E. J. ECKHARDT & R. C. VOM CLEFF.

CLOTHES LINE FASTENER.

APPLICATION FILED FEB. 17, 1912.

1,067,412.

Patented July 15, 1913.

Fig: 1,

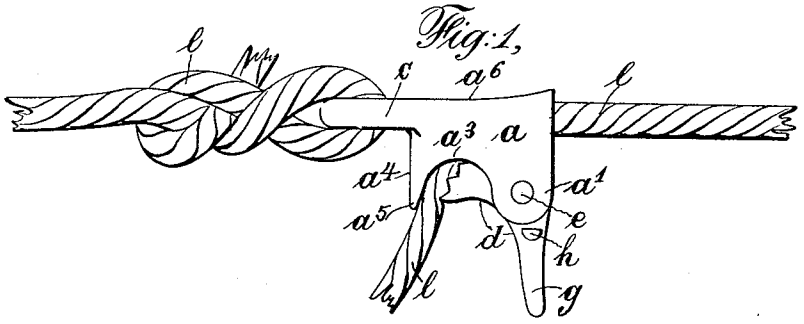


Fig: 2.

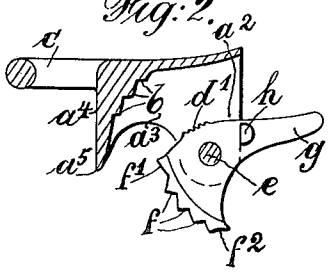


Fig: 3.

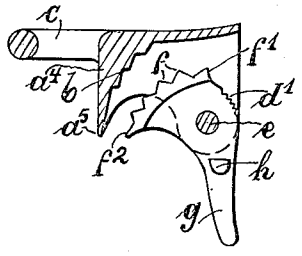


Fig: 4,

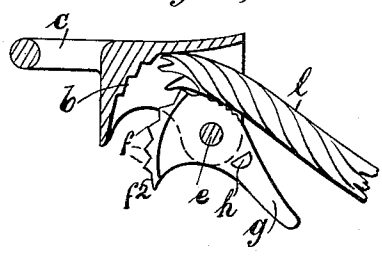


Fig: 5.

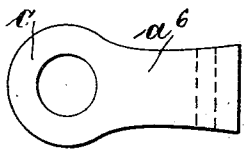
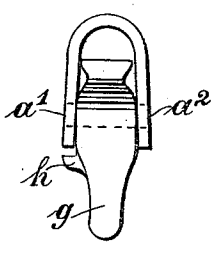


Fig: 6.



Witnesses:
Max B. A. Doring.
Emma A. McCarrick

Inventors:
Edward J. Eckhardt & Robert C. vom Cleff
By their Attorney
L. K. Böhm.

UNITED STATES PATENT OFFICE.

EDWARD J. ECKHARDT, OF BROOKLYN, NEW YORK, AND ROBERT C. vom CLEFF, OF HOBOKEN, NEW JERSEY.

CLOTHES-LINE FASTENER.

1,067,412. Specification of Letters Patent. Patented July 15, 1913.

Application filed February 17, 1912. Serial No. 678,340.

To all whom it may concern:

Be it known that we, EDWARD J. ECKHARDT and ROBERT C. vom CLEFF, both citizens of the United States of America, and residents, respectively, of Brooklyn, county of Kings, and State of New York, and Hoboken, county of Hudson, and State of New Jersey, have jointly invented new and useful Improvements in Clothes-Line Fasteners, of which the following is a specification.

This invention has reference to a novel clothes-line fastener.

It is the special object of this invention to produce a clothes-line fastener which is neat, durable, compact and of relatively light weight.

By virtue of its peculiar construction the novel fastener, when operated, clamps the line permanently until released by hand either by pulling the free end of the line or by operating the short handle of the clamping or locking part.

The device is of simple construction, consisting of two cast parts only, a frame and an operative part, which are connected by a small pivot. This, in addition, to its light weight greatly reduces the cost of production, a fastener of the usual size weighing only about 2 oz. When mounted, the top or roof of the frame of the fastener prevents any rain or snow from falling into the device while in a number of former devices this was possible. The vibrations of the line such as occur when strong winds blow do not loosen the present device. In addition to these main objects care has been taken to produce a neat and desirable article all as will be fully described hereinafter with reference to the accompanying drawing in which:

Figure 1 represents in side elevation a clothes-lines fastener with rope therein embodying in desirable form the present improvements. Fig. 2 is a central vertical section with the locking cam in a position to insert the rope. Fig. 3 is a similar view with the locking cam turned down. Fig. 4 is a similar section with the free end of the line inserted. Fig. 5 illustrates the fastener in top plan view, and Fig. 6 is a rear view of same.

Similar characters of reference denote like parts in all the figures.

