

(No Model.)

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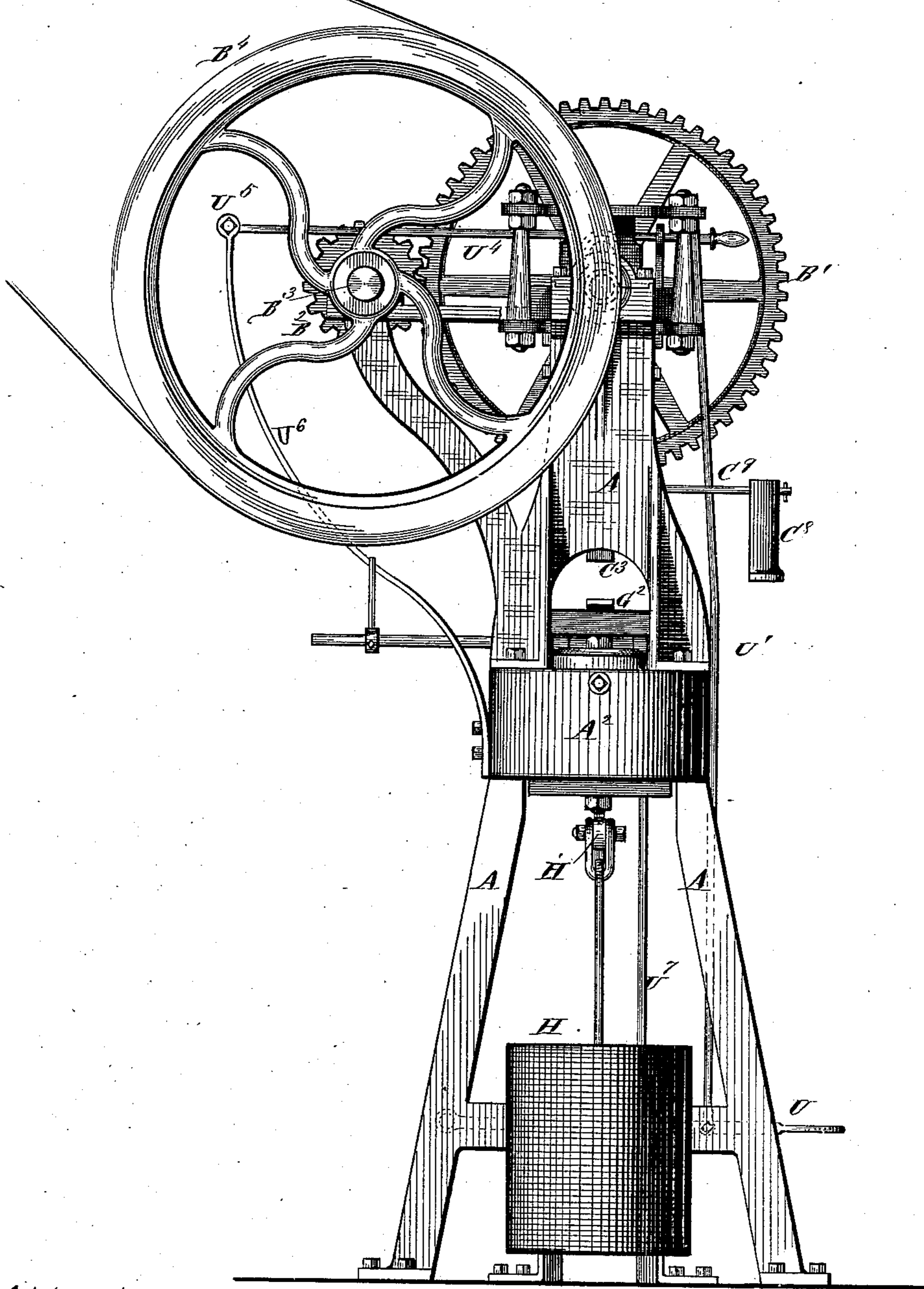
F. KREIN.

MACHINE FOR ATTACHING BANDS TO WHIFFLETREES.

No. 365,390.

Patented June 28, 1887.

Fig. 1.



Attest;

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(No Model.)

