

No. 637,916.

Patented Nov. 28, 1899.

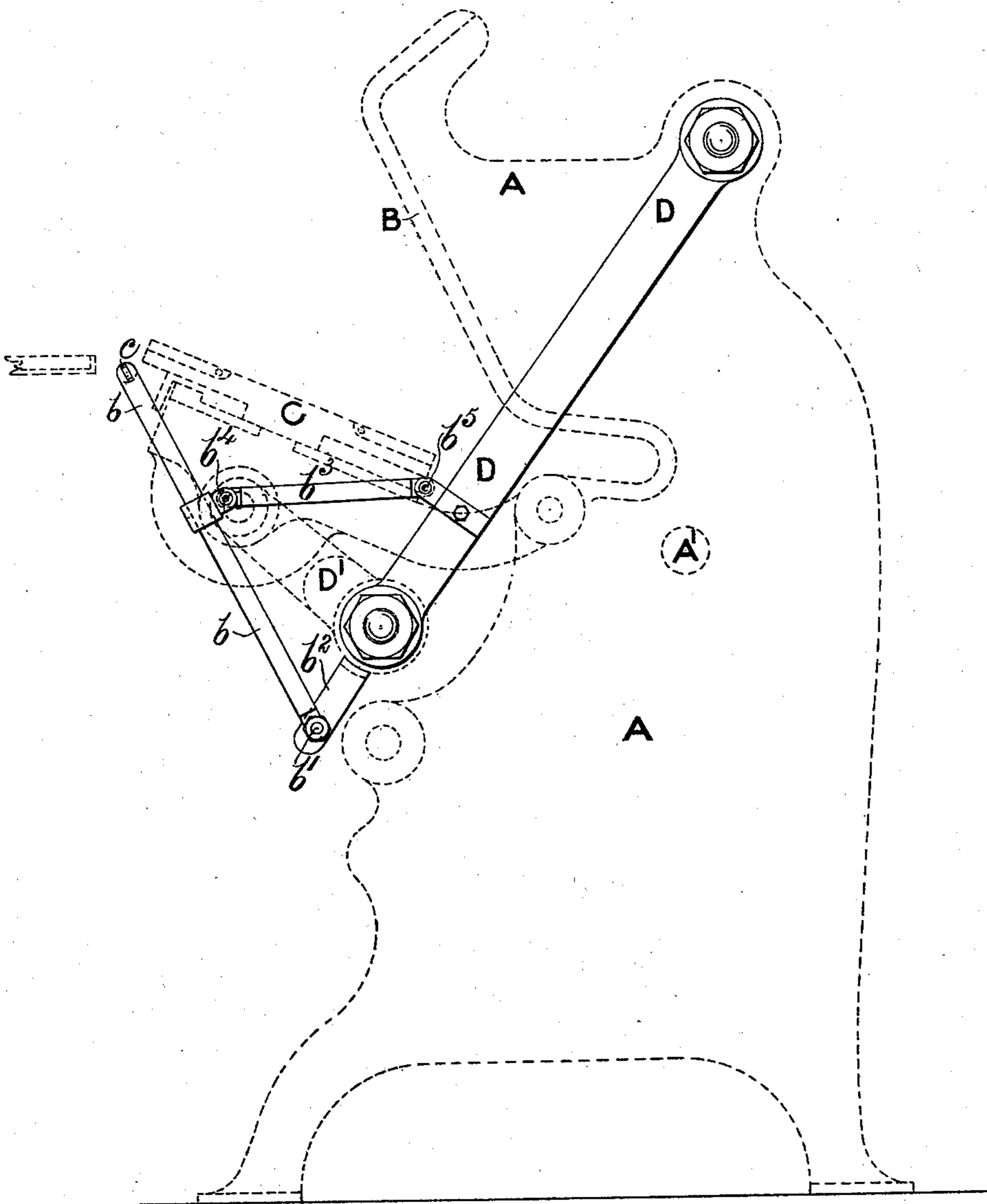
M. T. BARBER.
PLATEN PRINTING MACHINE.

