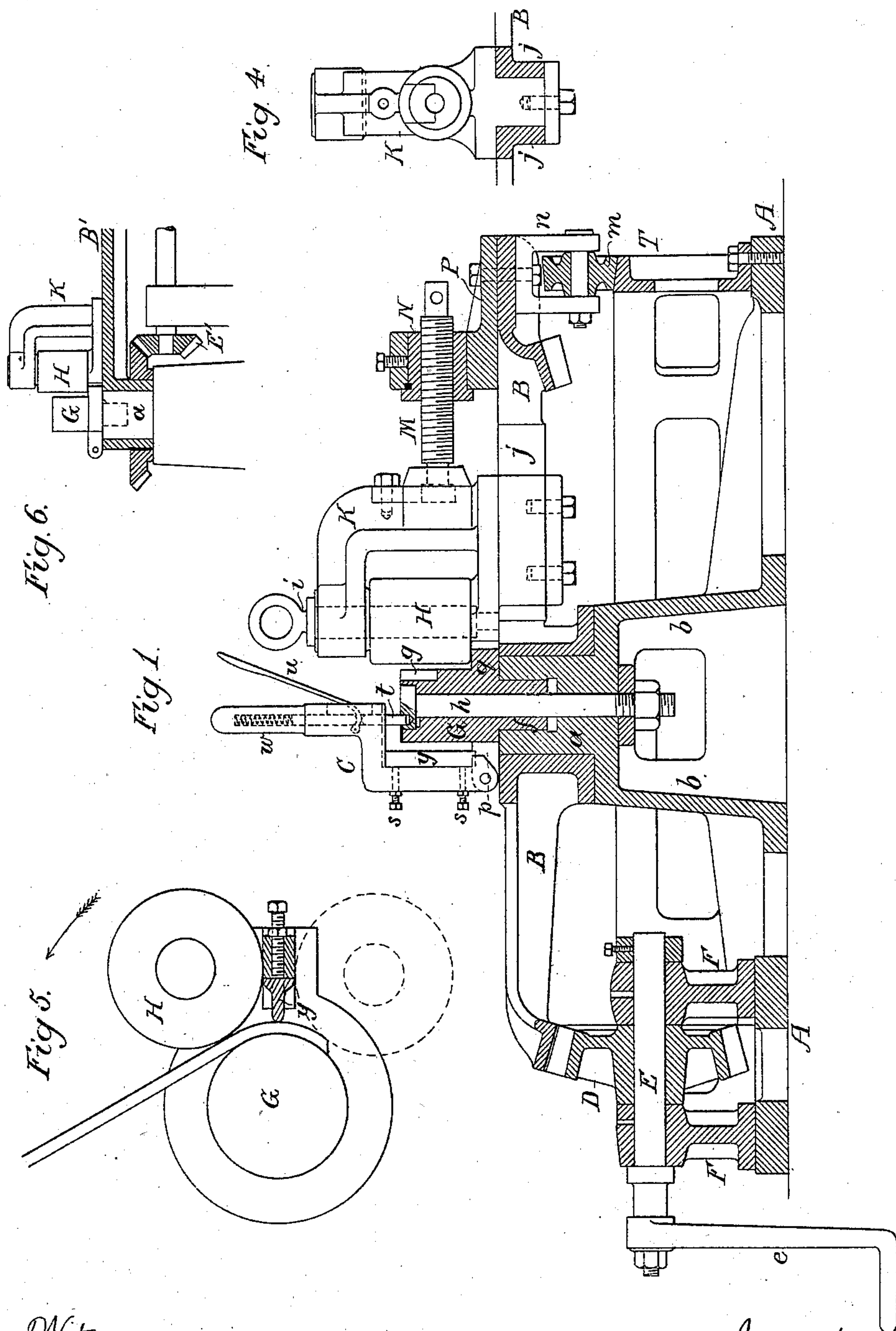


2 Sheets—Sheet 1.

MACHINE FOR BENDING SOCKET BLANKS FOR TUBES.

Patented Nov. 14, 1882.



Witnesses
James F. Tobin
Harry Smith

Inventor
Edward W Wolfe
by his Attorneys
Howson and Sons

(No Model.)

2 Sheets—Sheet 2.

E. W. WOLFE.

MACHINE FOR BENDING SOCKET BLANKS FOR TUBES.

No. 267,634.

Patented Nov. 14, 1882.

Fig. 2.

