

(No Model.)

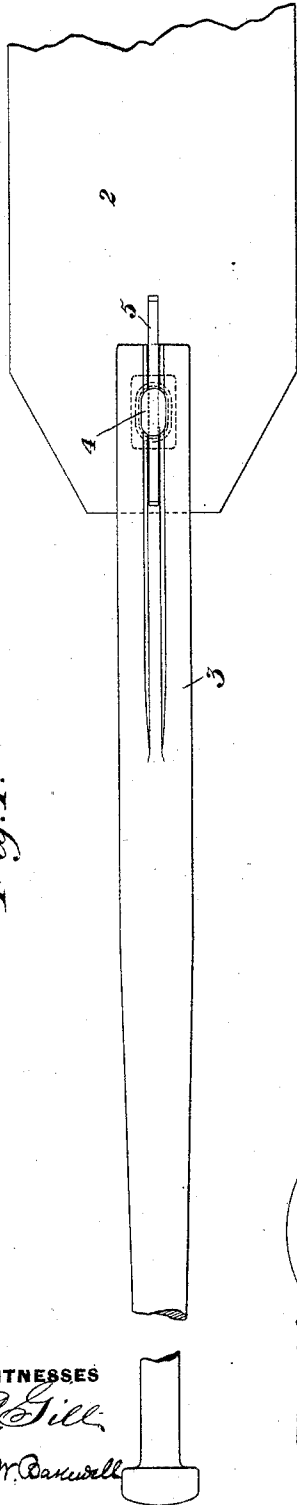
2 Sheets—Sheet 1.

J. SIMPSON.
SKELP TANG.

No. 485,893.

Patented Nov. 8, 1892.

Fig. 1.



WITNESSES
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Fig. 2.

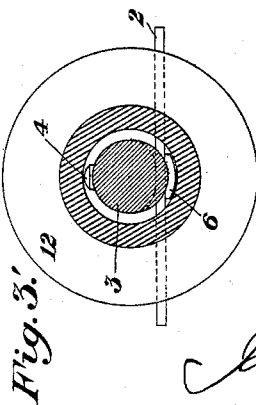
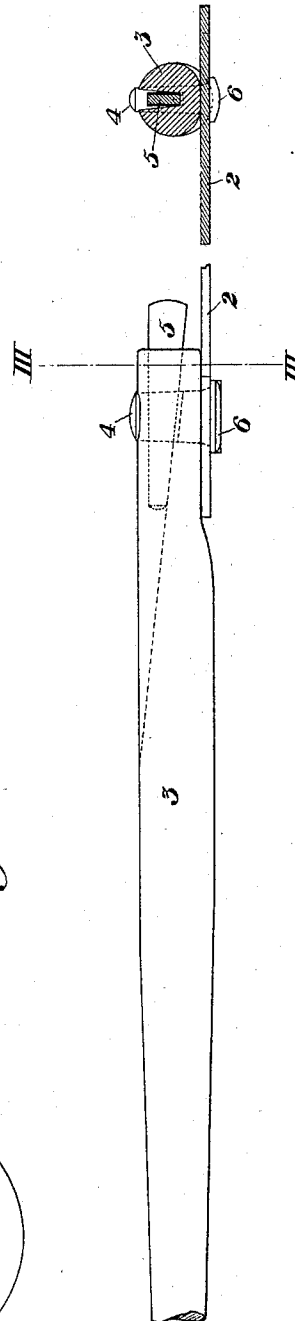


Fig. 3.