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Fig. 3,

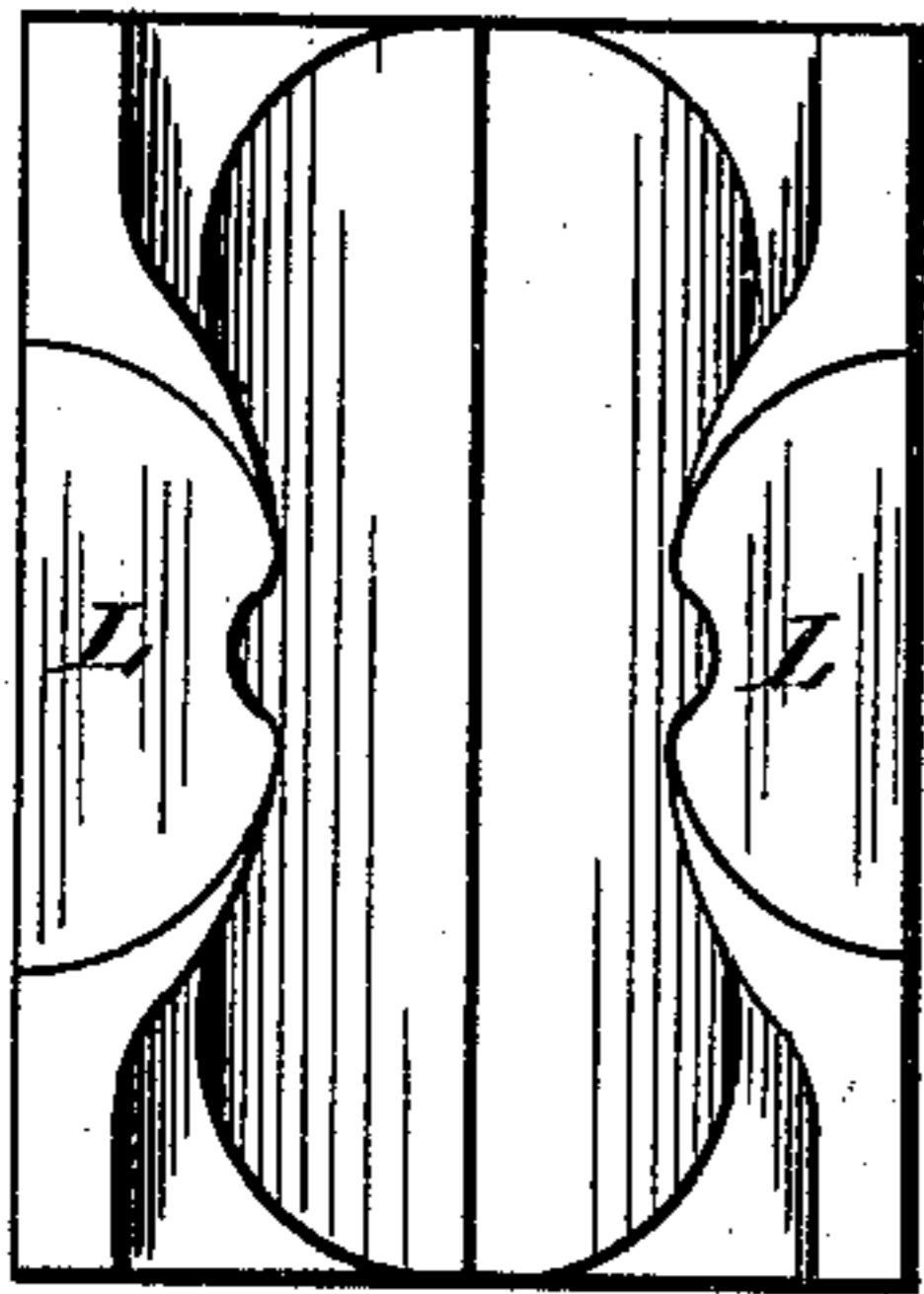


