

No. 780,215.

PATENTED JAN. 17, 1905.

A. E. MUIRHEAD.
BAND SAW FOR CUTTING IRON OR STEEL.
APPLICATION FILED FEB. 11, 1902.

Fig. 2.

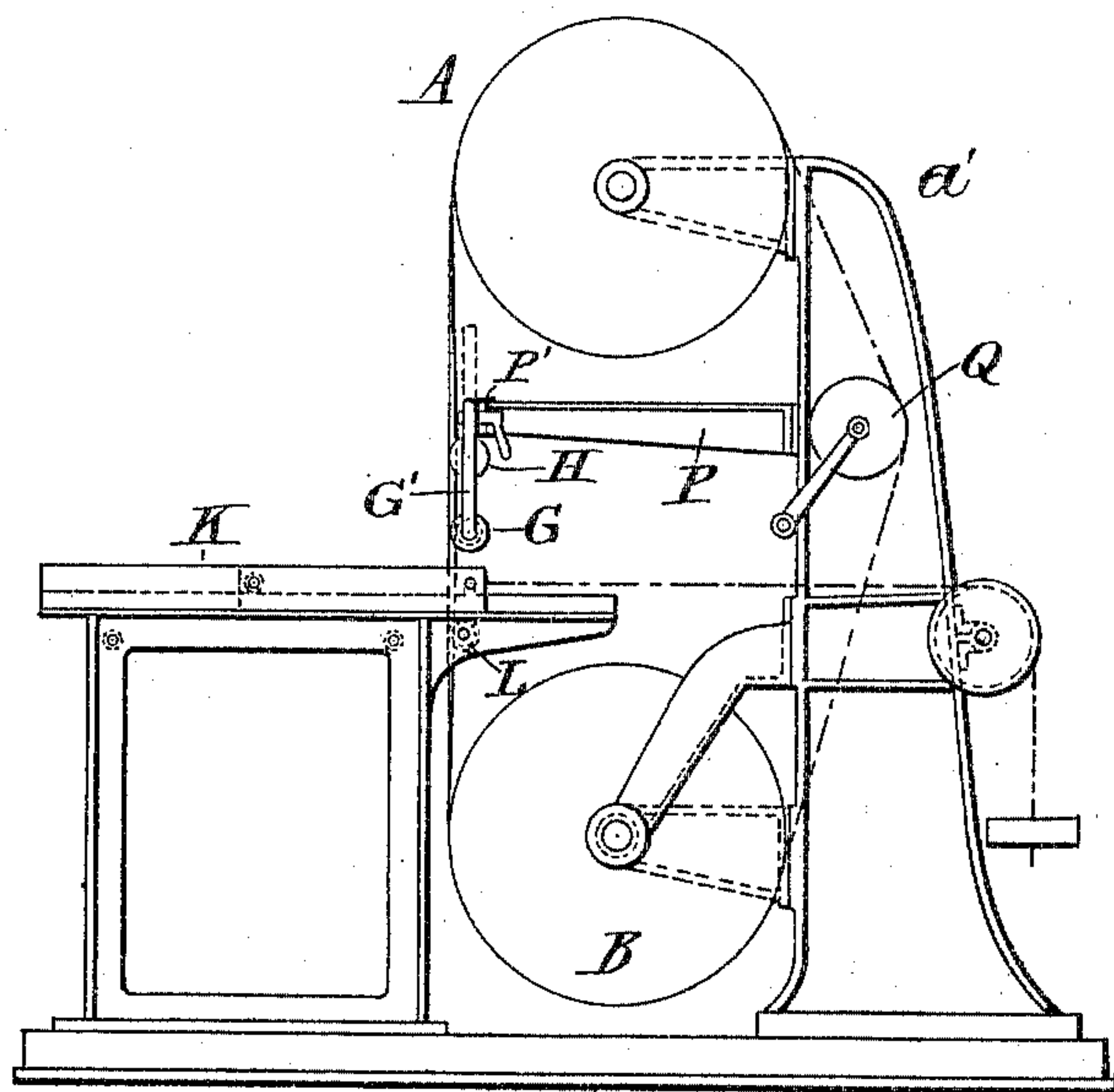


Fig. 1.

