May 23, 1950 S. GINNS 2,508,912

FLARING TOOL

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FIG. 1

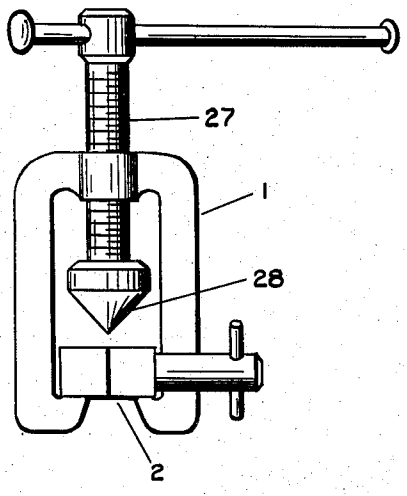


FIG. 2

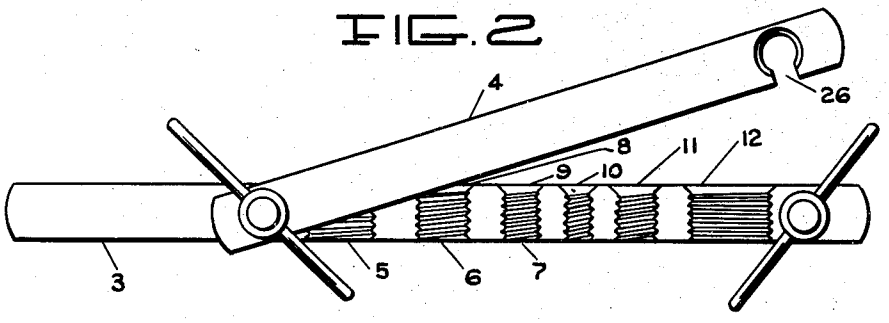
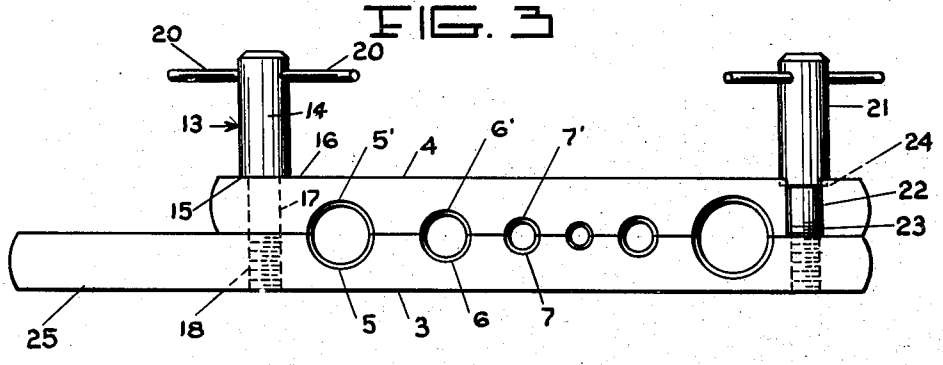


FIG. 3



INVENTOR.
Samuel Ginns

BY Ezekiel Wolf
ATTORNEY

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FLARING TOOL

Samuel Ginns, Brookline, Mass.

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2 Claims. (Cl. 153—79)

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The present invention relates to a tool used for flaring pipe ends in preparation for making a coupling joint. For certain types of coupling joints, such fittings need not be too accurately fashioned. However in the case of certain liquids, fluids and gases in which the material which flows through the pipe is very penetrating, such fittings should be accurate and tight. This applies to such liquids as gasoline, kerosine, penetrating oils and certain highly volatile liquids. For this purpose it is necessary to form accurately the end flaring of the pipe, both in angle shape and size. Since often times many of such fittings must be made in installing a complete line, it is necessary that they be made on the spot, rapidly and conveniently, supplying such a need in that the tool is readily placed over the end of the pipe to be flared, locked in place, with perhaps no more than a turn after which the tool or element for flaring may be applied to complete the operation. The tool is quickly unlocked and removed.

The use of flaring tools for forming a flat pipe end is old in the art and various means have been commonly used for holding split flaring die pieces together. The present invention is an improvement over the means previously used with respect to the holding tool which receives the ramming die shank.

The present invention will be more fully described in connection with the drawings illustrating an embodiment thereof, in which—

Figure 1 shows in elevation the flaring clamp with the ramming tool in operating position with it.