(Application filed Sept. 8, 1899.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.



Witnesses:
George M. Richards
Chas. Davis

Inventor
Maximilian T. Barber
by W. H. Babcock
Att'y

No. 637,916.

Patented Nov. 28, 1899.

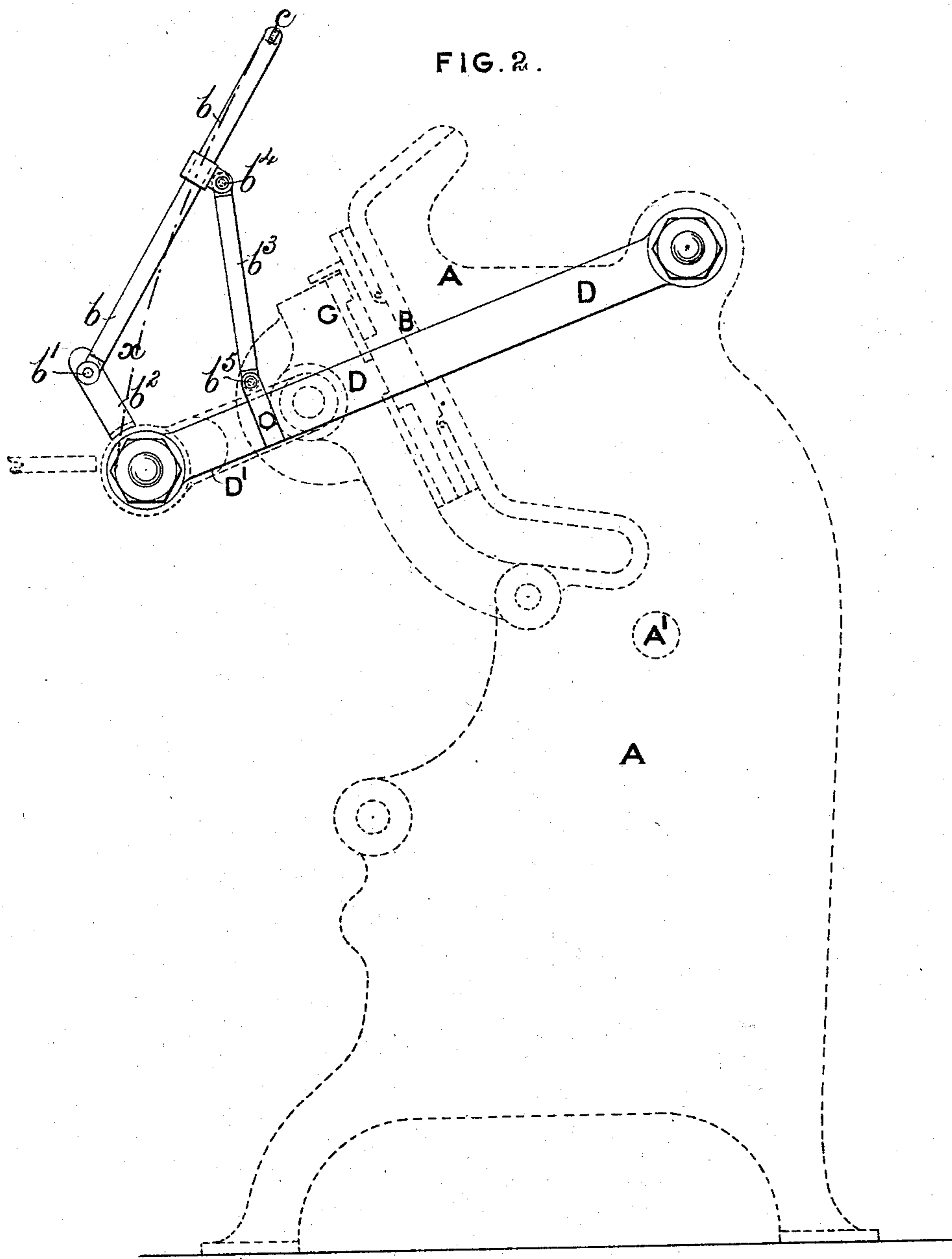
M. T. BARBER.
PLATEN PRINTING MACHINE.

