March 19, 1963 T. J. MAURO 3,081,841

SHEET METAL LEGS

Filed April 3, 1962

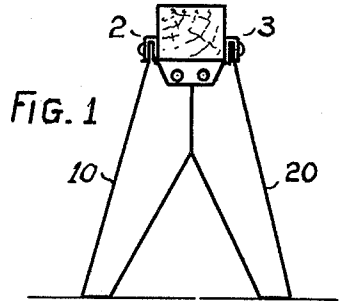


FIG. 1

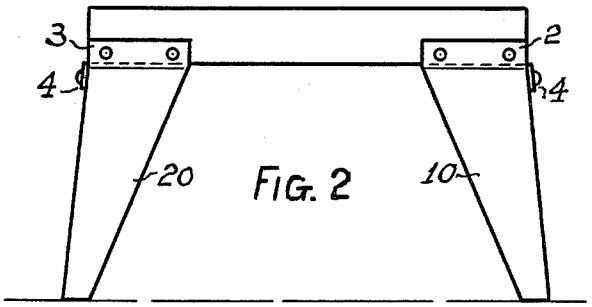


FIG. 2

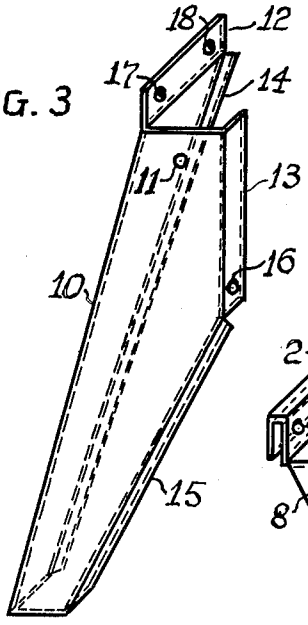


FIG. 3

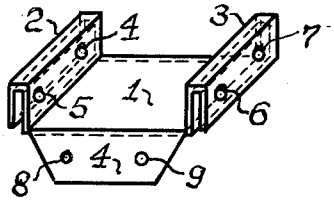


FIG. 5

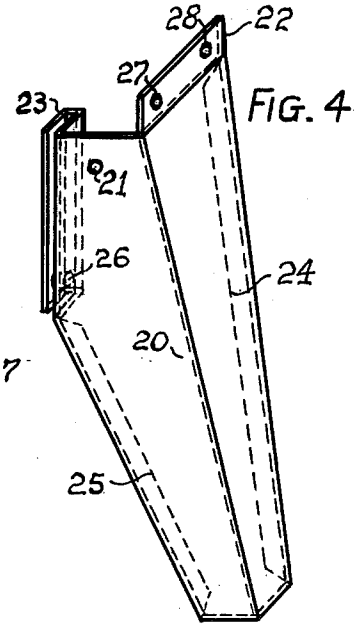


FIG. 4

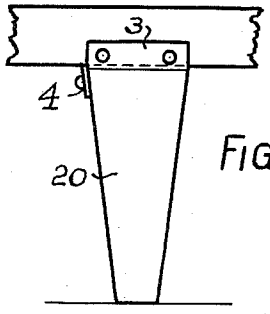


FIG. 6

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SHEET METAL LEGS

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My invention relates to legs made of sheet metal and has particular utility as a very practical support for staging, benches, saw horses, and the like.

One of the important objects of my invention is to provide legs of sheet metal for the support of staging, benches, saw horses and other similar structures commonly used in the art, which combine light weight with unusual strength and rigidity, which are easily assembled and disassembled, permitting their convenient application as supports and also their economical transportion.

Another important object of my invention is to provide practical legs for the support of staging, benches, saw horses and the like which can be manufactured of sheet metal very economically and with simple tools.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of the present application, wherein for the purpose of illustration are shown a preferred and a modified form of my invention,

FIGURE 1 is an end elevational view of the preferred form of my invention as applied for the support of a saw horse,

FIGURE 2 is the side elevational view of the same,

FIGURE 3 is a perspective view of the sheet forming the left leg,

FIGURE 4 is a perspective view of the sheet forming the right leg,

FIGURE 5 is a perspective view of the top sheet,

FIGURE 6 is a side elevational view of a modified form of the sheet metal leg.

Referring to the drawing, FIGS. 1 and 2 show the preferred form of my invention in a simple application. The legs 10 and 20, shown in FIG. 1, form a unit, constructed of sheet metal. Two of such units are secured to a wooden beam, as shown in FIG. 2, to form a saw horse, which is light and rigid, and is easily disassembled for transportation. In alternative applications two of such structures may be used to support a bench, or several may be employed to carry a platform or staging.

The important and novel feature of my twin legged unit is that it can be manufactured very economically of three pieces of sheet metal. These three component parts of my unit are illustrated in FIGS. 3, 4, and 5. FIG. 3 shows the sheet forming the left leg of my unit, which we will call the left side sheet of my unit. As shown in this perspective view, the main portion 10 of this sheet is folded longitudinally into an L-shaped cross section. The purpose of this cross section is to obtain maximum rigidity with light weight. This main portion 10 is provided with a hole 11 which will be used for the assembly of the unit. Adjoining the upper edge of the main portion 10 is the top flange 12, which is provided with the holes 17 and 18. This top flange 12 is arranged in a vertical plane and has an important part in the assembly and application of my unit.

