Sept. 3, 1929. L. W. JONES 1,726,898

WORKBENCH

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Fig. 1.

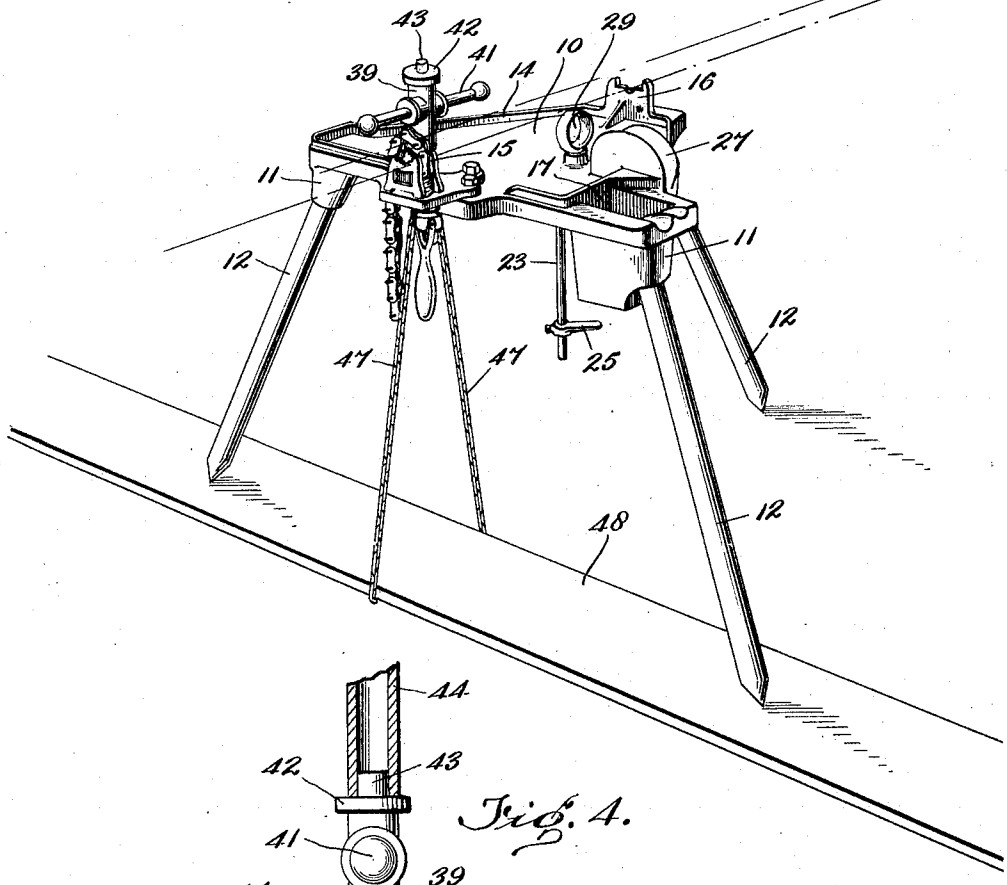
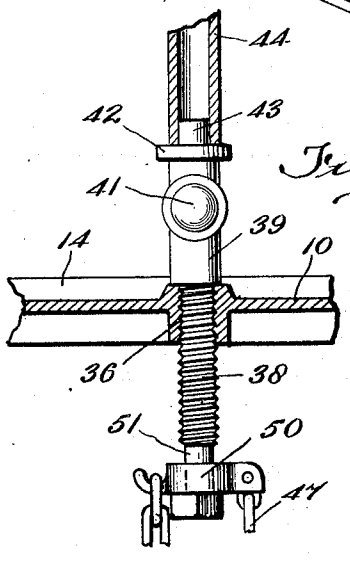


Fig. 4.



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Fig. 2.

