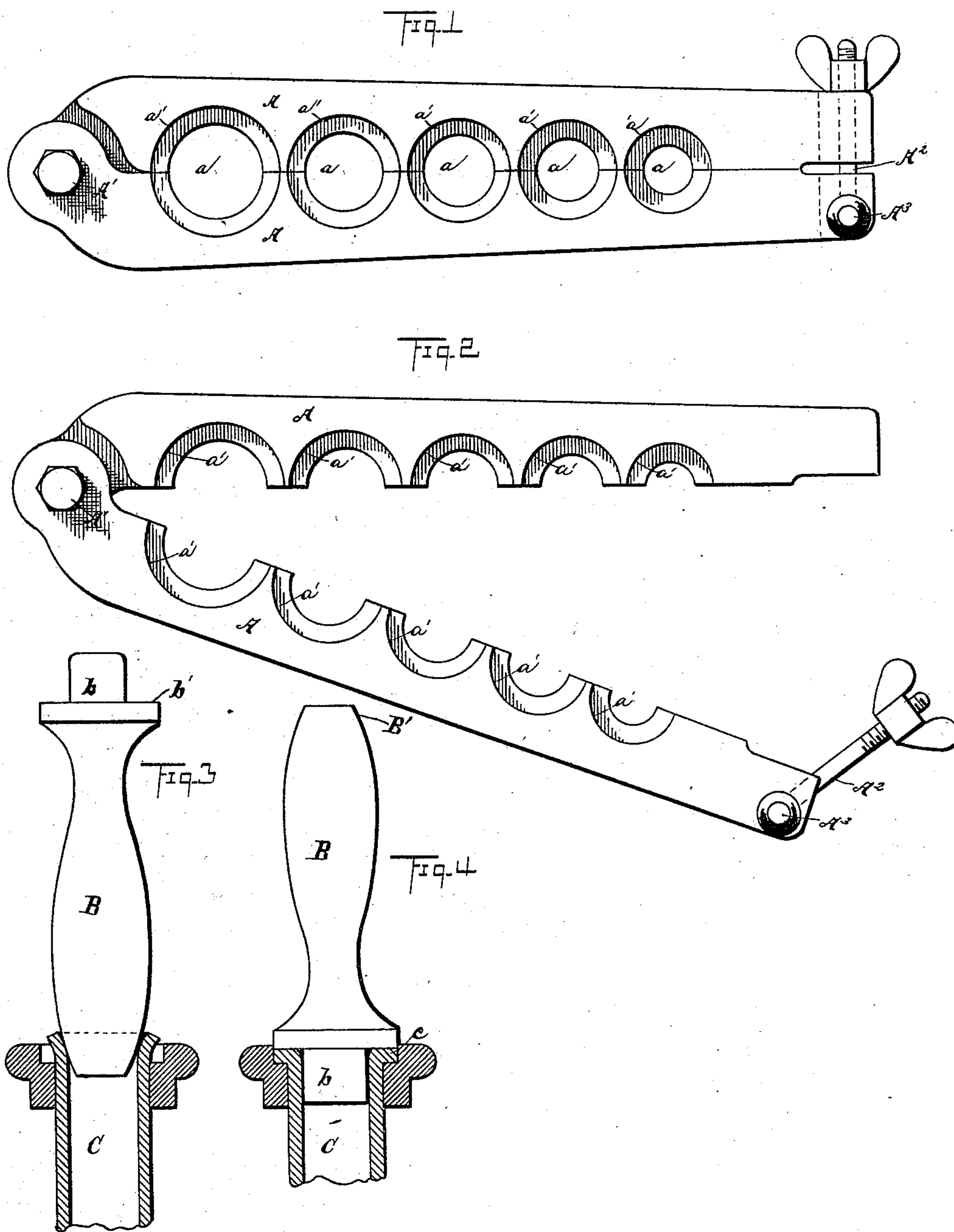


(No Model.)

I. B. COLEMAN.
FLANGING APPARATUS.

No. 408,586.

Patented Aug. 6, 1889.



Witnesses

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By

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UNITED STATES PATENT OFFICE.

ISAIAH B. COLEMAN, OF ELMIRA, NEW YORK.

FLANGING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 408,586, dated August 6, 1889.

Application filed March 23, 1889. Serial No. 304,398. (No model.)

To all whom it may concern:

Be it known that I, ISAIAH B. COLEMAN, of Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Flanging Apparatus; 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 pertains to make and use the same.

