

(No Model.)

H. DUFFEY.

Metal Bending Machine.

No. 243,435.

Patented June 28, 1881.

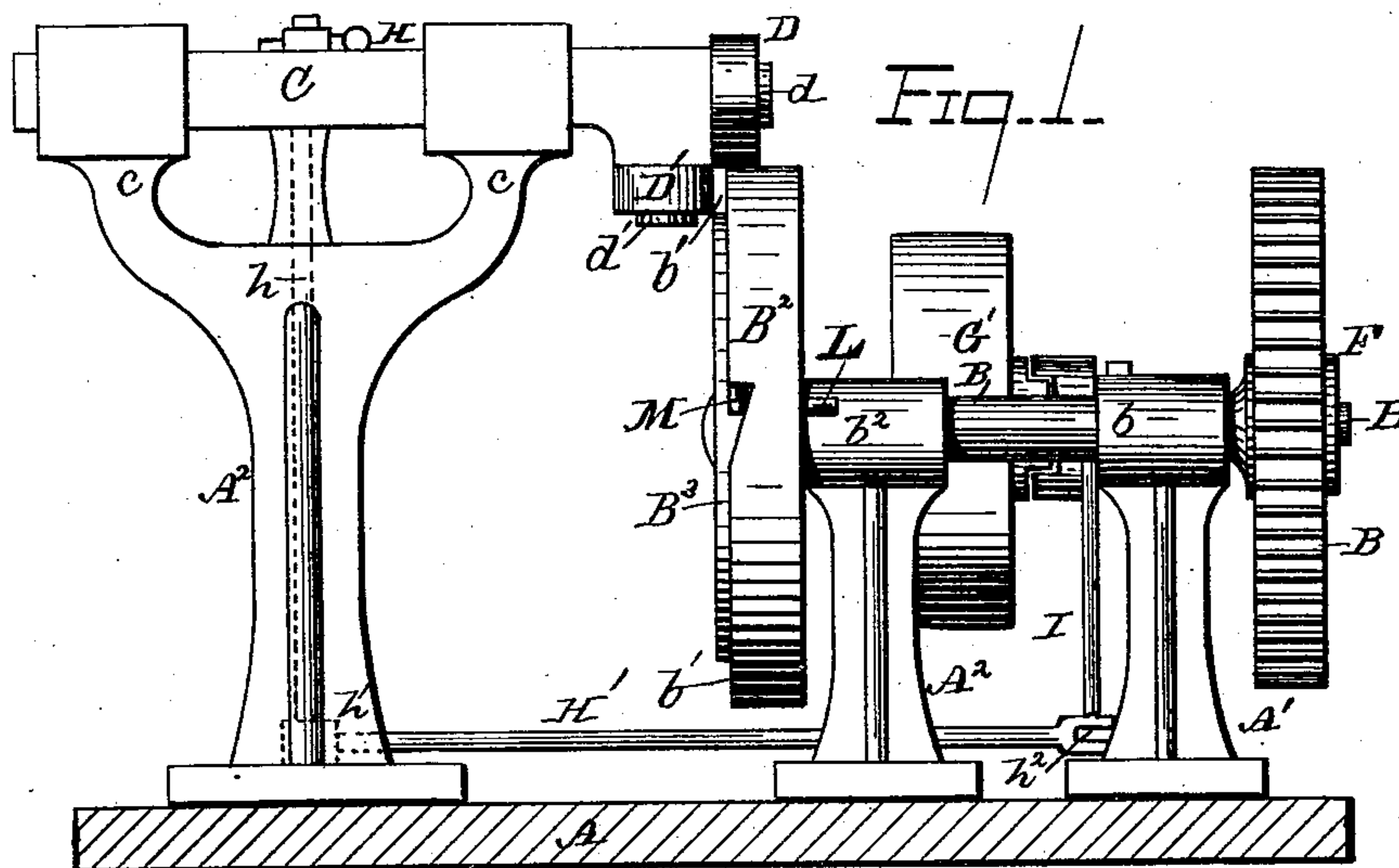


Fig. 2.

