

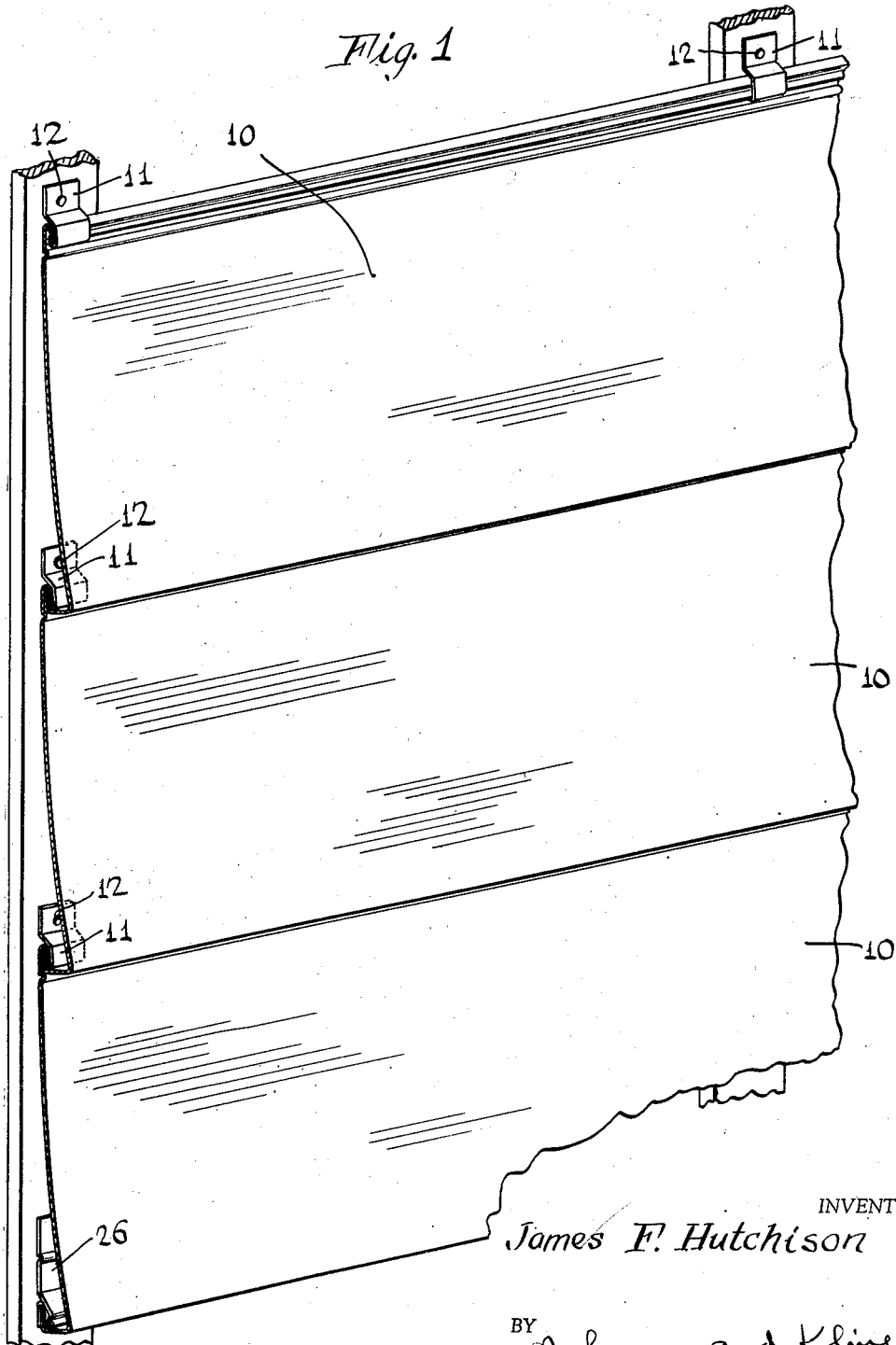
Jan. 21, 1958

J. F. HUTCHISON
SHEET METAL SIDING

2,820,535

Filed Sept. 18, 1953

2 Sheets-Sheet 1



INVENTOR

James F. Hutchison

BY

Johnson and Kline
ATTORNEYS

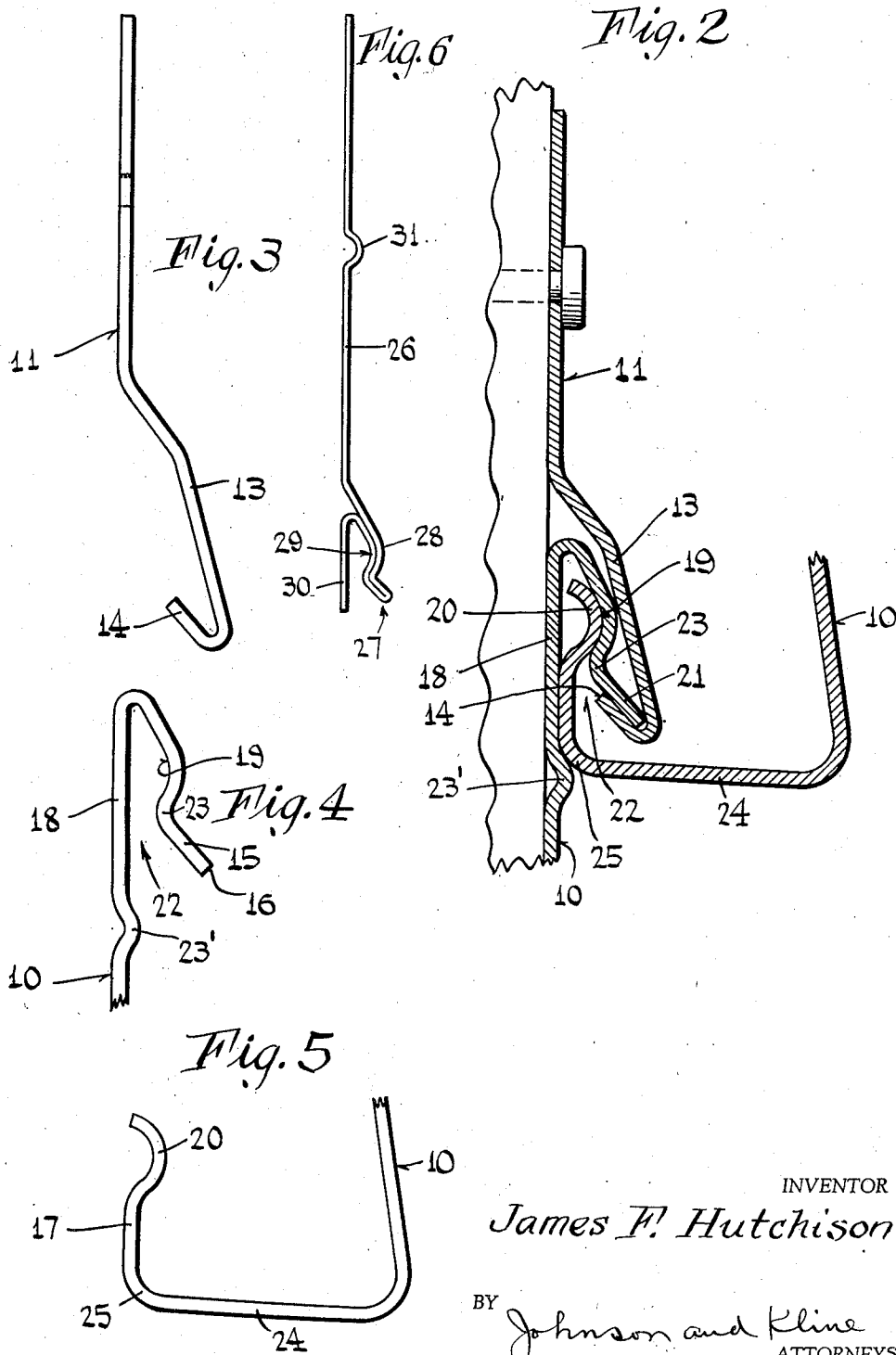
Jan. 21, 1958

J. F. HUTCHISON
SHEET METAL SIDING

2,820,535

Filed Sept. 18, 1953

2 Sheets-Sheet 2



INVENTOR
James F. Hutchison

BY *Johnson and Kline*
ATTORNEYS

1

2,820,535

SHEET METAL SIDING

James F. Hutchison, Houston, Tex., assignor to Consolidated Venetian Blind Co., Houston, Tex., a corporation of Texas

Application September 18, 1953, Serial No. 381,051

2 Claims. (Cl. 189-86)

This invention relates to sheet metal siding for buildings and other structures and more particularly to improvements in the joining of the overlapping siding strips.

It was proposed in U. S. Patent No. 1,539,632 to provide the upper edge of one sheet or strip of siding with a downwardly and outwardly bent top-flange to receive hook-shaped clips nailed to the supporting structure and holding the siding strip pendent therefrom; and to provide on the lower edge of the strip an inwardly spaced, upwardly extending bottom-flange to fit within the top-flange of a lower strip as laid to provide for the overlapping of the strips. The bottom-flange also had a terminal edge bent angularly inwardly and downwardly to form a wedge between the hooked clip and the body of the underlying strip.

