

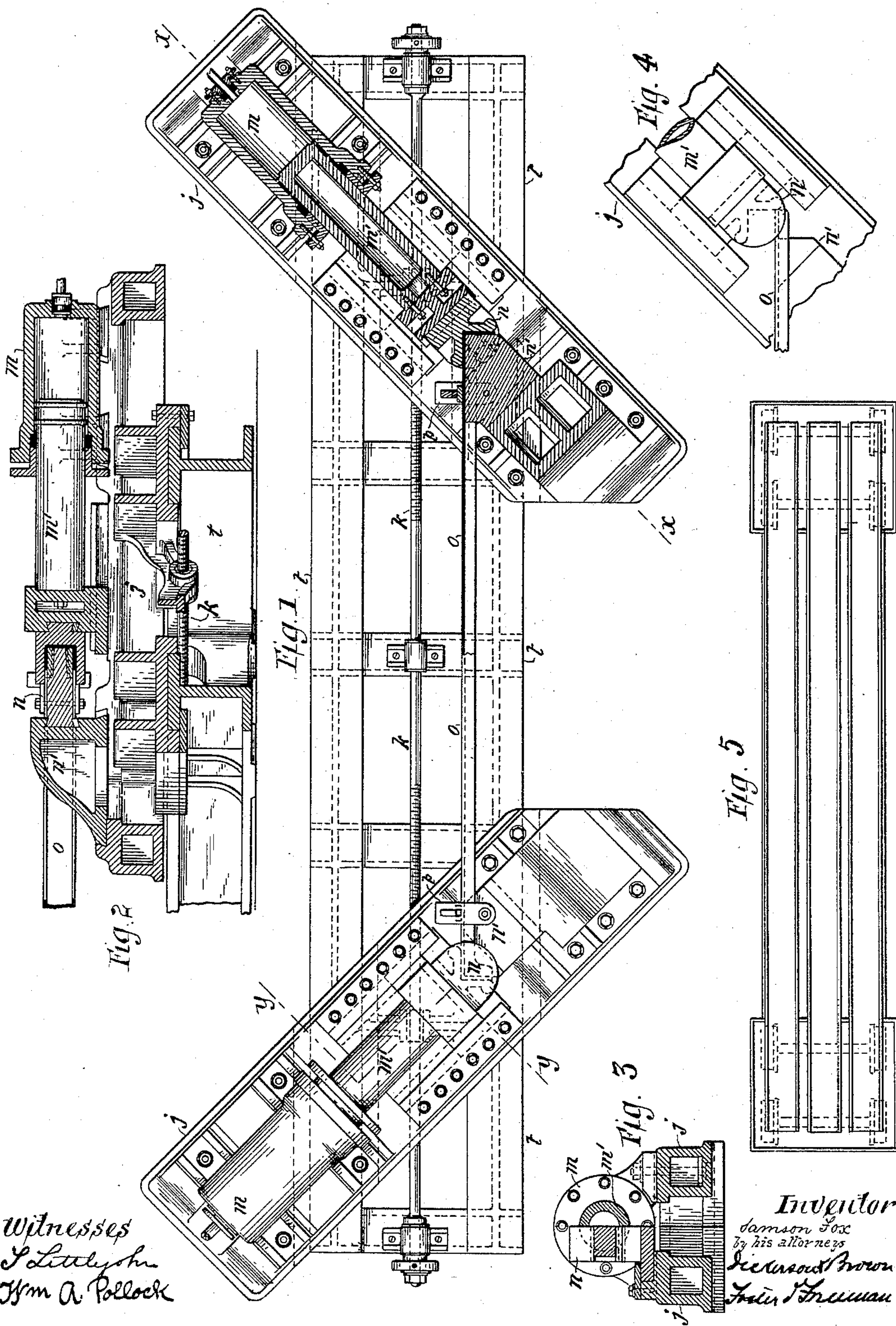
(No Model.)

S. FOX.

APPARATUS FOR BENDING AND FORGING STEEL.

No. 448,815.

Patented Mar. 24, 1891.



UNITED STATES PATENT OFFICE.

SAMSON FOX, OF LEEDS, ENGLAND, ASSIGNOR TO THE FOX SOLID PRESSED STEEL COMPANY, OF CHICAGO, ILLINOIS.

APPARATUS FOR BENDING AND FORGING STEEL.

SPECIFICATION forming part of Letters Patent No. 448,815, dated March 24, 1891.

Application filed December 4, 1890. Serial No. 373,596. (No model.)

To all whom it may concern:

Be it known that I, SAMSON FOX, of Leeds, England, have invented a new and useful Apparatus for Bending and Forging Steel, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to an apparatus for simultaneously bending both ends of a channel-beam into a rectangular box shape by means of a machine working in a horizontal diagonal position. By this apparatus both ends of a channel-bar may be bent simultaneously or not, as required.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 is a half-sectional plan of the machine. Fig. 2 is a section through Fig. 1 on the line $x x$. Fig. 3 is a section through Fig. 1 on the line $y y$. Fig. 4 is a plan of the meeting dies, showing the commencement of the bending operation; and Fig. 5 is a plan view of two traveling furnaces for heating the ends of the beams.

t is the bed or frame.

$j j$ are saddles set at an angle of forty-five degrees to and sliding on the bed or frame t .

$k k$ are right and left handed screws for adjusting the saddles to the length required.

$m m$ are hydraulic cylinders.

$m' m'$ are rams.

$n n$ are dies, and $n' n'$ die-blocks.

o is a channel-bar under treatment.

$p p$ are strips for holding the bar securely in position.

A channel-bar whose ends are to be bent is heated at both ends, then is placed with

one end extending to the required distance beyond each of the die-blocks n' . Then the rams with their dies $n n$ are advanced from the positions shown to the left in Fig. 1 to that shown in section to the right in Fig. 1, thus effecting the bending operation, after which the dies are retired, to be in readiness for a succeeding operation.

It will be evident that by using die-blocks and dies of appropriate forms the bending may be effected to any desired angle or curve.

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

1. The combination, in an apparatus for simultaneously bending both ends of a channel-iron, of two dies and an apparatus for advancing them in a line at an obtuse angle to the length of the channel-iron, substantially as described.

2. The combination, in an apparatus for simultaneously bending both ends of a channel-beam, of the bed-plate and two saddles adjustably mounted thereon, substantially as described.

3. The combination of the bed-plate, two saddles mounted thereon at an angle to the bed-plate, and a right and left handed screw for simultaneously adjusting the saddles, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMSON FOX.

Witnesses:

S. O. EDMONDS,

WM. A. POLLOCK.