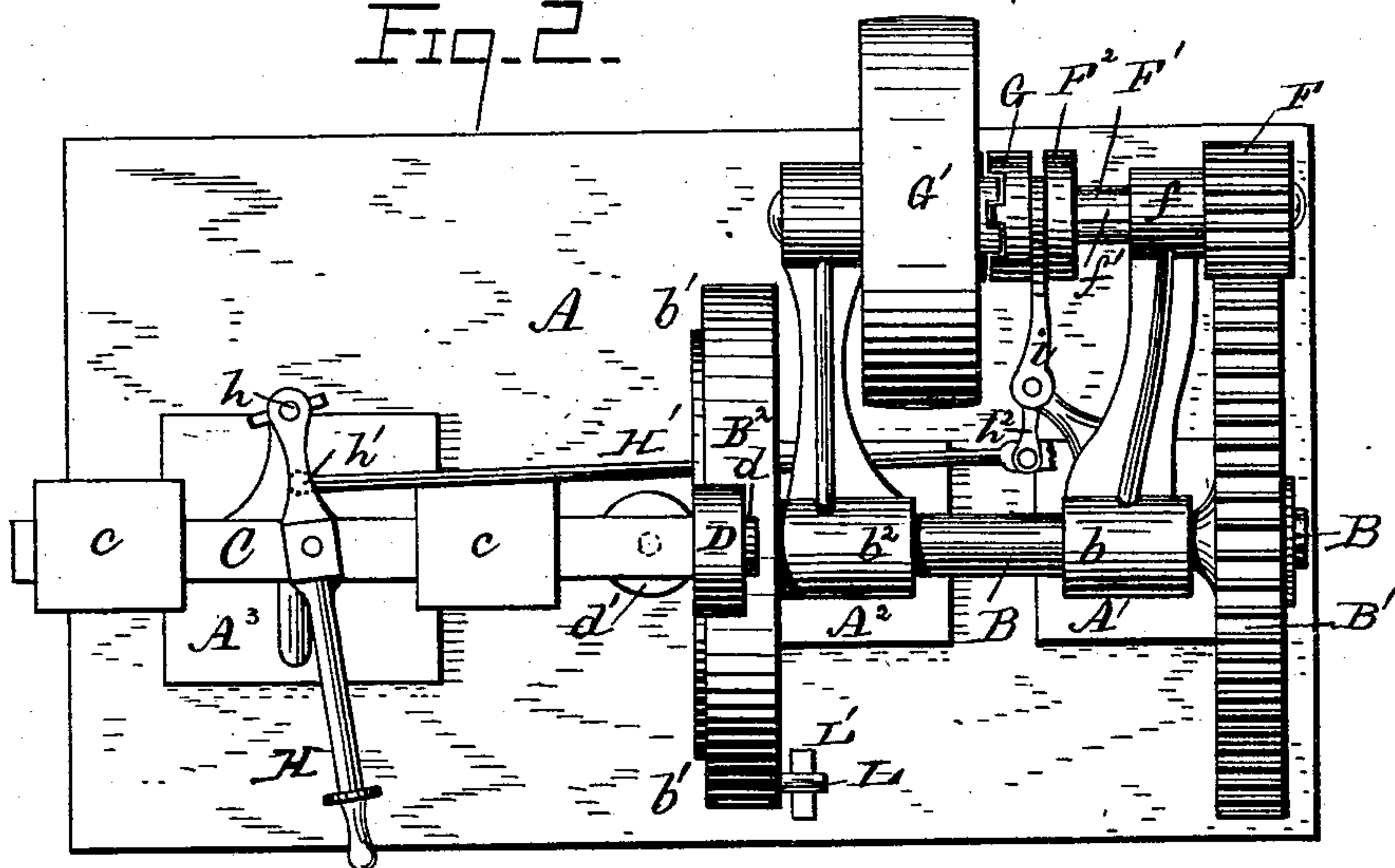


Fig. 3.