Figure 2 shows the flaring clamp in open position in a side elevation, and,

Figure 3 shows the flaring clamp in a closed position in a bottom plan view with reference to the general position of Figure 2.

In the arrangement shown in the figures, the element 1 is the ramming tool and the element 2, the flaring clamp. No invention is claimed for the ramming tool, as this is of general common construction and Figure 1 is merely illustrative of the use of the flaring clamp.

In Figure 2, the flaring clamp comprises two elements, 3 and 4, each of which has corresponding semi-cylindrical cavities 5, 5', 6, 6', 7, 7', etc., all different sizes for different size pipes. Each of these semi-cylindrical cavities align with the corresponding cavity to form the different standard outside pipe sizes for which the flaring tool is used. On the face of the parts 3 and 4 at the top of the cylindrical cavities are bevelled surface edges 8, 9, 10, 11, 12, which have flares at the desired angles of about 45°. Each cylindrical cavity may be threaded if desired as indicated in Figure 2 or the cavity may be ribbed in some other manner. The two elements 3 and 4 are held together at the left end as viewed in Figures 2 and 3 by a post 13 which is provided with an enlarged top portion 14 with a shoulder 15 lined against the end face 16 of the element 4 and a reduced shaft 17 which is threaded at the end 18 to engage the threaded section of the lower piece 3. The post 13 may be provided with finger bars 20 for tightening the post in position. The other end of the tool is provided with a post 21 which may be similar in form to the post 13 with a reduced section 22 threaded section 23 threading into the lower piece 3 in exactly the same manner that the post 13 is operated. In the case of the post 21, however, it is recessed in the top of the bar 4 when screwed down in position as indicated at 24, while a slot in the side of the element 4 is cut to the size of the diameter of the shaft 22, so that when the bar is rotated at its other end, the shaft will clear through this side slot 26. Under these conditions, the enlarged section at the top of the post 21 must be raised only the depth of the recessed shoulder 24 in order that the enlarged section of the shaft may be clear of the end of the bar or element 4. When this has been done then, the end 25 of the bar 3 may be pressed in order to swing or pivot the large bar about the post 13, in which case the post 21 will clear the slot 26 and the two pieces may then be readily separated.

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It will be noted that the post 21 need not be tightened carefully in position to lock the two bars together. All that is necessary is for the shoulder of the post 21 to rest in its recesses in the side of the bar 4. About one turn is usually sufficient between clearance and non-clearance position, so that the two pieces may be rapidly assembled and disassembled in their use. All that is necessary in the operation of the flaring clamp is to disconnect the bars, swing one away from the other about the handle, pivot or post 13, insert the pipe in position at the large bar in its proper sized cavity, fit the other half to the first half, and then clamp both ends together. The ramming tool is then slipped over the flaring clamp and the threaded ram 27 is turned to bring the flaring die 28 into the end of the pipe.

I claim:

1. In combination with a flaring tool for flaring the ends of pipes, a split clamp comprising two bar members having semi-cylindrical complemen-

tary cavities forming together a cylindrical opening, means pivoting and adjustably locking the two bars in an axis perpendicular to a plane through the axes of the cavities and a second locking means parallel to the first, said locking means comprising a post adapted to fit longitudinally in a slot in one bar and threaded at its end into the other bar, said slot terminating at one end in the face of the non-threaded bar in an outwardly extending shoulder coaxially aligned with said slot and an enlarged head on said post whereby when said head is in contact with said shoulder said post will be locked in said slot.

2. A flaring tool for flaring the ends of pipes comprising a pair of parallelly positioned bars having abutting longitudinal side faces and spaced varying sized circular cavities diametrically split at the abutting faces, a pivoting post having an enlarged collar section and handle and a smaller section fitting into a hole in one of said bars and threading into a hole in the other bar, said hole being perpendicular to the plane of said abutting side faces, a second post parallel to said first post and having an enlarged head and a partly threaded shank engaging a threaded

hole in said other bar, an arcuate cavity recessed from a face adjacent said abutting face of the other bar, said cavity having a sufficient face opening to permit the shank of the second post but not the head to pass through it, said cavity at the face of the bar from which said second post projects having an enlarged shoulder coaxially aligned with said cavity adapted to fit said enlarged head whereby said second post may be threaded into said hole until said enlarged head is seated into said shoulder locking said bars together in fixed position.

SAMUEL GINNS.

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