C. E. COLE.

ROOF FLASHING.

APPLICATION FILED OCT. 26, 1916.

1,287,235. Patented Dec. 10, 1918.

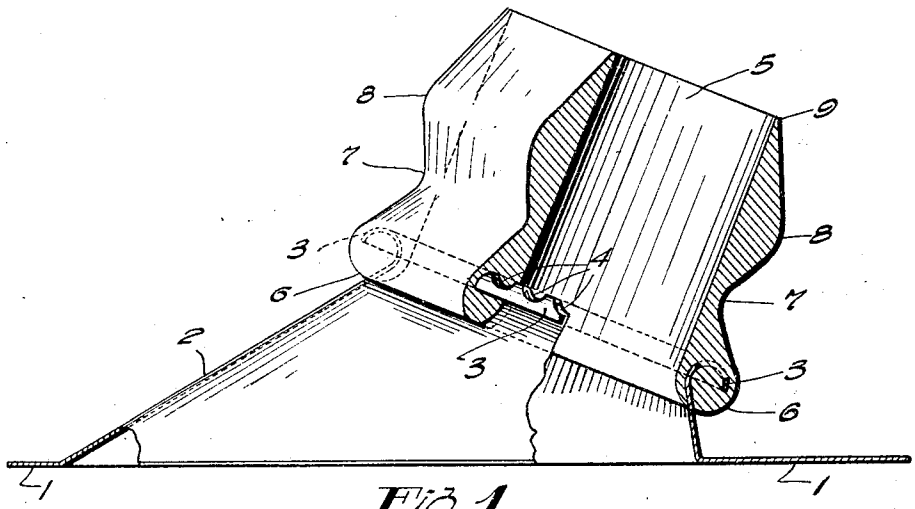


Fig. 1.

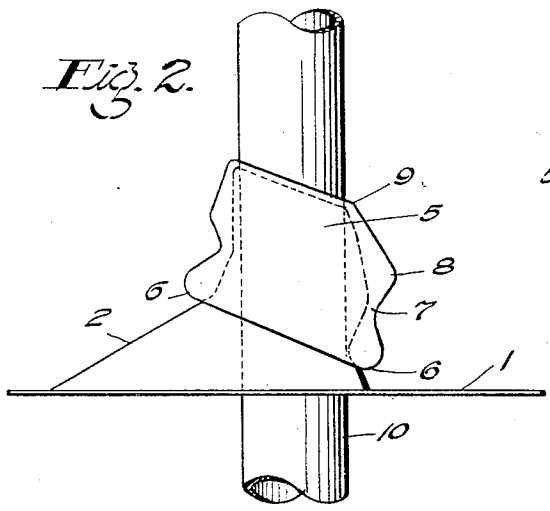


Fig. 2.

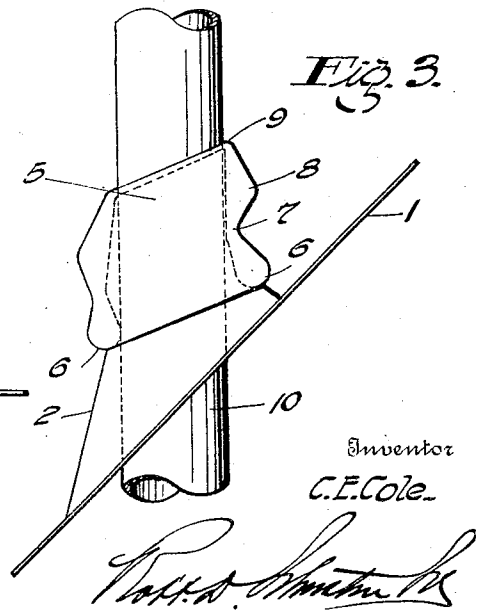


Fig. 3.

Witness

J. Bondurant Sparkes

By

Inventor

C. E. Cole.

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLIFFORD E. COLE, OF BIRMINGHAM, ALABAMA.

ROOF-FLASHING.

1,287,235. Specification of Letters Patent. Patented Dec. 10, 1918.

Application filed October 26, 1916. Serial No. 127,764.

To all whom it may concern:

Be it known that I, CLIFFORD E. COLE, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Roof-Flashings, of which the following is a specification.

This invention relates to roof flashings and has for its object to produce a flashing which will be free from any joint liable to cause leakage and which can be readily shaped to accommodate itself to any normal variation in the angle between the pipe to be flashed and the roof.

One feature of my invention relates to the base portion which is formed of a sheet of metal having pressed or stamped up therein a flange surrounding the opening in the pipe to be flashed, which flange is preferably of frusto-conical, pitched at an angle of approximately 67½° to the base plate and has its upper edge rolled over outwardly and perforated. This perforated edge of the flange is set in a mold where a flexible lead pipe or calking cap can be cast or molded hot, making, by means of the perforation and rolled edge, which is previously tinned so the metal will cohere, a solid, tight joint therewith.

Another important feature of my invention relates to the shape of the lead calking cap which is specially designed so that it can be readily bent to the different angles required. I accomplish this by reducing the cap materially in thickness adjacent to its cast joint above the base flange. Reducing the thickness of the cap above the connection makes it very easy to work and by leaving sufficient clearance between the cap and pipe to be calked, the cap can be readily set to the required angle for any pipe, and by materially increasing the thickness of the cap above the reduced portion I give it the strength and thickness so that it can be calked against the pipe and thereafter remain in position to form a tight joint. Moreover the frusto-conical shape of the pressed base flange also stiffens and holds the lead cap so it can be calked without crushing the base down at its weak point as is the case with soldered and unreinforced flanges. My arrangement thus provides a flashing without a joint in the bottom of the stiff metal base which is the cause of nearly all flashing leaks. Moreover, I avoid the solder joints provided in some flashings between the flange and the plate at the base, for I have found in practice that these soldered joints are, because of their weakness, frequently the cause of leaks. It will be understood that if desired I can, in addition to my cast joint, solder the lead cap to the base flange or cone, such arrangement not being objectionable in that the joint is raised from the base of the plate and would not depend entirely on the solder and thus the liability of leakage and separation is obviated.

