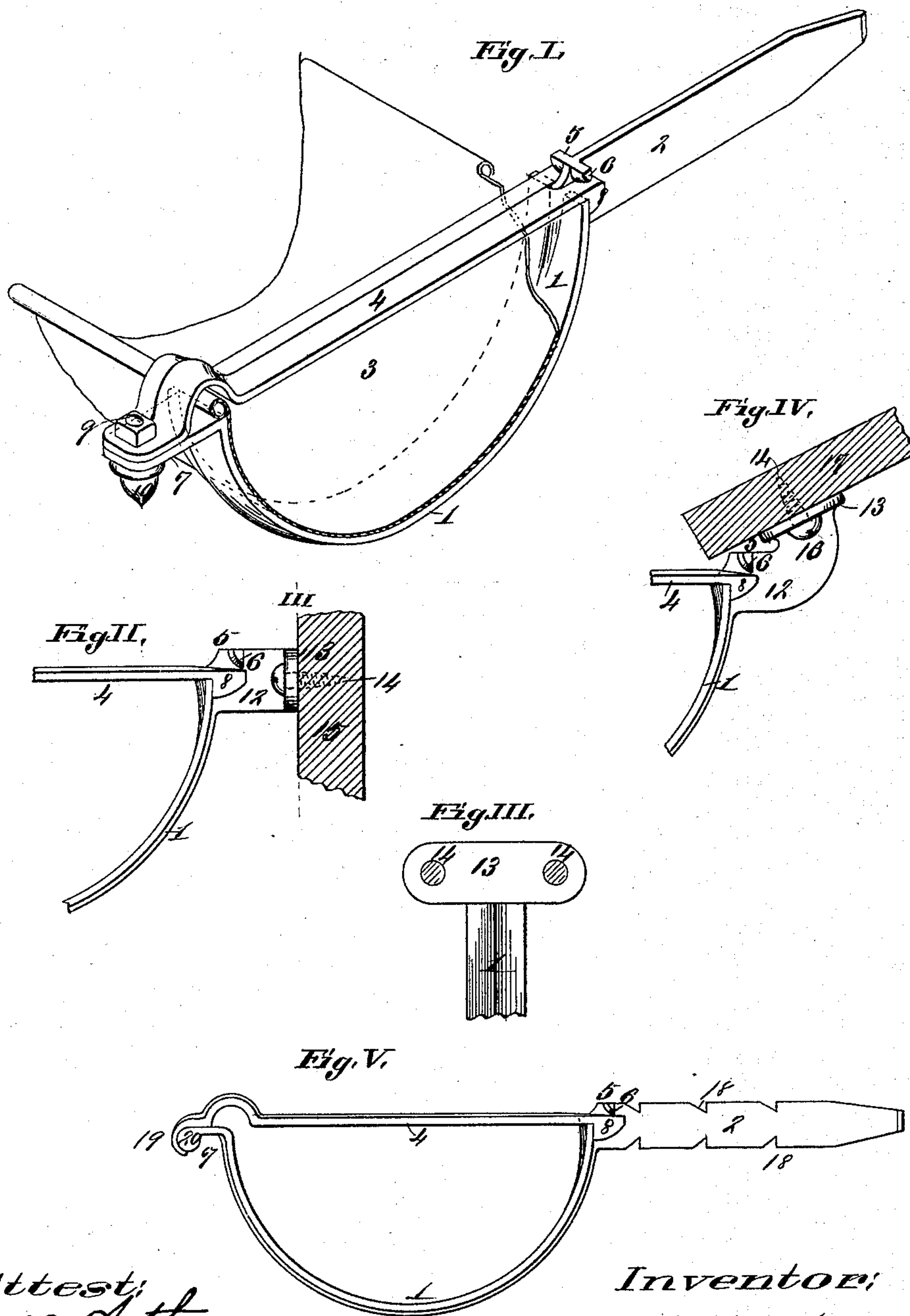


(No Model.)

M. KOCH.
EAVES GUTTER HANGER.

No. 388,495.

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UNITED STATES PATENT OFFICE.

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EAVES-GUTTER HANGER.

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To all whom it may concern:

Be it known that I, MORITZ KOCH, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Eaves Gutter Hangers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a perspective view showing my improved trough-hanger as adapted for attachment to a brick wall, with a section of the trough and the interlocking tie-strap on its seat. Fig. II is a detail modification showing the hanger with vertical wing-brackets for attachment by screws to the vertical base-boards of the cornice of frame buildings. Fig. III is a detail vertical section taken on line III III, Fig. II, showing the bracket-wings by which the hanger is secured. Fig. IV is a detail modification showing the hanger with semi-horizontal attachment wing-brackets for fastening the hanger to inclined cornice-ceilings beneath the rafters, and Fig. V is a side view of a modification showing the hanger-spike serrated to prevent its withdrawing from between the brick in the wall of a house where it is secured. It also shows a modification of the tie-strap, in which a curved catch on its front end locks over the front bead of the trough.

This invention relates to devices for hanging eaves-gutters; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, in which similar figures of reference indicate like parts in all the views, 1 represents the trough-bed of the hanger, and 2 the spike, which is adapted for driving in between the bricks of the wall of the house, close beneath the roof, to sustain the eaves-troughing, a section of which, 3, is shown resting in its bed in Fig. I.

4 represents the tie-strap, which is of novel construction. It is both very easy of attachment and of removal and reattachment at times of repairs, and also braces the trough more efficiently than the usual tie-strap, which also, besides being located within the trough and so being a bar that is apt to arrest leaves

and other rubbish and dam back the flow of water, frequently also gets bent and becomes in consequence still more obstructive.