(Application filed Sept. 8, 1899.)

(No Model.)

3 Sheets—Sheet 2.

FIG. 2.



Witnesses,
George M. Richards
C. E. Davis

Inventor
Maximilian J. Barber
by *W. H. Babcock*
Att'y

No. 637,916.

Patented Nov. 28, 1899.

M. T. BARBER.
PLATEN PRINTING MACHINE.

(Application filed Sept. 8, 1899.)

(No Model.)

3 Sheets—Sheet 3.

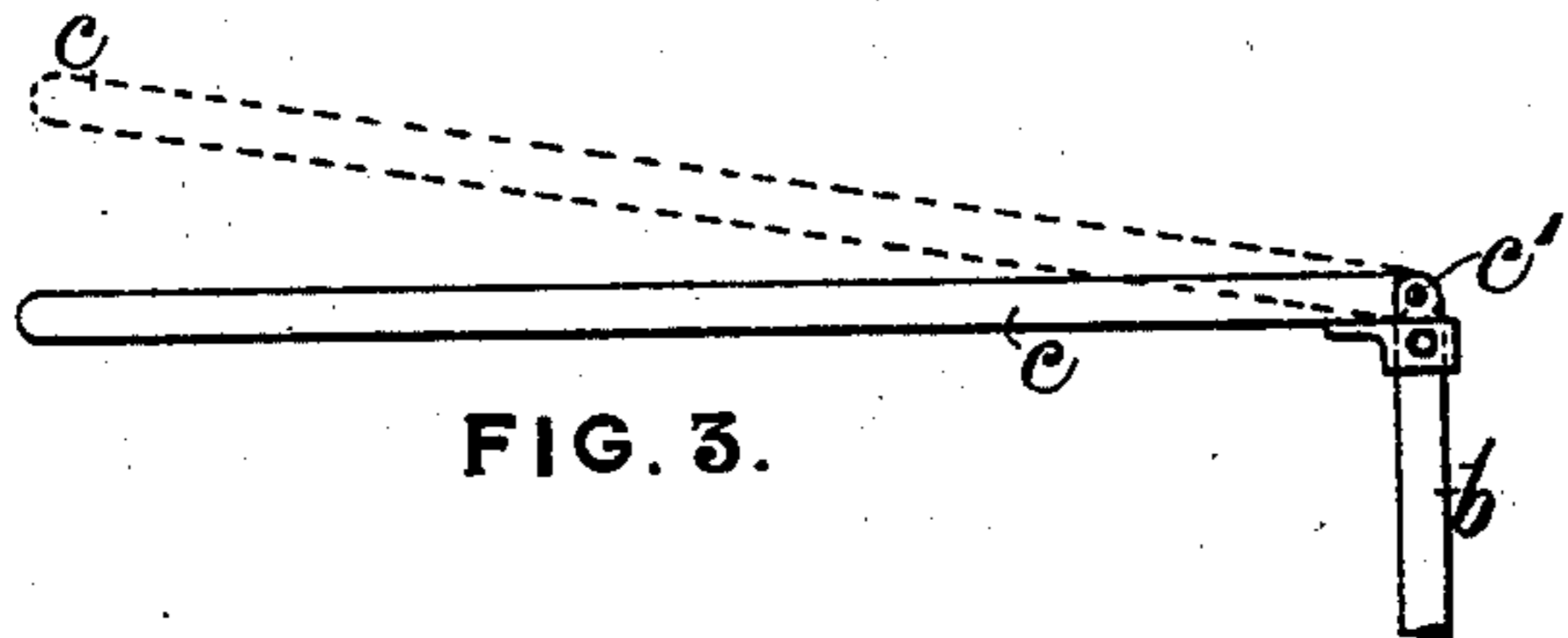


FIG. 3.

