

(No Model.)

L. L. SAGENDORPH.
MACHINE FOR LOCKING SHEET METAL JOINTS.

No. 468,485.

Patented Feb. 9, 1892.

Fig. 1.

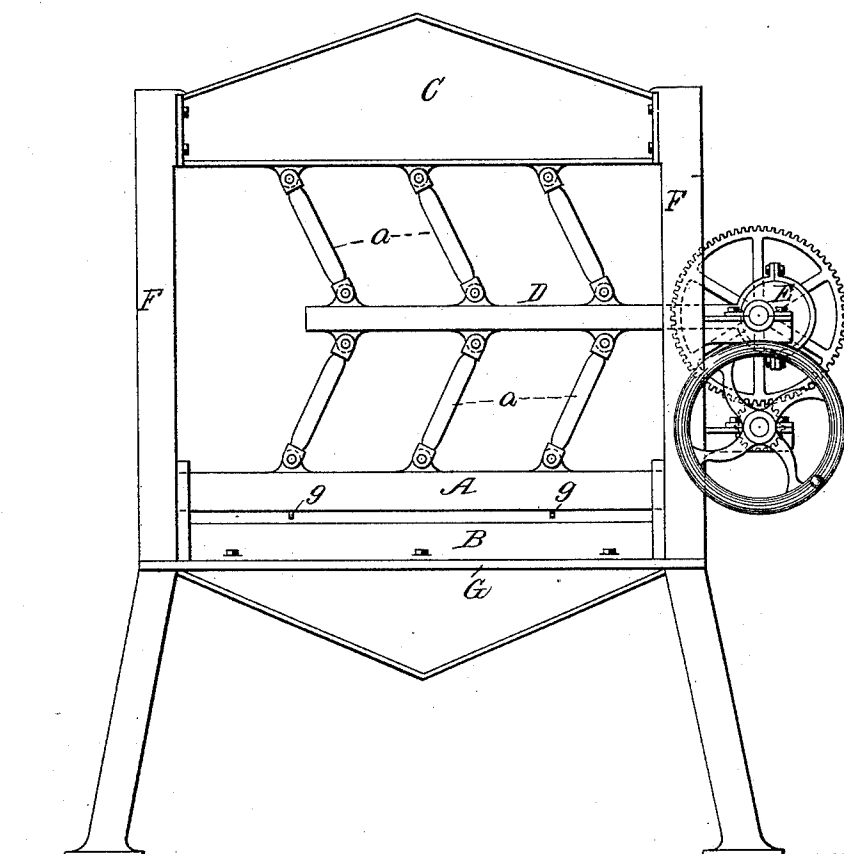


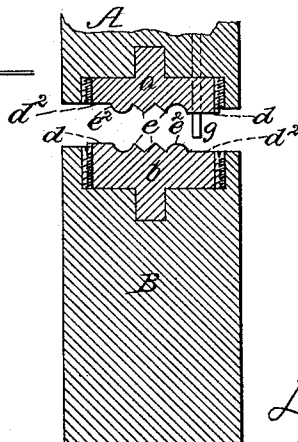
Fig. 3.



Fig. 4.



Fig. 2.



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UNITED STATES PATENT OFFICE.

LONGLEY LEWIS SAGENDORPH, OF PHILADELPHIA, PENNSYLVANIA,
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MACHINE FOR LOCKING SHEET-METAL JOINTS.

SPECIFICATION forming part of Letters Patent No. 468,485, dated February 9, 1892.

Application filed November 14, 1891. Serial No. 411,870. (No model.)

To all whom it may concern:

Be it known that I, LONGLEY LEWIS SAGENDORPH, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Machines for Locking Sheet-Metal Joints, of which the following is a specification, reference being had to the accompanying drawings.

My invention is more especially adapted and intended for use in connection with roofing-sheets, and has for its object the locking together of said sheets at their end portions.

The machine herein set forth and claimed is an improvement over the machine patented to me February 26, 1889, No. 398,655, in that a more perfectly water-tight seam is produced by reason of the differently-constructed clamp-jaws and dies.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention, showing one and the preferred means for operating the movable jaw. Fig. 2 is a vertical transverse section, on an enlarged scale, taken through the lower stationary clamp-jaw and a portion of the upper movable clamp-jaw, showing one and the preferred mode of connecting the detachable dies to said jaws, and also showing the configuration of said dies. Fig. 3 is a view of the interlocked portion of two roofing-sheets before being operated upon by my improved machine, and Fig. 4 is a similar view after having been operated upon.

My invention consists in the construction and formation of the stationary and movable clamp-jaws and their detachable dies for forming the interlocking seam of two sheets of metal.

Any suitable operative mechanism may be employed for operating the movable jaw A, one form of which is shown, and consists of the toggle arms *a*, pivotally connected to said jaw, stationary beam C, and drive-bar D, as shown, one end of the latter being connected to the eccentric E, which latter is operated by the usual geared connections, the whole being mounted on a suitable frame F. The lower jaw B is connected to the bed-plate G. This toggle and eccentric movement is old and forms no part of my invention, the same

being illustrated to show an operative machine.

The two jaws A and B are provided with male and female dies *a* and *b*, respectively, each of said dies consisting of the longitudinal V-shaped ribs *ee* and an outer circular rib *e*², the said ribs on the one die engaging within correspondingly-shaped grooves between the ribs on the adjacent die. Each die on one side thereof is provided with the raised flat portion *d* on a plane with the highest point on the ribs, said raised portion engaging the depressed flat portion *d*² on the adjacent die when said dies are brought together to form the lock-seam in the sheets. The dies *a* and *b* are formed, preferably, of a good grade of steel and may be attached to the jaws A and B in any preferred manner, it being preferred to have said dies rest within a countersunk portion of the jaws, as shown, in order to prevent any lateral displacement of said dies.

The advantages derived in having the dies detachably connected to the clamp-jaws are that, first, said jaws may be made of a cheap grade of soft metal, and, secondly, said dies can be readily removed and redressed or new dies inserted.

The advantages derived by reason of the configuration of dies are that the seam formed thereby affords a secure lock for the sheets and prevents said sheets from becoming disengaged in handling. The V-shaped and circular corrugations formed in said seam will provide a perfectly water-tight joint and at the same time provide air-spaces beneath said joint to protect the sheeting from decay and thus prolong the life of the roof.

If desired, the configuration of dies herein set forth may be formed integral with the clamp-jaws, in which event the latter will necessarily have to be formed of a high grade of metal, and on this account I prefer to employ the detachable dies, which will permit of a cheaper grade of jaws.

In order to properly and evenly gage the metal seam to be locked, it is preferred to provide the movable jaw with one or more gravity stop-pins *g*, as shown.

The lock-seam produced by my improved machine is the same on both sides, and the

sheets may be reversed by turning them end for end.

I am aware that it is not new, broadly, to provide a seaming-machine with detachable
5 jaws or dies; but

What I claim as new, and desire to secure by Letters Patent, is—

In a machine for locking sheet-metal seams, a stationary and a movable die, each die be-
10 ing formed with longitudinal ribs e and e^2 , respectively V-shaped and circular in cross-sec-

tion, each die having at one side thereof a raised flat portion d on a plane with the outer face of said ribs, the opposite side of each die having a flat portion d^2 below a plane with
15 the outer face of said ribs, and suitable means for operating said movable die, substantially as set forth.

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Witnesses:

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