

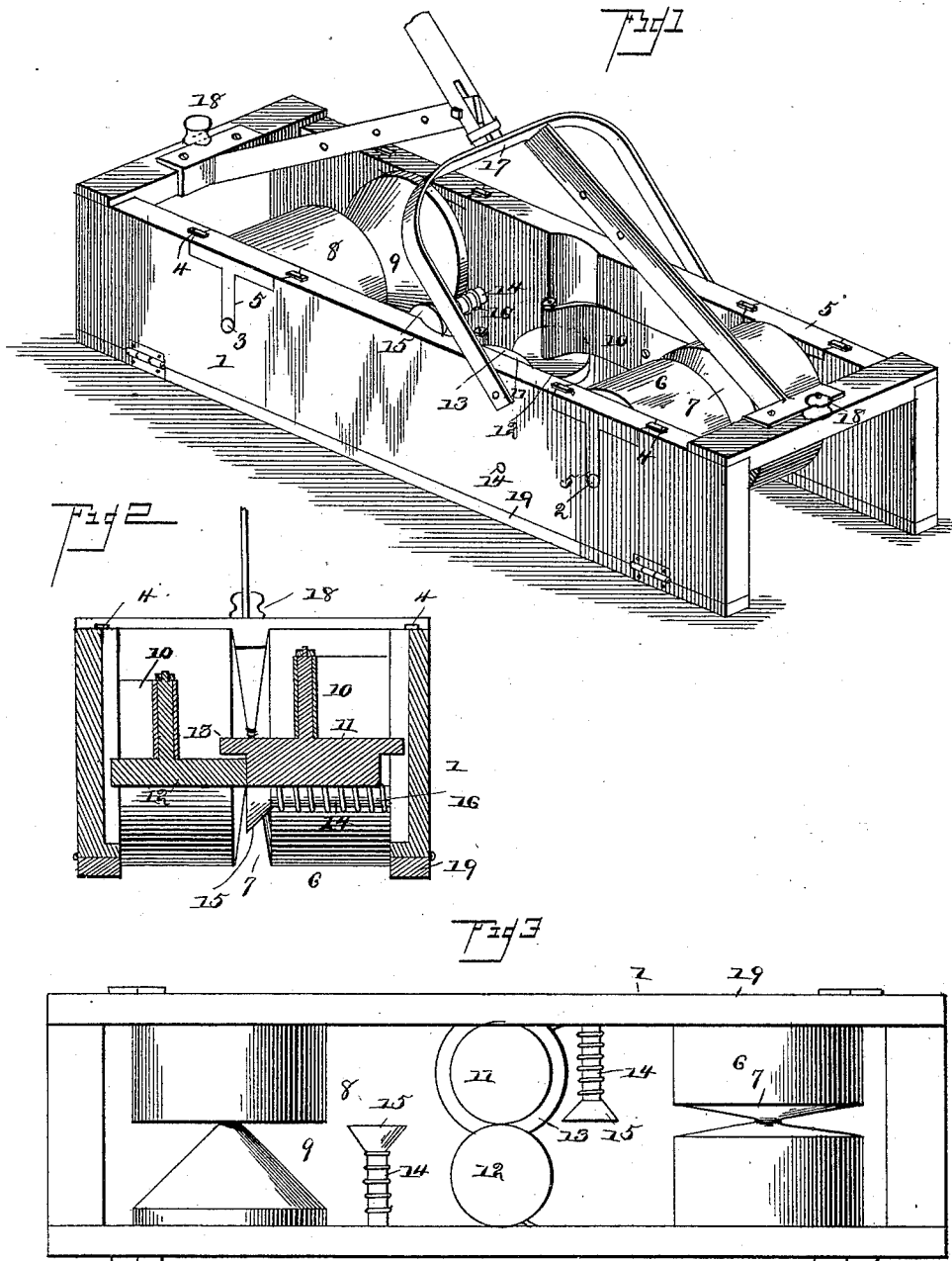
(No Model.)

2 Sheets—Sheet 1.

J. W. & G. W. CRIM.  
ROOFING TOOL.

No. 419,831.

Patented Jan. 21, 1890.



Witnesses

*John Murie*  
*Wm. Bagger*

By their Attorneys,

Inventors

*John W. Crim*  
*George W. Crim*

*C. A. Snow & Co.*

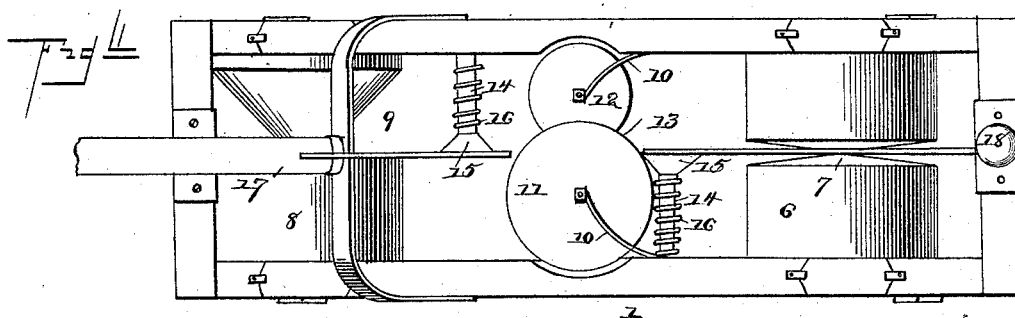
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Inventor

# UNITED STATES PATENT OFFICE.

JOHN WILLIAM CRIM AND GEORGE WASHINGTON CRIM, OF NEW MARKET,  
VIRGINIA.