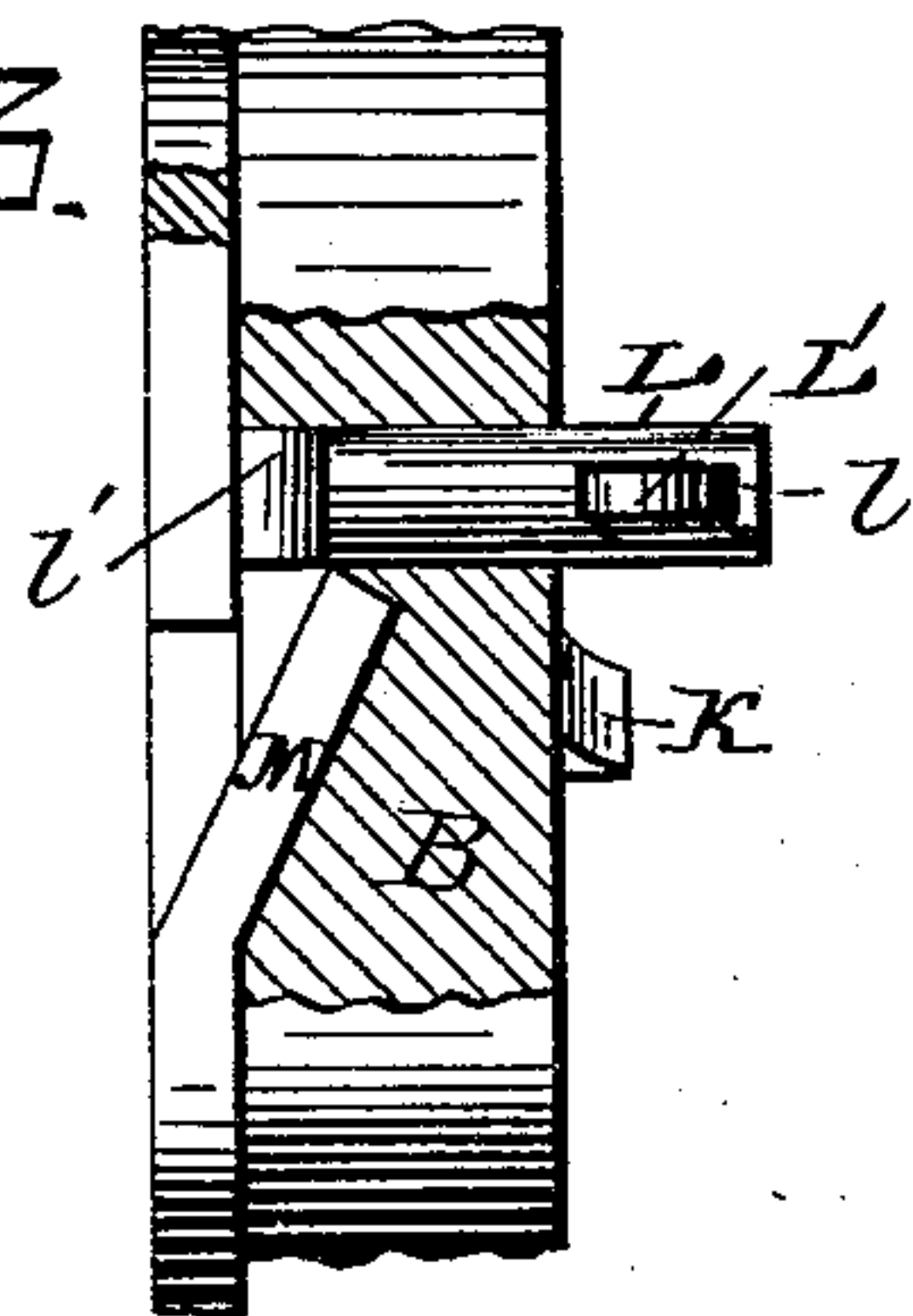