An object of the present invention is to improve the siding strips in such a way that there is present an interlocking detent-like connection between the cooperating flanges of adjacent siding strips, which not only improves the weather-tightness of the overlapped adjacent edges of the strips but also facilitates the laying of strip after strip in horizontal parallelism and in proper spacing.

To this end the present invention provides the cooperating flanges on adjacent edges of the strips with rib and groove formations which engage upon the flexing of the metal and resiliently nest to unite the upper strip to the lower strip and hold the former in proper position while the upper edge is being fastened by the hooked clips. These rib and groove formations are preferably semicircular in cross-section so that they are self-locating, one within the other, when brought into proximate engagement. Preferably the rib and groove formations extend longitudinally of the strips from end to end to form resiliently engaged rounded substantially broad seats to exclude air-borne elements which may perchance reach them.

When, as shown, the top-flange is provided with a groove while the bottom-flange has the rib, the portion of the top-flange beyond the groove is bent outwardly to provide an outwardly flaring opening to facilitate the entrance of the bottom-flange in the next strip to be laid.

In the form of the invention herein disclosed the upwardly extending bottom-flange has a flat portion which lies flat against the body of the lower strip in intimate contact therewith by reason of the resilient pressure applied thereto due to the engagement of the rib and groove formations on the top and bottom flanges. Thus, according to the present invention, there is no space between the overlapping edges of the siding strips within which dust, insects or other foreign matter may be lodged and accumulate.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is a fragmentary perspective view showing the siding strips of the present invention as laid.

Fig. 2 is a vertical section showing the hook-shaped mounting clips, the lower end of the upper siding strip and the upper end of the lower siding strip.

2

Fig. 3 is an elevation showing the hook-shaped mounting clip.

Fig. 4 is an elevation showing the upper end of the siding strip.

Fig. 5 is an elevation showing the lower end of the siding strip.

Fig. 6 is an elevation showing the lowermost or starting clip.

As shown in the accompanying drawings, the siding strips 10 of the present invention are elongate strips of sheet metal preferably of aluminum or other non-corrosive metal and are laid one after the other from the bottom up against the framing or existing wall of a building structure in edge overlapping relation. There are several methods of fastening the siding strips to the supporting structure.

The present invention, however, is concerned with the type of fastening which includes hook-shaped clips 11 which are secured or otherwise fastened to the supporting structure, for instance by nails 12. The clips 11 have a flat portion which lies against the supporting structure and outwardly and downwardly bent portions 13 terminating in an upwardly and inwardly bent hook 14 spaced a determinate distance from the plane of the supporting structure.

The upper end of the siding strip 10 is bent outwardly and downwardly to provide a top-flange 15, the terminal edge 16 of which is shaped to be engaged by the hook 14 on the clip so that the strip will be held suspended or pendent from the clip when the clip is secured in place.

The lower end of the strip 10 has an inwardly spaced upwardly extending bottom-flange 17 which, when the strip is laid, extends upwardly between the upper portion 18 of the strip and the top-flange 15 of the lower strip, thereby producing an overlap between a lower and an upper strip. After the lower strip 10 is hung in position by the clips 11 the strip to be laid above it is lifted upwardly so that the bottom-flange 17 engages back of the top-flange 15 of the lower strip, then the upper edge of the strip being laid is engaged by the clips 11 which are then secured in place.

The horizontal spacing between the lower end of the strip 10 and the bottom-flange 17 is sufficient to accommodate the clip and the top-flange but it may be much greater than necessary as indicated in Fig. 2 depending upon the appearance to be given by the laid strips.

As stated above, the present invention is concerned with the joining of the overlapping siding strips in such a way that there is provided an interlocking detent-like connection between the cooperating flanges of adjacent siding strips to facilitate the laying of the strips one after the other and to produce a weathertight connection between them.

For these and other purposes the present invention provides on the top and bottom flanges rib and groove formations preferably extending continuously longitudinally along the flanges and positioned to interengage companion formations on adjacent strips when the strips are laid one after the other. As shown herein, a groove 19 is formed in the top-flange while a rib 20 is formed in the bottom-flange. The ribs and grooves are semicircular in cross-section and have substantially the same axis of curvature so that the rib and groove will have a tendency to snugly nest together when brought into proximate engagement.

