Nov. 11, 1930. J. A. GOELLNER 1,781,382

WEATHER STRIP

Filed July 31, 1929

Fig. 1.

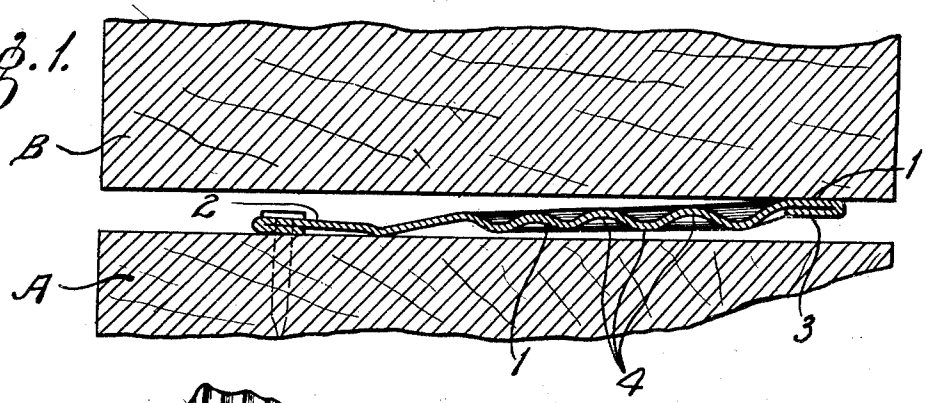
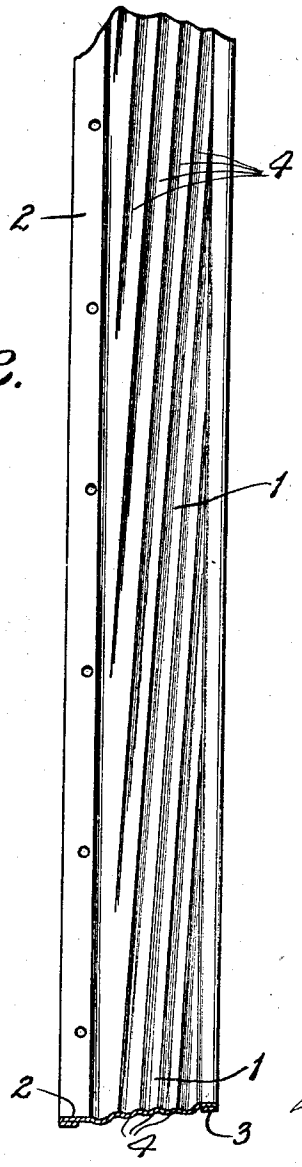


Fig. 2.



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UNITED STATES PATENT OFFICE

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WEATHER STRIP

Application filed July 31, 1929. Serial No. 382,326.

My invention relates to metal weatherstrips of the type designed to be tacked along one longitudinal margin only. Weatherstrips of this type are made of thin resilient metal with one longitudinal margin doubled back and bent at an oblique angle to the body of the strip to form a nailing flange and with the opposite marginal portion beaded or doubled back to prevent puckering and adapt it for sliding contact, the nailing flange being tacked, for instance, to the runway of a window frame and the free beaded edge bearing resiliently against the edge of the window sash.

Metal weatherstrips of this type are used extensively; but they are open to the objection, that under certain conditions, they become disagreeably noisy; and it is the principal object of the present invention to overcome this objection. The invention consists principally in forming such metal weatherstrips with corrugations extending longitudinally through the body portion thereof at an angle to the sides, as hereinafter described.

In the accompanying drawing, which forms part of this specification, wherein like numerals refer to like parts wherever they occur.

Fig. 1 is a cross-section of a metal weatherstrip embodying my invention, said strip being shown interposed between the meeting edges of a frame member and the hinged or sliding closure member therefor; and

Fig. 2 is an isometric perspective of a portion of said strip.

The present weatherstrip is made of thin resilient metal and comprises a body portion 1 and a nailing flange 2 along one edge thereof, and a bead or doubled back marginal portion 3 along the opposite edge adapted for sliding contact. As usual, the nailing flange is bent at an oblique angle to the body of the strip, so that, when the nailing flange is tacked flatwise to a frame A, the body of the strip will stand out obliquely relatively to such flange and frame, and bear resiliently against the adjacent face of the closure member B for said frame.

In the ordinary resilient metal weatherstrip of this type, the free portion thereof, when exposed to a stiff breeze or high wind, is likely to vibrate after the manner of a musical reed or membrane and emit an audible sound that increases in intensity with the velocity of the wind. Besides, such weatherstrip is usually made of such thin gage metal that the mechanical operations necessary to form the nailing flange and the marginal bead and particularly the operation of tacking the nailing flange in place are liable to produce such buckling and internal stresses in the metal as to leave the strip in a condition to produce considerable noise in response to the shifting of mechanical stresses thereon, such, for instance, as are due to high wind.

According to the present invention, longitudinal corrugations 4 are formed in the middle or body portion of the strip and arranged obliquely to the margins of the strip. Such oblique longitudinal corrugations are very effective in preventing the hum or singing due to the action of the strip after the manner of a reed and also in overcoming the noise arising from the buckling action. In practice, I have found the best results, in so far as concerns the suppression of noise, when the longitudinal corrugations are arranged at an angle of about 5° to the side margins.

As the oblique corrugations do not extend into either the nailing flange or the bead of the free margin of the strip, they do not interfere with the pivotal or hinge action of the body of the strip relative to the nailing flange that is necessary to maintain resilient control of the free edge of the strip with the closure member. Such corrugations stiffen the body portion against buckling and permit the strip to be made of a cheaper and lighter gage metal which can be formed with lighter and less expensive machinery. Such lighter gage metal is resilient enough to maintain contact with the closure member. In addition to being cheaper and easier to make, the lighter gage strip does not exert as great resilient pressure against the closure member as a strip of heavier gage metal would and is therefore less liable to cause the closure member to stick and bind or be difficult to open and close.

What I claim is:

1. A metal weatherstrip comprising a body portion having oblique longitudinal corrugations therein.

2. A metal weatherstrip comprising a corrugated body portion with the corrugations extending at an angle to the sides of said strip.

3. A metal weatherstrip of resilient metal having a body portion, a nailing flange along one margin disposed obliquely with relation to the plane of said body portion, said body portion having longitudinal corrugations disposed at an angle of about five degrees to the margins thereof.

4. A metal weatherstrip of resilient metal having a body portion, a nailing flange along one margin disposed obliquely with reference to the plane of said body portion, and oblique longitudinal corrugations in said body portion.

5. A metal weatherstrip of resilient metal having its side margins rebent flatwise to form a nailing flange and a contact edge respectively, and a body portion between said rebent margins having oblique longitudinal corrugations as and for the purpose set forth.

Signed at St. Louis, Missouri, this 29th day of July, 1929.

JOHN A. GOELLNER.