

Feb. 9, 1937.

W. B. JOHNSON

2,070,130

SHINGLE

Filed Jan. 2, 1936

3 Sheets-Sheet 1

Fig. 1.

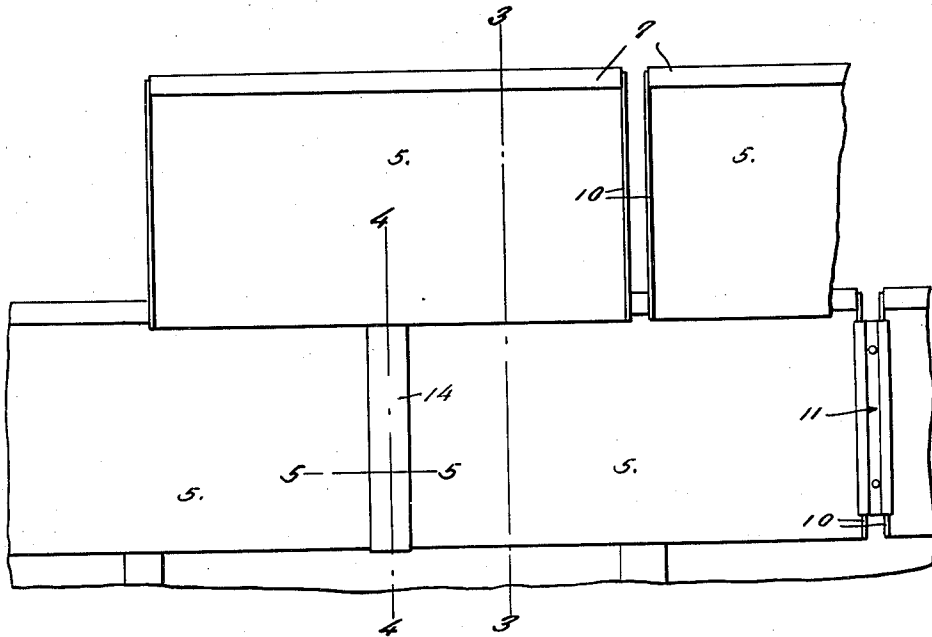


Fig. 5.

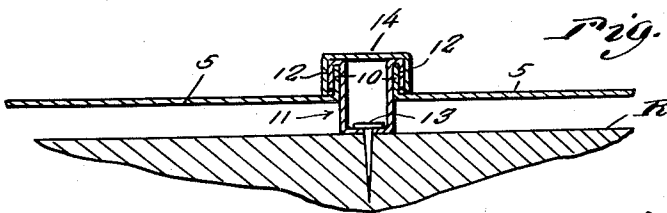
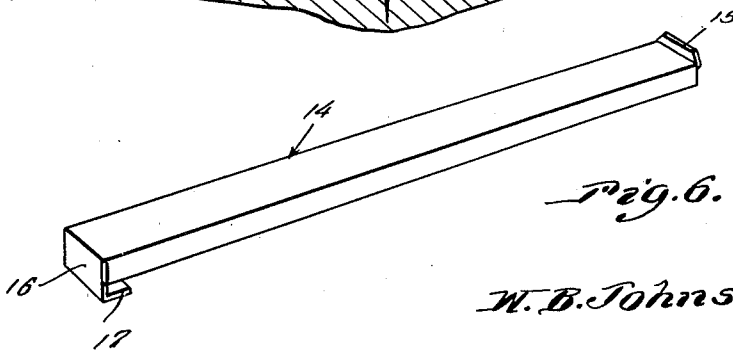


Fig. 6.