INVENTOR

James Simpson

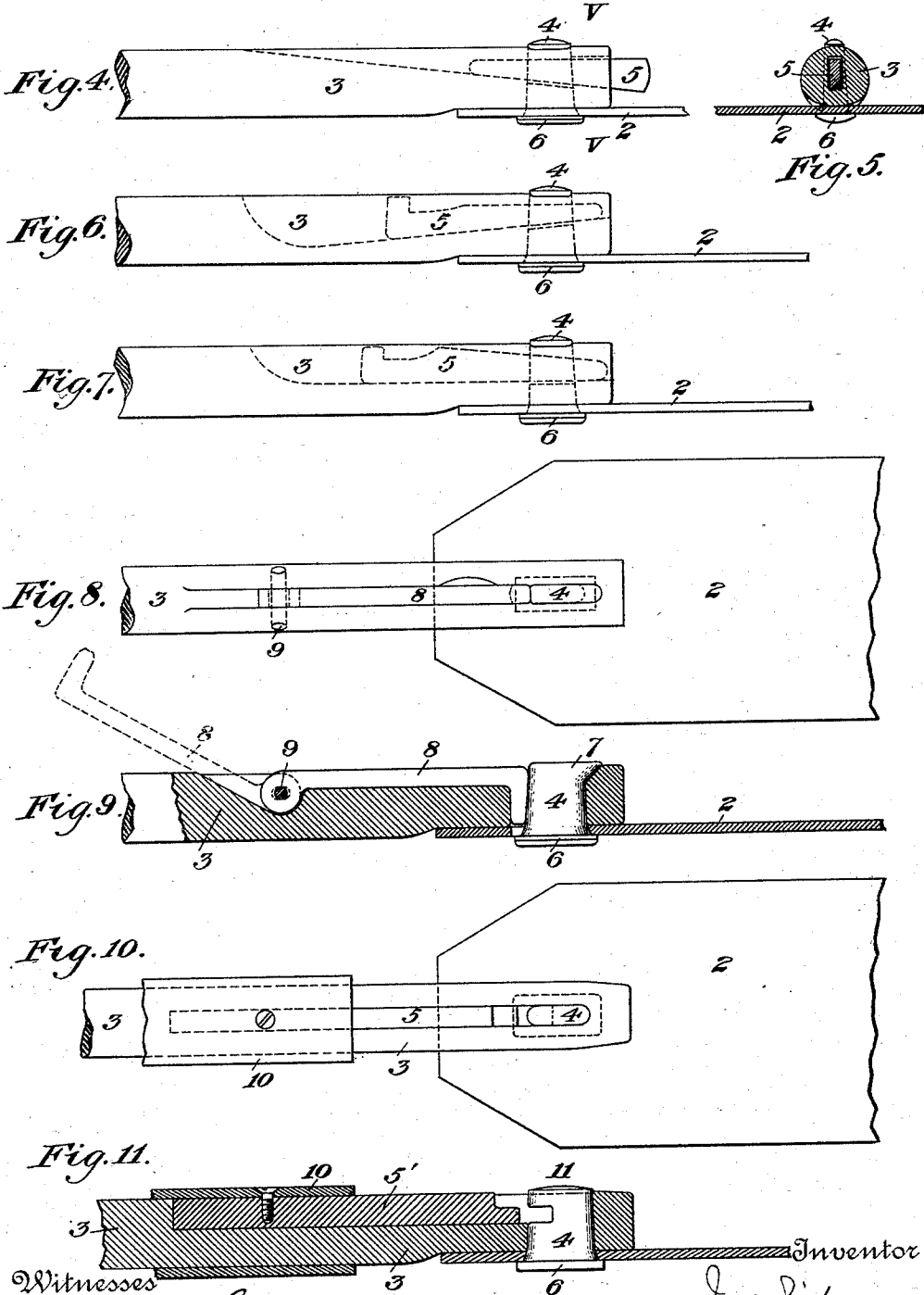
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JAMES SIMPSON, OF MCKEESPORT, PENNSYLVANIA.

SKELP-TANG.

SPECIFICATION forming part of Letters Patent No. 485,893, dated November 8, 1892.

Application filed October 7, 1891. Serial No. 407,996. (No model.)

