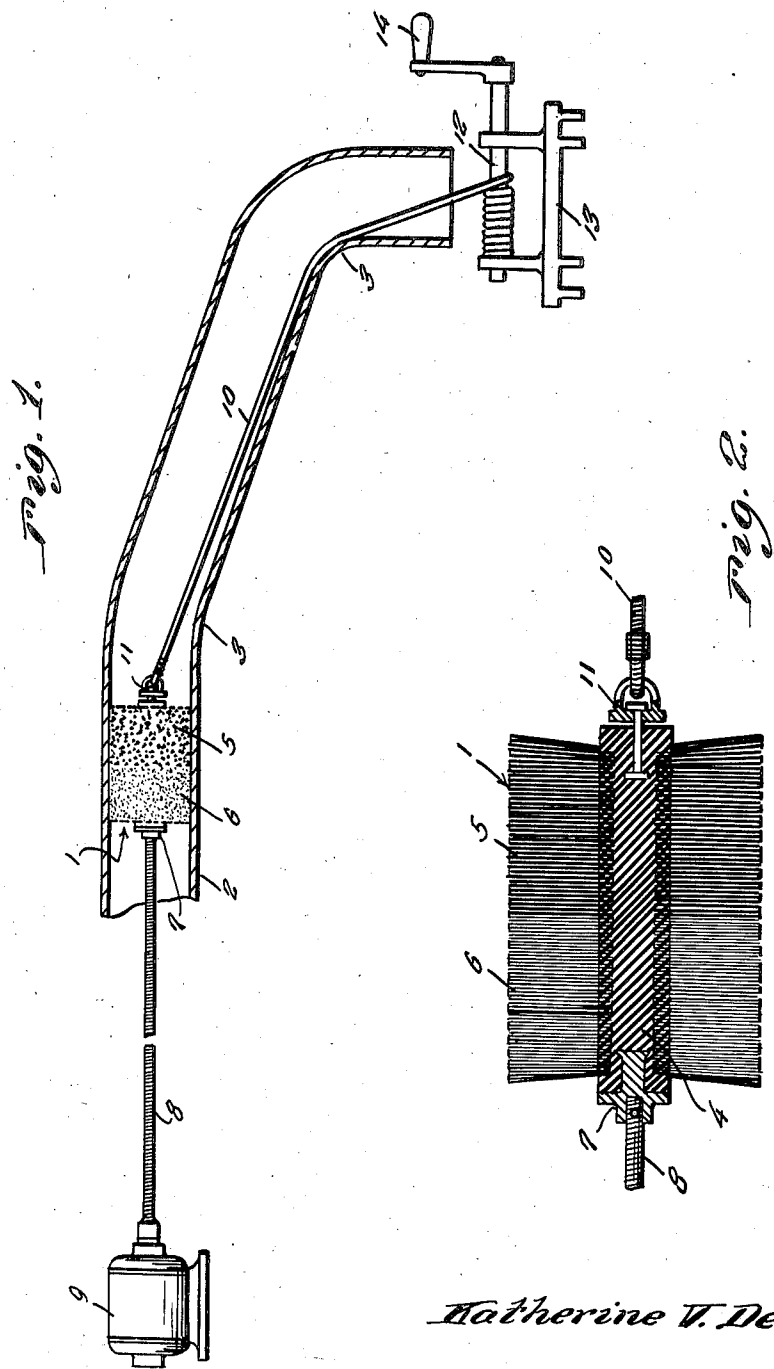


March 16, 1937.

K. V. DEEM
CONDUIT CLEANER
Filed Dec. 10, 1935

2,074,213



Inventor

Katherine V. Deem

By Clarence A. O'Brien and
Hyman Berman Attorneys

UNITED STATES PATENT OFFICE

2,074,213

CONDUIT CLEANER

Katherine V. Deem, Buffalo, N. Y.

Application December 10, 1935, Serial No. 53,775

1 Claim. (Cl. 15—104.20)

The present invention relates to new and useful improvements in conduit cleaners particularly for the pipes in paper making plants and has for its primary object to provide an apparatus including a substantially cylindrical brush, together with a novel combination and arrangement for drawing the brush through a conduit while at the same time rapidly rotating said brush.

Another important object of the invention is to provide, in a conduit cleaner of the aforementioned character, a brush embodying a novel construction through the medium of which said brush may negotiate curves or angles in the conduit without difficulty.

Still another important object of the invention is to provide a brush embodying a novel combination and arrangement of bristles.

Other objects of the invention are to provide a conduit cleaning apparatus which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is an elevational view of a conduit cleaning apparatus constructed in accordance with the present invention, showing the brush engaged in a conduit, said conduit being shown in vertical longitudinal section.

Figure 2 is a detail view in longitudinal section through the brush.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a substantially cylindrical brush which is designated generally by the reference numeral 1. The brush 1 is adapted to be drawn through a conduit, as at 2, and in order that said brush may negotiate curves or angles, as at 3, in the conduit, said brush is flexible and includes an elongated rubber core 4. Radiating from the core 4 are wire and fiber bristles 5 and 6, respectively, the latter being rearwardly of the former.

Embedded in the rear end portion of the core 4 is a socket member 7. Anchored in the socket member 7 is a flexible shaft 8 of any suitable length which is driven by an electric motor 9. The motor 9 may be of any desired horse power.

The reference numeral 10 designates a flexible cable which is connected to the forward end of the flexible rubber core 4 through the medium of a swivel 11 which is anchored in the forward end portion of said core, as illustrated to advantage in Figure 2 of the drawing. The cable 10 is secured to a suitable winch 12 and wound thereon, said winch being provided with a suitable supporting structure 13 and including a hand operating crank 14.

It is thought that the operation of the invention will be readily apparent from a consideration of the foregoing. The cable 10 is first passed through the conduit 2 and secured to the winch 12. Then, the cable 10 is wound on the winch 12 in a manner to draw the brush 1 through the conduit 2. As this is done the motor 9 is energized to rapidly rotate the brush 1 in the conduit 2, thus effectively removing all foreign matter adhering to the walls of said conduit 2. The swivel connection 11 prevents the cable 10 from being twisted by the rotating brush 1. As hereinbefore stated, the elongated flexible rubber core 4 permits the brush 1 to negotiate curves or angles in the conduit 2 with ease. If desired, the interior of the conduit 2 may first be treated with a suitable solution to soften the matter to be removed. It will be noted that the wire bristles 5 first come in contact with the material to be removed in the conduit 2 and said wire bristles are then followed by the fiber bristles 6. The flexible drive shaft 8 is of sufficient length to permit the motor 10 to remain in one place as the brush 1 is drawn through the conduit.

It is believed that the many advantages of a conduit cleaner constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the apparatus is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

A conduit cleaner comprising, in combination, a cleaning tool engageable in a conduit, a flexible drive shaft secured to one end of said cleaning tool, means for driving said shaft for rotating the cleaning tool, and a flexible cable swivelly secured to the other end of the cleaning tool for drawing said cleaning tool through the conduit.

KATHERINE V. DEEM.