Oct. 25, 1938. A. J. PHILLIPS 2,134,529

METHOD OF BALING SHEET METAL

Filed Nov. 17, 1934

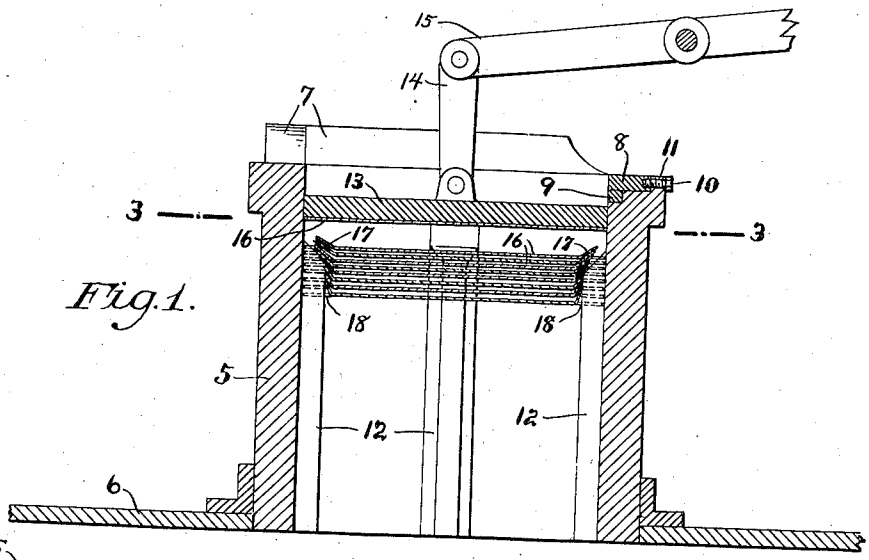


Fig. 1.

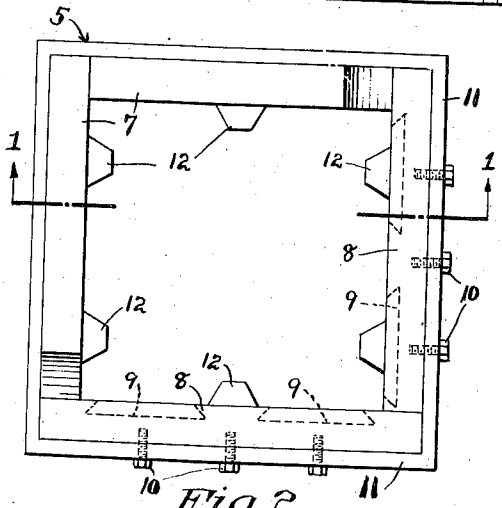


Fig. 2.

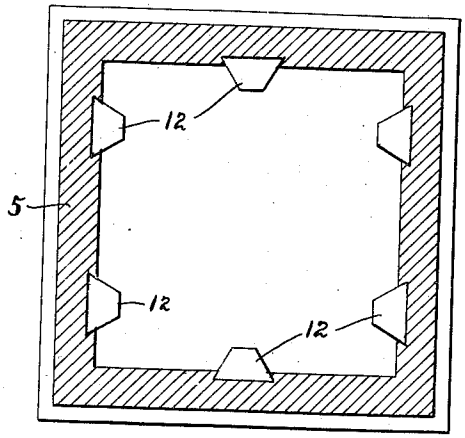


Fig. 3.

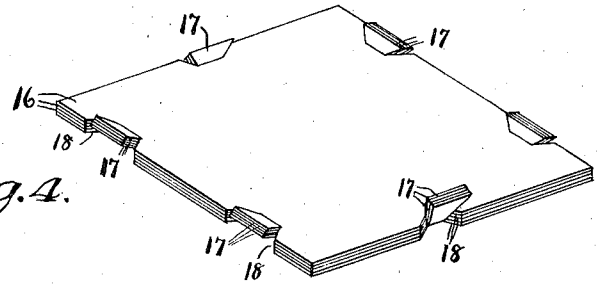


Fig. 4.

Inventor
Anthony J. Phillips
By W. W. Williamson
Attorney

Patented Oct. 25, 1938 2,134,529

UNITED STATES PATENT OFFICE

2,134,529

METHOD OF BALING SHEET METAL

Anthony J. Phillips, Lower Southampton Township, Bucks County, Pa.