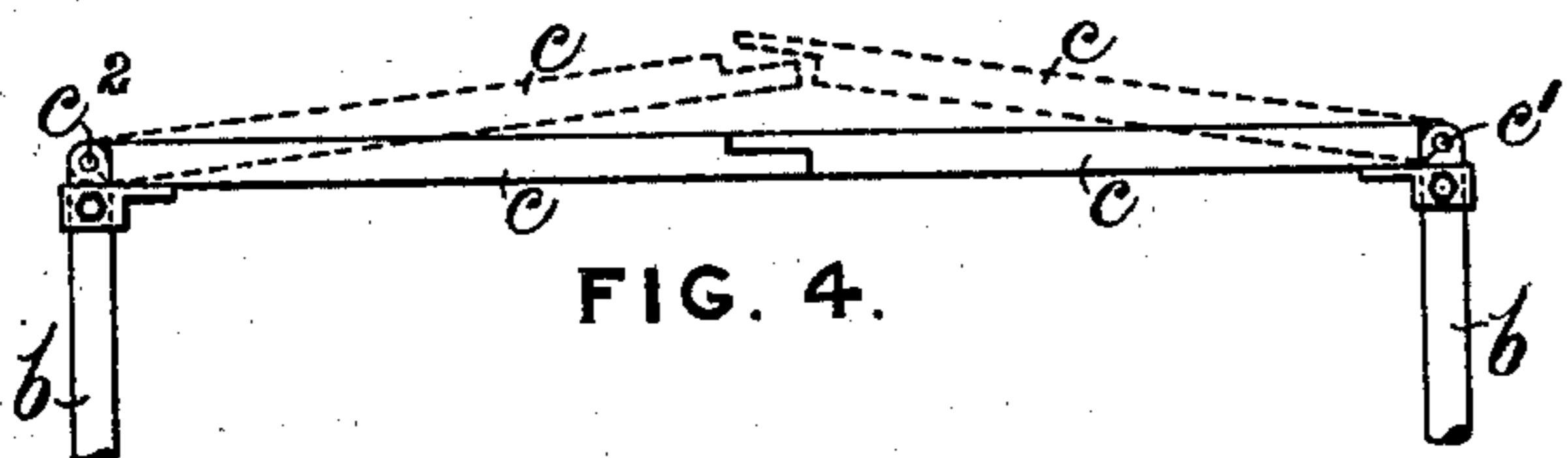


FIG. 4.