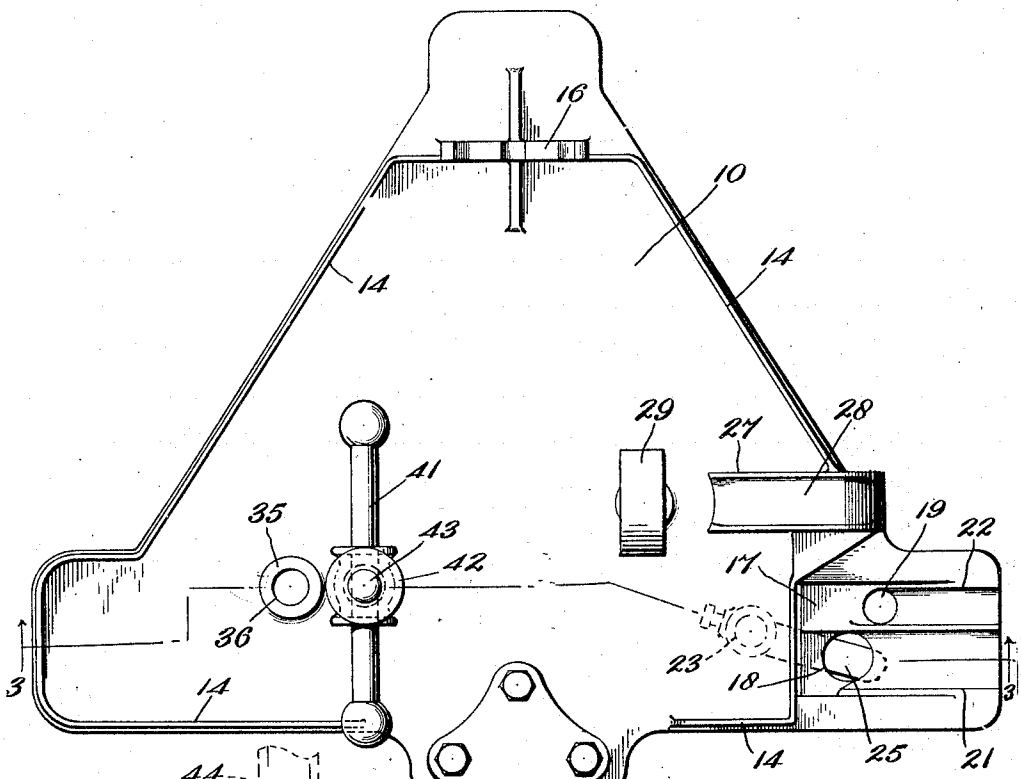
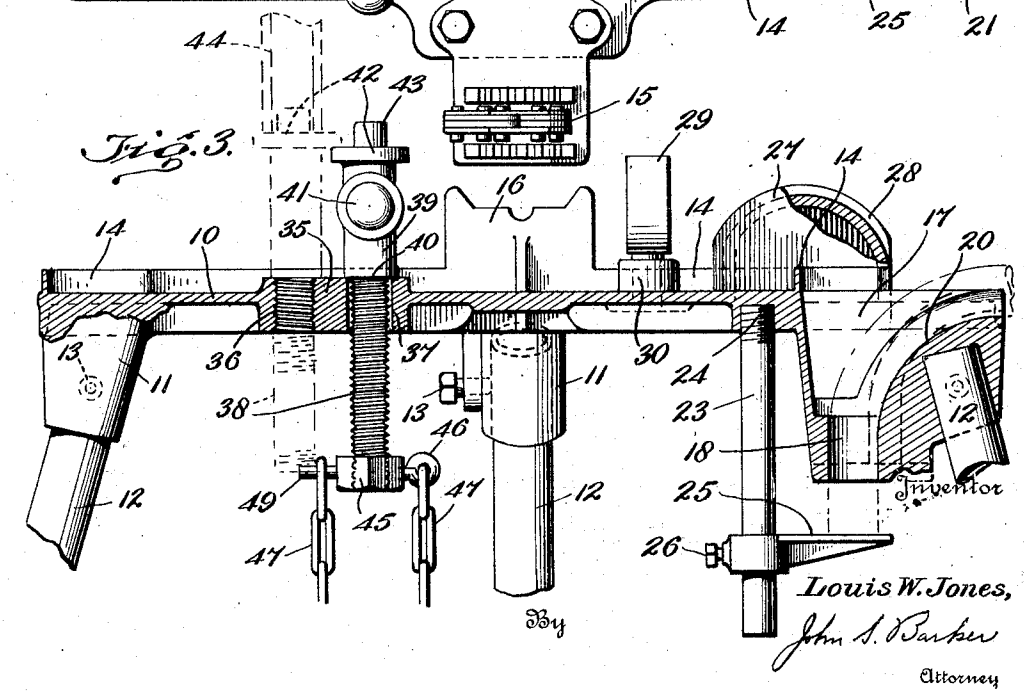


Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIS W. JONES, OF NEW YORK, N. Y., ASSIGNOR TO L. W. JONES TOOL COMPANY, INCORPORATED, A CORPORATION OF NEW YORK.

WORKBENCH.

Application filed August 25, 1926. Serial No. 131,497.

This invention relates to work benches for electricians, plumbers, pipe fitters and other mechanics and has for one of its objects to provide a bench of this character which will be simple in construction, comparatively inexpensive to manufacture and more efficient in use than those which have been heretofore proposed.

A further object of the invention is to provide a work bench of the character described in which provision is made for effectively anchoring the bench when the work is being conducted either in an enclosure where it is possible to brace the bench against some overhead structure, or where the work is being conducted in the open where it is not possible to so brace the bench.

A still further object of the invention is to produce a bench of the character described which is especially adapted for electricians' use and with which it is possible to perform all of the operations ordinarily necessary in installing the conduits and the wiring in a building.

With the above and other objects in view which will appear as the description proceeds, the invention consists in the novel details of construction and combinations and arrangements of parts more fully hereinafter described and particularly pointed out in the appended claims.

Referring to the accompanying drawings forming a part of this specification in which like reference characters designate like parts in all of the views:

Figure 1 is a perspective view of a work bench constructed in accordance with the present invention;

Fig. 2 is a top plan view of the bench shown in Fig. 1;

Fig. 3 is a vertical sectional view taken approximately on the planes indicated by the line 3—3 of Fig. 2, looking in the direction of the arrows; and,

Fig. 4 is a fragmentary sectional view of a slightly modified form of the construction.

Referring more particularly to the said drawings, 10 indicates a table which is substantially triangular when viewed in plan, and which preferably takes the form of a casting having at the three points or apices, the downwardly depending sockets 11, which removably receive the upper ends of the legs 12 which may be secured within the said sockets by means of the set screws or other similar fastenings 13. The outer edge or perimeter of the table 10 is provided with an upstanding flange 14 which extends substantially completely around said edge and which serves to prevent couplings, elbows, unions and other similar pipe fittings from rolling off of the table during its use. Secured upon one side of the table at a point substantially opposite one of the apices is a pipe holding device 15, here shown as being one of the well known forms of chain vise commonly employed in pipe working. At or adjacent the apex, which is substantially opposite the vise 15, there is provided a pipe rest 16 which may take the form of an integral upstanding flange or which if preferred may be made separately and rigidly secured to the said table in any suitable manner. The vise 15 and the rest 16 are of ordinary and well known construction and constitute no especial part of the present invention.

One of the integral sockets 11 which receive the supporting legs 12, here shown as being the right hand socket as viewed in Figs. 2 and 3, is enlarged somewhat and is provided with a recess 17, extending downwardly from the top surface of the table, and the bottom of the said socket is provided with a pair of apertures 18 and 19 of different diameters which are adapted to accommodate pipes of different standard diameters which are in common use. For instance, the aperture 18 may be of such dimensions as to freely receive a standard three-quarter inch pipe while the aperture 19 may be of the proper dimensions to freely receive a standard one-half inch pipe.

The right hand wall of the recess 17 is curved upon the arc of a circle as indicated at 20 and is provided with the substantially semi-cylindrical grooves 21 and 22, which are of substantially the same dimensions as and communicate with, the apertures 18 and 19 respectively. The socket 17, together with its apertures 18 and 19 and grooves 21 and 22 is integrally formed with the table 10 as shown, and constitute means whereby pipes may be bent to produce elbows in the well known manner. That is to say, one end of a pipe which is to be bent is inserted through one of the apertures 18 and 19 in a substantially vertical position, whereupon by applying force to the portion of the pipe which projects upwardly above the surface of the table, the said pipe may be bent

around the curved wall 20 of the recess into one of the grooves 21 or 22 to produce an elbow of any desired angularity.

