Oct. 19, 1948. F. G. WEIGAND 2,451,702

PIPE CLAMP

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FIG. 1

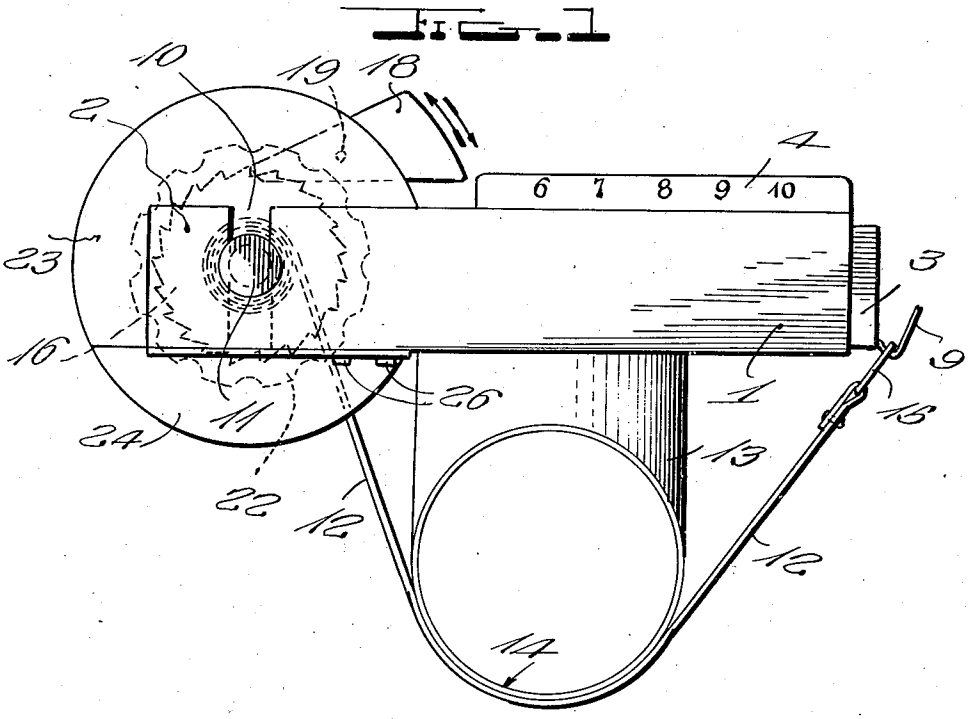


FIG. 2

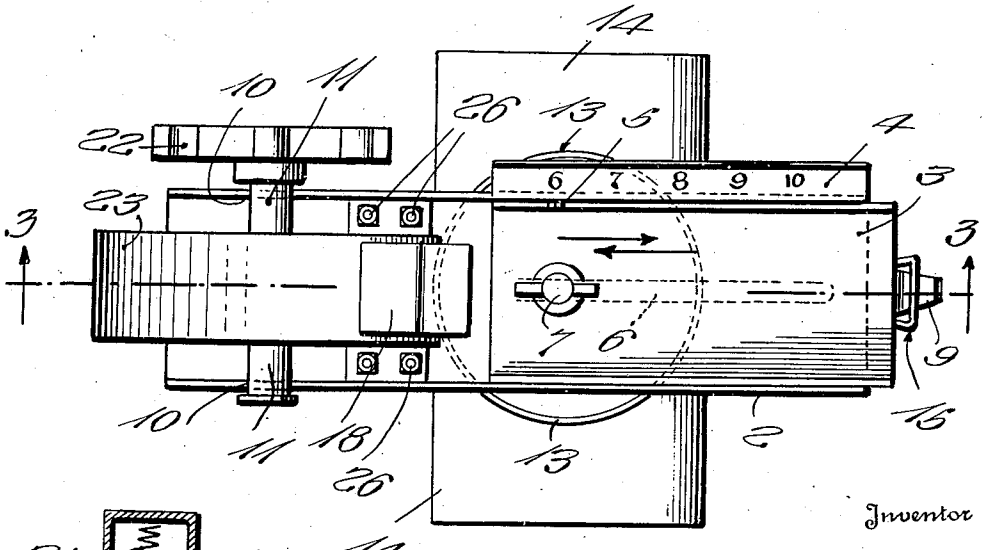
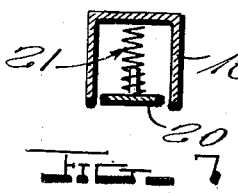


