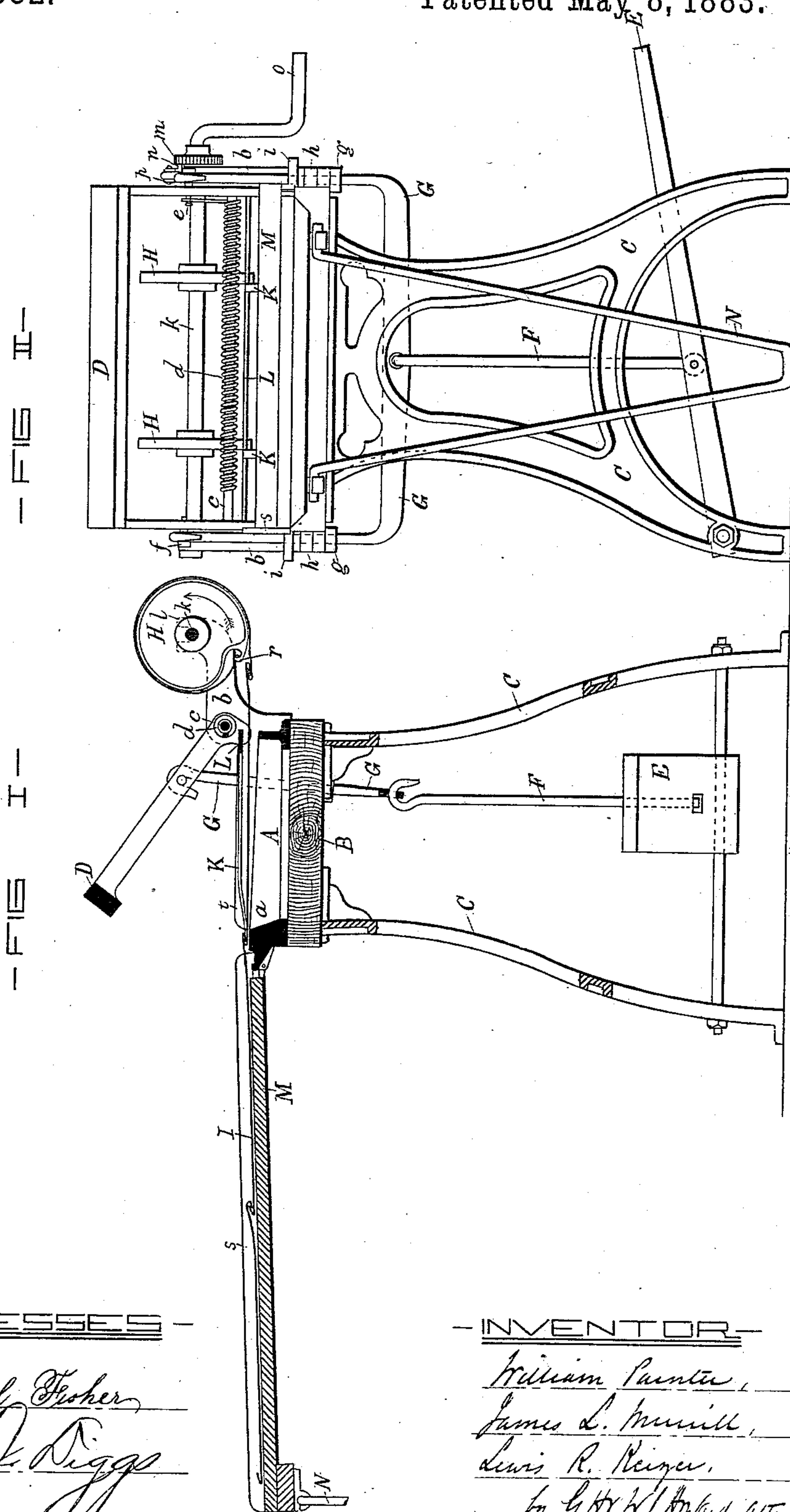


(No Model.)

