F. ACKERMAN.

PIPE FITTER'S VISE BENCH.

APPLICATION FILED JULY 27, 1915.

1,156,965.

Patented Oct. 19, 1915.

2 SHEETS—SHEET 1.

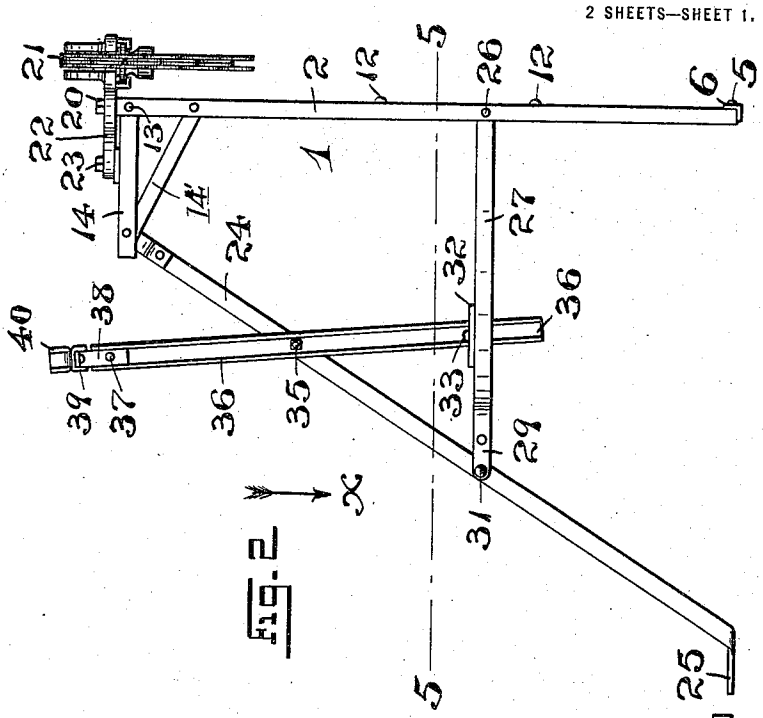


FIG. 2

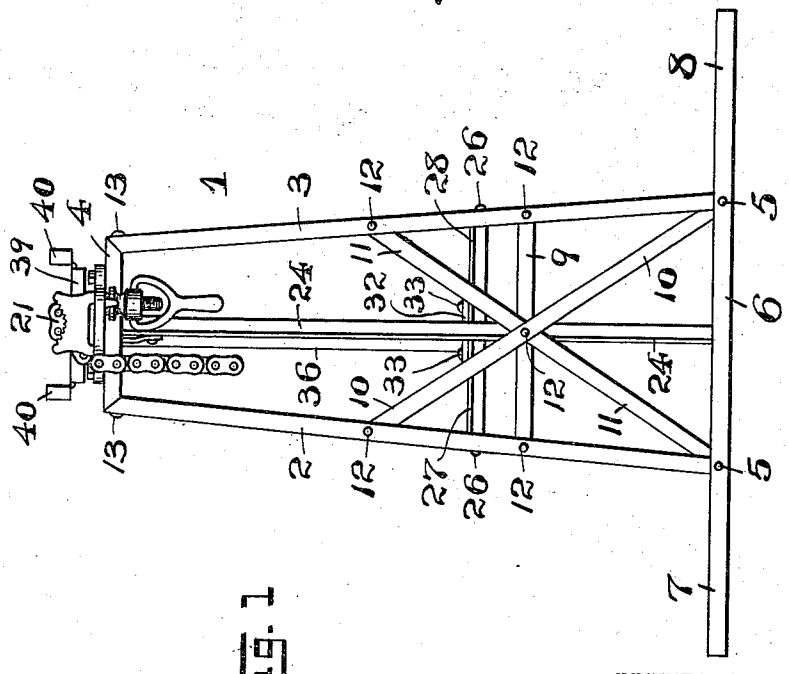


FIG. 1

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Fig. 3

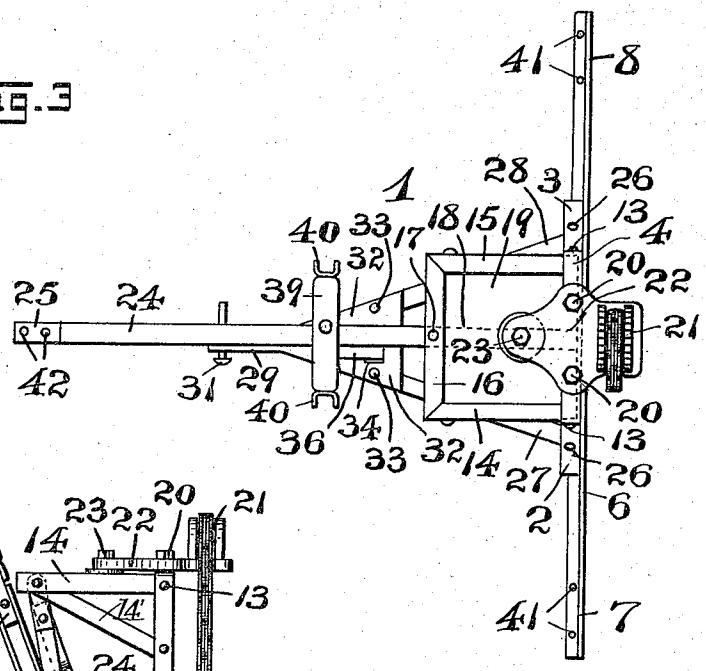



