MECHANIC'S WORK-HOLDING TABLE FURNISHED WITH ADJUSTABLE WORK-SUPPORTING ARMS

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Application March 13, 1948, Serial No. 14,746

4 Claims. (Cl. 29—288)

1. This invention relates to a mechanic's work holding table provided with adjustable work-supporting arms.

In its broader aspect this invention relates to diverse work supporting means comprising a plurality of upstanding legs grouped about an open space and rigidly secured to each other, and universally adjustable means carried by the upper end portions of said legs and positionable to engage the supported work so as to permit free swinging of the work pieces or to firmly hold them either within said open space or outside thereof in any desired position.

Another important object of the invention is to provide, in combination with upstanding table legs, work-carrying arms mounted upon the lower end portions of said legs, said arms being adjustable either to point inwardly toward each other or to point outwardly from the space between the table legs at any angle, so that this double-direction adjustment of said arms greatly increases the range of adjustment, whereby plate-like and other irregular objects varying greatly in size may be effectively supported by said arms. Said arms besides being vertically and horizontally movable, are also adjustable throughout a complete circle, and hence may be disposed transversely of the work table, the latter adjustment being sufficient to vastly increase the working zone or area defined by the four legs of the table.

Another important object is to provide a mechanic's work table wherein the supported work is more universally accessible, so that the workman may approach it from all sides and from above and below, as well, to perform desired operations and to make necessary repairs.

Still another object is to provide for swinging work to a greater variety of angular positions than has heretofore been possible, this object being attained through the use of pivoted angle iron work-supporting elements, which can be applied and held to the work in a greater variety of positions.

A further object is to provide a simple but sturdy work holding assemblage comprising a plurality of work engaging elements of polygonal formation swingably suspended from longitudinally and rotatably adjustable approximately horizontal arms which are supported upon posts or legs of a common unitary frame, the elements being cooperable with clamps for attaching them around the top, bottom or sides of diversely shaped work pieces so as to firmly hold the latter in various positions.

Another object is to provide, in combination with a plurality of upstanding legs, a work-carrying arm mounted upon each leg which is adjustable independently of the arms of the other legs, so that the supported object may be tilted in a greater variety of ways, thus positioning it to a greater advantage for performing work upon it.

A more specific object of the invention is to provide a plurality of chain-supported vise clamps carried by the aforesaid arms, so as to render said clamps always conveniently accessible to the workman.

Yet another object is to provide a work table that will support a greater variety of objects to be worked upon, in relation to their weight, size and shape. In this respect, parts to be worked upon having curved outer edges may be supported and clamp-held equally as well as those having straight edges.

Other objects, advantages and features of invention will hereinafter appear.

Referring to the accompanying drawing, which illustrates a preferred embodiment of the invention as now being manufactured,

Fig. 1 is a perspective view of the table, showing it in use for removing a large dent from a panel of a door. In this view all but one of the vise clamps are shown unapplied to illustrate more clearly possible modes of applying the angular supporting bracket or element to the work.

Fig. 2 is an enlarged, fragmentary, part sectional and part elevational view of the upper end portion of one of the legs illustrating the universally adjustable work supporting mechanism carried thereby. In this view a fragmentary portion of a work piece is shown clamped to the angular bracket of the supporting mechanism, and there are dotted line indications in the view illustrating adjusted positions of the bracket.

Fig. 3 is a bottom plan view on the plane indicated by the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary perspective view looking at the bottom of the structure showing another adjustment of a door-supporting element.

Fig. 5 is a fragmentary view showing the application of one of the supporting brackets to a flange of a door, the vise clamp being omitted.

Fig. 6 is an enlarged, fragmentary elevation showing how the vise clamp grips, against one of the supporting elements, a work part being operated upon.