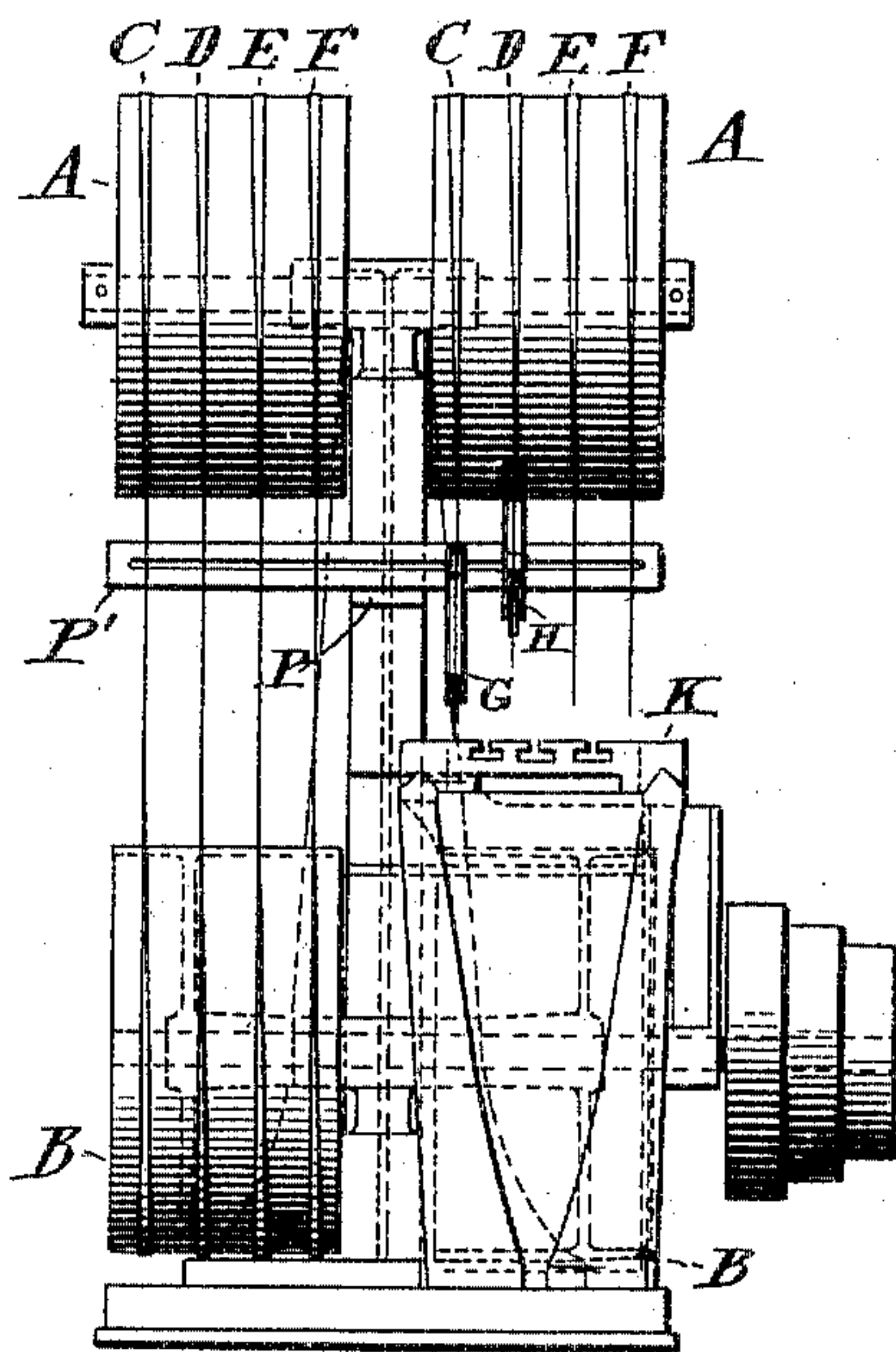


Fig. 4.

