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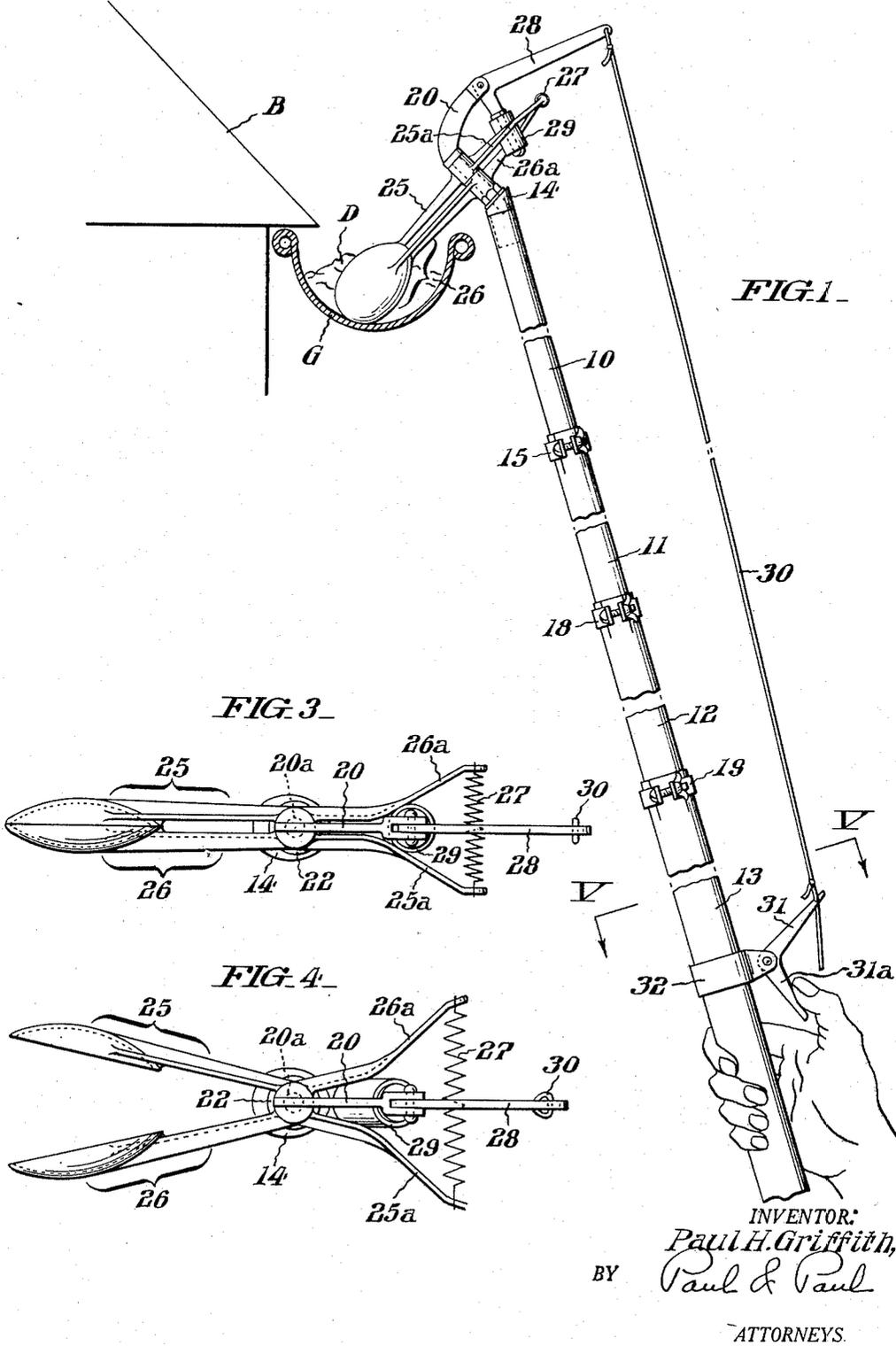
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EAVE GUTTER CLEANING DEVICES