Referring in detail to the drawing, the work holding table 9 comprises a polygonal, preferably rectangular frame 9 having at each of its corner portions an upstanding angle iron leg 10 which
is positioned with the medial portion of the inner side fitted against and bolted to the adjacent corner portion of said frame, braces 11 being provided to stabilize each corner portion of the structure and to maintain the angle iron legs in their upper positions, the flange 15 having been removed and when the window end of the door is supported as shown at the nearer left in Fig. 1 or as in Fig. 4, all that is necessary, when the door is to be swung vertically, is to loosen the wing nuts 16a in the horizontally extending collars 16 and raise the window end of the door to the position desired and re-apply the wing nuts. In the latter position the door is accessible for painting, re-upholstering or performing whatever work on it is desired.

Also, with the elements 22 supporting the flange as shown in Fig. 1, there is no supporting part in the way to repair damage to such flange.

Consider a fender, for example, to be repaired. The fact that it has both straight and curved edges makes the present table a desirable one to use, for the arms 22 may be projected radially inward, and also the wall 30 of the four legs 10 and the elements 22 may be angularly adjusted to cause either flange thereof to grip a curved part as efficiently as a straight edge of the fender. Furthermore, a fender supported between the two near or two far arms as seen in Fig. 1 may be rotated about the axis of two aligned arms which support it in a manner similar to that already described in relation to the door 40. Figs. 2, 3 and 6 illustrate the way a fender part 42 or similar constructed part can be held in the vise clamp. Any other type of automotive part or fabricated part may be swung and handled equally as well as those already described.

The use of structural metal in the construction of the frame and legs or corner posts, and the use of tubular stock rods 19 and arms 26, facilitates manufacture of the table assemblages; and the formation of the table with a rectangular open frame secured to the medial portions of the legs or posts 10 well below their upper extremities, enables the work pieces to be swung freely and without obstruction either vertically or horizontally within or outside of the frame bounds. The pivot vise clamp 29 and the body adjustability thereof relative to each other and in any desired direction, moreover facilitates attachment and cooperation with respect to work of any shape or size, and thus provides an extremely flexible working combination. The interchangeably similar formation of the parts associated with each corner part of the table also reduces to a minimum the cost of manufacturing the improved units, and thereby provides a relatively inexpensive but durable assemblage adapted to cooperate most effectively with various sorts of work.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the subject matter claimed.

I claim:

1. In a mechanics work holding table, a frame having a plurality of remotely spaced corners, a rotatably and vertically adjustable upright post supported by said frame at each of said corners, an elongated rotatably and horizontally adjustable horizontal arm mounted upon the upper end of each of said vertical posts and said angular work holding element swingably attached to an end of each of said arms, each of said ele-
ments having a pair of work engaging flanges one of which is pivotally attached to the adjacent arm end to permit swinging adjustment of the other flange across or eccentrically about the arm axis for engagement of said other flange with the work either at any angle relative to said axis or from above or below.

3. In a mechanics work holding table, a frame having at least three remotely spaced corners, a rotatably and vertically adjustable upright post supported by said frame at each of said corners, an elongated rotatably and horizontally adjustable horizontal arm mounted upon the upper end of each of said posts above said frame, an angular work holding element swingably attached to an end of each of said arms, each of said elements having a pair of integral work engaging flanges one of which is pivotally attached to the adjacent arm end to permit swinging adjustment of the other flange across or eccentrically about the arm axis for engagement of said other flange with the work either at any angle relative to said axis or from above or below, and a work clamp flexibly suspended from each work holding element end of each arm and being universally disposable for cooperation with either element flange and with the work coating therewith.

4. In a mechanics work holding table, a frame having a plurality of remotely spaced corners, a rotatably and vertically adjustable upright post supported by said frame at each of said corners, an elongated rotatably and horizontally adjustable horizontal arm mounted upon the upper end of each of said posts above said frame, and an angular work holding element swingably attached to an end of each of said arms, each of said elements having a pair of work engaging flanges and being pivotally attached to the adjacent arm end to permit swinging adjustment of at least one flange across or eccentrically around the arm axis for engagement with the work either at any angle relative to said axis or from above or below.

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