Another great advantage in my device is that as the ties 4 are not attached to the troughing, it (the troughing) can be advantageously stowed, fitting in interlayers within each other, so as to avoid the bruising of the trough and the kinking of the ties when hauling or shipping. It is also much more convenient for storage, as it fits tightly together, many times the amount going within the same compass.

5 represents a cross-T attachment surmounting the junction of the trough-bed and the spike. The T-arms have pendent bevel edges 6, that are sufficiently to the rear of the trough-bed to allow the rear end of the tie-strap (when rightly inclined for presentation) to pass through; but when brought down into its horizontal position onto its seat 7 in front its top surface tightly engages with said pendent edges of the cross-T, and a catch-lug, 8, on its end engages with the rear edge of the trough-bed, so as to lock its tie-hold.

A lug forming the front seat, 7, for the tie-strap projects horizontally from the front edge of the bow of the trough-bed, and forms a seat for the front end of the tie-strap. The facing-bead on the front edge of the troughing also rests on said lug, and the tie-strap has a curved bend that fits over the front bead of the trough. The extreme front end of the tie-strap projects again in a horizontal position that corresponds with the lug or seat on which it rests.

A screw locking-bolt, 9, having a decorative head, 10, couples the front end of the tie-strap to its seat on the projecting lug of the trough-bed, and a nut, 11, secures the attachment on top of the tie. I have shown the decorative head beneath and the nut on top as my preferred form; but their positions may be reversed and answer the same purpose, or the representation of the square nut may be the bolt-head, and then the decoration would be a thumb screw-nut.

In Fig. II is shown a modification adapted for use on the cornices of frame buildings. The shoulder-strap 12 on the rear of the trough-

bed is provided with vertical wing-brackets 13, through which screws 14 pass and secure it to the vertical base-board 15 of the cornice of the building. These wings are also shown in transverse section in Fig. III, with a detail of the rear of the trough-bed.

In Fig. IV is shown a modification in which the shoulder-strap 12 curves upward at 16, so as to present the wings 13 in the right position for securing beneath the ceiling 17 of a rafter-heel cornice.

In Fig. V is shown a modification in which the attachment-spike has serrations 18 to withhold its withdrawal from the wall into which it is driven, and also is shown a modification of the tie-strap and trough-bed, in which the locking-bolt 9 is dispensed with, and a curved catch, 19, is provided on the front end of the tie-strap, which catch engages around a knob, 20, on the end of the horizontal lug that projects from the trough-bed, thus locking the engagement of the tie strap.

I prefer to make my hangers out of malleable iron, but do not confine myself to that material, as it is evident that they may be made out of wrought-iron or any other suitable metal without deviating from the essential features of my invention.

Among the advantages of this invention are: First. The great economy of room in storage for hauling and shipment, as the usual tin tie-straps are dispensed with, so that the troughing fits closely together.

Second. The protection that the interlaying troughing insures from wear and tear in hauling and shipping. It is well understood that the tin tie straps in common use not only will not allow the close package of the troughing, but it is impossible to haul or ship it in large quantities without injury both to the troughing and ties.

Third. The ease and expedition with which it can be erected and removed for repairs.

Fourth. That by the avoidance of the tin tie-straps and other obstructions within the trough the capacity of its water-carriage is increased, not having said obstructions to dam back the water, and, as is often the case, (especially when tie straps get bent down, as they frequently do,) arresting the leaves and rubbish and consequently becoming still more obstructive.

Fifth. By the varied modifications in the

device its adaptability for attachment to the eaves and cornices of all classes of buildings.

Sixth. By dispensing with the usual tin tie-strap I avoid the great annoyance of a conductor that always carries more or less of the drip from the eaves over the troughing where it runs down outside to the injury of said trough and detriment to its appearance and that of the siding or side wall of the house, and also gives the appearance that the gutter is leaking. It is seen that at the foot of the upward curve of my tie strap, where it rises to go round the bead of the troughing, any drop that may be on the tie must fall into the gutter.

Seventh. By my device not fastening to the roof I also avoid the use of the usual tin or other attachment-straps to the roof, so that there are no nails driven into the roof, as from said attachment that fastens to the roof and causes leaks therein.

Eighth. By the use of my tie-strap the gutter is firmly held both ways, not as with the tin tie-strap, whose only sure hold is but one way to keep the gutter from expanding, for the fragile tin strap itself will easily bend under the pressure of ice, &c., in the gutter and tend to rack the gutter out of form and position.

I claim as my invention—

1. In an eaves-gutter hanger, the combination of the trough-bed 1, the spike 2, the cross-T attachment 5, with pendent bevel edges 6, under which the heel of the tie-strap 4 engages, said tie-strap having a catch lug, 8, at its heel and fastened by the screw locking-bolt 9, that couples the tie strap and trough-bed in front, substantially as described, and for the purpose set forth.

2. In an eaves-gutter hanger, the combination of the trough-bed, its attachment-bracket, the cross-T attachment 5, with its pendent bevel edges, which with the catch-lug on end of the tie-strap lock the heel of said strap and the projecting lugs of the trough-bed and tie-strap that are coupled by the locking-bolt 9, arranged to secure open unbridged troughs in the hanger, substantially as described, and for the purpose set forth.

MORITZ KOCH.

In presence of—

BENJN. A. KNIGHT,
JOS. WAHLE.