Filed Sept. 17, 1952

2 Sheets-Sheet 1



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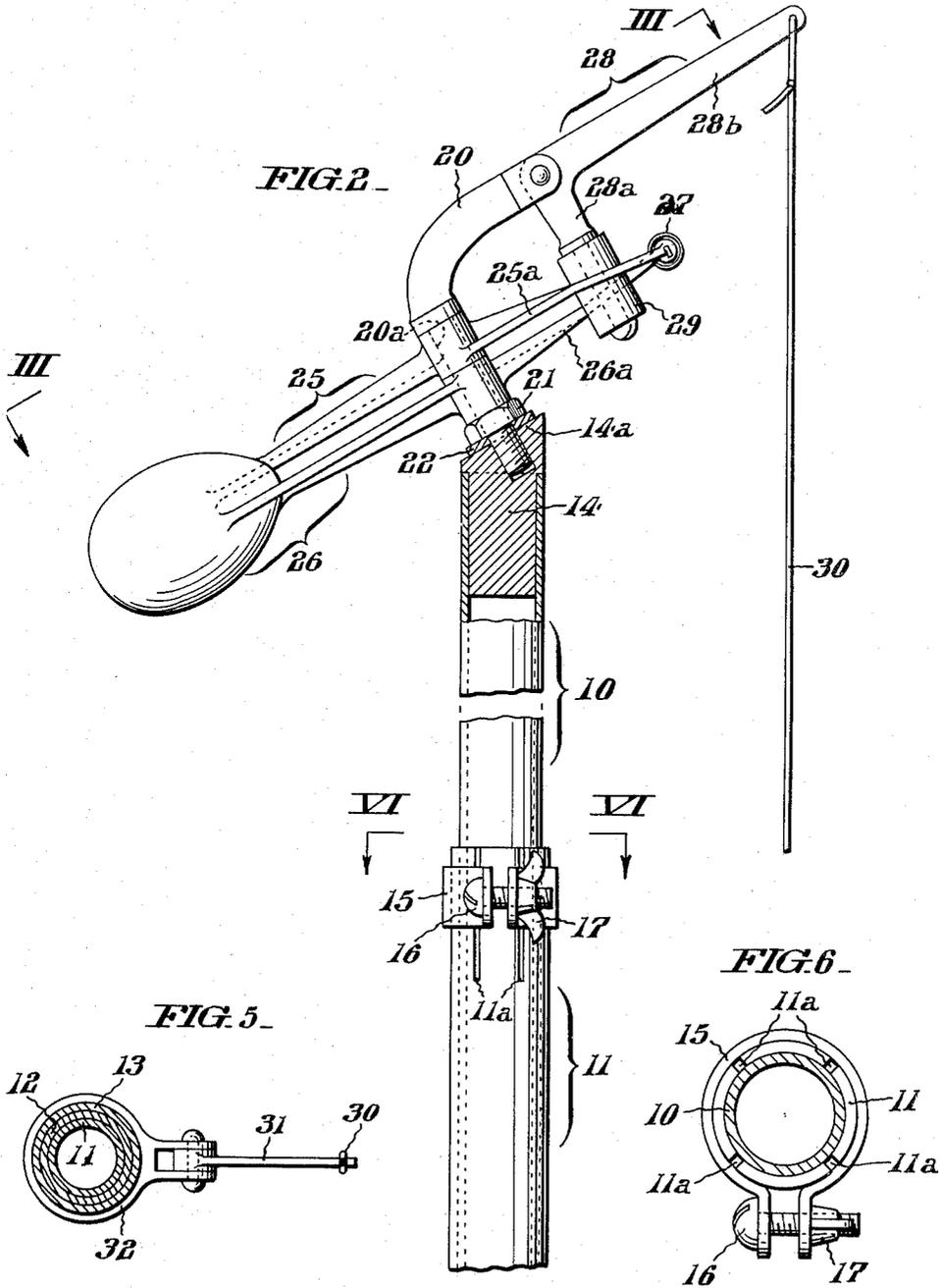
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EAVE GUTTER CLEANING DEVICES

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3 Claims. (Cl. 294—19)

This invention relates to eave gutter cleaning devices, that is to say, to devices useful in removing leaf and debris accumulations from the eave gutters or troughs of dwellings and other buildings.

The chief aim of my invention is to provide a device suitable for the aforesaid and similar purposes, which is simple in construction; which is light in weight and easy to operate; which is extensible so that the eaves troughs on dwellings of different heights can be reached for cleaning from the ground level; and which, moreover, lends itself to ready fabrication and assembling at small cost.

Other objects and attendant advantages will appear from the following description of the attached drawings wherein:

Fig. 1 is a broken out elevational view showing how my improved device is used in removing leaf and dirt accumulation from the eaves gutter of a building.

Fig. 2 is a fragmentary view in elevation on a larger scale showing to better advantage the construction of the upper or grasp end of the device, with a portion in section to expose important structural details which would otherwise be hidden.

Fig. 3 is a view in top plan looking as indicated by the angled arrows III—III in Fig. 2 with the grasps closed.

Fig. 4 is a view like Fig. 3 but with the grasps open; and

Figs. 5 and 6 are transverse sectional views taken as indicated by the angled arrows IV—IV and V—V respectively in Figs. 1 and 2.