2 Sheets—Sheet 1.

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MACHINE FOR FLATTENING THE SEAMS OF SHEET METAL ROOFING.  
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Daniel Fisher  
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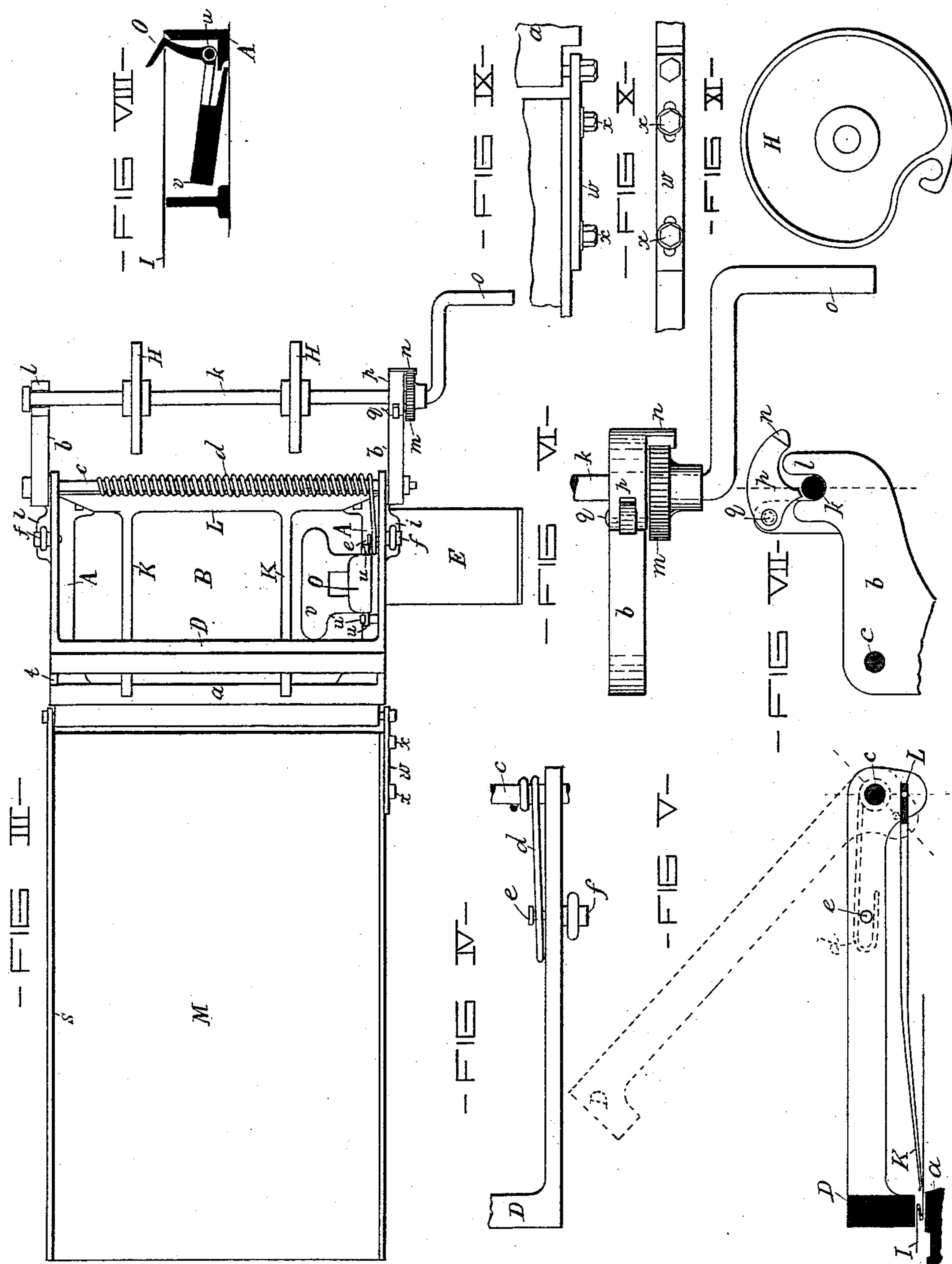
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(No Model.)

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- INVENTOR -

William Painter,  
James L. Murrell,  
Lewis R. Keizer,  
by E. H. H. Howard, Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM PAINTER, JAMES L. MURRILL, AND LEWIS R. KEIZER, OF  
BALTIMORE, MARYLAND.

MACHINE FOR FLATTENING THE SEAMS OF SHEET-METAL ROOFING.

SPECIFICATION forming part of Letters Patent No. 277,332, dated May 8, 1883.

Application filed March 10, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM PAINTER, JAMES L. MURRILL, and LEWIS R. KEIZER, all of the city of Baltimore and State of Maryland, have made certain Improvements in Machines for Flattening the Seams of Sheet-Metal Roofing, of which the following is a specification.

This invention relates to certain improvements in a machine for flattening and closing the seams of sheet-metal roofing, and for coiling the united sheets into rolls for convenient handling.

In the description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure I is a longitudinal section of the improved machine. Fig. II is a front view of the same. Fig. III is a plan of the machine. Figs. IV to XI, inclusive, are details of parts of the invention on an enlarged scale.

Similar letters of reference indicate similar parts in all the views.

A is the bed-plate of the machine, the front edge of which is made considerably thicker than the other portions of the bed-plate and faced to form an anvil, *a*. The bed-plate A is secured to a block, B, preferably of wood, which is supported on legs C.

D is a hammer hinged to brackets *b* by means of a fixed rod, *c*. The hammer D is elevated, as shown in Figs. I, II, and III, and in dotted lines in Fig. V, through the medium of a coiled spring, *d*, one end of which is fastened to the fixed rod *c* and the other end hooked over a pin, *e*, projecting from the hammer D. (See particularly Figs. IV and V.) The required tension of the spring *d* is obtained by turning the rod *c* in the direction to coil the said spring and then locking the rod by any suitable means to prevent the uncoiling of the spring. The stroke of the hammer is effected by foot-power through the medium of a treadle, E, link F, and yoke G, the last-named device being loosely attached to studs *f*, projecting from the sides of the hammer. The upward movement of the hammer is limited by collars *g* and elastic bumpers *h* on yoke G, which latter devices

strike the underside of plates *i*, through which the vertical portions of the yoke pass.