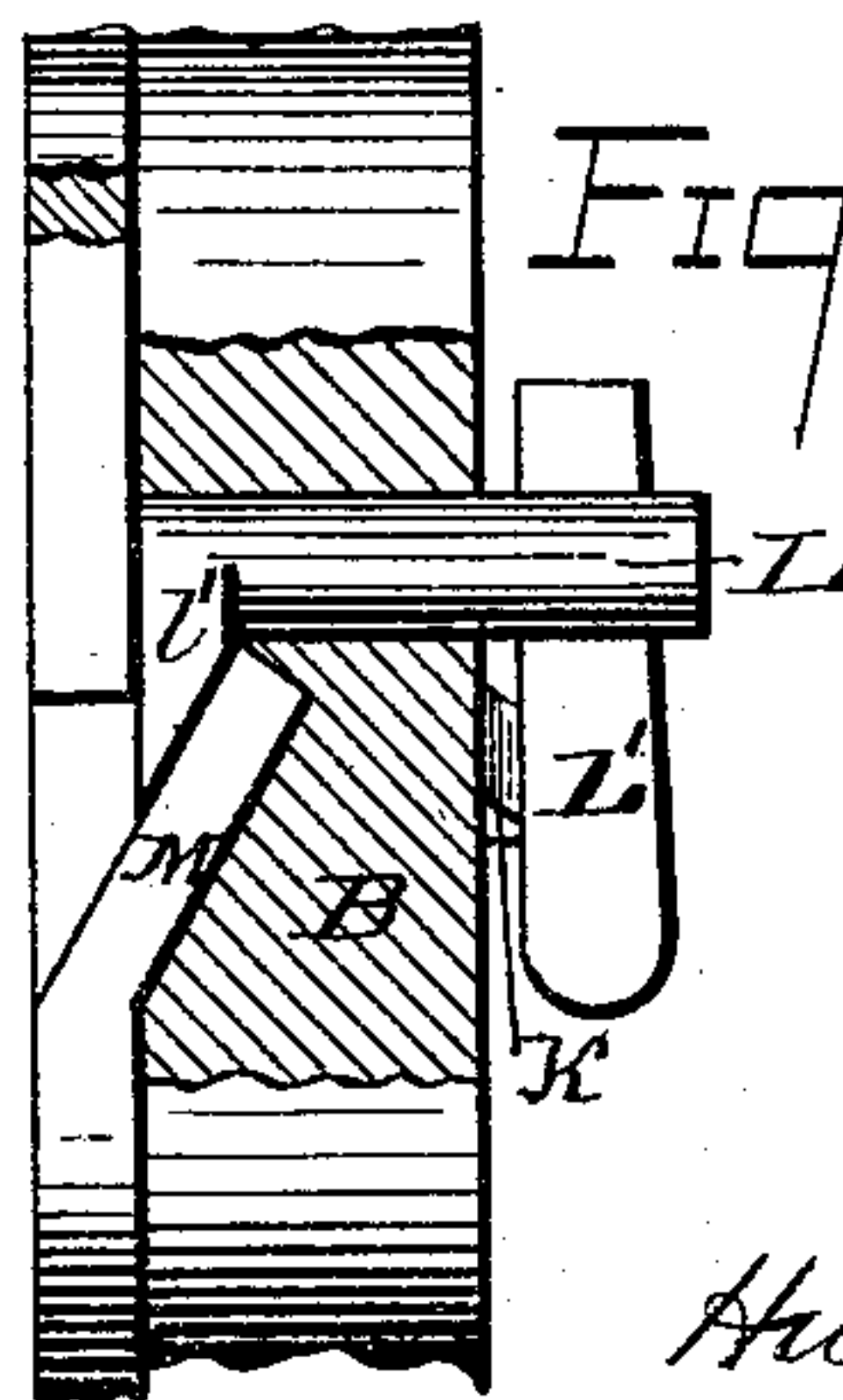