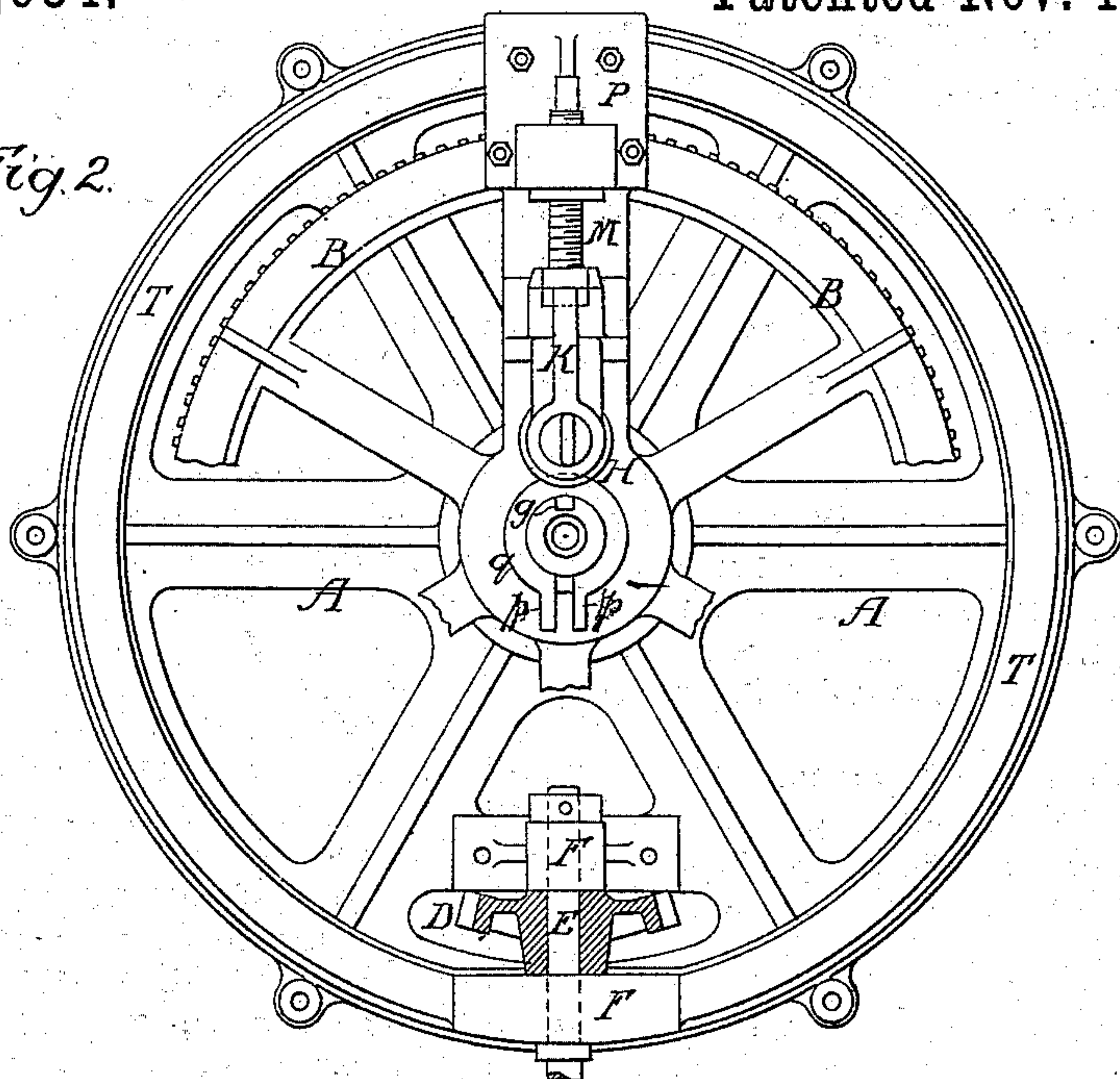
