(No Model.)

C. W. CANFIELD.

SLIDING FRICTION TONGS.

No. 491,872. Patented Feb. 14, 1893.

Fig. 1.

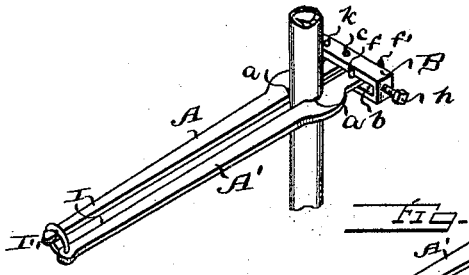

Fig. 3.

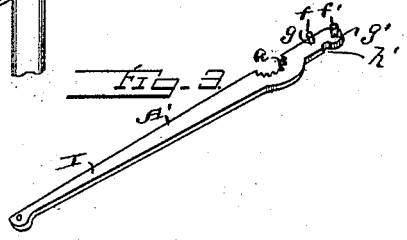

Fig. 2.

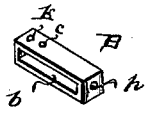

Fig. 4.

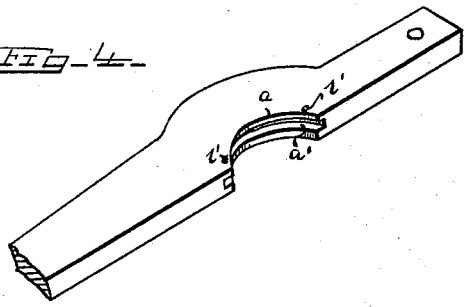

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

CARLTON W. CANFIELD, OF WINTHROP, MINNESOTA.

SLIDING FRICTION-TONGS.

SPECIFICATION forming part of Letters Patent No. 491,872, dated February 14, 1893.

Application filed October 19, 1892. Serial No. 449,385. (No model.)

To all whom it may concern:

Be it known that I, CARLTON W. CANFIELD, a citizen of the United States, and a resident of Winthrop, in the county of Sibley and State of Minnesota, have invented certain new and useful Improvements in Sliding Friction-Tongs; and I do 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a perspective view of the jaws with section of pipe. Fig. 2 is a perspective view of the yoke. Fig. 3 is a detail view of one of the jaws in perspective being a modification. Figs. 4 and 5 are enlarged detail views of the grips or dies of the jaws.

This invention has relation to certain new and useful improvements in friction tongs, and it consists in the novel construction and combination of parts as hereinafter specified.

The particular object of the invention is to provide a device for lowering pipe or sand rods into wells, and which will be so constructed as to be capable of adjustment not only to different sizes of pipes or rods, but also to take up the wear caused by the friction of the pipe or rod.

In carrying out my invention, I provide two bars, designated by A, A′, in the accompanying drawings, the forward portions of which are each formed with a semi-circular recess *a*, which together form the seat for the pipe in the usual manner. These bars or jaws are connected at their forward ends by a head piece or yoke B, having therein a recess or aperture *b*, in which said ends are held. The jaw A is secured therein by a bolt or pivot *c*, while the jaw A′ is loosely held therein by the two bolts or pins *f* and *f′*, which are inserted in apertures *g*, *g′*, of the head of the jaw, one near the extreme end, and the other near the inner edge. These pins or bolts do not pass through the yoke or head piece, but are held one above and one below, as shown, allowing the jaw free play. The length of the opening *b* is greater than the combined width of the jaws, so that the jaw A′ is adjustable toward and away from the jaw A, by means of a set-screw *h*, having bearings in said yoke and engaging a depression *h′* on the head of jaw A′. If desired, jaw A may also be adjusted by placing its pivot or bolt in the aperture *k*, instead of at *c*. By this arrangement, it will be readily seen that the jaws may be quickly adjusted, not only to take up wear, but to several different sizes of pipes. Also that while normally allowing the pipe to pass slowly through them, they can be made to securely hold the pipe to change a coupling; or in running sand rods into a well, this will hold the pipe firm without the use of a second pair of tongs to keep it from turning as a section is added. This may also be used as pipe tongs or for screwing pipe together.

In Fig. 3, I have shown a modification wherein the bearing edges of the semicircular recesses *c* are serrated or toothed.

The handle portions I of the jaws may be held together by a ring I′ slipped thereon.

Although the adjustment above described will be sufficient to compensate for the wear of the jaws, by the arrangement shown in Figs. 4 and 5, I provide means whereby the grips or dies of the jaws may be renewed if desired, at any time. In the said figures, the semi-circular recesses *a* are made larger than in the construction first described, and are formed with the grooves *a′* therein.

L, L, are the grips or dies of semi-circular form, having their meeting faces semi-circular to fit the pipe and formed with semi-circular horizontal flanges *l*, which engage respectively the grooves *a′* in the jaws, in which grooves they are secured by means of pins *l′*. By removing said pins, the dies or grips may be readily removed and replaced.

Having described this invention, what I claim and desire to secure by Letters Patent is:

1. The tool for the purpose herein specified, comprising the parallel jaws A, A′, having near their heads coincident semi-circular recesses or seats, the yoke at right angles to said jaws, and in which their heads are held, the jaw A being secured in said aperture loosely by an adjustable bolt or pivot, and the jaw A′ by means of bolts or pins above and below said yoke, and having a set screw provided with bearings in said yoke and engag-

ing a seat therein, whereby it is adjustable toward and away from the jaw A, substantially as specified.

2. The herein described friction tongs, comprising the parallel jaws A, A′, adapted to contact with a pipe surface, the head piece or yoke B at right angles to said jaws, and having an aperture therein to receive the heads of said jaws, the jaw A being secured therein by a bolt or pivot passing through the jaw and the head piece, the jaw A′ having a screw bearing thereon to adjust it toward and away from the jaw A, and an adjusting screw, substantially as specified.

3. The friction tongs, comprising the parallel jaws A, A′, having each a corresponding semi-circular serrated recess adapted for contact with a pipe surface, a head piece or yoke B at right angles to said jaws, and having therein a recess or aperture *b*, in which the heads of said jaws are adjustably held, one of said jaws being free to move in said yoke toward and away from the other, and a set screw engaging said movable jaw through said yoke, substantially as specified.

4. The herein described friction tongs, comprising the parallel jaws A, A′, having each a corresponding semi-circular recess therein, a groove *a′* in the wall of each said recess, a semi-circular die or grip for each jaw seated in said recess, and having a flange engaging said groove and removably secured therein, a head piece or yoke B at right angles to said jaw, said head piece or yoke having an aperture *b*, in which the heads of said jaws are loosely held, and a set-screw engaging one of said jaws through said yoke, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CARLTON W. CANFIELD.

Witnesses:

E. A. CAMPBELL,

C. A. BENSON.