Another essential element of my unit is the connecting flange 13 located along the right side edge of the main portion 10. This connecting flange 13 is inwardly bent and is provided with a hole 16; the purpose of this flange is to connect this leg to the other leg of the unit.

Adjoining this connecting flange 13 is the end reinforcing flange 15, which is inwardly bent and serves to rigidify the leg. The opposite edge of the main portion

10 of the left leg is reinforced by the side reinforcing flange 14, which is similarly inwardly bent.

FIG. 4 illustrates the right side sheet forming the right leg of my unit. This second component of my unit is similar to the first component described above and illustrated in FIG. 3. It has the same dimensions and the same elements, which are designated by the numbers of the corresponding elements of the left leg plus 10. These elements, however, have a reversed arrangement, so that the right leg of my unit forms the mirror picture of the left leg. The only difference between the elements of the two legs is between the connecting flanges 13 and 23; the former is a plain inwardly bent flange, whereas the flange 23 is folded into a U-shaped cross section, into which the flange 13 can be inserted when assembling the unit. The holes 16 and 26 are so located that, when the two legs are joined by the connecting flanges 13 and 23, these two holes are in line.

The third component of my unit is the top sheet, illustrated in FIG. 5, which forms the load bearing surface of the unit and also acts as an effective coupling between the two legs. This top sheet is composed of a rectangular central portion 1, and three adjoining flanges: the opposing side flanges 2 and 3, and the end flange 4. The side flanges are folded into a U-shaped cross section and are so designed that the top flange 12 can be inserted into the folded flange 2 and the top flange 22 into the folded flange 3, with the holes 4, 5, 6, and 7 being in line with the holes 18, 17, 27 and 28, respectively. The end flange (see FIG. 5) 4 is bent downwardly and is provided with the holes 8 and 9, which are so located that, when the two legs are joined the holes 8 and 9 will be in line with the holes 11 and 21, respectively.

In alternative forms of my invention the construction herein described and illustrated may be modified so that the folded connecting flange 23 will be on the left leg and the plain flange 13 on the right leg of the unit.

Another modified form of my unit is illustrated in FIG. 6 in which the legs slope inwardly instead of outwardly, as shown in FIG. 2.

The assembly of the three components of my unit is done in the following manner:

The two legs, shown in FIGS. 3 and 4, are joined together by inserting flange 13 into the folded flange 23 and applying a machine bolt through the aligned holes 16 and 26. Following this, the top sheet, shown in FIG. 5, is placed over the top of the legs, inserting the flange 12 of the left leg into the folded flange 2 (see FIG. 5) and the flange 22 of the right leg into the folded flange 3. Then, a second machine bolt is inserted through the aligned holes of 8 and 11, and the third bolt through the holes 9 and 21. In alternative forms of my invention the fastening means, securing the three sheets to each other, may consist of rivets or screws. Then, the assembled unit is secured to the wooden beam, as shown in FIGS. 1 and 2, by driving four nails or screws through the aligned holes of 4 and 18, 5 and 17, 6 and 27, 7 and 28. These four nails or screws have a double function. They secure the assembled unit to the beam and, at the same time, they lock the top flanges 12 and 22 of the two legs within the folded flanges 2 and 3 of the top sheet and thereby reinforce the coupling between the two legs of the unit.

Such saw horses, stagings, etc. are most frequently used in building and construction work where these structures have to be often disassembled and reassembled in another location. Due to its light weight and easy assembly my invention has particular utility in such applications.

It is to be understood that the forms of my invention herein described and illustrated are only examples of the same, and that various changes in the shape, size, and

in the arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claim.

I claim:

A twin legged unit for supporting staging, saw horses, benches and the like, comprising a top sheet, forming the upper bearing surface of said unit and having a rectangular central portion, a downwardly bent end flange, with holes, and two opposed side flanges, each bent upwardly and then folded downwardly into an inverted U-shape cross section and being provided with throughgoing holes; a side sheet forming one of the legs and having a main portion folded longitudinally into an L-shape cross section and being provided with a hole in line with one of the holes of the end flange of said top sheet, a top flange designed to be inserted into the corresponding folded flange of said top sheet and having holes in line with the holes of said folded flange, a connecting flange, inwardly bent and being provided with a hole, and two reinforcing flanges, one adjacent to said connecting flange the other opposite to said connecting flange; a second side sheet forming the other leg of said unit and having a main portion folded longitudinally into an L-shape cross section, opposing the similar cross section of the former leg, and having a hole in line with a hole of the end flange of said top sheet, a top flange designed to be inserted into the corresponding folded flange of said top sheet and having holes in line with the holes of said folded flange, a connecting flange, inwardly bent and folded outwardly into a U-shape cross section and adapted to permit the insertion of the connecting flange of the former leg, having also holes in line with the holes of the connecting flange of said former leg, two reinforcing flanges, one adjacent and the other opposite to said connecting flange; fastening means passing through said aligned holes securing said top sheet and the two side sheets to each other to form a unit.

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