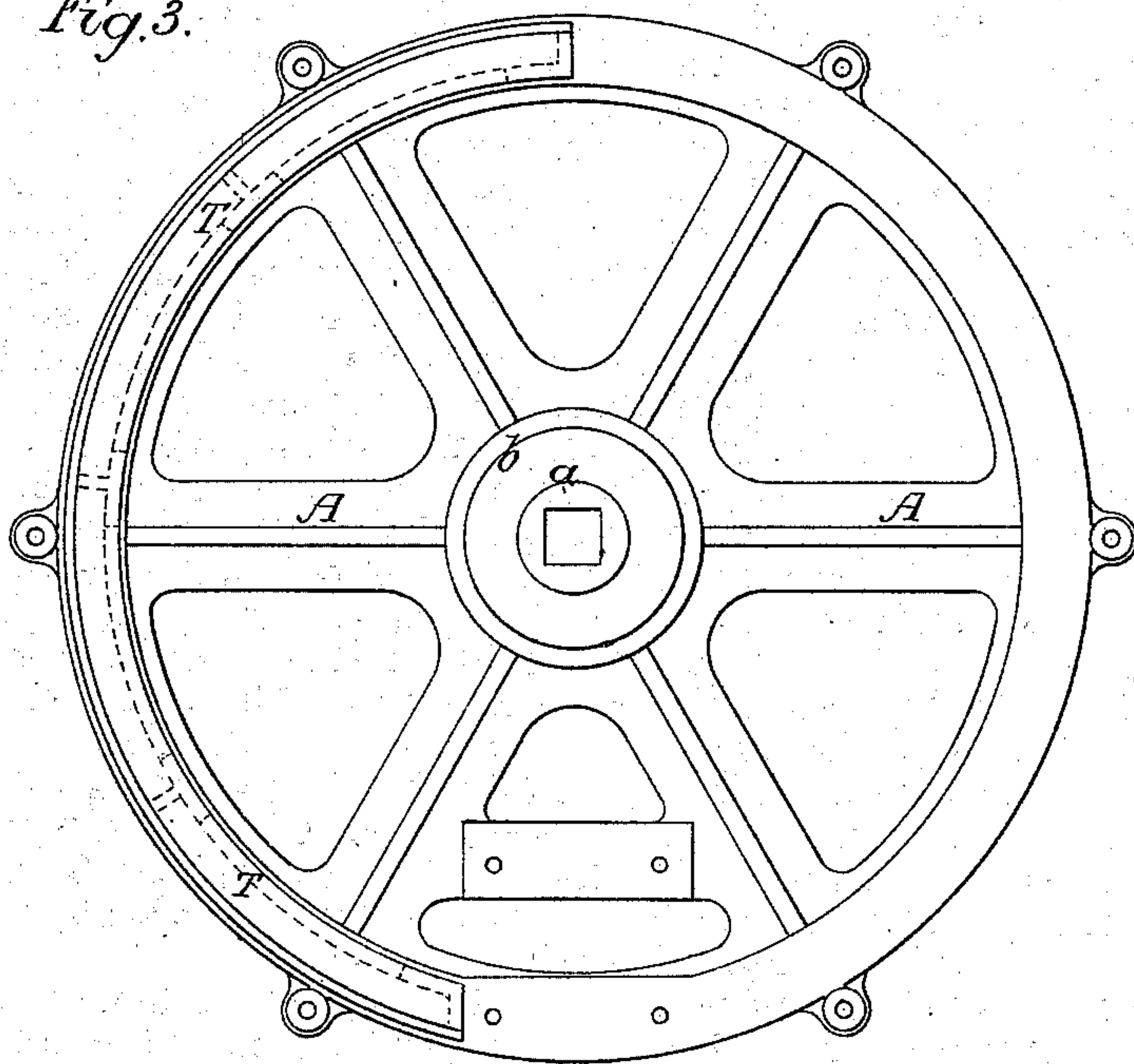


