 12 constituting a guide-way for the dust drawer.

A door 14 is hingedly secured to the rear of the dust drawer and is normally held in a closed position by means of the locking spring 15 and the overhanging flange 16 of the door 14. Springs 17 are secured to the rear of the door 14 and engage the rear end of the body 1 so as to yieldably hold the door 14 in closed position upon the body 9 of the dust receiving drawer.

The fabric bag 6 which is formed of the same shape as the body portion 9 of the drawer is placed within the drawer and the forward end of the bag is drawn over the forward end of the body of the drawer and the collar 8 is forced in the forward end of the bag so as to firmly clamp the forward end of the bag between the inner face of the body portion 9 of the drawer and the outer face of the collar 8 of the block 2, thereby firmly holding the fabric bag 6 in engagement with the body portion 9 of the drawer without the aid of tacks or other permanent securing means. The opposite end of the bag 6 is then brought together and folded over the lower edge of the body portion 9 of the drawer, as clearly illustrated in Fig. 3, whereby the bag will be firmly held in engagement with the body portion 9 of the drawer and the escape of dust from the bag will in this manner be prevented. Of course, it should be understood that the bag 6 is readily removable from the drawer so as to permit the dust to be easily and quickly removed from the dust drawer especially in view of the fact that no permanent securing means for holding the bag in engagement with the body portion 9 of the drawer has been provided.

As previously stated a plurality of suction bellows 11 are provided and are secured to the top of the body 1 in the manner as indicated in Figs. 2 and 3. Each of the bellows

11 comprises an upper board 18 and a lower board 19. A fabric covering 20 fits over the edges of the upper board 18 and over the edges of the lower board 19 so as to seal the same. The upper board 18 and the lower board 19 as well as the top 21 of the body 1 is provided with a plurality of suction apertures 22, as is clearly illustrated in Figs. 2 and 3. A plurality of leather or fabric closure strips 23 are secured over the apertures 22 formed in the boards 18 and 19, and these leather closure strips 23 are not permanently secured around their entire edge, but are only secured sufficiently to hold the same normally over the apertures 22. These closure strips 23 may be drawn away from the apertures 22 to permit the passage of air therethrough.

The rear end of the body 1 carries a plurality of brackets 24 upon which brackets 24 is journaled a crank-shaft 25 to which crank-shaft are connected the bellows operating links 26. Arms 27 are secured to the upper boards 18 of the bellows 11 and are in turn secured to the respective links 26 whereby the bellows may be operated as the shaft 25 is rotated. Supporting wheels 28 are carried by the shaft 25 and the casing 29 is placed over the upper end of the base 1 to shield the bellows 11.

The block 2 carries a plurality of spring members 30 upon the front end thereof and these spring members 30 are provided with bulged portions 31, which bulged portions are adapted to be engaged by the rubber collars 32 of the locking rod 33. This locking rod 33 has its ends pivotally secured within the journal plates 34, which plates are secured to the body 1. The locking rod 32 by engaging the springs 30 will firmly hold the drawer in its correct position within the body 1 and by swinging the rod 33 upwardly the drawer may be readily drawn therethrough.

A handle 35 engages the securing plates 36 carried by the body 1 for the purpose of facilitating the operation of the sweeper.

From the foregoing description it will be seen that an air-tight dust and dirt retaining removable drawer has been produced whereby the contents of the drawer may be dumped without spilling and also without soiling the hands.

Of course, it should be understood that the invention may be modified as to its detail mechanism and construction without departing from the spirit of the invention.

What is claimed, is:

1. A vacuum cleaner comprising a body, a removable drawer, a dirt retaining sack being open at both ends, said dirt retaining sack removably mounted in said drawer, and common means for closing one end of said sack and holding the same in said drawer.

2. A vacuum cleaner comprising a body, a removable drawer, a dirt retaining sack being open at both ends, said dirt retaining sack removably mounted in said drawer, a collar carried by said drawer, one end of said sack fitting over said collar, a hinged clamping door carried by said drawer and engaging the other end of said sack for constituting a closure therefor and holding one end thereof in a set position.

3. A vacuum cleaner comprising a body, a removable drawer, a dirt retaining sack, a collar carried by said drawer, a hinged door carried by said drawer, one end of said sack fitting over said collar, a spring lock carried by said door for holding the same in a closed position, and said door and lock engaging the other end of said sack for holding the sack in a taut position within said drawer.

4. A vacuum cleaner comprising a body, a removable drawer, a dirt retaining sack, a collar carried by said drawer, a hinged door carried by said drawer, one end of said sack fitting over said collar and the other end of said sack being clamped in engagement with said drawer by means of said door, said door holding the rear end of said sack in a set position for preventing the same from becoming congested in the rear end of said drawer, means for creating a suction through said drawer and sack, a guiding track carried by said body, and said door provided with grooves upon the upper edge thereof for traveling upon said guiding track.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

NELSON M. DYER.
WILLIAM S. HOLBROOK.

Witnesses:
ARTHUR H. EBELING,
BENJAMIN F. AUFDERHEIDE.