My invention further comprises the novel details of construction and arrangements of parts, which in their preferred embodiment only are shown in the accompanying drawings, in which:—

Figure 1 shows the flashing in side elevation partly broken away to show the parts in section.

Figs. 2 and 3 illustrate the cap as bent to different angles.

Similar reference numerals refer to similar parts throughout the drawings.

As illustrated, the flashing comprises a metal base plate 1 which is stamped or pressed to form a flange surrounding the hole through which the pipe to be flashed passes, this flange generally being an integral frusto-conical flange 2 which is pitched at an angle of about 67½° to the plane of the base plate. The annular top edge of the conical flange lies in a plane at an angle to the base and is rolled over outwardly to provide an out-turned curved flange 3 in which I stamp or punch a series of holes 4. This flange stands with its lower portion raised above the plane of the base and in order to prepare it to make a cast joint with a lead calking cap, I tin it or otherwise treat it so that a proper cohesion of the metals will result. Having tinned the flange 3 of the base, the latter is set in a mold, not shown, and the lead pipe or calking cap 5 is cast or molded hot so as to make a solid, tight joint at its base portion 6 with the flange 3 which is embedded therein. The metal passes through the holes 4 and about the out-turned flange so as to make a very strong and tight joint between the lead and iron parts which will withstand without leakage the bending and twisting strains to which this joint is especially subjected. The perforations are preferably large and closely arranged so that so much

of the lead passes through them as to strongly tie together the lead lying on opposite sides of the flange, thus avoiding a joint in which the lead is liable to be bent away from or displaced entirely relatively to the iron flange in being handled and applied. From this rounded base portion 6 the cap is reduced in thickness to provide a weakened flexible zone which, in my preferred arrangement, is spaced about one-half an inch from the top of the flange 3. Above this weakened zone the cap is thickened to form a bulging reinforcing portion 8 and at its outer end is tapered to reduce it in thickness and facilitate the calking operation. The cap and the cone flange 2 are made so that they will pass over the beaded end of a soil pipe and the cap is adapted to accommodate itself to the difference in size between what is known as standard and extra heavy pipe. The internal diameter of the cap is sufficiently larger than the pipe to permit the cap being set to the different angles made necessary by different pitches of the roof, this enlarged internal diameter being clearly illustrated by dotted lines in Fig. 2 where flashing is applied to a horizontal roof. Under such conditions no particular advantage is gained by the frusto-conical shape of the flange to which the cap is cast-jointed.

In operation, the flashing, having been assembled in the manner described, has its base 1 mounted on the roof and the pipe 10 to be flashed is passed up through the conical flange 2 and the calking cap 5, after which the latter has its outer end calked against the pipe, it being noted that the thickened portion 8 will give sufficient body to the cap to hold its shape after calking and insure the joint remaining tight. Moreover, the integral conical base flange 2 will resist any tendency to be crushed and will also reinforce the base 6 of the cap and prevent any tendency on its part to be crushed out of shape or to open up the joint.

In applying the flashing, where the angle between the roof and the pipe differ from the angle provided in the flashing, the weakened zone 7 in the lead cap permits it to be readily bent in the direction desired to accommodate itself to the various relative angles of the roof and pipe and as this zone is spaced from the joint with the cone flange on the base there will be no tendency to open the joint in the latter in shaping the cap. The advantage of the integral base and cone flange is that it enables me to dispense with all joints in the flashing sufficiently near the roof to cause leaks if the joint is opened for any reason.

It is understood, if desired, I may additionally insure the cast joint between the cap and joint against leakage by soldering it but this is optional and not essential to my flashing.

Without intending to limit myself to the details of construction, what I claim as new and desire to secure by Letters Patent, is:—

1. In a flashing, in combination, a base having an integral raised flange forming a frusto-conical member free of joints and inclined relatively thereto, the upper edge of which flange is rolled and perforated, and a lead calking cap having a thickened base cast over said rolled edge and through said perforation, substantially as described.

2. A flashing comprising a base having an integral raised flange forming a frusto-conical member inclined relatively to the base, and an elongated lead calking cap cast with the upper edge of the member embedded in its base and having an intermediate circumferential weakened zone of reduced thickness.

3. A flashing comprising a base, a flange integral with the base and shaped to form a frusto-conical member set at an angle to the base, and an elongated lead calking cap having its base cast with the upper edge of the conical member embedded therein and having a weakened zone of reduced thickness adjacent to its point of connection to the conical member and having its outer calking edge thickened beyond said weakened zone, substantially as described.

4. In a roof flashing, a stiff metallic base having a flange surrounding the opening therein, and a flexible calking cap having its base portion thickened and cast-jointed to the flange portion of the base and having a diameter substantially greater than the pipe to be calked, said cap having a weakened circumferential zone adjacent to its connection to the base portion, as and for the purposes described.

5. In a roof flashing, a stiff metallic base having a raised flange integral therewith and forming a conical member which is inclined relatively to the base, and a flexible extension pipe cast with the top of said member embedded therein and forming a similarly inclined extension of said member, said pipe being circumferentially weakened at an intermediate point and having its base sufficiently larger than the pipe to be calked to leave the latter free to assume different angular adjustments therein without displacing any part except the free end of the pipe beyond its weakened portion.

In testimony whereof I affix my signature.

CLIFFORD E. COLE.

Witness:
NOMIE WELSH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."