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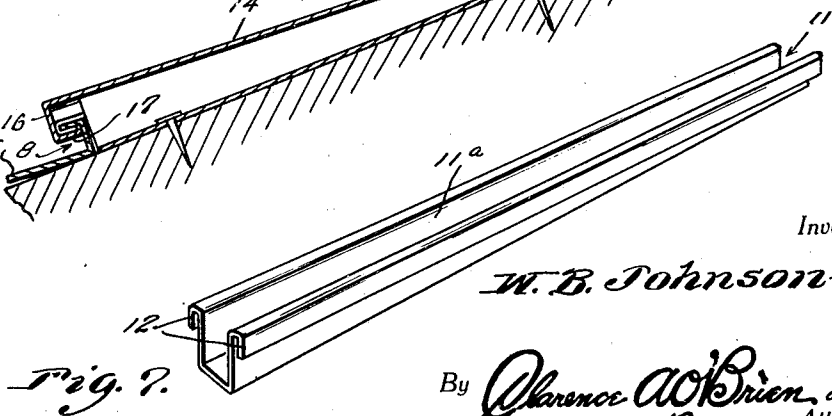
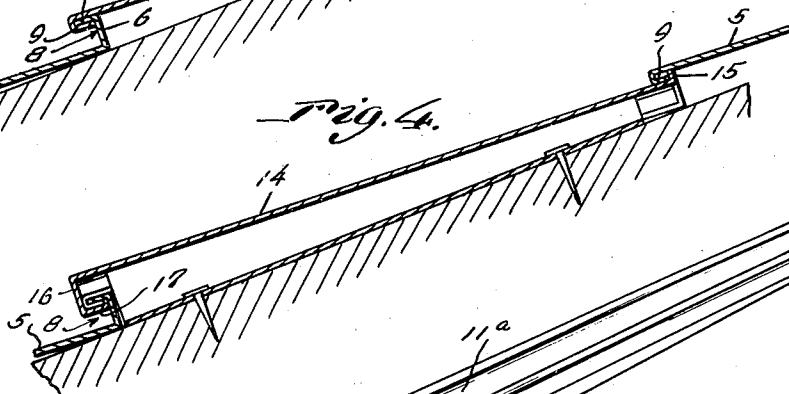
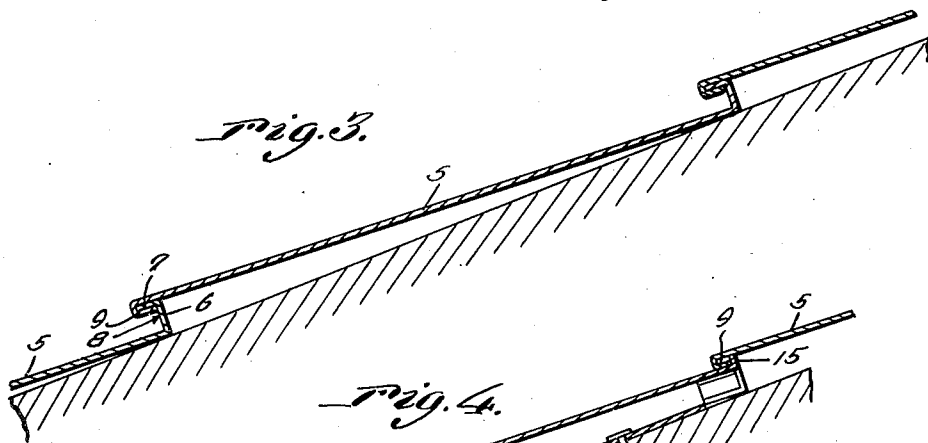
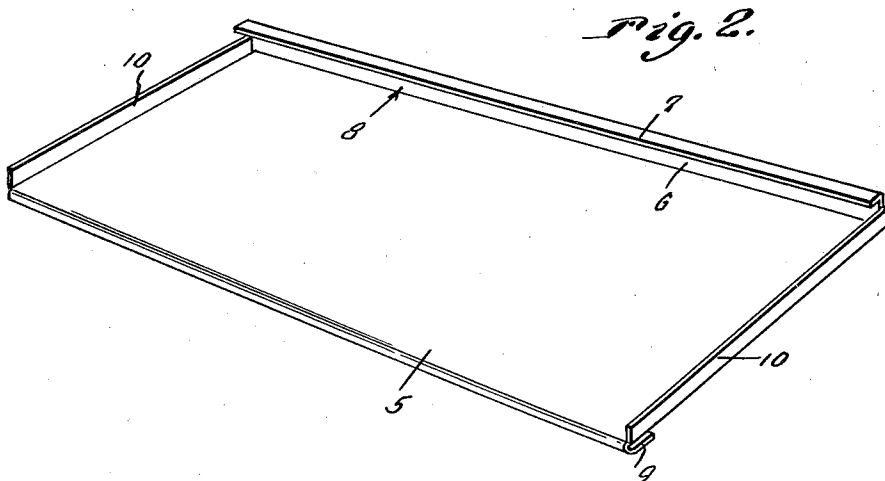
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Fig. 8.

