C. L. NEUMEISTER.

STRAIGHT EDGE.

APPLICATION FILED APR. 13, 1920.

1,396,274. Patented Nov. 8, 1921.

Fig. 1.

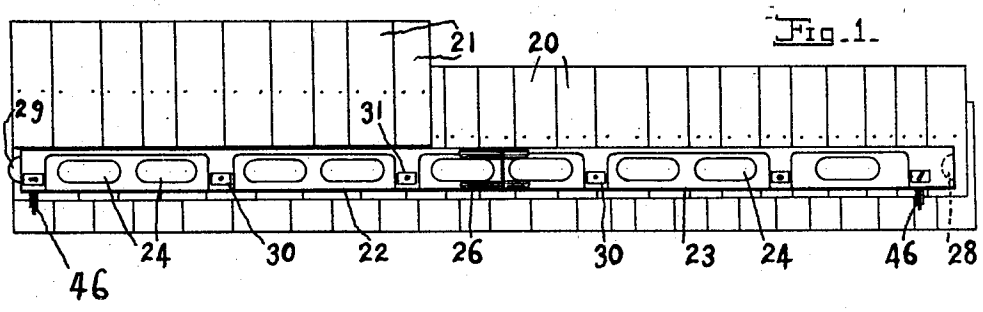


Fig. 2.

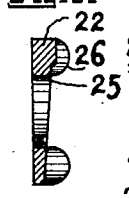


Fig. 3.

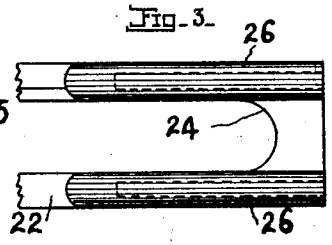


Fig. 4.

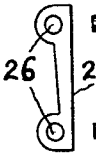


Fig. 5.

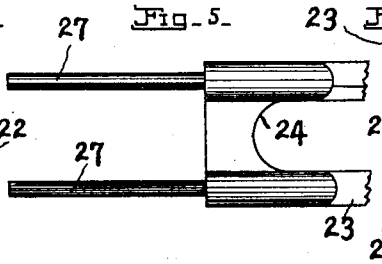


Fig. 6.



Fig. 7.



Fig. 8.

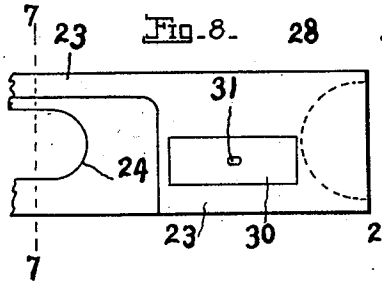


Fig. 9.

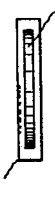


Fig. 10.

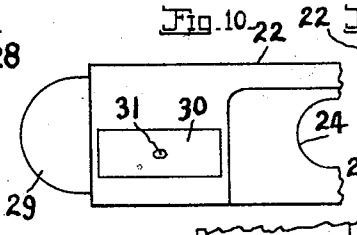


Fig. 11.



Fig. 12.

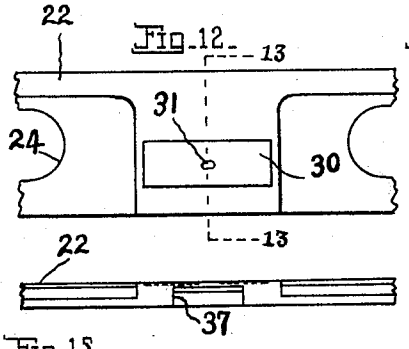


Fig. 13.

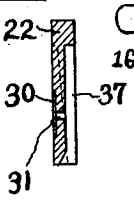


Fig. 14.

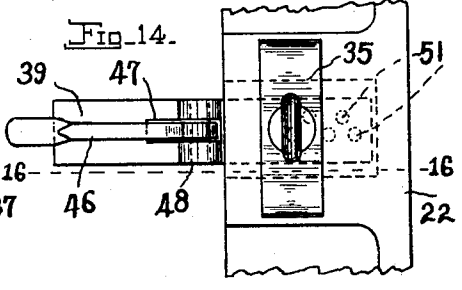


Fig. 15.

Fig. 16.

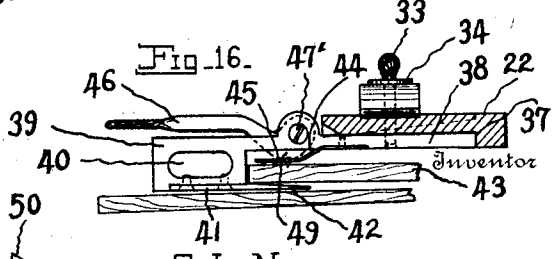


Fig. 17.

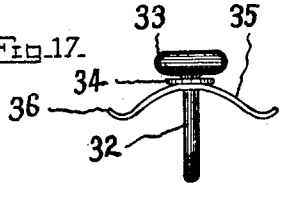
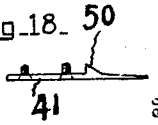


Fig. 18.



