(No Model.)

2 Sheets—Sheet 1.

W. B. SANDFORD.

PIPE DRAWING APPARATUS.

No. 537,486. Patented Apr. 16, 1895.

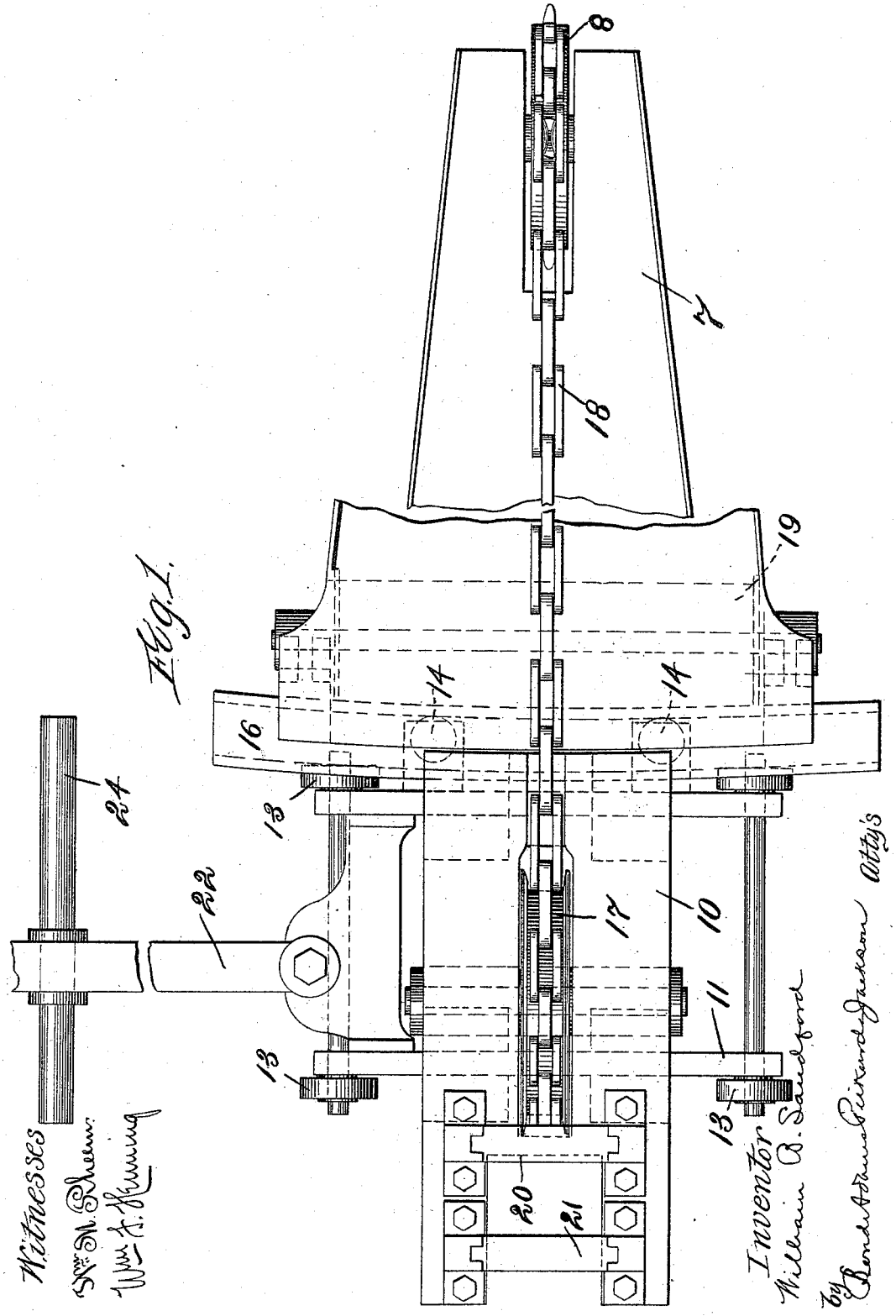


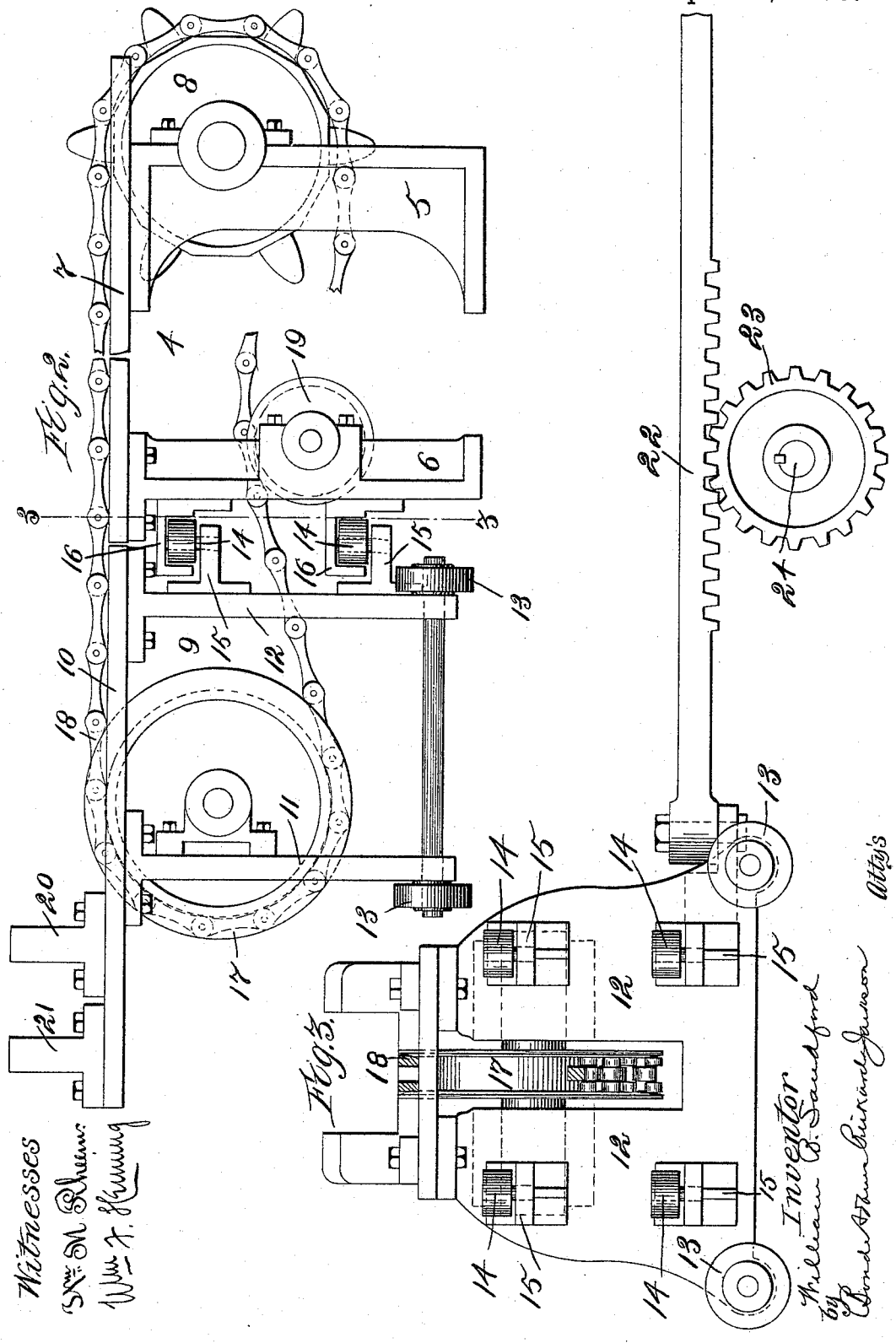
Fig. 1.

(No Model.) 2 Sheets—Sheet 2.

W. B. SANDFORD.

PIPE DRAWING APPARATUS.

No. 537,486. Patented Apr. 16, 1895.



UNITED STATES PATENT OFFICE.

WILLIAM B. SANDFORD, OF KEWANEE, ILLINOIS.

PIPE-DRAWING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 537,486, dated April 16, 1895.

Application filed April 24, 1894. Serial No. 508,886. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. SANDFORD, a citizen of the United States, residing at Kewanee, Henry county, Illinois, have invented certain new and useful Improvements in Pipe-Drawing Apparatus, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a partial plan view. Fig. 2 is a partial side elevation. Fig. 3 is a section on line 3—3 of Fig. 2.