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWARD W. WOLFE, OF READING, PENNSYLVANIA, ASSIGNOR TO THE
READING IRON WORKS, OF SAME PLACE.

MACHINE FOR BENDING SOCKET-BLANKS FOR TUBES.

SPECIFICATION forming part of Letters Patent No. 267,634, dated November 14, 1882.

Application filed June 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. WOLFE, a citizen of the United States, and a resident of Reading, Pennsylvania, have invented certain
5 Improvements in Machinery for Bending Socket-Blanks for Tubes, of which the following is a specification.

My invention consists of certain mechanism, fully described hereinafter, for bending scarfed
10 bars so as to form socket-blanks, to be subsequently converted by welding and threading into sockets for connecting pipes together.

In the accompanying drawings, Figure 1, Sheet 1, is a vertical section of the bending-
15 machine; Fig. 2, Sheet 2, a plan view of the machine without the clamping device, and showing part only of the main bevel-wheel; Fig. 3, a plan view of the base of the machine and part of the annular track; Fig. 4, Sheet 1,
20 an end view of part of Fig. 1; Fig. 5, a diagram illustrating the operation of the machine, and Fig. 6 a view illustrating a modification of my invention.

The base A of the machine has a central projection, b, and on the latter an arbor, a, adapted
25 to the hub of the bevel-wheel B, into which gears a bevel-pinion, D, on the driving-shaft E, which is adapted to bearing-blocks F F, secured to the base A, and which is provided
30 with a suitable handle, e. Into a square recess in the arbor a is fitted the square lower end, f, of the detachable mandrel G, which is secured to the central projection, b, of the base, in the present instance by a bolt, h. A vertical roller,
35 H, is adapted to turn on a pin, i, carried by a sliding bracket, K, which is adapted to guides j j, formed in the present instance on the bevel-wheel B, the said bracket admitting of being moved radially from or toward the center of
40 the wheel, to which the bracket is confined, preferably in the manner shown in Fig. 4. The bracket and its roller H are under the control of a screw, M, the thread of which is adapted to that of a nut, N, confined to a plate, P,
45 which is secured to the wheel B.

An annular track, T, is secured to the base of the machine, and on this track bears a roller, m, journaled to a hanger, n, secured to the under side of the said wheel B.

50 The fixed mandrel G has a flange, q, which bears upon the arbor a and on the hub of the

wheel B, and is overlapped by the lower end of the roller H, the latter being as near as possible to the flange without being in close frictional contact therewith. To lugs p p on this
55 flange q of the mandrel is pivoted the cranked lever C, the upper portion or handle, w, of which is provided with a device by which the lever can be locked to or released from the mandrel, the device consisting in the present in-
60 stance of a spring-bolt, t, and an arm, u, pivoted to the lever and passing through the bolt, so that by moving the arm toward the handle of the lever the bolt will be raised, and on releasing the arm the bolt will be forced down-
65 ward into an orifice in the head of the bolt h.

A jaw-plate, y, is dovetailed at its upper and lower ends and adapted to dovetailed guides in the lever, so that while it is retained laterally on the lever it can be moved outward
70 therefrom by set-screws s s.

In using the machine the clamping-lever is first unlocked and moved back, so that the heated bar, which is of the required length and properly scarfed at the ends, can be introduced
75 between the jaw y and the mandrel, when the latter is locked and the heated bar or plate held near one end, after which the sliding bracket K is moved toward the center of the machine by turning the screw M, and the roller
80 H thereby forced hard against the bar, the relative positions of the roller, clamp, heated plate, and mandrel being those shown in the diagram, Fig. 5. The wheel, bracket, and roller are now turned in the direction of the arrow
85 shown in that figure until the roller reaches the position indicated by dotted lines, when the heated bar will have been bent to the proper shape, ready for conversion by welding into the desired pipe-socket.
90

It will be noticed that there is in the side of the mandrel, and extending through the top of the same, a recess, g, into which one jaw of a pair of tongs can be introduced, in order to permit the withdrawal by the said tongs of the bent
95 bar or socket-blank from the mandrel, the clamping-lever C having been first unlocked and thrown back to permit this withdrawal.

It is not essential in carrying out my invention that the roller-bracket K and the device
100 for moving the same should form part of a bevel-wheel, B. An arm, B', Fig. 6, may be ar-

ranged to turn on the fixed arbor *a*, this arm carrying the adjustable bracket *K* and its roller, the outer end of the arm carrying a roller which bears on the annular track, and a bevel-wheel being secured to the hub of the arm, so as to be driven by a similar wheel, *E'*. The roller *H*, moreover, may be adapted to turn on a fixed spindle, and the mandrel *G*, with its clamping-lever, may be rotated by means of mechanism which will readily suggest itself to a skilled mechanic.

I claim as my invention—

1. The combination, in a machine for bending bars into socket-blanks, of an adjustable roller, *H*, a mandrel, *G*, a device for clamping the bar to the mandrel, and mechanism whereby the above-mentioned elements are caused to co-operate, substantially as described.

2. The combination of the mandrel *G* with a clamping-lever, *C*, and a device whereby the

said lever may be locked to or unlocked from the said mandrel, all substantially as specified.

3. The combination of the mandrel *G*, with the clamping-lever *C* pivoted to the said mandrel, and the adjustable plate *y*, carried by the said lever, substantially as specified.

4. The combination of the mandrel *G*, a device for clamping a bar thereto, a wheel, *B*, or its equivalent, adapted to a fixed arbor, *a*, and carrying a roller, *m*, adapted to an annular track, with a bracket, *K*, adapted to guides on the said wheel, and carrying a roller, *H*, all substantially as set forth.

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

ED. W. WOLFE.

Witnesses:

HARRY DRURY,
HARRY SMITH.