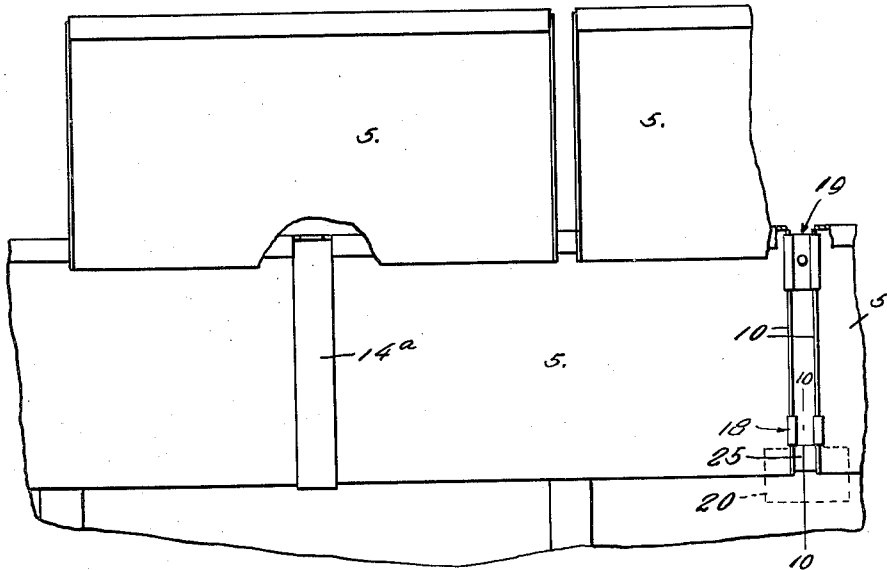


Fig. 9.

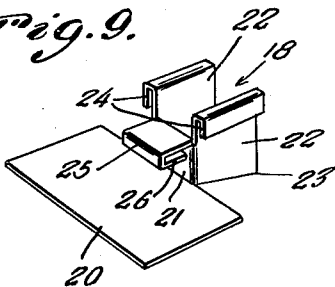


Fig. 10.

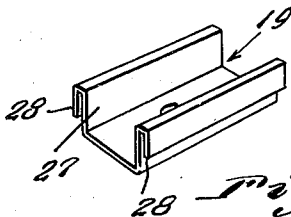
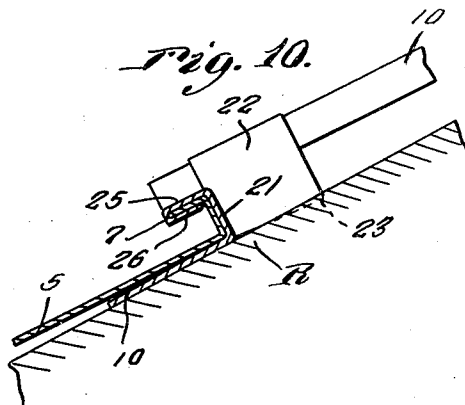


Fig. 11.

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UNITED STATES PATENT OFFICE

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SHINGLE

Warren B. Johnson, Lubbock, Tex.

Application January 2, 1936, Serial No. 57,304

2 Claims. (Cl. 108—17)

This invention relates to roofing shingles and an object of the present invention is to provide a roofing shingle having an improved edge structure whereby an efficient joint may be provided between the lapped and overlapping shingles.

A further object of the invention is to provide an improved joint at the confronting end edges of adjacent shingles.

The present application is a continuation in part of application Serial No. 10,113 filed by me under date of March 8, 1935 and entitled "Shingle", and also includes certain new and useful improvements over the structure disclosed in said application.

The present invention together with its objects and advantages will be best understood from a study of the following description, taken in connection with the accompanying drawings wherein:

Figure 1 is a plan view illustrating an application of the invention.

Figure 2 is a perspective view of a shingle embodying the features of the present invention.

Figures 3, 4 and 5 are detail sectional views taken substantially on the lines 3—3, 4—4 and 5—5, respectively of Figure 1.