It frequently happens in electrical work that it is necessary to produce a large number of bends in pipes at the same distance from the ends of the pipe lengths, as for example, where a large number of switches are to be located, the same height from the floor. In order to facilitate the making of a plurality of bends at exactly the same distance from the end of the pipe sections, I have provided an adjustable stop beneath and adjacent the recess 17, which stop is here shown as comprising a downwardly extending rod or pipe 23, the upper end of which is threaded as at 24 into the under surface of the table 10, and which pipe or rod 23 carries an angularly and vertically adjustable finger or stop member 25 which may be secured in any desired position by means of a set screw 26. As will be readily understood from Figs. 2 and 3 the finger or stop 25 may be adjusted vertically to any desired position relative to the bottom of the socket 11, and may be swung angularly beneath either of the apertures 18 or 19, whereupon it may be secured in such a position by means of the set screw 26. It is then possible to successively introduce any desired number of pipe sections into the particular aperture 18 or 19, being employed, with the lower ends of the said sections engaging the stop 25 and to produce bends in such pipe sections, all of which will be located at exactly the same distance from the ends of the pipe sections.

It will be noted in connection with this pipe, bending socket that the recess 17 is provided with a bottom wall in which the holes or apertures 18 and 19 are formed which wall serves to prevent the pipe couplings or other fittings from falling through the socket in the event they should be inadvertently dropped therein.

In pipe work of this character it is also frequently necessary to produce goose neck and S curves in pipe sections and in order to provide means whereby such curves may be readily produced, the table 10 is provided with an upstanding lug or flange 27, the upper surface of which is convex as viewed in Fig. 3, and is grooved transversely as indicated at 28 to conform substantially with the outer surface of the standard pipes. To the left of the lug or member 27 I have provided means for receiving the end of the pipe section comprising an eye member 29 which may be threaded into a boss 30 provided on the table 10. The eye bolt or member 29 being in alignment with the member 27 it is possible to insert one end of a pipe section through the said eye member and by the exerting, downward force upon the projecting end of the pipe section to produce a bend therein of any desired angularity. By then moving the pipe section toward the left as viewed in Figs. 2 and 3, and rotating it through an angle of 180 degrees or any other desired angle and again exerting a downward force upon the end of the pipe section projecting to the right beyond the member 27, a reverse bend may be formed in the pipe to produce a goose neck or S bend of any required angularity and dimensions.

Benches of this character are usually made as light as is consistent with the required strength in order that they may be readily transported from place to place and they are seldom heavy enough to be stable of their own weight under the forces which are commonly applied in bending, threading and fitting of pipes. It is therefore, desirable and in many cases necessary to provide some means whereby such benches may be securely anchored in place to prevent them from tipping over when in use. I have provided a means whereby it is possible to securely anchor the present bench when it is being employed indoors where it is possible to brace the bench against a ceiling or overhead beam, and also when it is being employed out of doors or indoors where it is not possible to thus brace the bench against some overhead structure. To the end I have provided the table 10 as shown in Figs. 2 and 3 with a boss 35 having a pair of holes 36 and 37 extending therethrough. The hole 36 is threaded and is adapted to receive the lower threaded end 38 of a stud 39, the upper end of which is enlarged to provide a shoulder 40 which engages the upper surface of the boss 35 and prevents the stud from passing entirely through the holes. Said stud 39 is also provided with a transverse handle or bar 41 by means of which it may be rotated and the extreme upper end of the stud is provided with a flange 42 which is surmounted by a reduced boss or projection 43 adapted to be received within a section of pipe 44 which is cut to a length suitable to extend upwardly to engage the ceiling or an overhead beam.