My invention relates to the manufacture of butt weld pipe by drawing a skelp through a bell, and has to do particularly with mechanism for drawing the skelp through the bell. One form of apparatus heretofore employed for this purpose has consisted of a draw-bench carrying an endless chain, which is kept in constant operation by suitable mechanism. At the end of the draw-bench which is nearer the furnace in which the skelps are heated, it carries one or more bell-holders which are arranged to intercept the bells and hold them while the skelp is drawn through them. In some instances, where the furnace has been arranged for heating several skelps at a time, the draw-bench has been pivoted at its rear end (that is, the end away from the furnace), so that the forward end of the bench could be moved in the arc of a circle across the front of the furnace and the bell-holders be thereby moved into line with the different skelps. This construction is open to numerous objections, the most important of which is that owing to the fact that the draw-bench must necessarily be made heavy to withstand the strain to which it is put, the power required to move it laterally is considerable. Special mechanism must also be used in driving the chain, which is another objection to such construction.

My present invention has for its object to overcome the objections incident to the use of prior constructions, and it consists essentially in providing an independent bell-support which is arranged to move across the forward end of the draw-bench, the draw-bench proper being stationary; so that a comparatively small part of the weight of the entire drawing mechanism is required to be moved. As the draw-bench is stationary, the driving chain may be operated by any well known driving mechanism.

In the drawings—4 indicates a draw-bench, consisting of standards 5—6 and top plate 7.

8 indicates a sprocket wheel which is mounted in suitable bearings at the rear end of the draw-bench as shown in Fig. 2. The sprocket wheel 8 may be operated by any suitable driving mechanism.

9 indicates a bell-holder support, which is arranged between the draw-bench 4 and the furnace. The bell-holder support consists of a top plate 10 mounted on suitable standards 11—12, such standards being mounted upon casters or rollers 13 so that it may be moved freely transversely of the draw-bench 4. The bell-holder support 9 is guided by means of rollers 14 carried by laterally projecting arms 15, which rollers move in guides 16 projecting from the standard 6 of the draw-bench 4, as best shown in Fig. 2. As shown, the guides 16 are arranged over the rollers 14, so that said rollers are protected from scale.

17 indicates a pulley or sheave, which is journaled in the bell-holder support 9.

18 indicates a sprocket chain which passes around the sprocket wheel 8 and sheave 17, as shown in Fig. 2.

19 indicates an idler arranged under the chain 18 and supported by the standard 6. The idler 19 is of sufficient width to permit the chain to move laterally, as is necessary when the bell-holder support is moved laterally.

As best shown in Fig. 1, the forward portion of the top plate 7 and the rear portion of the top plate 10 are curved slightly, as are also the guides 16, so that as the bell-holder support is moved transversely of the draw-bench it moves in substantially the arc of a circle. The top plate 7 is segmental in shape to permit the chain 18 to move laterally upon it when the bell-holder support is moved.

20—21 indicate bell-holders mounted upon the forward portion of the bell-holder support, as shown in Fig. 2.

22 indicates a rack-bar, which is connected to the bell-holder support 9 and meshes with a pinion 23 mounted upon a shaft 24, as shown in Figs. 1 and 3. The shaft 24 is adapted to be rotated by some suitable mechanism, such as a steam engine, for the purpose of moving

the rack-bar 22 in one direction or the other and thereby move the bell-holder support transversely of the draw-bench. I do not, however, wish to limit myself to the use of the particular mechanism shown for moving the bell-holder support, as any other suitable mechanism may be used.

It should be understood that the word skelp is herein used to apply to the strip of metal which is to be drawn through the bell regardless of whether or not such strip has been previously treated to make it adapt itself more readily to tubular form.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a draw-bench, of a bell-holder arranged between the draw-bench and the furnace and movable transversely independent of the draw-bench, substantially as described.

2. The combination with a draw-bench, of a bell-holder arranged between the draw-bench and the furnace, and mechanism for laterally moving the bell-holder independently of the draw-bench, substantially as described.

3. The combination with a stationary draw-bench, of a transversely-movable bell-holder between said bench and the furnace, substantially as specified.

4. The combination with a stationary draw-bench, of a transversely-movable bell-holder between said bench and the furnace, and mechanism for moving said bell-holder transversely, substantially as specified.

5. The combination with a stationary draw-bench, and a transversely movable bell-holder support, of a drawing chain, a sprocket wheel carried by the draw-bench for operating said chain, and a sheave carried by said bell-holder support, substantially as specified.

6. The combination with a stationary draw-bench, and a transversely-movable bell-holder support, of a drawing chain, a sprocket wheel carried by the draw-bench for operating said chain, a sheave carried by said bell-holder support, and guides for said bell-holder support, substantially as specified.

WILLIAM B. SANDFORD.

Witnesses:
HARRY W. TRASK,
CHAS. I. PIERCE.