Figure 6 is a perspective view of a joint member.

Figure 7 is a perspective view of a complementary joint member.

Figure 8 is a view similar to Figure 1, and illustrating a slightly modified form of joint member.

Figure 9 is a perspective view of said modified form of joint member.

Figure 10 is a detail view taken substantially on the line 10—10 of Figure 8, and

Figure 11 is a perspective view of a third joint member and adapted for use with the joint member of Figure 9.

Referring to the drawings by reference numerals it will be seen that the shingle embodying the features of the present invention comprises an oblong or rectangular body 5 of metal, composition or other suitable material and provided at one longitudinal edge with an upstanding flange 6 provided with an integral right angularly disposed lip 7 overlying the body plate 5 and forming at said one edge of the shingle a channel indicated generally by the reference numeral 8.

At the opposite longitudinal edge thereof the body plate 5 is reversely bent to provide at said edge, and on the under side of the body plate a channel or groove 9.

At its respective opposite end edges the body plate 5 is provided with upstanding flanges 10.

As shown in Figure 1 the shingles 5 are laid in courses in spaced end to end relation, and with, as best shown in Figure 3, the tongues 7 of two adjacent shingles 5 in one course engaging for substantially half of their respective lengths in

the channel 9 of the shingle 5 in the next course, and which latter shingle bridges the joint between the first named two shingles. Thus in this manner is an efficient joint provided between the lapping and lapped edges of the shingles.

It will be further noted from a study of Figure 1 that the shingles 5 in each course are arranged with their adjacent ends in slightly spaced relation and arranged between the confronting ends of adjacent shingles, and fitting in the space between the confronting flanges 10 of said adjacent shingles is a joint member 11.

The joint member 11 as best shown in Figure 7 is substantially wedge shaped in side elevation and is substantially channel shaped in cross section.

The side walls 11a of the member 11 are reversely bent upon themselves as at 12 to provide external channels in which engage the flanges 10 as clearly shown in Figure 5.

The members 11 are secured to the roofing R by nails or other fastening elements 13 driven into the roofing through the bottom of the channel of the member 11 as also clearly shown in Figure 5.

Complemental to the joint member 11 is a cap 14. The cap 14 as clearly shown in Figures 5 and 6 is channel shaped in cross section and is adapted to straddle the member 11 as also best shown in Figure 5.

At one end thereof the member 14 is provided with an upstanding flange 15 while at its respective opposite end the member 14 is provided with an end wall 16 that is extended downwardly beyond the edges of the sides of the channel 14 and provided with an inwardly directed flange 17.

As shown in Figure 4 the upstanding flange 15 is in abutting relation with the reversely bent edge 9 of the shingle 5 in the next adjacent course while the flange 17 of the member 14 is accommodated in the channel 8 of a shingle 5 lying in the next lower course, the flange 17 being spaced downwardly from the lower edges of the sides of the channel member 14 so as to make provision for the joint formed by the inter-engagement of the lip 7 of a shingle 5 with the channel 9 of a second shingle 5, or in other words to accommodate the joint formed between the lapped and lapping edges of the shingles.

In connection with the above it will be apparent that the cap 14 in addition to its cooperation with the joint member 11 for connecting the confronting ends of adjacent shingles 5 will also serve to protect the fastening elements 13 from the elements.

The invention as just described may be better understood by again referring to Figure 1 wherein it will be seen that at the right hand end of the figure the member 11 is shown in place while nearer to the center of the figure the space be-

tween adjacent ends of the shingles 5 in the same course is clearly illustrated with the joint member 11 removed; while a little to the left of the section line 3—3, the complete joint assembly is clearly illustrated.

In the form of the invention shown in Figures 8 to 11 inclusive the joint member 11 is dispensed with, and in its stead there is used a pair of joint members indicated generally by the reference numerals 18 and 19 respectively.

The joint member 18 as best shown in Figure 9 is cut from a single blank of metal or other suitable material cut, shaped and dimensioned to provide a flat rectangular body portion 20 having extending upwardly from one edge thereof, and intermediate the respective opposite ends of the plate 20, a flange 21 having extending from one side thereof opposed side members 22 the lower edges of which are beveled to provide penetrating points 23, and the upper edges of which are reversely folded back upon themselves to provide external channels 24. Also the flange 21 has an upper portion bent at right angles thereto and overlying the plate 20 as at 25 and the extension 25 at its free edge is provided with a return bend forming a hook or channel 26.