Fig. 4,

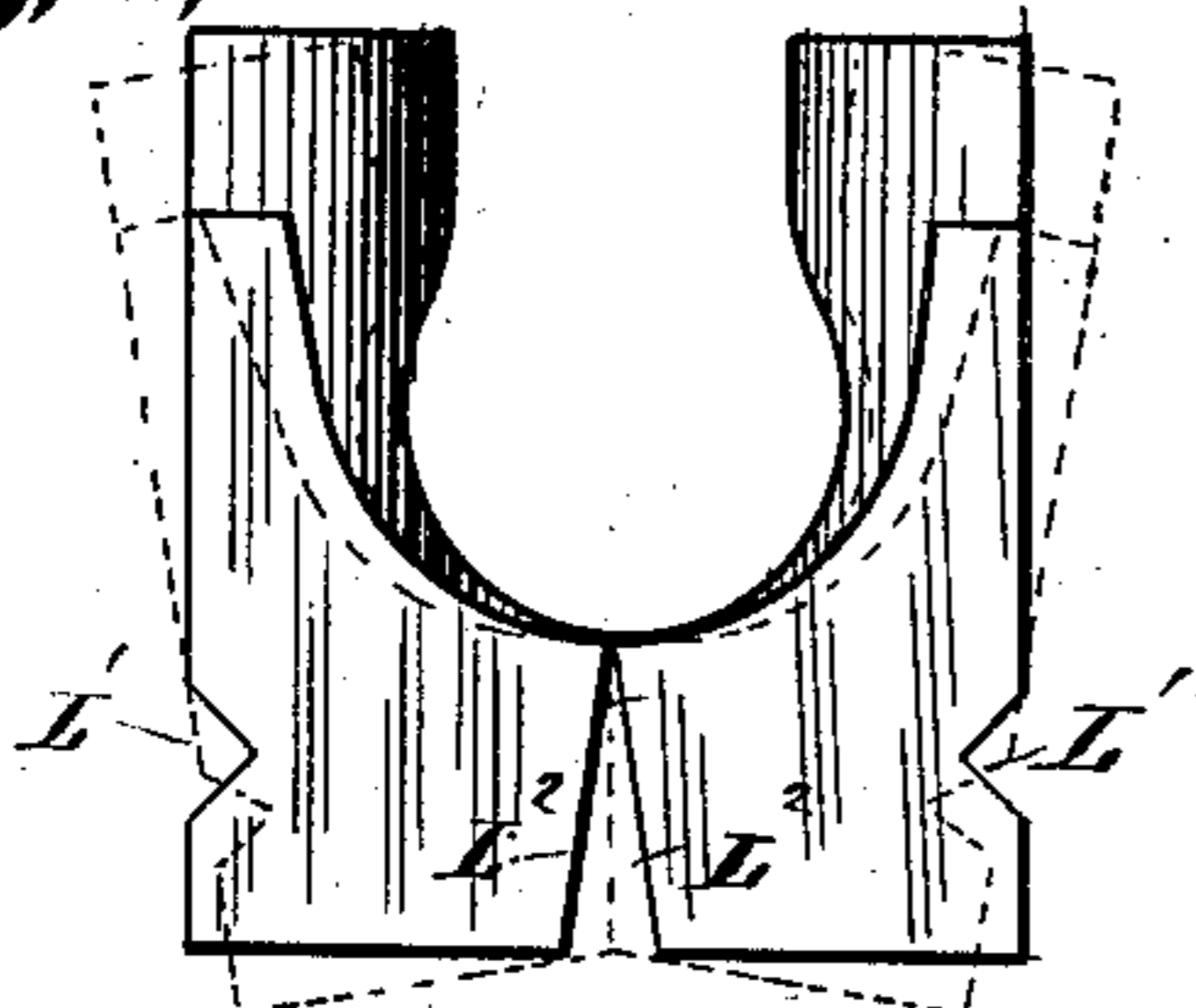
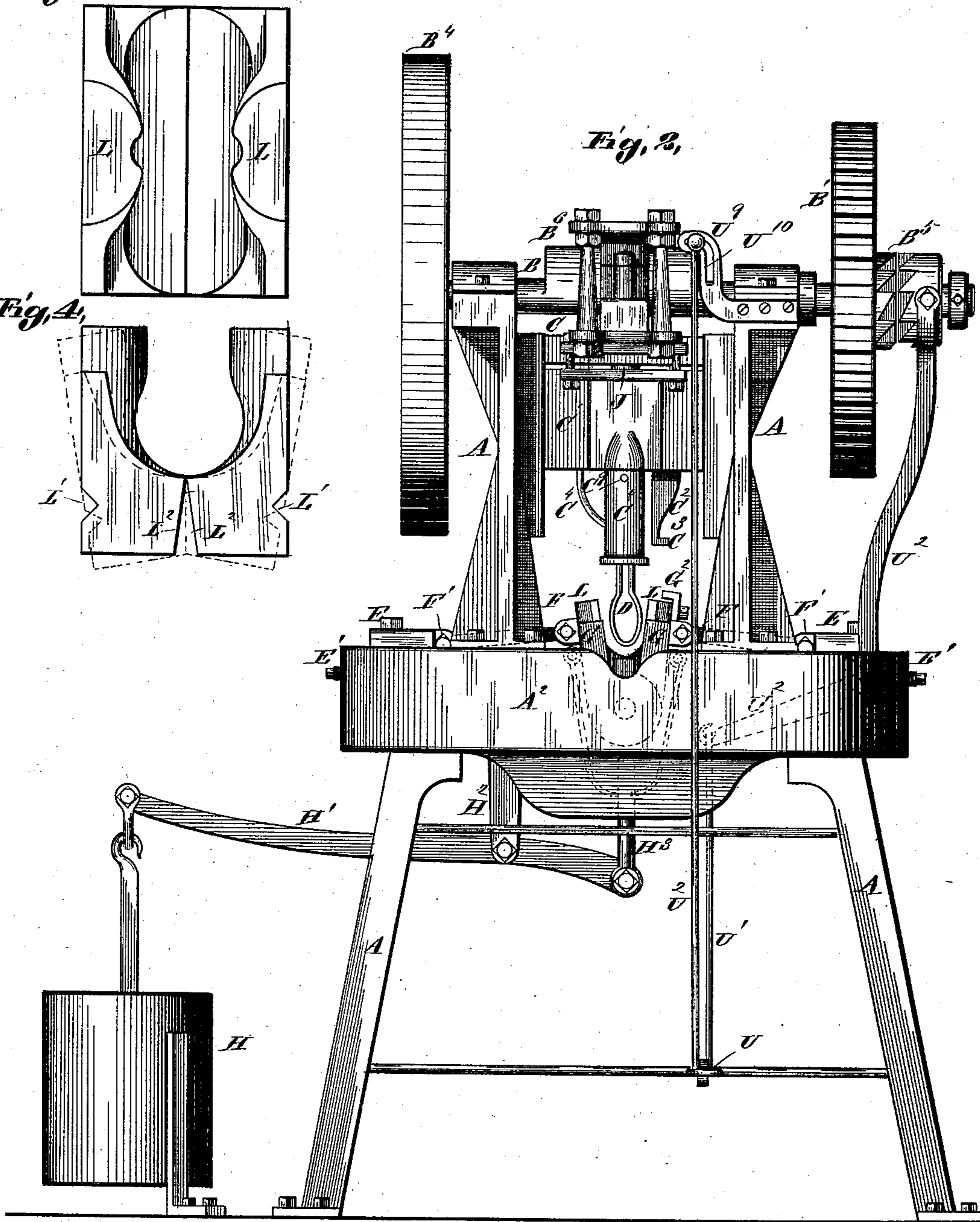