As herein exemplified, the device comprises an extensible pole consisting of four thin-walled tubular telescoping sections 10, 11, 12 and 13 which, in practise, are preferably made of aluminum or other light weight metal. Secured into the upper or inner section 10 of smallest diameter by a force fit is a plug element 14 (see Figs. 1 and 2) whereof the top is beveled off at an angle of approximately forty-five degrees as at 14a.

The upper end of pole section 11 is split at circumferential intervals as at 11a in Figs. 2 and 6, and surrounded by a clamp collar 15 which can be drawn up tight by means of a screw 16 with wing nut 17 to circumferentially compress the split end of said tube, thereby to prevent slip between the latter and the uppermost section 10 after the pole is extended. The upper ends of the pole sections 12 and 13 are similarly split and provided with clamp collars 18 and 19 for the same reason. The several component sections 10—13 may, for example, be made in six foot lengths so that, when fully extended, the pole will be approximately twenty-three feet long.

Threadedly engaging into a tapped hole in the plug element 14 drilled at right angles to the beveled surface 14a of the latter as best shown in Fig. 2, is the cylindrical shank portion 20a of an overhanging bracket arm 20. By backing off a clamp nut 21 beneath which a washer 22 is interposed, the bracket arm 20 can be angularly

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adjusted about the axis of its shank portion and re-set for a purpose later explained. Fulcrumed for independent movement about the cylindrical portion 20a of bracket arm 20 are two spoon-like grasp or tong elements 25 and 26 having rearwardly extending crossed arms 25a and 26a which are divergent relative to each other as shown in Fig. 3. By the action of a spiral spring 27 in tension between the distal ends of the arms 25a and 26a, the tong elements 25 and 26 are normally maintained yieldingly in closed or grasping relation as shown in Fig. 3.

Pivotally connected to the distal end of bracket 20 is a bell crank lever 28 whereof one arm 28a is provided with an enlargement in the form of a roller 29 which is adapted for camming action between the divergent rearward arms 25a and 26a of the tong elements 25 and 26 to open the latter as also later explained. To the other arm 28b of bell crank lever is attached a pull cord 30 which, see Fig. 1, is connected to an actuator in the form of a trigger 31 which is pivoted on a fixed collar 32 surrounding pole section 13, and which has a press projection 31a for manipulation by the thumb of one hand of the user of the device.

Operation

In the use of the device, the pole is grasped and the trigger 31 pressed by the thumb of one hand as shown in Fig. 1, with the result that, through pull cord 30, the lever 28 is moved clockwise about its pivotal connection with bracket 20 and the camming roller 29 thereby moved forwardly between the diverging ends of the rearward arms 25a and 26a of the tongs 25 and 26 to open the latter as in Fig. 4. The pole is thereupon raised as in Fig. 1, to introduce the tongs 25 and 26 from above into the gutter G at the eave of the building B, whereupon the trigger 31 is released with the result that the tongs are closed by the action of spring 27 to grasp the leaf or debris accumulations D within the gutter. The pole is then lifted slightly for clearance of the tongs from the gutter and the tongs are opened by depressions of the trigger 31 to release the extracted material. This operation is repeated with incidental shifting of the tongs along the gutter as often as may be necessary for complete removal of the debris. With sections dimensioned as hereinbefore pointed out and the pole fully extended, the eaves gutters of ordinary dwelling or buildings may be reached with comparative ease from the ground level. By rotatively adjusting the bracket arm 20 about the bevel face of plug 14 with the axis of the shank 20a as a center, it is possible to change the angularity of the tongs 25, 26 with respect to the pole as will be readily understood, and thereby facilitate the use of the device in instances where the space around the building is more or less restricted, or in operation upon taller buildings where access to the eaves gutters must be had from the windows of a lower story.

Having thus described my invention, I claim:

1. In an eaves gutter cleaning device, a pole; a bracket affixed to one end of the pole providing a pivot stud projection at an inclination to the axis of the pole; a pair of crossed opposing grasp tongs fulcrumed on the stud projection of the bracket, each tong having a rearwardly divergent arm; a tension spring connecting the distal ends of said arms to normally maintain the tongs closed; a bell crank lever fulcrumed on the bracket and having a camming roller on one of its extremities engaged between the rearwardly divergent arms of said tongs in the interval between the fulcrum axis of said arms and the spring; and an actuating element accessible for finger manipulation adjacent the opposite or grasp end of the pole whereby, through an interposed con-

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nection, the lever is operable for movement of the camming roller inwardly between the rearwardly divergent arms of the tongs to open them in opposition to the pull of the spring aforesaid.

2. An eaves gutter cleaning device according to claim 1, wherein the grasp tongs are of spoon-like configuration. 5

3. An eaves gutter cleaning device according to claim 1, wherein the pole is composed of a plurality of relatively extensible sections; and wherein the interposed connection between the lever and the actuating element is in the form of a flexible cord. 10

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