Fig. 4

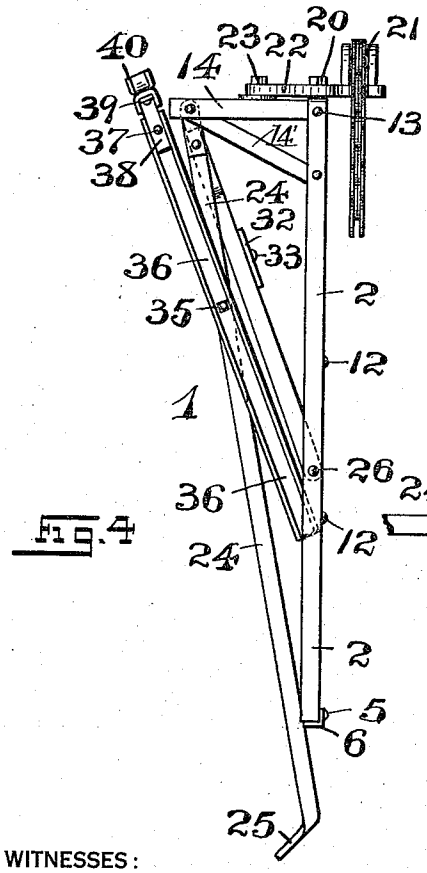
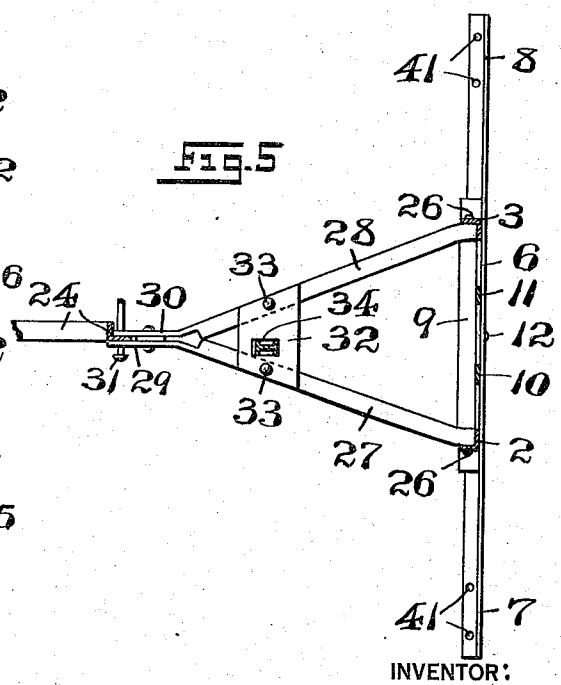



Fig. 5




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# UNITED STATES PATENT OFFICE.

FREDERICK ACKERMAN, OF NORTH BERGEN, NEW JERSEY.

## PIPE-FITTER'S VISE-BENCH.

1,156,965. Specification of Letters Patent. Patented Oct. 19, 1915.