Inventor

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By Arthur H. Sturges, Attorney

UNITED STATES PATENT OFFICE.

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STRAIGHTEDGE.

1,396,274. Specification of Letters Patent. Patented Nov. 8, 1921.

Application filed April 13, 1920. Serial No. 373,478.

To all whom it may concern:

Be it known that I, CARL L. NEUMEISTER, a citizen of the United States, residing at Scotland, in the county of Bonhomme and State of South Dakota, have invented certain new and useful Improvements in Straightedges, of which the following is a specification.

The present invention relates to improvements in straight edges, and more particularly relates to straight edges used in connection with the placement of shingles on the roofs and walls of buildings.

It is an object of the present invention to provide an improved straight edge which will support the shingles with their edges in alinement, and in a straight row, and to hold them in this position while they are being nailed to the roof or other part of the building. Heretofore, much time and attention of workmen was consumed in maintaining the shingles in a straight line, which detracted from the speed with which they were able to secure the shingles. The invention aims to hold the shingles in the proper place for nailing, and causes them to assume a more correct position than if left to the eye and hand of the individual workman.

Another object of the invention consists in providing an improved straight edge that is capable of collapsing into relatively small compass, whereby it may be carried with facility by the workman, the construction being simple and inexpensive, and adapted for ready attachment and removal from the shingles as the work progresses.

Further objects of the invention are to avoid the requirement of nailing the straight edge to the roof as is done with the present wooden straight edge, this condition resulting in leaky and split shingles that are difficult for the workmen to handle.

With the foregoing and other objects in view, the invention consists in the constructions, combinations, and arrangements herein described, and more particularly pointed out in the claims.

Referring more particularly to the drawings, wherein like parts are referred to by like symbols throughout the several views,

Figure 1 shows a plan view of the invention as applied to shingles on a roof.

Fig. 2 is a sectional view looking at the left-hand broken away end of Fig. 3.

Fig. 3 is a fragmentary plan view of one of the sections.

Fig. 4 is a end view of the same.

Fig. 5 is a fragmentary plan view of an adjoining section.

Fig. 6 is a section therethrough looking at the broken away right-hand end of Fig. 5.

Fig. 7 is a sectional view taken on the line 7—7 in Fig. 8.

Fig. 8 is a fragmentary plan view of another of the sections.

Fig. 9 is an end view of the same.

Fig. 10 is a fragmentary plan view of a coöperating section.

Fig. 11 is a section taken transversely therethrough.

Fig. 12 is a fragmentary plan view of a socketed section.

Fig. 13 is a transverse sectional view taken on the line 13—13 in Fig. 12.

Fig. 14 is a plan view of a clamp and adjacent parts.

Fig. 15 is an edge view of the device shown in Fig. 12.

Fig. 16 is an edge view of the device shown in Fig. 14 with parts shown in section.

Fig. 17 is a side view of a spring and lock bolt, and

Fig. 18 is an edge view of a clip employed in conjunction with the invention.

Referring in detail to the drawings, 20 designates a row of shingles affixed in place on a roof or other part of a building, and 21 represents a second partial row of shingles secured in place above the first-mentioned row 20.

The improved straight edge is also shown in Fig. 1 as being composed of a pair of sections 22 and 23, although it will be understood that a single section may suffice for some work, while the device may be built up of a greater number of sections if required. The two sections 22 and 23 are preferably made of some metal, for instance, aluminum alloyed with steel and elongated slots 24 are made in the sections to give the requisite lightness without reducing the strength thereof.

As is clear from the sectional views in Figs. 2 and 6, the sections 22 and 23 are provided with tapering outer faces 25. The upper ends or thicker portions of the sections are preferably of the thickness of the butt ends of standard shingles, while the lower reduced ends are approximately one-

half of this thickness. As shown in Figs. 3 and 4 one end of the section 22 is provided with tubular socketed parts 26 in which to receive pins 27 projecting from the adjacent end of the section 23. This connection permits the sections to be quickly and conveniently attached and detached, and accurately preserves the alinement of the sections when fitted together in the manner shown in Fig. 1.

As shown in Figs. 1, 8, and 9, the right hand end of the section 23 is formed with a substantially semi-circular recess 28, in which to receive a similarly formed tongue 29 projecting from the opposite end of the section 22. The sections 22 and 23 are of any suitable length, preferably about 5 feet long, and are formed at suitable intervals with depressions 30 that are advantageously rectangular in form as is clearly shown in Figs. 8 and 10.

Central of the depressions the sections are provided with elongated perforations 31 in which to removably receive bolts 32 shown more particularly in Fig. 17. The bolts have winged heads 33 to facilitate the rotation of the same, and moreover are formed with collars or washers 34 to bear upon the central higher portions of bow-springs 35 having upturned ends 36. The bow-springs 35 have their upturned ends 36 fitted in the depressions 30 as shown in Figs. 14 and 16.