To all whom it may concern:

Be it known that I, JAMES SIMPSON, of McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Skelp-Tangs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 shows in plan view a skelp-tang attached to a skelp-plate by means of my improved device. Fig. 2 shows the same in side elevation. Fig. 3 is a vertical cross-section on the line III III of Fig. 2, and Fig. 3' shows the skelp in the act of being drawn through the welding-bell. Fig. 4 shows in side elevation a modified form of fastening device. Fig. 5 is a vertical cross-section on the line V V of Fig. 4. Figs. 6 and 7 show other modifications in side elevation. Figs. 8 and 9 are respectively a plan view and a longitudinal central section of a fourth modified form of fastening device. Fig. 10 is a plan view, and Fig. 11 a longitudinal central section, of a fifth modification of the fastening device.

Like symbols of reference indicate like parts in each.

The object of my invention is to provide improved means for attaching tangs to the skelp-plates used in the manufacture of pipe, the advantage appertaining to my improvement being the holding of the pipe with greater rigidity and firmness than has been possible hitherto.

The invention consists, first, in a tang held to one side only of the skelp by a pin or stud oblong in cross-section, with its greater dimension extending longitudinally of the tang, designed to hold the skelp and tang firmly and to prevent turning thereof. By fitting the tang against one side only of the skelp in pulling the skelp through the bell it is prevented from flattening for a distance from the point of attachment of the tang, and thus spoiling the skelp—an incident to the use of skelp-tongs which renders them objectionable.

It consists, second, in such oblong pin or stud having a slot for the reception of a key or cotter, by which it is confined to the skelp.

It consists, third, in the combination, with the bell, of a skelp-tang adapted to fit against the side of the skelp and of such thickness relatively to the bell as to project laterally

from the skelp a distance equal to the internal radius of the bell and preferably of somewhat greater thickness. When such tang is used, it causes the bell to act in turning up or dishing the skelp without the necessity for doing this at a separate preliminary operation, as heretofore. This is not possible with the ordinary tang of small cross-section at its juncture with the pipe or with skelp-tongs grasping the skelp equally at both sides, since then in drawing a flat skelp-plate through the bell it is impossible to determine the direction in which the lateral curving of the plate shall occur.

The invention consists, further, in certain details of construction set forth in the claims.

Referring to the figures on Sheet 1 of the drawings, 2 represents the flat skelp-plate.

3 is the tang or metal bar, preferably circular in cross-section, by which the skelp is drawn. Near its inner end the tang has a vertical slot adapted to register with a slot in the skelp-plate and to receive a pin or stud 4, which fits in said slots. The pin 4 is slotted and is made of oblong form in cross-section, its greater dimension being parallel with the tang, and it has extending through it in the direction of said greater dimension a key or cotter 5, which is fitted in a longitudinal groove formed in the tang. As shown in Fig. 2, the base of the groove is inclined, so that when the key is inserted and moved longitudinally it wedges itself between the base of the groove and the top of the pin's slot and clamps the tang, pin, and skelp rigidly together. The pin has a head 6, which fits against the outer side of the skelp-plate, and at the slot in the skelp-plate the pin is tapered, so that when in drawing the pipe the edges of the slot tend to close in on the bolt they shall not bind and clamp thereon. The corners of the pin and the corners of the slots in which the bolts fit are preferably rounded, so as to prevent the skelp from tearing, and the top of the pin is also rounded to avoid sharp-angled projections, which might interfere with the working of the device. In fitting the parts together the tang is placed on the skelp-plate so that their slots shall register, the pin is inserted in the slots, and the key is put in the slot in the pin and wedged therein. Then by reason of the oblong sec-

tion of the pin the skelp is held rigidly and firmly, and because of the length of the pin-slot a comparatively-thin key can be employed without impairing the strength of the device. In order to make the key as easy to insert and to remove as possible, I prefer to flare laterally the sides of the longitudinal groove in the tang.