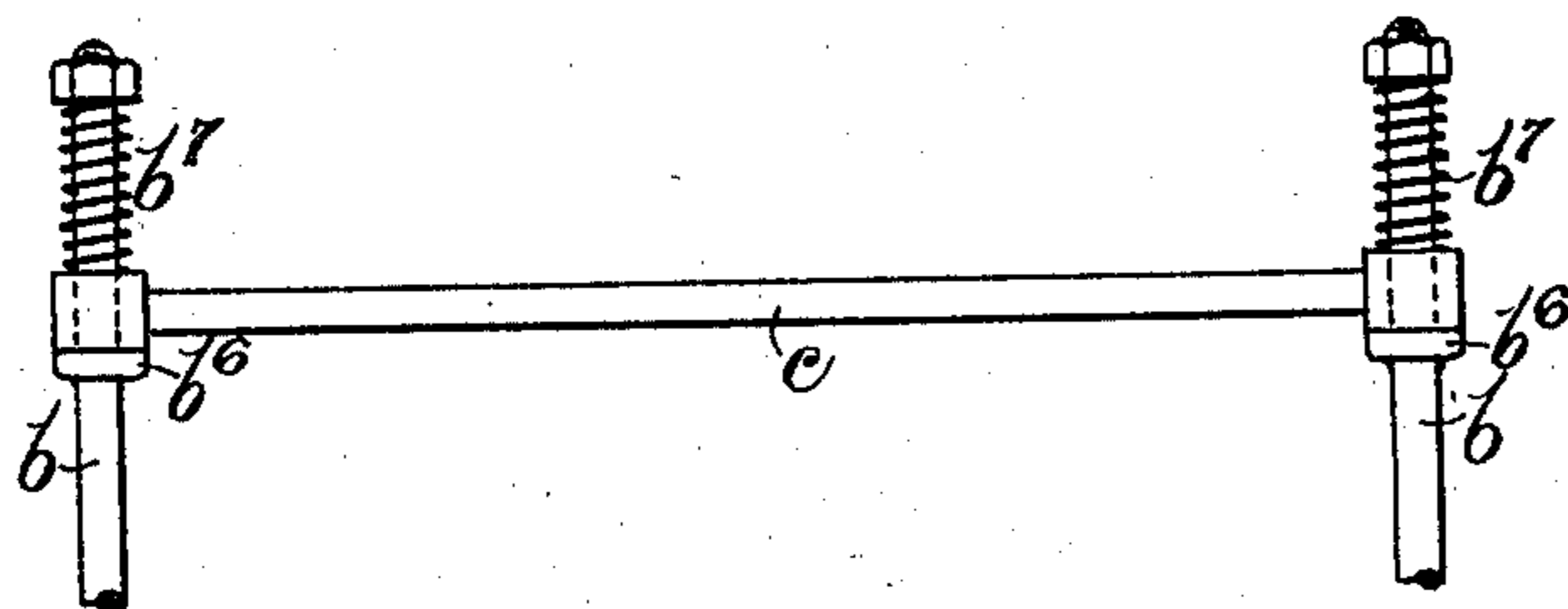


FIG. 5.

Witnesses:
George M. Richards.
C. D. Dixon.

Inventor
Maximilian J. Barber
by W. H. Babcock
Att

UNITED STATES PATENT OFFICE.

MAXIMILIAN T. BARBER, OF MANCHESTER, ENGLAND.

PLATEN PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 637,916, dated November 28, 1899.

Application filed September 8, 1899. Serial No. 729,822. (No model.)

To all whom it may concern:

Be it known that I, MAXIMILIAN THOMAS BARBER, a subject of the Queen of Great Britain and Ireland, and a resident of 37 Fountain street, Manchester, county of Lancaster, England, have invented certain new and useful Improvements in Platen Printing-Machines, (for which I have filed application for British patent, No. 10,949, dated May 25, 1899;) and I do hereby 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.

This invention relates to improvements in guards or fences for platen printing-machines for preventing accidents to the printer.

In the accompanying drawings, which illustrate the invention, Figure 1 is a side elevation with the guard depressed clear of the platen. Fig. 2 is a corresponding side elevation showing the raised position of the guard when the platen is in contact with the type-bed. Fig. 3 is a part elevation of a guard hinged at one side only. Fig. 4 is a front elevation of a guard hinged at both sides. Fig. 5 is a front elevation of a guard adapted to slide on its side supports.

In Figs. 1 and 2 the main frame A, carrying the type-bed at B, and the oscillating platen C are indicated by dotted lines. In many types of platen printing-machine the platen is partly operated by side levers D and arms D', driven by suitable gearing from the main driving-shaft A' of the machine. These particular means for operating the platen form, however, no part of the present invention and they are merely utilized as a convenient source from which to operate the guard.

At the side of the platen is a lever *b*, which acts as a carrier for the guard. The lever *b* is fulcrumed at *b'* to a spur or projection *b²*, rigidly attached at about right angles to the boss of the arm D', which carries the platen. The lever *b* is connected with the side arm D by a link *b³*, hinged at *b⁴* and at *b⁵* to brackets fixed on the lever *b* and the side lever D. The guard is carried at the upper end of the carrier arm or lever *b* and extends across the platen from side to side.