My invention relates to improvements in flanging apparatus for flanging soft-metal pipes, in which is employed a portable clamp for holding the different-sized pipes more commonly used, such clamp having a counterbore for each-sized pipe, the same serving, respectively, as dies in which to form the flanges, together with reversible hand-tools adapted the one end thereof to distend the end of the pipe, the other end being adapted to upset the end of the pipe into a counterbore of the clamp, a center-pin of the hand-tool serving to keep the bore of the pipe intact, and serving also to guide the head of the tool into the counterbore, the object being to provide a cheap, portable, and effective apparatus, whereby the flanging is quickly and easily done.

In the accompanying drawings, Figures 1 and 2 are plans of the clamp, showing, respectively, the clamp in positions closed and open. Figs. 3 and 4 are end elevations in section, showing different stages of the work.

A A are the jaws of the clamp, pivoted together at A', the free end of the clamp-jaws being slotted laterally for receiving the securing-bolt A². This bolt is pivoted at A³ to the one jaw, as shown, by which arrangement the thumb-nut of the bolt has to be backed off only a short distance to admit of swinging the bolt on its pivot in fastening or unfastening the clamp. Along the line of intersection of the clamp-jaws are located a series of holes *a*, the respective diameters of which are adapted to accommodate and grasp different-sized pipes more commonly used—say from one-half to one-and-a-quarter inch pipe, inclusive, although the sizes may be varied, if preferred, and the number increased or diminished according to circumstances and the demands of the trade. Each hole *a* is coun-

terbored, as shown at *a'*, the diameter of the counterbore corresponding with the diameter of the flange required, and the depth of the counterbore being somewhat more than will accommodate such flange. The bottom of the counterbore has usually a flat surface, so that the flange formed therein will fit a flat seat of the coupling. (Not shown.) If, for any reason, the seats of the coupling were conical or otherwise, the bottoms of the counterbores should be made to correspond.

B is a hand-tool, one of which is provided for each size of pipe, these tools being long enough to conveniently hold in the hand while applying a mallet. The one end of the tool is conical or tapering approximately, as shown at B', and is adapted to enter and distend or spread the end of the pipe, as shown in Fig. 3. The other end of the tool has a center-pin *b'*, adapted to fit in the bore of the pipe, and has a head *b'*, adapted to fit the counterbore *a'*, corresponding with the respective hand-tool. The pipe C, according to its size, is placed in a corresponding receptacle in the clamp, with the end thereof protruding above the bottom of the counterbore far enough for flanging purposes—say from a quarter to three-eighths of an inch, (more or less,) according to the size of the pipe and according to the thickness of flange required. The end B' of the hand-tool is inserted in the end of the pipe and a few light blows of a mallet are applied to flare or distend the end of the pipe. The heading-tool is then reversed, and pin *b* is inserted in the end of the pipe and blows are applied to the tool to more or less upset the metal and to force it down into the counterbore to form the flange *c*. Pin *b* meantime fitting in the bore of the pipe prevents the latter from compression and serves to guide head *b'* into the counterbore. The pipe is quickly and easily clamped, after which but a few seconds time is required to complete the work, and as light blows only are required the work is light and does not require skilled labor. The clamp and accompanying hand-tools are quite inexpensive and only weigh a few pounds, and are therefore easily carried about by plumbers and other workmen requiring such tools.

The couplings for connecting such flanged

pipes are well known, and are therefore not shown.

What I claim is—

1. In pipe-flanging apparatus, the combination, with portable clamp having a series of holes for holding different-sized pipes, each hole having a counterbore for flanging purposes, of hand-tools adapted, respectively, to distend and flange the respective pipes into the counterbores of the clamp by means of blows applied to such hand-tools, substantially as set forth.

2. In pipe-flanging apparatus, the combination, with clamp for holding the pipe, of a reversible hand-tool having a conical or tapering end for distending the pipe end, the reverse end of the tool having a head adapted to fit in the counterbore of the clamp, and having a center-pin adapted to fit the bore of the pipe, substantially as set forth.

3. In pipe-flanging apparatus, the combination, with clamp-jaws pivoted together at the one end thereof, and having a pivoted securing-bolt operating in transverse slots in the free ends of the jaws, a series of holes located

along the line of intersection of the jaws, for holding different sizes of pipes, each hole having a counterbore, of hand-tools for distending and flanging the respective pipe ends into the respective counterbores of the clamp, substantially as set forth.

4. A portable pipe-flanging apparatus consisting of clamp-jaws adapted to be opened or closed and having a series of different-sized holes along the contact-line of the jaws, each hole having a counterbore, a series of reversible hand-tools, respectively, for each hole of the clamp, such hand-tools having respectively a tapering end adapted to enter the end of the pipe, and having a head adapted to enter the counterbore of the clamp, and having a center-pin adapted to enter the bore of the pipe, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 19th day of February, 1889.

ISAIAH B. COLEMAN.

Witnesses:

F. P. WOLCOTT,
HARRY E. DE PUE.