W. H. MILLER.

TRASH ARRESTER AND FILTER.

APPLICATION FILED APR. 13, 1912. RENEWED AUG. 9, 1913.

1,074,375.

Patented Sept. 30, 1913.

Fig. 1.

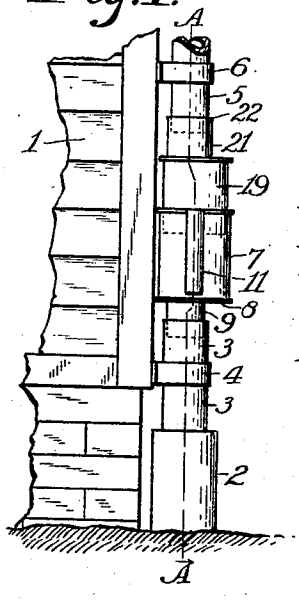


Fig. 2.

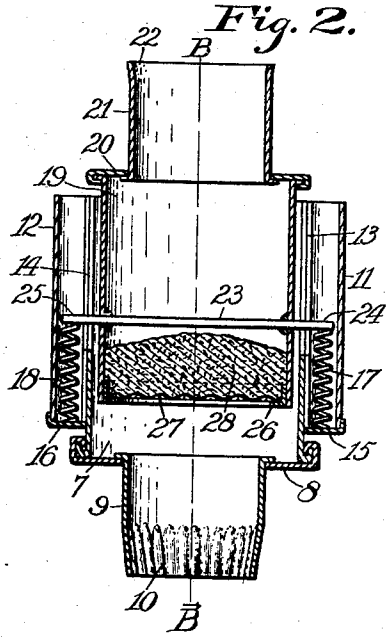


Fig. 3.

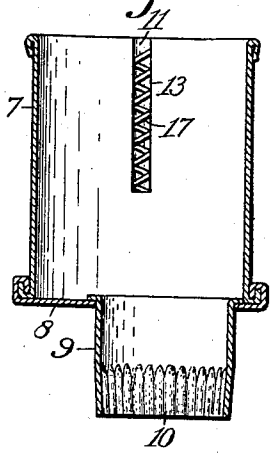


Fig. 4.

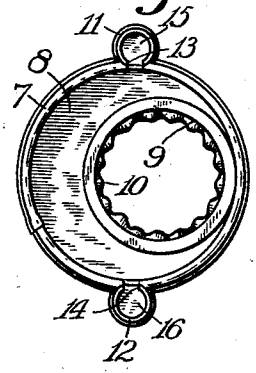


Fig. 5.

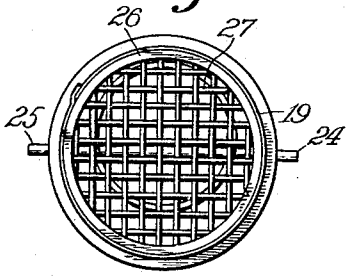


Fig. 6.

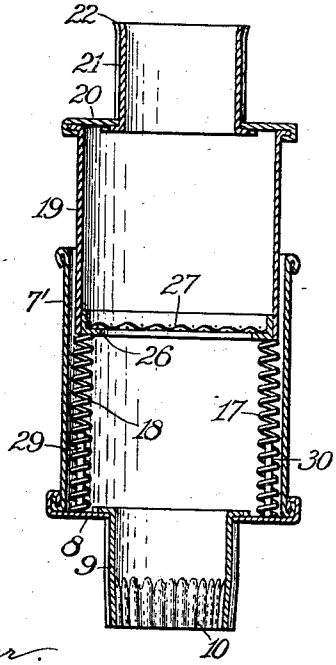
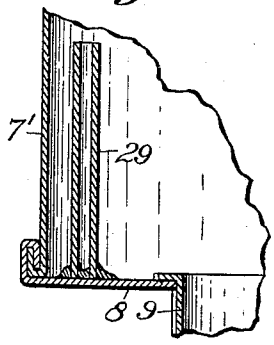


Fig. 7.



WITNESSES:

J. H. Gardner.

M. J. Messenheimer.

INVENTOR:

William H. Miller,

BY

E. P. Silvius,

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM H. MILLER, OF CRAWFORDSVILLE, INDIANA.

TRASH-ARRESTER AND FILTER.

1,074,375. Specification of Letters Patent. Patented Sept. 30, 1913.

Application filed April 13, 1912, Serial No. 690,547. Renewed August 9, 1913. Serial No. 783,969.

To all whom it may concern:

Be it known that I, WILLIAM H. MILLER, a citizen of the United States, residing at Crawfordsville, in the county of Montgomery and State of Indiana, have invented a new and useful Trash-Arrester and Filter, of which the following is a specification, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

This invention relates to an appliance for separating trash, such as leaves, twigs and straws, from rain water when conducted from the roofs of buildings to cisterns, and for filtering the water if desired, the invention having reference more particularly to a trash arrester and filter, designed to be quickly connected or disconnected with the down spouting of buildings.

The object of the invention is to provide an improved trash catcher and filter that shall be so constructed as to be adapted to be easily cleaned and to be disconnected from the down spouting without the necessity of loosening the fastenings of the spouting or in any way disarranging the spouting.

A further object is to provide an efficient and cheaply constructed appliance of the above mentioned character and one which shall be so constructed as to be durable and economical in use.

The invention consists in a trash arrester and filter comprising essentially two relatively telescopic parts adapted to be connected with two portions of water spouting and provided with springs for normally holding the two parts in connection with the spouting, one of the parts of the appliance having a screen therein and also filtering substance if desired.