When the parts are in the relative positions shown in Fig. 1, the platen is away from the

type-bed to enable the operator to lay on the platen the sheet to be printed. In this position the guard *c* is at its lowest point and presents no obstacle to the insertion of the sheet. When the platen is caused to advance toward the type-bed by the mechanism provided in platen-machines for that purpose, the arm D' gradually changes its angle to the side lever D until when in actual contact with the platen, as illustrated in Fig. 2, the arm D' has moved through about a right angle and has become approximately parallel to the side arm D. The spur *b²* partakes of this change of direction, with the result that the carrier arm or lever *b* is lifted, and owing to the restraint of the link *b³* it is caused to turn about its fulcrum *b'*, with the result that the guard *c* traverses approximately the path indicated by the dotted line *x* in Fig. 2, accompanying the platen, while at the same time gradually rising above it, and lifting away the hand of the operator prevents it from being trapped against the type-bed. As the platen returns for the reception of another sheet the action of the carrier arm or lever *b* is reversed and the guard is lowered out of the way.

Although only one side of the machine has been described, it is to be understood that the parts may be symmetrically arranged on the other side.

If the guard *c* is rigidly connected to the carrier-arm or lever *b*, it is liable to introduce new dangers of its own, since if in rapid working the operator were to pass his hand over the edge of the platen during the return stroke it would become trapped between the guard and the platen. To prevent such accidents, the guard *c* is so connected with its carrier *b* that while rigid and capable of resisting a downward pressure, it may be non-rigid or capable of yielding from the under side. This may be effected in various ways, of which examples are shown in Figs. 3, 4, and 5.

In Fig. 3 the guard *c* is a bar or light tube hinged at *c'* to the carrier *b* in such a way that while free to turn upward it cannot without excessive force be turned downward. Fig. 4 shows a similar guard *c*, hinged at both sides at *c'* *c²* and divided in the middle. Fig. 5 shows the guard resting on collars *b⁶* on the carriers *b* to resist downward pressure. If anything prevents the descent of the guard

on the back stroke of the platen, the springs b^7 will yield and the guard will slide on the carrier b . Although I have shown a particular method of operating the carriers b from the side arms D, it is to be understood that the carriers b may be operated from any other convenient rotating or reciprocating part of the machine. While this yielding of the guard will prevent serious injury, the hand of the operator would nevertheless receive a smart blow from the descending guard in cases where the machine is driven at a high speed. To minimize this, I apply to the guard a pad, cushion, or wrapping of some soft or flexible material, such as india-rubber, cloth, or the like.

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

1. In combination with the platen of a printing-machine, and its operating mechanism, a pair of pivoted carrier-arms, connecting devices between said carrier-arms and mechanism adapted to raise the upper ends of the said carrier-arms above the said platen as the latter ascends, a transverse printer's hand-guard movably connected at its ends to the upper ends of the said carrier-arms for permitting it to yield in an upward direction

and a stop for preventing it from yielding in a downward direction, substantially as set forth.

2. In combination with platen C and its operating-levers D, D', the latter of which are provided with spurs b^2 , the carrier-arms b pivoted at their lower ends on the said spurs, the horizontal guard c connected to the upper ends of the said carrier-arms and adapted to yield in an upward direction, and the links b^3 connecting the carrier-arms b to the levers D, substantially as set forth.

3. In combination with a platen and its operating mechanism, carrier-arms attached to said mechanism, a transverse guard mounted on the upper ends of said carrier-arms, springs above the ends of the said guard permitting the latter to move upward against their pressure and stops to limit the downward movement of the said guard, substantially as set forth.

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

MAX. T. BARBER.

Witnesses:

JOHN HALL,
A. T. WHITELOW.