Fig. 4.



WITNESSES

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HUGH DUFFEY, OF CORTLAND, NEW YORK.

METAL-BENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 243,435, dated June 28, 1881.

Application filed April 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, HUGH DUFFEY, a citizen of the United States, residing at Cortland, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Metal-Bending Machines; 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, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to a new and useful improvement in machines for forming fifth-wheels and the like; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The object of the invention is to provide a revolving former or disk having means for holding one end of the metal blank secure against displacement, and to provide means for throwing said disk in or out of engagement with a power-pulley at the will of the operator, and to so form the blank into the desired shape that the free end will lap sufficiently over the confined end that the ends may be welded at that point in a minimum of time and with a minimum of labor.

I will describe the invention as applied to the formation of fifth-wheels; but it is obvious that the device may be employed in bending metal for other purposes, and that the forms may be made elliptical or otherwise, by the devices which I will hereinafter describe.

To enable others skilled in the art to make and use my invention, I will describe the construction and mode of operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation; Fig. 2, a top-plan view; and Figs. 3 and 4 are detail sections.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A indicates a suitable base of cast metal or other material, from which arise rigid standards A' A² A³, &c.

In the standard A', at b, is journaled the

shaft B, carrying upon one end a cog-wheel, B', and upon the other end a disk, B², having a boss, B³, of smaller circumference than the disk, leaving a right-angled recess, b', near the periphery. The shaft B, near the disk end, is also journaled in the standard A² at b².

In the standard A³, having bifurcated upper arms, c c, is a bar, C, having roller-bearings d d' placed at right angles to each other, and adapted to carry rolls D and D', as shown, the former, D, serving to force the blank into connection with the periphery of the boss B³, and the latter, D', to force the said blank against the face of the wheel B² outside the periphery of the boss B³.

Meshing with the gear-wheel B' is a pinion, F, rigid upon a shaft, F', journaled in the frame at f, and carrying a clutch, F², which is capable of sliding on a feather, f', as shown.

Meshing or otherwise connecting with the clutch F² is a clutch, G, rigid upon a power-pulley, G', to which power is applied in any suitable and desirable manner. This power-pulley revolves continuously with the force of the engine or other power, and is thrown in or out of operation with the operating parts through the gear-wheels F B', at the will of the operator, by means of the devices now to be described.

A lever, H, is rigid with a vertical rod, h, upon the lower end of which is rigidly formed or secured a crank, h', having sufficient sweep to oscillate a horizontal rod, H', having connection with a short crank, h², which in turn operates a vertical bar, I, having a forked finger, i, arranged at right angles thereto, which serves to throw the clutches G G' into operation as the lever H is forced in one direction, as is obvious.

Upon the back face of the disk B² is a lug or projection, K, having an outer inclined side, and at any suitable distance from the periphery of the disk is a perforation, through which operates loosely a rod, L, having an inclined lug, l', and also having a slot, l, through or in which operates a transverse arm, L'. As this arm L' is forced in one direction it rides up the incline of the lug K and forces the rod L backward, the lug l' bearing against the end of the blank and gripping it in the slot M of the disk. When the blank is properly clamped

the power is applied by means of the shifting device H I, &c., and the free portion is forced into the recess b' by the bearing-rolls D D', and the disk B² is revolved sufficiently to form the fifth-wheel or the like, leaving the free end with a sufficient lap upon the confined end to make a proper weld.

The disk B² and boss may be of such form as desired, and, being keyed to the shaft B, may be removed and other sizes and conformations be substituted.

Various modifications may be made in details of construction without departing from the principle or sacrificing the advantages of my invention, the essential features of which have been fully hereinbefore set forth.

What I claim as new is—

1. A disk and boss adapted to form and shape metal blanks, having a recess to receive

the end of the blank, and an inclined lug, combined with an oscillating and reciprocating rod, having an arm which rides up the incline of the lug, to force a clamping projection against the end of the blank in the recess, the bearing-rollers, and means for throwing the power in and out of connection at will, as specified.

2. The combination of the shaft B, having disk B², boss B³, slot M, and lug K, and gear-wheel B', the rod or bar L, having lug l' and slot l , the arm L', the clutch-pinion F F' F², the power-pulley G G', and shifting means H I, as and for the purposes set forth.

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

HUGH DUFFEY.

Witnesses:

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