The member 18 is adapted to be disposed in the space between the confronting end of adjacent shingles 5 with the plate 20 disposed under the shingle 5 in the next course breaking joint with the aforementioned aligned shingle 5 as clearly shown in Figures 8 and 10; and with the side members 22 in intimate contact with the confronting flanges 10 of the aforementioned aligned shingles 5. In this connection it will be noted that the points 23 of the sides 22 embed themselves in the roofing R while the flanges 10 are received in the channels 24 of the members 22. Also the part 25 of the member 18 overlies the exposed portion of the lip 7 of the next lower shingle 5 with said lip being received in the channel 26 is also clearly disclosed in Figure 10.

The member 19 is somewhat similar to the hereinbefore described joint member 11, said joint member 19 being channel shaped in cross section and wedge shaped in side elevation tapering from one end to the other. However the member 19 is relatively short and the bottom of the member is apertured to accommodate a suitable fastening element for securing the member 19 in the space between the flanges 10 of the aligned shingles 5. Also the member 19 has its side 27 reversely bent upon themselves so as to provide channels 28 for receiving the flanges 10 at the lower ends of the flanges, or in other words at the ends of the flanges remote from the member 18 as best shown in Figure 8.

It will thus be seen that the members 18 and 19 will serve to effectively secure the shingles in place and for use in conjunction with the members 18 and 19, and common thereto may be used a cap member 14a identical with the aforementioned and herein specifically described cap member 14. (See Figure 8.)

As will be understood the joint members 18 and 19 may be used in pairs and preferably with a cap member 14a under ordinary circumstances, the joint member 11 being resorted to only when special reinforcement is needed or required.

It is thought that a clear understanding of the invention, its utility and advantages will be had from foregoing.

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

1. A roofing shingle and interconnecting fastening means therefor comprising a body plate having an upstanding edge portion provided with a flange extending at right angles thereto and overlying the body plate, and a second edge portion bent to overlie the body of the shingle at an underlying side thereof opposite to the first named overlying flange and providing with the body of the shingle a channel for receiving the flanges of similar shingles to provide a joint between the lapping and lapped edges of the shingles, said shingle being also provided at its respective opposite end edges with upstanding flanges, and joint members for securing the confronting ends of adjacent shingles together, one of said joint members comprising a body plate adapted for disposition between a shingle and the roofing structure and having at one edge an upstanding flange having side members projecting laterally therefrom for disposition between the end flanges of adjacent shingles, said side members having reversely bent edges forming external channels to receive end flanges of adjacent shingles, and said upstanding flange of the joint also having a part projecting outwardly therefrom in a direction perpendicular to said side and provided with a reversely bent end portion forming a channel to receive the right angularly disposed flange of a third shingle bridging the joint with the aforementioned adjacent shingles, and said sides of the joint member also having at their lower corners points adapted to be driven into the roofing structure.

2. A roofing shingle and interconnecting fastening means therefor comprising a body plate having an upstanding edge portion provided with a flange extending at right angles thereto and overlying the body plate, and a second edge portion bent to overlie the body of the shingle at an underlying side thereof opposite to the first named overlying flange and providing with the body of the shingle a channel for receiving the flanges of similar shingles to provide a joint between the lapping and lapped edges of the shingles, said shingle being also provided at its respective opposite end edges with upstanding flanges, and joint members for securing the confronting ends of adjacent shingles together, one of said joint members comprising a body plate adapted for disposition between a shingle and the roofing structure and having at one edge an upstanding flange having side members projecting laterally therefrom for disposition between the end flanges of adjacent shingles, said side members having reversely bent edges forming external channels to receive end flanges of adjacent shingles, and the other of said joint members consisting of a channel member adapted to be disposed between the end flanges of said adjacent shingles remote from the first named joints, said channel member having sides reversely bent and forming external channels between the said end flanges of said adjacent shingle, and a channel shaped cap covering the entire length of the joint and having sides laterally engaging reversely bent edges of the sides of the joint members.

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