Application November 17, 1934, Serial No. 753,477

1 Claim. (Cl. 153—2)

My invention relates to new and useful improvements in a method of baling sheet metal and has for one of its objects to bale sheet metal by cutting the same into sections and superimposing said sections on one another, one at a time, and forming tongues and mortises along the edges so that the tongues of preceding sections will enter the mortises of succeeding sections to fasten any number of sections together to constitute a bale.

Another object of the invention is to produce the tongues and mortises in dovetail formation.

Another object of this invention is to fashion the tongues in lengths sufficient to register with mortises of more than one superimposed sheet section.

A further object of the present invention is to provide means for cutting a large sheet of metal into smaller sheets or sections, which are subsequently acted upon by means for producing tongues in the edges of said sections, the production of said tongues providing mortises, and having means to project the tongues of preceding sections into the mortises of a succeeding section.

With these and other objects in view, this invention consists of the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains, may understand how to make and use the same, I will describe its construction in detail referring by numerals to the accompanying drawing forming a part of this application, in which—

Fig. 1 is a sectional view on the line 1—1 of Fig. 2, machine for carrying out the method of baling metal as embodied in my invention illustrating a number of sheet metal sections in the process of being baled.

Fig. 2 is a top plan view of the press or machine without the plunger.

Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1, and

Fig. 4 is a perspective view of a number of sheet sections baled or connected together.

In carrying out my invention as herein embodied, 5 represents the well of a press open from end to end and mounted on any suitable support 6 or base plate constituting or included as a part of a frame. On two contiguous sides of the well at the upper end thereof are provided gauge blocks 7, which may be independent elements fastened to the well walls or may be produced as integral parts thereof. In either instance said gauge blocks rise above the walls of the well and their inner surfaces are flush with the inner surfaces of the walls carrying them.

Embedded in the tops of the other two walls are removably mounted cutters 8 having dovetail lugs 9 on their under sides for registration with similar recesses in the upper edges of their respective supporting walls to prevent undue strain on the bolts 10 which pass through flanges 11 along the outer upper edges of the walls supporting the cutters.

A number of vertical combination cutter-punches 12 are slidably mounted in dove-tail grooves in the inner faces of the walls of the press well and one or more of such cutter-punches may be used on each of the walls. Each cutter-punch has beveled side walls as shown in Figs. 2 and 3 and also a sloping upper end, as in Fig. 1, which upper end terminates short of the top of the press well.

A reciprocating plunger 13 is mounted for projection into the upper part of the press well and for purposes of illustration, said plunger is shown connected to a link 14 which, in turn, is attached to the lever 15. Notches are formed in the underside of the plunger in alignment with the cutter-punches 12 to accommodate the upper ends of the cut-punches during the operation of the plunger.

With such an apparatus or equivalent mechanism, a piece of sheet metal is placed in the press while the plunger is withdrawn, by positioning said piece of metal on top of the cutters or shearing members 8 with edges of said piece of metal in engagement with the gauge blocks 7. Then as the plunger 13 descends or moves forward, a section 16 of the piece of sheet metal is severed from the piece by the shearing members 8 and carried into a position above the upper ends of the cutter-punches 12.

Each succeeding section that is cut from the piece forces the preceding one or ones forward or downward step by step a distance equal to the thickness of each section cut from the piece. This action gradually moves the sections over the cutter-punches or dies 12 to partially sever small portions from said sections by degrees, which portions finally produce tongues 17 and form mortises 18. The tongues are of a length sufficient to engage one or more and preferably three or four adjacent succeeding sections.

During the baling operations above described, the side walls of the mortises, during the course of formation of the tongues and mortises, are forced over the tongues for interlocking or fas-

tening the sections together. Any number of sections may be joined to constitute a bale because each preceding section is connected to a plurality of succeeding ones and, in effect, all of the sections are fastened together.

When a bale is completed, a separator is placed on top of the last section so that a subsequent forward movement of the plunger will force the bale below the upper ends of the cutter-punches. After this another bale may be started and made up as previously described. Upon completion of the last bale, a separator is used as a pusher to compress the last tongues and assist in dislodging the bales.

Of course I do not wish to be limited to the exact details of construction herein shown and described, as these may be varied within the limits of the appended claim without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is:

The method of baling sheet metal which consists of cutting a sheet of material into sections one at a time so that said sections are superimposed on one another, then forcing said sections step by step over cutter-punches which gradually form tongues and produce mortises along the edges of the sections and simultaneously enter the tongue of the preceding sections in the mortises of succeeding ones.

ANTHONY J. PHILLIPS.