The purpose of making the perforations 31 elongated is to prevent injury to the threads of the bolts 32 when raising and handling the tool. As shown in Figs. 12, 13, and 16, the under sides of the sections centrally beneath the depressions 30 are provided with sockets 37 adatped to receive arms 38 projecting from clamp frames 39. These frames are cut out as indicated at 40 in suitable places to yield the necessary lightness.

A plate 41 is secured to the clamp frame 39 at the base thereof, and projects forwardly where it preferably tapers as indicated at 42 to enable it with facility to engage beneath a shingle, such, for instance, as indicated at 43. The arm 38 carries a spring jaw 44 offset downwardly to engage the top of the shingle 43, and provided with prongs 45 or a roughened surface for enabling it the better to grip the shingle.

The jaw 44 is arranged above the clamp plate 42, and the shingle 43 is gripped therebetween, and supports the clamp frame 39 together with the straight edge sections. A handle or lever 46 operates in a slot 47 in the frame 39 and arm 38, and is journaled on a pivot 47′ mounted in lugs 48 at opposite sides of the slot 47. A cam or eccentric 49 is carried by the lever 46 near the pivot 47′, and is adapted to engage the upper face of the jaw 44 in order to depress the same into contact with the shingle 43.

In Fig. 18 a modified form of the plate 41 is shown, inasmuch as in this figure the plate is provided with a projection 50 for the purpose of raising the end of the thin shingle, so that the eccentric 49 will press the jaw 44 into active gripping contact with the same.

With the standard form of shingles, the plate 41 may be used without this projection 50 as the shingle is of the requisite thickness to be caught between the jaws of the clamp.

In Fig. 14 the arm 38 is shown in dotted lines as provided with a plurality of perforations 51 arranged in staggered order, these perforations being threaded and preferably arranged a quarter of an inch apart. These perforations are employed for the purpose of selecting and gaging the amount of length of the shingle to lay to the weather, which on barns is generally 5 inches, and on houses 4¼ inches.

In operation, a shingle is nailed to the roof where the clamp is to be placed, which shingle is shown at 43 in Fig. 16. The clamp is then applied to the end of the shingle 43 by inserting such end between the jaws 42 and 44, and subsequently swinging the handle 46 down to the position where the eccentric 49 will cause the upper jaw 44 to bite into the upper surface of the shingle 43. As many of these clamps as are necessary may be secured at appropriate points along the roof, and the straight edge sections 22 and 23 are applied over the clamps with the sockets 37 fitting the arms 38 of such clamps.

The bolts 32 engaging through elongated perforations 31 are threaded into the arms 38, and pressed down upon the bow-springs 35 which have their upturned ends 36 engaging in the depressions 30 in the straight edge sections.

The device is thereupon in place, and a row of shingles, such, for instance, as indicated at 21, may be applied to the straight edge which holds all of these shingles in alinement without any attention on the part of the workmen. The shingles are then nailed in place rapidly and at an economy of time and labor.

I do not wish to be restricted to the size, form, and proportions of the various parts, and obviously changes could be made in the construction above described without departing from the spirit of the invention, it being only necessary that such changes fall within the scope of the appended claims.

What is claimed is:

1. In combination with a plurality of sections constituting a straight edge, said sections having depressions in their upper faces and provided with recesses in their lower faces, clamp frames having arms located in said recesses, bolts extending through said sections and arms, bow springs engaging

centrally with the bolts and having their free ends fitted in said depressions, spring jaws carried by the under sides of said arms and having prongs extending downwardly and adapted to engage the upper face of a shingle, a plate secured beneath said clamp frame and having a tapered extension piece underlying the spring jaw and adapted to engage beneath the shingle, and a lever pivotally mounted in said clamp frame and provided with an eccentric extending downwardly and adapted to engage said spring jaw for forcing it into the shingle.

2. In combination with a plurality of sections fitted together and providing a straight edge, said sections having depressions in their upper faces elongated in the longitudinal directions of the sections, said sections further provided with recesses in their under faces, clamp frame, arms extending from said clamp frames and received into the recesses in said sections, bolts passing through said sections and engaging said arms, bow springs having their intermediate higher portions engaging about said bolt and yieldingly moving the same downwardly, the outer free ends of said bow springs being upturned and fitted in the ends of said depressions, spring jaws carried by said arms and offset downwardly, said jaws provided with prongs adapted to engage the upper face of a shingle, plates carried by the lower portion of said clamp frames, said plates having tapering end portions projecting in spaced relation beneath said spring jaws for engaging the under faces of the shingle, and levers pivoted in said clamp frames and having eccentric portions extending downwardly adjacent their pivoted parts for engaging with the upper faces of said spring jaws.

In testimony whereof, I have affixed my signature in presence of two witnesses.

CARL L. NEUMEISTER.

Witnesses:
J. L. QUINN,
F. D. WICKS.