By reference to Fig. 3' it will be seen that the cross-sectional size of the tang at its juncture with the skelp is about equal to that of the interior of the welding-bell 12, or at least greater than one-half the circle of the bell, so that in drawing the tang and skelp through the bell the skelp cannot rise therein above the middle of the bell and cannot bend in the wrong direction. This enables me to draw flat skelp-plates without previously bending them. Furthermore, by preventing the skelp from rising this construction of the tang prevents the pulling out and distortion of the end of the pipe which occurs with welding-tangs, and I can thus utilize nearly the whole length of the manufactured pipe. The tang and its attaching devices form a substantial nearly-solid structure, not apt to be injured in the heating-furnace when the skelp is heated before the welding operation.

The advantages of the improvement are very great. Not only do I save expensive furnaces and costly labor, but because of the fact that the skelp can be drawn when flat an extra heating of the iron for bending it and the resulting waste from oxidation are dispensed with.

I am not the first to suggest the use of means for attaching a tang and skelp-plate without welding; but the means which I have invented are much superior to any heretofore known.

The device shown in Figs. 4 and 5 is similar to that above described, except that instead of extending the key-groove open to the end of the tang it is covered at the outer end beyond the pin. This is desirable to strengthen the tang when it is of small size in cross-section.

In Figs. 2 and 4 the groove is shown inclined outwardly. In the device shown in Fig. 6 the inclination is in the opposite direction, and the key, instead of being inserted from the outer end of the tang, as in Fig. 4, is inserted from the other side of the pin.

In Fig. 7 the base of the groove is flat, but the upper edge of the key and the top of the slot in the pin are tapered.

In Figs. 8 and 9 I show a construction in which the slots in the tang and skelp are made longer than the pin and the pin is provided at its front with a lip or head 7, adapted to fit on a seat on the top of the tang. The pin is inserted in the slots and is then held detachably by a key bar or latch 8, which is pivoted

at 9 and has a hooked end, which when the key-bar is moved forward fits within the slot in the tang behind the pin and holds the latter in place. The pin can be removed after raising the key-bar, as shown in Fig. 9.

In Figs. 10 and 11 I show a construction in which the key 5' is set in a longitudinal groove in the tang and has at its forward end a lip adapted to engage a notch 11, made in the side of the pin, and thus to hold the latter in place. This key is movable longitudinally on the tang to engage or release the pin by a sleeve or tube 10, which fits loosely around the tang and is attached to the key, as shown.

Other modifications of my invention will be suggested to those skilled in the art on reading the foregoing specification. Instead of using a single pin with the tang two or more pins with appropriate keys may be employed.

I claim—

1. A skelp-tang adapted to fit against one side only of the skelp-plate and having a pin oblong in cross-section with its greater dimension extending longitudinally of the tang and adapted to fit in a correspondingly-shaped slot in the skelp, substantially as and for the purposes described.

2. A skelp-tang having a separable and removable pin oblong in cross-section with its greater dimension extending longitudinally of the tang and adapted to fit in a hole in the skelp and to hold the same, substantially as and for the purposes described.

3. The combination, with a skelp-tang, of a pin oblong in cross-section adapted to fit in a hole in the skelp and a key set in a groove in the tang and adapted to pass through a slot in the pin, substantially as and for the purposes described.

4. The combination, with a skelp-tang, of a pin oblong in cross-section adapted to fit in a hole in the skelp and a tapered key set in a groove in the tang and adapted to pass through a slot in the pin, substantially as and for the purposes described.

5. In a pipe-welding apparatus, the combination, with the bell, of a skelp-tang adapted to fit against the side of the skelp and of such thickness relatively to the bell as to project laterally from the skelp a distance at least equal to the internal radius of the bell, whereby in drawing the skelp rise of the same above the center of the bell and consequent reverse bending thereof are prevented, substantially as and for the purposes described.

In witness whereof I have hereunto set my hand at Pittsburgh, Pennsylvania.

JAMES SIMPSON.

Witnesses:

THOMAS W. BAKEWELL,
A. K. BAKEWELL.