The invention consists also in the specific parts and combinations and arrangements of parts as hereinafter particularly described and claimed.

Referring to the drawings, Figure 1 is a fragmentary elevation of a building provided with a down spout to which the improved trash arrester and filter is connected; Fig. 2, a vertical sectional view of the invention approximately on the line A A in Fig. 1; Fig. 3, a section of the main or lower part of the appliance as preferably constructed as on the line B B in Fig. 2; Fig. 4, a top plan of the main part; Fig. 5, an inverted plan view of the upper or inner part of the appliance; Fig. 6, a vertical central section of the appliance slightly modified in construction; and Fig. 7, a fragmentary sectional detail of a portion of Fig. 6 on an enlarged scale.

Similar reference characters in the different figures of the drawings indicate corresponding elements or features of construction herein referred to.

In the drawings the numeral 1 indicates a building, 2 a tiling conduit for conducting the rain water to a cistern, 3 a section of down spout secured to the building by a strap or clamp 4 and extending into the conduit, 5 a section of down spout secured to the building by a strap or clamp 6 and terminating at a suitable point above the upper end of the section 3, for conducting the water from the eaves trough to the cistern.

The main or normally lower part of the trash arrester and filter comprises a cylindrical body portion 7 provided with a bottom 8 to which is connected a short outlet pipe 9 corresponding in diameter to the section 3 of the spout, the pipe 9 having a crimped and contracted end portion 10 adapted to enter the upper end of the section 3 of the spouting. The pipe 9 is connected with the bottom 8 relatively close to one edge portion of the bottom, the pipe being considerably less in diameter than the bottom. The body portion 7 has two tubular spring housings 11 and 12 on opposite sides thereof that extend from the upper end nearly to the lower end of the body portion, and communication is effected between the housings and interior of the body portion by two slots 13 and 14 extending from the upper end downward a suitable distance, the housings being provided with watertight bottoms 15 and 16 respectively, on which two coil springs 17 and 18 are seated and guided by the walls of the housings.

The normally upper or inner part of the appliance comprises a cylindrical body portion 19 adapted to slide telescopically in the body portion 7 and it has a top or head 20 thereon to which is connected a short inlet pipe 21 having a slightly enlarged end portion 22 to receive the terminal end of the section 5 of the spout. The pipe 21 is connected with the top 20 so as to be in alinement with the pipe 9, being eccentric to the axis of the body portion 19. A wire rod 23 is inserted through opposite portions of the wall of the body portion 19 and extends through and beyond so as to constitute two

projecting and stiff arms 24 and 25 which are inserted into the slots or guide-ways 13 and 14, the arms extending into the housings 11 and 12 and normally rest upon the springs 17 and 18 which force the pipe 21 into connection with the section 5 when the pipe 9 is inserted in the section 3 of the spouting, the springs when compressed permitting the appliance to be disconnected from the spouting. The lower end of the body portion 19 is provided with an annular ledge 26 on which a screen 27 is supported, a sponge or filter substance 28 being placed upon the screen if desired to filter the water but may be omitted or removed if it be desired to only catch the more objectionable trash.

In a slightly cheaper form of construction the desired objects are accomplished by omitting the external spring housings, the modification of the main or lower part being such as to permit the use of an imperforate body portion 7′, and two tubular spring guides 29 and 30 are secured upon the bottom 8 adjacent the wall of the body portion, and in this case the springs 17 and 18 extend about the guides and rest upon the bottom, the lower end and the ledge or internal flange 26 of the upper part resting upon the upper ends of the springs.

In practical use the appliance is connected with the down spout of a building substantially as illustrated in Fig. 1, the two parts of the appliance being relatively extended approximately as shown in Fig. 6. The trash is arrested by the screen 27 which permits the water to flow through to the cistern; or, the trash and also sooty or sedimentary matter are arrested by the filtering substance if employed. When it is desired to remove the accumulated trash the appliance is contracted longitudinally substantially as shown in Fig. 2 so that the pipe 21 is withdrawn from the section 5 of the spouting, after which the pipe 9 is withdrawn from the section 3. The two parts of the appliance may then be readily disconnected and the foreign matter removed from the upper part. After cleansing the appliance it may be quickly connected with the spouting as above explained.

Having thus described the invention, what is claimed as new is—

1. A trash arrester comprising two relatively telescopic parts having each a pipe connected with its outer end, one of the parts being provided with a spring for yieldingly forcing each part outwardly relatively to the other, and a screen in one of the parts.

2. A trash arrester comprising a main part provided with two longitudinally extending guides, one end of the part having a bottom, a pipe connected to the bottom, two springs guided by the two guides respectively and supported by the main part, an upper part movable longitudinally in the main part and normally forced outwardly by the springs, the upper part having a head in its outer end, a pipe connected to the head, and a screen in the upper part.

3. A trash arrester and filter comprising a main part having two longitudinally extending spring housings thereon, the wall of the part having slots therein extending to the housings, the main part and the housings having bottoms respectively, a pipe connected to the bottom of the main part, two coil springs in the two housings respectively and seated on the bottoms thereof, an upper part movable longitudinally in the main part and having two arms thereon extending through the slots and seated on the two springs respectively, the upper part having a head in its outer end, a pipe connected to the head, a screen in the inner end of the upper part, and filtering substance on the screen.

In testimony whereof, I affix my signature in presence of two witnesses.

WILLIAM H. MILLER.

Witnesses:
EDWARD ROTH,
M. E. CLODFELTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."