In use the pipe section 44 will be positioned substantially as illustrated in dotted lines of Fig. 3, whereupon by rotating the stud 39 by means of its handle 41, the said pipe section may be forced upwardly against the overhead structure thereby securely bracing the pipe bench in operative position.

Where the work is being conducted in the open or some place where it is not possible to brace the bench against an overhead structure, the stud 39 is removed from the hole 36 and placed in the hole 37 which latter hole is not threaded and is of a diameter sufficient to permit the threaded end 38 of the said stud to freely work therein. In this case, a nut 45 is threaded upon the lower threaded end 38 of the stud 39 which nut is provided

with an eye member 46 to which is secured one end of a chain or cable 47, which chain or cable may be passed around a plank or beam 48 and have its other end brought upwardly and secured to a projecting pin 49, also carried by the nut 45. By rotating the stud 39 by means of its handle or pipe 41, the nut 45 may be moved upwardly due to its screw threaded engagement with the said stud, to tightly clamp the beam or plank 48 against the lower ends of the legs 12 which support the table.

From the construction just described it will be readiy apparent that the bench may be securely anchored and rendered substantially rigid under all operating conditions, whether the work is being conducted indoors or out of doors.

In Fig. 4 I have illustrated a slightly modified and preferred form of construction of the stud 39 for securing the bench against displacement in which it is necessary to provide only one aperture such as 36 in the table 10. In this case, a yoke member 50 is swivelly mounted upon the lower reduced end 51 which is provided beneath the screw threads 38 of the stud 39 which yoke or collar 50 carries the chain 47 which is employed for fastening the bench to a plank or beam such as 48. The operation is substantially the same however, when the chain 47 and plank 48 are being employed, insofar as the bracing of the bench is concerned, as when the upwardly extending pipe section 44 is employed. In other words, by turning the stud 39 it threads in the aperture 36 to move upwardly and downwardly whether the chain 47 or the pipe 44 is being used.

It will, of course, be understood that the pipe 44 is not ordinarily employed when the chain 47 is being used and vice versa.

It will thus be seen that the present invention provides a work bench for electricians and other mechanics who work with pipe, which may be readily set up in an exceedingly rigid position, either indoors or out of doors and which provids means whereby large number of bends may be produced in pipe sections of exactly the same distance from the end of the section in each case. Also that means is provided for producing reverse bends in pipe sections and that the provision of the flange 14 extending substantially entirely around the periphery of the table will prevent the pipe fittings from rolling off of the bench and becoming lost.

While one form of the invention has been thus illustrated and described, it is obvious that those skilled in the art may vary the details of construction as well as the precise arrangements of parts without departing from the spirit of the invention and therefore it is not wished to be limited to the above disclosure except as may be required by the claims.

What is claimed is:

1. A work bench of the class described, comprising a substantially horizontal table provided with a downwardly extending integrally formed pipe bending socket having a bottom wall provided with a plurality of apertures through which pipe sections may be introduced, and a curved and grooved side wall about which said pipe sections may be bent.

2. A work bench of the class described, comprising a substantially horizontal table provided with a pipe bending socket having a pipe receiving aperture; a depending rod carried by said table adjacent said aperture and an adjustable gage stop carried by said rod, adapted to be moved into and out of alignment with said aperture.

3. A work bench of the class described, comprising a substantially horizontal table provided with a pipe bending socket having a plurality of pipe receiving apertures; and an adjustable gage stop carried by said table, adapted to be moved horizontally into alignment with any of said apertures, and to be moved vertically toward and from said apertures.

4. In a work bench of the class described, a table provided with an aperture; a threaded stud mounted in said aperture, the upper end of said stud being formed to engage an upwardly extending bracing member; and means carried by the lower end of said stud for readily detachably securing said table to an anchoring member located beneath said table.

5. In a work bench of the class described, a table provided with an aperture; a threaded stud mounted in said aperture, the upper end of said stud being formed to engage an upwardly extending bracing member; and means comprising a member rotatably carried by the lower end of said stud and a chain carried by said member, for readily detachably securing said table to an anchoring member located beneath said table.

LOUIS W. JONES.