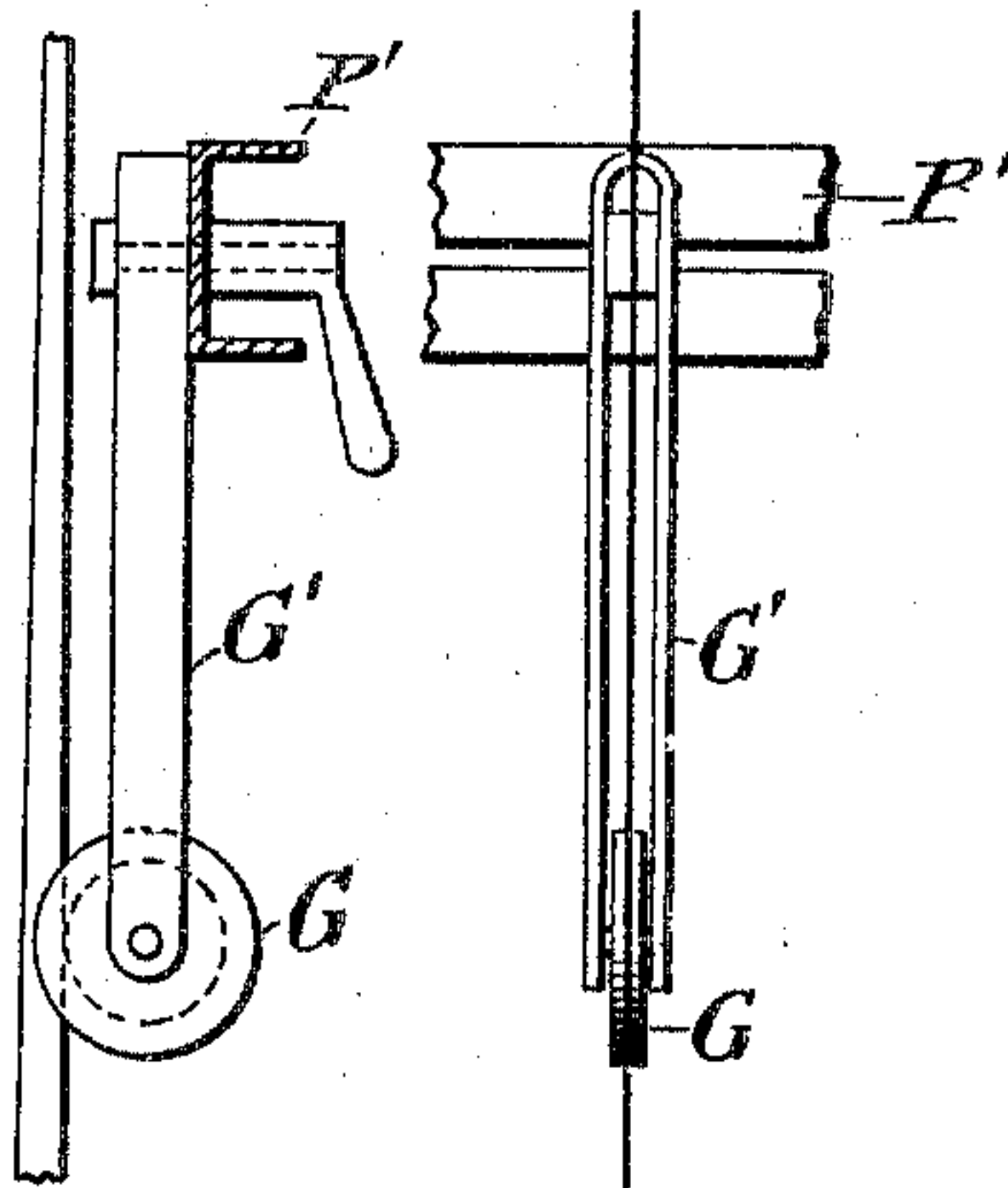


Fig. 3.