Application filed July 27, 1915. Serial No. 42,181.

*To all whom it may concern:*

Be it known that I, FREDERICK ACKERMAN, a citizen of the United States, residing at North Bergen, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Pipe-Fitters' Vise-Benches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The present invention has reference, generally, to improvements in benches for the use of machinists, plumbers, steam and gas-fitters; and, this invention relates, more particularly, to a novel construction of pipe-fitter's vice-bench, with a view of providing a bench of the general character hereinafter more particularly set forth, which is greatly reduced in weight, is readily portable, is rigid and strong in its construction, and can be readily manipulated without permanently securing or fastening the bench to the floor, and without any danger of tilting the bench when great pressure or force is applied to the work secured in the vise mounted upon the bench.

The present invention, therefore, has for its principal objects to provide a pipe-fitter's vise-bench all of the various parts of which are made of iron, the main frame-work of the bench being made of angle-iron, and the various parts being assembled in such a manner, that the tripod-arrangement of the supporting members of the frame-work are foldably connected, so that the various parts of the bench, when not in use, can be readily brought into folded relation, thereby providing a portable vise-bench which will take up but very little space, and being of a very light structural frame-work, can be readily carried from place to place.

The present invention has for its further object to provide a vise-bench, which is of a rigid construction, and can be used without any danger of tilting or upsetting the bench, when applying pressure or force to the work mounted in the vise of the bench, without any necessity of having to secure the vise-bench to the floor by means of screws or other suitable fastening means.

Other objects of the present invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the present invention.

With the various objects of the present invention in view, the said invention consists, primarily, in the novel pipe-fitter's vise-bench hereinafter set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the several devices and parts, as well as in the details of the construction of the said parts, all of which will be more fully described in the following specification, and then finally embodied in the clauses of the claim which is appended to and which forms an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of a pipe-fitter's vise-bench, illustrating one embodiment of the principles of the present invention; Fig. 2 is a side-elevation of the same; and Fig. 3 is a top or plan view of the vise-bench, the said views representing the bench in its set-up position, ready for use. Fig. 4 is a side elevation of the vise-bench, the parts of the frame-work being represented in their folded relation, and Fig. 5 is a horizontal sectional representation of the device, said section being taken on line 5—5 in said Fig. 2, looking in the direction of the arrow *x*.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the said drawings, the reference-character 1 indicates a complete portable pipe-fitter's vise-bench made according to and embodying the principles of the present invention, the same comprising a front standard or support consisting of a pair of uprights or legs, as 2 and 3, and an upper horizontal connecting bar or member 4, all of which are preferably made of a single piece of angle-iron. The lower end-portions of said uprights or legs 2 and 3 are suitably secured by means of rivets 5, or other suitable fastening means, to a horizonal base-bar 6, also of angle-iron, said base-bar 6 being of such length, so that its end-members or portions 7 and 8 will extend some substantial distance beyond the said lower end-portions of said uprights or legs 2 and 3, as shown in Figs. 1, 3 and 5, said