FIG. 7



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PIPE CLAMP

Filed March 12, 1946 2 Sheets-Sheet 2

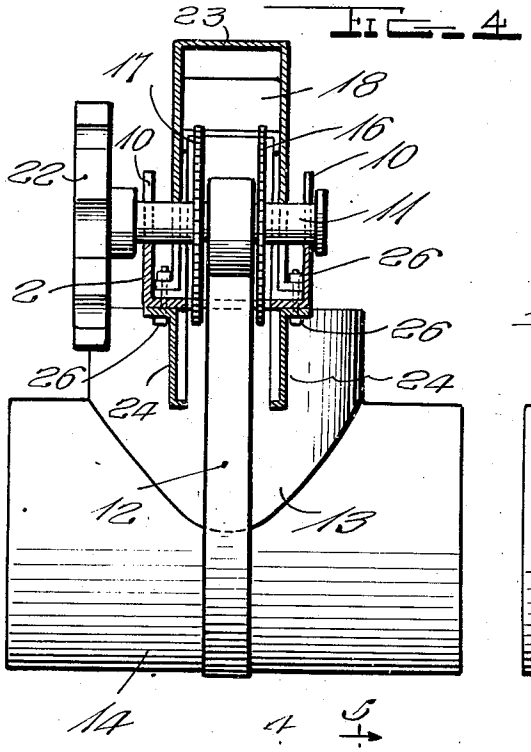

FIG. 4

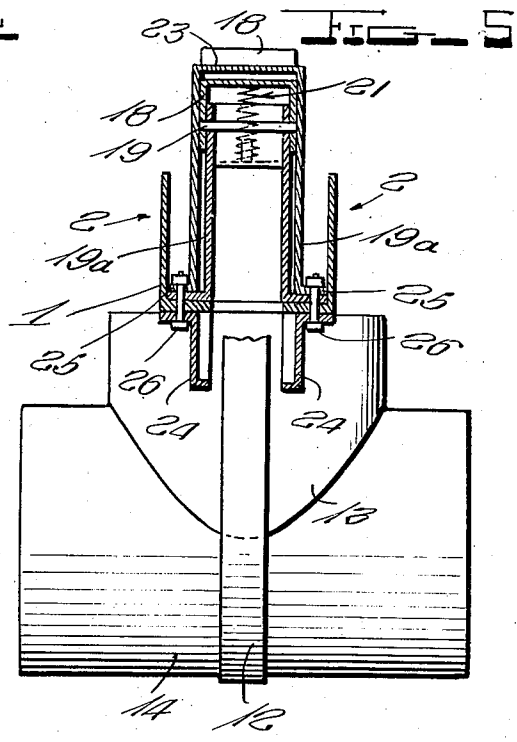

FIG. 5

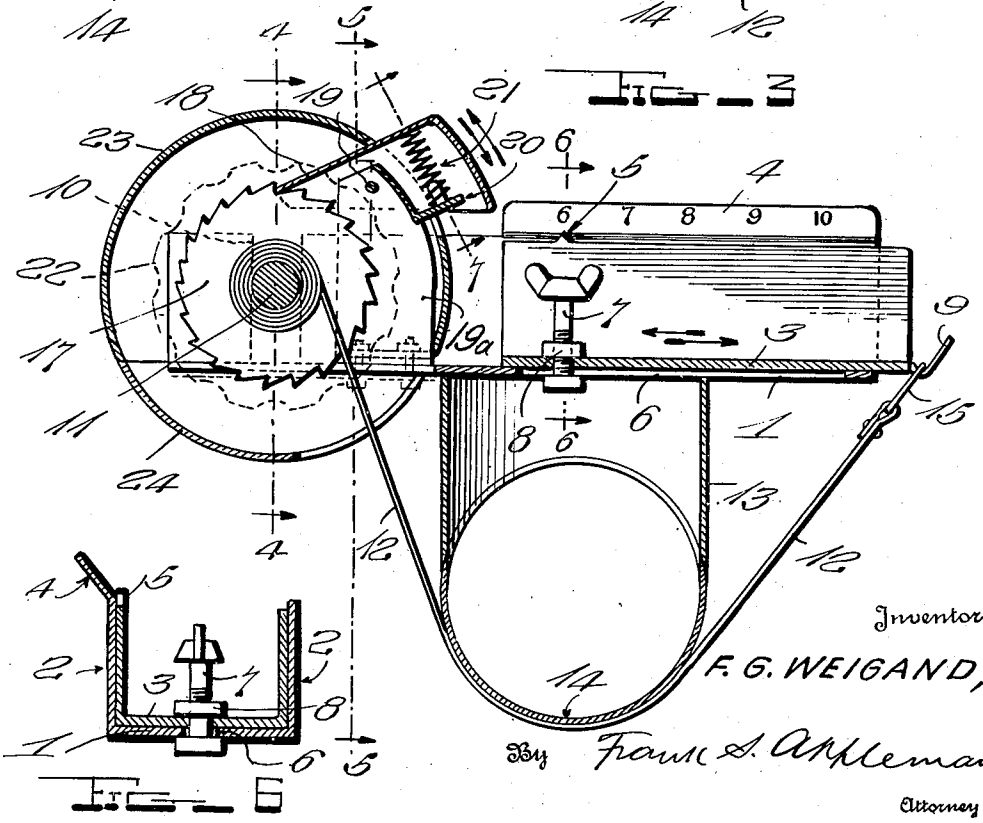

FIG. 3

FIG. 6

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PIPE CLAMP

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Application March 12, 1946, Serial No. 653,818

3 Claims. (Cl. 113—102)

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This invention relates to work holders, and particularly to a device for holding sections of pipe assembled while they are being worked upon for the purpose of closing the seams or joints between the pipe members, which closing may be done by soldering, autogenous welding, or the like.

An object of the invention is to provide a clamping means having a flexible element which is caused to embrace the pipe sections, the said device being provided with means for tensioning the pipe embracing element so that the said pipe sections are held assembled, and novel means are provided by which the tensioning means is wound on a drum or shaft and held at different positions of adjustment.

A further object of the invention is to provide a pipe holding instrumentality and to associate it with a manually rotated shaft on which the tensioning member is wound; the said shaft being also provided with ratchet wheels engaged by a pawl, which pawl is under tension of a spring that automatically causes the engagement of the pawl with the said ratchet teeth.

It is furthermore an object to provide a housing for the tensioning means, the ratchet of which is accessible through the housing so that it may be manipulated after the device is fully assembled.

It is a further object of this invention to provide a pipe holder of the character indicated having a plate adjustable on the frame, the said frame having graduations thereon to indicate the width of a pipe to which the device is adapted for use, the said plate having an anchorage for a flexible pipe embracing element, which element is wound on a shaft for regulating the tension thereof on the pipe sections which are embraced by the work holder.

A still further object of the invention is to produce a work holder of the character indicated which is efficient and satisfactory in use and comparatively inexpensive to manufacture and maintain.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which:

Figure 1 illustrates a view in side elevation showing the pipe clamp associated with pipes to be joined;

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Figure 2 illustrates a plan view thereof;

Figure 3 illustrates a vertical sectional view on the line 3—3 of Fig. 2;

Figure 4 illustrates a transverse sectional view on the line 4—4 of Fig. 3;

Figure 5 illustrates a similar view on the line 5—5 of Fig. 3;

Figure 6 illustrates a sectional view on the line 6—6 of Fig. 3; and

Figure 7 illustrates a sectional view on the line 7 of Fig. 3.