H H are disks secured to a revoluble shaft, *k*, resting in bearings *l* in the brackets *b*, around which the tin-plate sheets, after the closing of the seams, are rolled. A ratchet-wheel, *m*, and pawl *n*, (see Figs. VI and VII,) together prevent the revolution of the disks H, except in a direction to effect the coiling of the sheets; and to prevent the lifting of the shaft *k* in its revolution by means of the crank *o* the pawl *n* has a projection, *p*, which is nearly in contact with the said shaft. The end of the projection *p* of the pawl *n* is beveled and placed, not directly over the center of the shaft *k*, but about on a line extending between the centers of the pivot *q* and the shaft *k*. Consequently the shaft in its upward movement has less tendency to elevate the pawl than to force it against its pivot *q*, as will be understood by reference to Fig. VII.

In Figs. I, V, and VIII the tin-plate the seams of which are to be flattened or closed is represented by I. K K are gaging-fingers extending from a bar, L, having its ends resting loosely in holes in the side pieces of the hammer D. The object in connecting the bar L to the hammer at some distance from the center of the bar *c* is to effect a longitudinal movement of the fingers K in the motion of the hammer, for a purpose hereinafter described. The gaging-fingers K are arranged to enter the open seams of the sheets as they pass to the disks H, and stop them directly in the center of the anvil *a*. As the hammer D descends the gaging-fingers are carried back from contact with the seam and their ends from under the hammer, as shown in Fig. V. The end of the first sheet is connected to the disks H by means of small hooks *r*, (see Fig. I,) and in winding the sheets upon the disk no dexterity is required to bring each open seam successively to the proper position on the anvil *a*, as the gaging-fingers invariably enter the seam and prevent further rolling of the sheets until the seam is flattened. (See Fig. I.) After a seam is flattened the ends of the gaging-fingers, which are slightly turned up, ride over the seam, and do not interfere with the winding of



the sheets on the disks H until they engage with the next open seam, when the closing operation, as described, is repeated.

M is a table hinged to the bed A, and provided with a folding leg, N.

O is a yielding presser to keep the sheets of metal in contact with the guide s on the table M, and another, t, on the bed-plate A, which latter one is really a continuation of the one s. The presser O is connected to the lower part of the bed-plate A by means of trunnions u, which rest in bearings u', and the yielding pressure before alluded to is effected by a weight, v, which forms a part of the presser. The space between the operative side of the yielding presser O (when the same is not in use) and the guide t is less than the width of the sheet of metal the seams of which are to be closed. Consequently the presser exerts a continual pressure on the one edge of the said sheets; or, in other words, the sheets are at all times clamped between the presser and the guide t.

While a weight is preferred to effect a yielding pressure on the edge of the sheets, as described, a similar result may be produced by a spring applied to the presser, provided it is arranged to force the said presser toward a point closer to the guide t than the outer edge of the sheets.

Where the machine is to be constructed for different widths of tin-plate, the position of the presser is made changeable.

In order that the guide s of the table M may be adjusted or brought in a direct line with the guide t, an adjustable slotted strip, w, on the other side of the table is hinged to the bed-plate, as shown in Figs. IX and X. By this means, after the machine is fitted up, the screws x are slackened and the outer end of the table M moved transversely until the guides are perfectly in a line, when the screws are again tightened. If preferred, the table can be fixed, and the guide s alone adjustable.

We claim as our invention—

1. In a machine for flattening and closing the seams of a sheet-metal roofing, the following essential elements, in combination, viz:

a bed-plate, an anvil, a hinged hammer with spring devices for elevating it, treadle mechanism for effecting the stroke of the hammer, 50  
revoluble disks for coiling the sheets, and gages to enter and stop the open seams successively on the anvil and arranged to be automatically withdrawn from the said seams in the descent of the hammer, substantially as 55  
specified.

2. In combination with the guide t, the yielding presser O, the same being at such distance from the said guide as to exert a continual or uninterrupted pressure upon the edge of a 60  
sheet of metal placed between the guide and presser, substantially as specified.

3. The bed-plate A, having fixed guide t, combined with a second guide, which forms practically a continuation of the first, and 65  
which is adjustable in position at one end only, substantially as specified.

4. The table M, hinged to the bed-plate A, and having one hinge thereof made adjustable in length, substantially as specified. 70

5. In a machine for flattening or closing the seams of sheet-metal roofing, the combination of an anvil, a hinged hammer, gaging-fingers to stop the open seams under the hammer, 75  
revoluble disks for coiling the sheets, and means to prevent a reverse movement of the sheets, substantially as specified.

6. In a machine for flattening or closing the seams of sheet-metal roofing, the combination, with the open bearing l and shaft k, the latter 80  
having the ratchet-wheel m thereon, of the pawl n, provided with the projection p, arranged to come in contact with the said shaft when the same is elevated about on a line extending between the center of the pivot q of the pawl 85  
and the center of the said shaft, substantially as specified.

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