end-members or portions 7 and 8 thereby providing suitable foot-pieces, as represented and for the purposes hereinafter more fully specified. The said uprights or legs 2 and 3 may be further strengthened by a tie-bar, as 9, also made of angle-iron, and a pair of angularly disposed strut-rods or bars, as 10 and 11, the said various parts being rigidly secured by means of rivets 12, or other suitable fastening means. Suitably secured to the upper angular portions of said uprights or legs 2 and 3, and the said connecting bar or member 4, by means of rivets 13, or other suitable fastening means, is a horizontal frame, consisting of the rearwardly extending members 14 and 15 and a connecting member 16, all of which are preferably made of a single piece of angle-iron. Braces 14′ may be employed between the rearwardly extending members 14 and 15, and the uprights or legs 2 and 3, substantially in the manner indicated in Figs. 2 and 4 of the drawings. Extending rearwardly from the central portion of the connecting bar or member 4 to the said connecting member 16, and secured to said connecting bar 16 by means of a rivet 17, or other suitable fastening means, is a retaining bar 18, also made of angle-iron, and its general arrangement being indicated in dotted outline in Fig. 3 of the drawings. Resting upon this retaining bar 18, and beneath the angular portions of the bar or member 4, and the said rearwardly extending members 14 and 15, and the connecting members 16, is a sheet-metal plate 19. Suitably secured upon said bar or member 4, by means of bolts 20, is the rearwardly extending plate 22 of a suitable vise, as 21, said plate 22 being also secured by means of a bolt 23 upon said plate 19, said bolt 23 extending through said plate 19 and being secured to said retaining bar 18, thereby providing an additional fastening means for rigidly securing said retaining bar 18 and the plate 19 in their assembled relation to said bars or members 4, 14, 15 and 16, as will be clearly evident. Pivotally connected with the rear end of the said retaining bar 18 is a rearwardly and downwardly extending supporting leg, as 24, said leg being also made of angle-iron, and being preferably formed at its lower end with a supporting brace, as 25. Pivotally connected with the said front uprights or legs 2 and 3, by means of pivot-pins, rivets, or screws, as 26, are a pair of brace-rods or members, as 27 and 28, which are also made of angle-iron, said brace-rods or members 27 and 28 extending rearwardly and converging in two closely located end-members 29 and 30, which are provided with a space between them in which a portion of the said supporting leg 24 is arranged. The said end-members 29 and 30 which thus embrace the said portion of the leg 24 are detachably or separably secured to and connected with the said portion of the leg 24 by a suitable pin 31 which is removably disposed in registering perforations or holes in the respective end-members 29 and 30, and that portion of the leg 24 which is embraced by said end-members. The angular arrangement of the said brace-rods or members 27 and 28 is maintained by a suitably shaped plate, as 32, which is suitably secured to said brace-rods or members 27 and 28 by means of rivets 33, or other suitable fastening means. This plate 32 is also provided with a suitably disposed opening or hole, as 34. Pivotally attached to the said supporting leg 24 upon a pivot-pin in the form of a bolt 35, or other suitable means of pivotal support, is an upwardly extending rod, as 36, usually in the form of a channel-rod or bar, upon the upper end of which is mounted by means of rivets 37, or otherwise, an angle-bracket 38 which carries a supporting element, as 39, which is formed at its ends with upwardly extending guards, as 40, as clearly illustrated in Figs. 1, 2 and 3 of the drawings. When the frame-work of the vise-bench is in its set-up condition, represented in the said Figs. 1, 2 and 3 of the drawings, the lower end-portion of the rod 36 extends into and through the previously-mentioned opening 34 in the plate 32, whereby the said rod 36 and its element 39 are retained in substantially rigid supporting relation with the remaining members or elements of the vise-bench, as will be clearly evident from an inspection of said Fig. 2 of the drawings. When the various parts of the foldable frame-work of the vise-bench have been readily fixed in their set-up relation represented in said Figs. 1, 2 and 3 of the drawings, the bench can be readily used for cutting or threading pipe, by placing the pipe-end in the vise and supporting the length of pipe upon the supporting element 39.

When applying the cutting tool, or the screw-threading stock and die, upon the end-portion of the pipe projecting from the front face of the vise, in applying the necessary pressure or force, it will not be necessary to permanently secure the vise-bench in a fastened position upon the floor, any tilting or upsetting of the bench being positively prevented by the operator placing his foot upon either of the previously-mentioned end-members 7 or 8 of the base-bar 6, and pressing down upon the same, while cutting off a piece of pipe, or while providing the same with a screw-thread.

When it is desired to bring the several parts of the frame-work of the vise-bench into their folded relation illustrated in Fig. 4 of the drawings, all that is necessary is to withdraw the pin or bolt 31 which permits the removal of the leg 24 from between the

end-members 29 and 30 of the respective brace-rods 27 and 28, and the lower end-portion of the rod 36 from the hole or opening 34 of the plate 32, thereby permitting the parts to be folded upon each other, as shown, and providing a comparatively small package for conveniently carrying the same about, or for storing purposes when the vise-bench is not in use.

Of course it will be evident, that the brace 25 of the leg 24 and the base-bar 6 may respectively be provided with perforations 41 and 42, if desired, for the reception of screws when it is desired to permanently secure the vise-bench to the floor, as will be clearly understood.