## ROOFING-TOOL.

SPECIFICATION forming part of Letters Patent No. 419,831, dated January 21, 1890.

Application filed July 25, 1889. Serial No. 318,607. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN WILLIAM CRIM and GEORGE WASHINGTON CRIM, citizens of the United States, residing at New Market, in the county of Shenandoah and State of Virginia, have invented a new and useful Roofing-Machine, of which the following is a specification.

This invention relates to machines for forming the seams or flanges of sheet-metal roofing; and it has for its object to provide a device of this class which shall be simple, durable, easily manipulated, and efficient in operation.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view of the device for bending the seam or flange. Fig. 2 is a transverse sectional view of the same taken through the central horizontal wheels or disks. Fig. 3 is a bottom view of the same. Fig. 4 is a top view showing the machine adjusted in position for operation.

Like numerals of reference indicate like parts in all the figures.

1 designates a rectangular frame, which is provided near its front and rear ends with boxes or bearings, in which a pair of transverse shafts 2 and 3 may be mounted detachably, said shafts being retained in position while in operation by means of turn-buttons 4, serving to lock the upper halves of the boxes or bearings 5 in position. One of the said shafts 2 carries a roller 6, having a narrow V-shaped annular groove 7, and the other shaft 3 carries a roller 8, having an annular groove 9, one wall of which is straight, while the other wall of said groove is beveled or inclined, as will be clearly seen in the drawings. The shafts carrying the rollers 6 and 8 are, as will be seen, interchangeable from one end of the frame to the other, the shaft having the roller 6, with the narrow groove 7, being always necessarily at the front end of the frame, or at the end which is temporarily the front end.

To the inner sides of the side pieces of the

frame 1 are secured a pair of inwardly-extending flat springs 10, having bearings for the shafts of a pair of horizontal disks or rollers 11 and 12, the former of which is provided at its lower edge with an annular right-angled rabbet 13, adapted to receive the edge of the horizontal disk 12. The springs 10, in which the shafts of the said disks are mounted, serve to force the meeting faces or peripheries of the said disks tightly together.

Studs or stems 14, extending inwardly from the sides of the frame 1 in front and in rear of the disks 11 and 12, are provided with conical rollers 15, forced in an outward direction by means of springs 16, coiled upon the said studs or stems. Said conical rollers, which serve simply as guides, are so arranged that their bases normally lie in the same plane as the meeting faces of the disks 11 and 12.

The frame 1 may be provided with a suitable hinged handle 17, adapted to be reversed according to the direction in which the frame is manipulated. Said hinged handle is mainly intended to be used when the device is manipulated upon flat roofs. Upon steep roofs fixed handles, such as shown at 18, will probably be found more convenient.

To the lower edges of the sides of the frame 1 are hinged a pair of strips 19, which are adapted to regulate the height of said frame.

In practice the roofing-plates are provided at their meeting edges with vertical flanges of unequal height. To turn the higher flange over the lower one we use the mechanism contained in the frame 1 and proceed as follows: The strips 19 are turned under the lower edges of said frame, which are thus adjusted to the proper height, and the frame is now adjusted with the front roller having the narrow groove 7 riding upon the ridge of the flanges of the roofing-plates. The upper flange is now turned to a right angle, so as to pass between the meeting faces of the disks 11 and 12, when by pushing the frame along the roof the entire length of said flange will be turned down at right angles by the action of the said disks 11 and 12. The rear roller 8, following the said disks 11 and 12, will receive the right-angled flange in its groove 9, by which the said right-angled flange will be turned down to an inverted-V shape corre-

sponding to the shape of the said groove 9. The seam is then compressed by suitable means. The hinged strips 19 are now thrown out from under the sides of the frame 1 and the operation is repeated, thus forming a double seam, which is eventually finished by suitable compressing means, as before.

It will be seen that by changing the rollers 6 and 8 in the frame 1 end for end the flange or seam may be turned either to the right or to the left, as occasion may require. It will also be understood that our invention is susceptible of various modifications in regard to the construction of details. We therefore do not limit ourselves to the precise construction and arrangement of parts herein described, but reserve the right to any modifications which may be resorted to without departing from the spirit of our invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a device for seaming roofing-plates, the combination of a frame, a roller at the front end of said frame having a narrow annular groove, a roller at the rear end of said frame having an annular groove one wall of which is vertical while the other wall is beveled or inclined, a pair of springs extending inwardly from the sides of the frame, and the folding disks journaled or mounted in said springs, one of said folding disks being provided at its periphery with a right-angled rabbet to receive the edge of the other folding roller, substantially as set forth.

2. In a device for seaming roofing-plates, the

combination of a frame, an annularly-grooved guide-roller, and a folding roller having an annular V-shaped groove mounted detachably and interchangeably at the front and rear ends of said frame, the springs extending inwardly from the sides of the frame, and the horizontal folding disks mounted in said springs, substantially as and for the purpose set forth.

3. In a device for seaming roofing-plates, the combination of a frame, the annularly-grooved rollers mounted detachably and interchangeably at the front and rear ends of the said frame, the springs extending inwardly from the sides of said frame, the folding disks mounted or journaled in the said springs, studs or stems extending inwardly to the sides of the frame in front and in rear of said folding disks, conical guide-rollers mounted upon the said stems, and springs coiled upon the said stems and pressing against said guide-rollers, substantially as set forth.

4. In a device for seaming roofing-plates, the combination of the frame, the detachable and interchangeable guiding and folding rollers, and the hinged and reversible handle, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JOHN WILLIAM CRIM.  
GEORGE WASHINGTON CRIM.

Witnesses:

S. P. SHIRLEY,  
F. E. KEYES.