In the drawing a represents the frame of the fastener which consists of a top or roof, two parallel side flanges, a front flange at nearly a right angle to the side flanges, and a ring in line with the top. Part of the interior surface of the frame has teeth b, as shown in Figs. 2, 3 and 4. In the rear, shown to the right on the drawing, the side flanges have portions a^1, a^2 extending relatively far down while the middle portions a^3 are narrow. At the front shown to the left, the flange portions a^3 extend into a flange a^4 which is nearly at a right angle thereto and has an elongated sharp downwardly extending end a^5. On the top front portion of the frame there is a ring c which is flush with the top surface of the roof a^6. The inner surface of the frame, the side flanges and the front flange act as guides for the line when the same is passed through the device. All the described parts of the frame are cast in one piece.

The long side flange portions a^1, a^2, of the frame, act as a bearing for the cam d which is secured thereto, by means of the pivot e. The pivoted central portion of the cam is nearly circular and has on the one side a curved corrugated surface d^1 which comes first in contact with the rope end when same is inserted. This corrugated surface d^1 of the cam grips the rope and prevents the same from slipping backward and out before it reaches the teeth b of the interior surface of the frame, see Fig. 4. The top surface of the cam is somewhat broader than the portion immediately underneath and it forms an extension to the left relative to the center of the pivot. This top of the cam is provided with teeth. A number of regular teeth f are on its central portion which correspond to the teeth on the inner surface of the frame. Adjoining the corrugated surface d^1 of the pivoted portion of the cam there is a rather flat tooth f^1 on the top of the cam, which is adapted to pick up the rope after same has passed the corrugated surface. The pick-up tooth f^1 holds the rope while being inserted but does not cut the same deeply. Although it holds the rope against slipping out it permits of shifting the rope farther in onto the teeth f because it is rather flat. Thus the pick-up tooth greatly facilitates the insertion of the rope. At the opposite end, near the last regular tooth f there is a second peculiarly constructed tooth f^2, reduced to about one half

of the size of the central teeth, which acts as a lock or stop tooth. When the line has been sufficiently passed through the fastener it is locked by operating the cam on its pivot. The lock tooth f^2 is then beyond the teeth b on the interior of the frame but holds the rope tightly against the inner surface of the portion a^5 of the frame without cutting the rope too deeply because this tooth is rather flat and reduced to about one half of the size of the central teeth of the cam. The lower portion of the cam is formed into a handle g and a stop h is laterally provided on the handle for a purpose to be mentioned hereinafter.

The device is operated in substantially the following manner: The knotted end of the rope or line is permanently secured in the ring c of the frame. From there the line passes to the opposite pole and returns. The free end of the line is now passed through the fastener by inserting it into the frame opposite the ring in such manner that it comes in contact first with the corrugated portion of the cam. Now the line is gripped by the pick-up tooth f^1 and passed over the regular teeth of the top of the cam, while being guided along said flanges of the frame and the teeth on its inner surface. When a sufficient length of the line has passed out of the fastener, the handle of the cam is turned in, whereupon the stop or lock tooth f^2 tightly secures the line. The natural strain on the line tends to tighten and lock the device more permanently. In order to facilitate the insertion of the line, the stop h on the upper portion of the handle g is provided, which limits the movement of the cam and handle. In this way any contact of the line with the end of the handle is prevented during the insertion of the line. The release or adjustment of the line is effected by pulling the loose end of same or by pressing the handle slightly in the rearward direction.

We claim as our invention:

1. A clothes-line fastener comprising, a frame with a curved top and a ring formed at the front end of said top, side flanges having each a downward extension in the rear, and a front flange with an inner curved toothed portion, and a cam pivotally mounted between the downward extensions of the side flanges of the frame, said cam having a slightly curved toothed top extending lengthwise toward the front, a partially corrugated rear surface, and a handle below with a stop for limiting the movement of the cam and handle.

2. A clothes-line fastener comprising, a frame with a curved top and a horizontal ring formed at the front end of said top, side flanges having each a downward extension in the rear, and a front flange with an inner curved and toothed portion, and a cam pivotally mounted between the downward extensions of the side flanges of the frame, said cam having a slightly curved toothed top with a reduced pick-up tooth at the rear end and a reduced lock-tooth at the front end, a partially corrugated rear surface, and a handle below with a lateral stop for limiting the movement of the cam and handle.

3. A clothes-line fastener comprising, a hollow frame having an inner curved and toothed front portion, and a cam pivotally mounted in said frame, said cam having a slightly curved toothed top with a reduced pick-up tooth at the rear end and a reduced lock-tooth at the front end and adapted to coöperate with the toothed inner front portion of the frame, a partially corrugated rear surface, and a handle below with a lateral stop for limiting the movement of the cam and handle.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

EDWARD J. ECKHARDT.
ROBERT C. VOM CLEFF.

Witnesses:
EMMA A. MCCARRICK,
MARIE H. LEHR.