Of course I am fully aware that changes may be made in the general arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, without departing from the scope of the present invention as set forth in the foregoing specification, and as defined in the clauses of the claims which are appended thereto. Hence, I do not limit my present invention to the exact arrangements and combinations of the various devices and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. A pipe fitter's vice bench comprising a supporting frame-work and a table-like member mounted on said frame-work, said frame-work comprising a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights, and of sufficient length to receive the foot of the operator, so as to provide pressure-receiving foot-pieces.

2. A pipe fitter's vise bench comprising a supporting frame-work and a table-like member mounted upon said frame-work, said frame-work comprising a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights, and of sufficient length to receive the foot of the operator so as to provide pressure-receiving foot-pieces, and a downwardly and rearwardly extending leg also comprising a part of the said frame-work.

3. A pipe fitter's vise bench comprising a supporting frame-work consisting of a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights and of sufficient length to receive the foot of the operator, so as to provide pressure-receiving foot-pieces, a connecting member at the upper end-portions of the said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, and a rearwardly and downwardly extending leg pivotally connected with said horizontal frame.

4. A pipe fitter's vise bench comprising a supporting frame-work consisting of a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights so as to provide pressure-receiving foot-pieces, a connecting member at the upper end-portions of the said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, a supporting bar pivotally connected with said leg, and a work-supporting guard mounted upon said supporting bar.

5. A pipe fitter's vise bench comprising a supporting frame-work consisting of a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights so as to provide pressure-receiving foot-pieces, a connecting member at the upper end-portions of the said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-member embracing a portion of said leg, and a pin for detachably connecting said end-members with said leg.

6. A pipe fitter's vise bench comprising a supporting frame-work consisting of a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights so as to provide pressure-receiving foot-pieces, a connecting member at the upper end-portions of the said uprights, a horizontal frame extending rearwardly from said connected member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-member embracing a portion of said leg, a pin for detachably connecting said end-members with said leg, a support-

ing bar pivotally connected with said leg, and a work-supporting guard mounted upon said supporting bar.

7. A pipe fitter's vise bench comprising a supporting frame-work consisting of a pair of front uprights and a base-bar connected with the lower ends of said uprights, said base-bar having its end-portions extending laterally beyond the said lower ends of the uprights so as to provide pressure-receiving foot-pieces, a connecting member at the upper end-portions of the said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-members embracing a portion of said leg, a pin for detachably connecting said end-members with said leg, a plate secured to and connecting the said brace-rods, said plate being provided with an opening, a supporting bar pivotally connected with said leg, said supporting bar having its lower end-portion extending into and through the opening in said plate, and a work-supporting guard mounted upon the upper end of said supporting bar.

8. A pipe fitter's vise-bench comprising a supporting frame-work consisting of a pair of front uprights, a connecting member at the upper end-portions of said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, a supporting bar pivotally connected with said leg, and a work-supporting guard mounted upon said supporting bar.

9. A pipe fitter's vise-bench comprising a supporting frame-work consisting of a pair of front uprights, a connecting member at the upper end-portions of said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-members embracing a portion of said leg, and a pin for detachably connecting said end-members with said leg.

10. A pipe fitter's vise-bench comprising a supporting frame-work consisting of a pair of front uprights, a connecting member at the upper end-portions of said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-members embracing a portion of said leg, a pin for detachably connecting said end-members with said leg, a supporting bar pivotally connected with said leg, and a work-supporting guard mounted upon said supporting bar.

11. A pipe fitter's vise-bench comprising a supporting frame-work consisting of a pair of front uprights, a connecting member at the upper end-portions of said uprights, a horizontal frame extending rearwardly from said connecting member, a plate providing a table mounted in said horizontal frame, a rearwardly and downwardly extending leg pivotally connected with said horizontal frame, angularly disposed brace-rods pivotally connected with said front uprights, an end-member connected with each brace-rod, said end-members embracing a portion of said leg, a pin for detachably connecting said end-members with said leg, a plate secured to and connecting the said brace-rods, said plate being provided with an opening, a supporting bar pivotally connected with said leg, said supporting bar having its lower end-portion extending into and through the opening in said plate, and a work-supporting guard mounted upon the upper end of said supporting bar.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 23rd day of July, 1915.

FREDERICK ACKERMAN.

Witnesses:
FREDK. C. FRAENTZEL,
FREDK. M. W. FRAENTZEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."