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UNITED STATES PATENT OFFICE.

ANDREW ERSKINE MUIRHEAD, OF CART FORGE, GLASGOW, SCOTLAND.

BAND-SAW FOR CUTTING IRON OR STEEL.

SPECIFICATION forming part of Letters Patent No. 780,215, dated January 17, 1905.

Application filed February 11, 1902. Serial No. 93,529.

To all whom it may concern:

Be it known that I, ANDREW ERSKINE MUIRHEAD, forgerman, of Cart Forge, in the city of Glasgow, Scotland, have invented certain new and useful Improvements in Band-Saws for Cutting Iron or Steel, of which the following is a specification.

Hitherto band-saws consisted in placing the ribbon constituting the saw to run upon a narrow pulley in such a manner that the cut could only be obtained in a plane lateral to the machine.

The object of my invention is to mount two or more saw-ribbons on one pair of pulleys and take up the slack when necessary by the introduction of a third pulley. By an arrangement of grooved rollers or pulleys I give a twist to each of the saw-ribbons in order to bring the serrated or cutting edges of the saw at right angles to face of pulley and facing operation.

In the drawings, Figure 1 is a front elevation of a multiple-band-saw machine made in accordance with my invention. Fig. 2 is a side view of the same. Fig. 3 is a front view of the upper guide roller or pulley. Fig. 4 is a side view of the same.

A is the upper pair of pulleys, mounted one on each side of a central standard A', and B is the lower and driving pulleys, which receive the motion after the manner of the band-saw machines now in use and are mounted one on either side of the central standard A', like the pulleys A. Such an arrangement of the two pulleys allows for the easy removal of the saw-ribbons when it is desired to remove the same. Each pair of pulleys, which may be of any suitable diameter and breadth, is mounted with four saw-ribbons C, D, E, and F, though a greater or less number may be used. A corresponding number of upper guide-rollers, two only of which are shown and which are marked G and H, are mounted and adjustable upon a bar beneath the said upper pulley A and at any convenient distance above the table K of the machine. Immediately above the lower pulley B and beneath the ta-

ble of the machine to which they are fixed at its lower edge are the lower guide-rollers L, corresponding to the number of the upper ones and the number of the said ribbons. These guide-rollers consist of grooved pulleys rotatably supported within a bracket or depending arm G', which is adjustably supported in a slotted bar P', secured to the bracket P, forming a part of the framework of the machine. The bracket P is also capable of being raised and lowered. Each of the saw-ribbons is moved against a weighted antifriction roller or pulley Q, which gives a continuous tension to and takes up the slack of the ribbon. The column of the machine has an upper and lower pulley at either side thereof, as shown. In lieu of this multiple arrangement an upper and lower pulley of a convenient length may be employed to carry a considerable number of saw-ribbons. The saw-ribbons in lieu of being placed with the inner bearing-surface in one plane round both pulleys may have a twist, so that the inner surface of the saw-ribbon would lie round the periphery of the lower pulley and the outer surface upon the periphery of the upper pulley, or vice versa.

I claim—

1. In a band-saw machine, the combination with a suitable frame, pulleys carried by said frame, saw-ribbons carried by said pulleys, an adjustable bracket also carried by said frame, a slotted bar carried by said bracket, adjustable depending arms carried by said bar and grooved guide-rollers carried by said arms and engaging the saw-ribbons.

2. In a band-saw machine, the combination with a suitable frame, having a central standard, of upper and lower band-pulleys mounted on each side of said standard and saw-ribbons carried by said pulleys.

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

ANDREW ERSKINE MUIRHEAD.

Witnesses:

JOHN LIDDLE,

AGNES MACKINTOSH.