In these drawings, 1 denotes a frame having sides 2, in which a plate 3 is slidable. There is a flange 4 having graduations or numbers thereon to indicate the length of position of the plate with relation to the frame, it being shown that the plate has a pointer 5 which is to register with any of the numbers of the graduations so that proper positioning of the plate may be attained. The frame has a slot 6 therein in which a bolt 7 is slidable, the said bolt being engaged by nuts, such as 8, above the plate and below the frame, so that by adjustment of the bolt the plate is clamped in different positions of adjustment. The outer end of the plate has a lug 9, for a purpose to be presently described.

The sides 2 of the frame are cut away, as at 10, to form bearings for a shaft 11 and said shaft being rotatable in the bearings has a flexible clamping element 12 wound thereon. The said clamping element is caused to embrace pipe sections 13 and 14 in the manner shown in Figure 2, and when the shaft is rotated, the clamping element is wound on the shaft so that the tension of the clamping element is caused to hold the pipe sections assembled; it being understood that the end of the clamping element has a ring or yoke 15 which is engaged by the lug 9 so that when the clamping element is wound on the shaft it will be retained assembled with the pipe sections as shown in Figure 2.

Ratchet wheels 16 and 17 are also mounted on the shaft 11, and the teeth of these ratchet wheels are engaged by a detent or pawl 18 which is mounted on a pivot 19 of the frame member carried by brackets, such as 19a. The pawl bracket has a flange 20 which supports a spring 21 interposed between the flange and the pawl, and the spring is operative to force the outer end of the pawl upwardly so that its nose or inner end engages the ratchet teeth. By this arrangement the shaft may be rotated and when the proper tension has been attained, the pawl will hold the parts in their adjusted positions. Preferably, the shaft is rotated by a knob or handle 22 secured to the

shaft and this knob or handle is externally of a housing which comprises the two sections **23** and **24**, the former being superimposed on flanges, such as **25**, of the frame, whereas the latter is underslung on the frame, and these two housing sections are held assembled on the frame by fastenings, such as bolts, **26**, as those skilled in the art will understand.

The housing section **23** has an opening through which the outer end of the pawl is accessible, or through which it may project so that it may be pressed by an operator for the purpose of disengaging the pawl from the ratchet teeth. It will thus be seen that the operating parts of the device are accessible from points externally of the housing and that adjustments may be made to accommodate pipes of different sizes or dimensions.

I claim:

1. A pipe clamp comprising a frame, a member slidable on a portion of the frame, means for holding the said member in different positions of adjustment, a lug on the outer end of said member, a flexible pipe embracing element having a connection for anchorage to the lug, a shaft on which the pipe embracing element is wound for regulating its tension on the pipe sections, means for holding the shaft in different positions of adjustment, a housing for the shaft and said means, and a hand operated element on the shaft externally of the housing for rotating said shaft.

2. A pipe clamp comprising a frame, a member slidable on a portion of the frame, means for holding the said member in different positions of adjustment, a lug on the outer end of said member, a flexible pipe embracing element having a connection for anchorage to the lug, a shaft on which the pipe embracing element is wound for regulating its tension on the pipe sections, means for holding the shaft in different positions of adjustment comprising ratchet wheels on said shaft, a spring pressed detent engaging the ratchet teeth for holding the shaft at different positions of adjustment, a housing for the shaft and parts associated therewith, and a hand operated element on the shaft externally of the housing for rotating said shaft.

3. A pipe clamp comprising a frame, a member slidable on a portion of the frame, means for holding the said member in different positions of adjustment, a lug on the outer end of said member, a flexible pipe embracing element having a connection for anchorage to the lug, a shaft on which the pipe embracing element is wound for regulating its tension on the pipe sections, means for holding the shaft in different positions of adjustment, and a hand operated element on the shaft for rotating said shaft.

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