Preferably the terminal portion 21 of the top-flange 15 between the groove 19 and the edge 16 is bent outwardly as shown in Figs. 2 and 4 to provide an outwardly flaring opening or throat 22 so that the rib-carrying end of the bottom-flange 17 may be easily guided into the groove 19 when the upper strip is being laid. The bulge 23 between the groove 19 and the portion 21 is so positioned

3

as to resist the entrance of the rib 20 into the groove. It is therefore necessary to flex the metal of the top-flange slightly when inserting the bottom-flange with its rib into the top-flange with its groove. When the rib has entered the groove the parts return to the position shown in Fig. 2 in which the rib and groove are snugly engaged and are held so due to the resiliency of the top-flange 15 which presses the bottom-flange 17 against the portion 18 of the siding strip. During the resilient yielding of the top-flange 15 the clips, which are also of sheet metal, resiliently yield outwardly.

The detent holding-action of the groove 19 and rib 20 is of great advantage and assistance when laying the strips which are quite long, sometimes as long as the side of the building to be covered, since many times only one person is needed to lay the siding of the present invention. By starting the bead 20 of the upper strip in the groove 19 of the lower strip at the ends of the strips at one side and progressively thrusting the bottom-flange into the top-flange until the other side is reached, the upper strip will be temporarily held by the rib and groove formations, the bottom-flange 17 bearing against the flat portion 18 of the lower siding strip, while the top-flange of the upper strip is being secured in place by the clips 11.

To further aid in leveling the siding strips, as they are being laid, the upper portion of the strip is provided with a longitudinal bead 23' which is located in position to be lined up with the horizontal portion 14 at the bottom of the upper strip, more particularly with the bend 25 between the portion 24 and the flange 17.

In rolling the strip the distance between the bend 25 at one end of the strip and the bead 23' at the other end of the strip is controlled to be uniform within mechanical tolerances in all the strips. Thus, even though there be a variation in the width of the strip from one end to the other, the bend 25 and the bead 23' will be in parallelism and the succession of strips laid with the bend 25 and the bead 23' as guides will also be in parallelism.

As pointed out above, with the siding strips of the present invention, there are two contacting sealing surfaces at each overlapping joint which exclude air-borne foreign elements. One of these is the contacting surfaces between the rib 20 and the groove 19 and the other that between the flange 17 and the surface 18 of the flange 15.

The bottom strip has its lower end secured to the supporting surface by a special starter strip 26 shown in detail in Fig. 6. This strip is formed of sheet metal and has its lower end 27 folded upwardly upon itself and formed to produce a double-ply hook portion 28 corresponding to the hook portion 15 of the siding strips 10 and having a groove 29 to receive the rib 19 of the lowermost siding strip. The strip 26 also has a downwardly extending portion 30 corresponding to the portion 18 of the strip 10. The upper end of the strip 26 has a stiffening bead 31.

In making the installation of the siding, the starter

4

strip 26 is secured in place to the supporting surface by nails or other fasteners passing through its upper portion and then the first or lowermost siding strip has its upwardly extending, rib-carrying flange 17 placed in the groove 29 of the starter strip by which it is held temporarily until the clips 11 secure the upper end of the siding strip.

The starter strip 26 may be made as long as the siding strip or it may be made narrow as in the case of the clips 11, in which case as many of the narrow strips as are needed will be used to anchor the lower end of the lowermost strip.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. A siding for a building comprising a plurality of elongate resilient sheet metal strips with the longitudinal edges of adjacent strips being interlocked to form a continuous siding, each of said strips having one longitudinal edge having an outwardly and downwardly turned portion forming a spaced top flange, the other longitudinal edge of the strip being formed to provide an inwardly spaced upwardly extending bottom flange, the bottom flange having its end portion longitudinally bent and the top flange having a longitudinal bend along an intermediate portion with the bends forming cooperating rib and groove formations, whereby the bottom flange of an upper strip laying as laid in the space between the top flange and the body of a lower strip provides for interlocking between adjacent strips and the rib and groove formation causes resilient nesting of the interlocked flanges, the end portion of the top flange flaring outwardly and at least one hook fastened to the building for holding the siding thereto, each hook having a bent end portion engaged with the flaring end portion and terminating short of the rib and groove formation.

2. The invention as defined in claim 1 in which there is an outwardly protruding bead formed in each strip located slightly below the end of the top flange which engages the bight portion of the bottom flange of an adjacent strip to provide an additional interlock between longitudinal edges of adjacent strips.

References Cited in the file of this patent

UNITED STATES PATENTS

369,477	Smeeton	Sept. 6, 1887
424,149	Toner et al.	Mar. 25, 1890
2,099,211	Lucius	Nov. 16, 1937
2,126,676	Thomas	Aug. 9, 1938
2,128,495	Murphy	Aug. 30, 1938
2,250,764	Hocss	July 29, 1941
2,565,610	Kinghorn	Aug. 28, 1951

FOREIGN PATENTS

102,385	Australia	Oct. 28, 1937
---------	-----------	---------------