Fig. 2,



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Fig. 6,

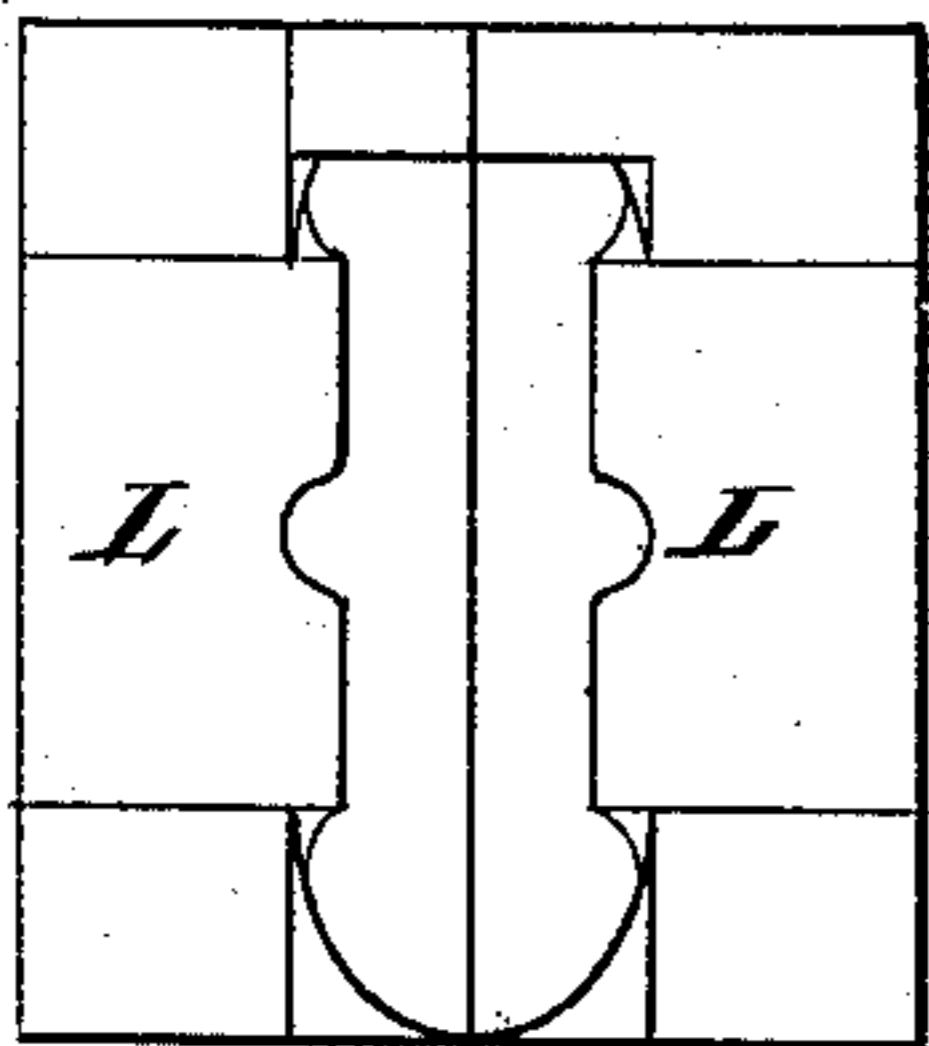
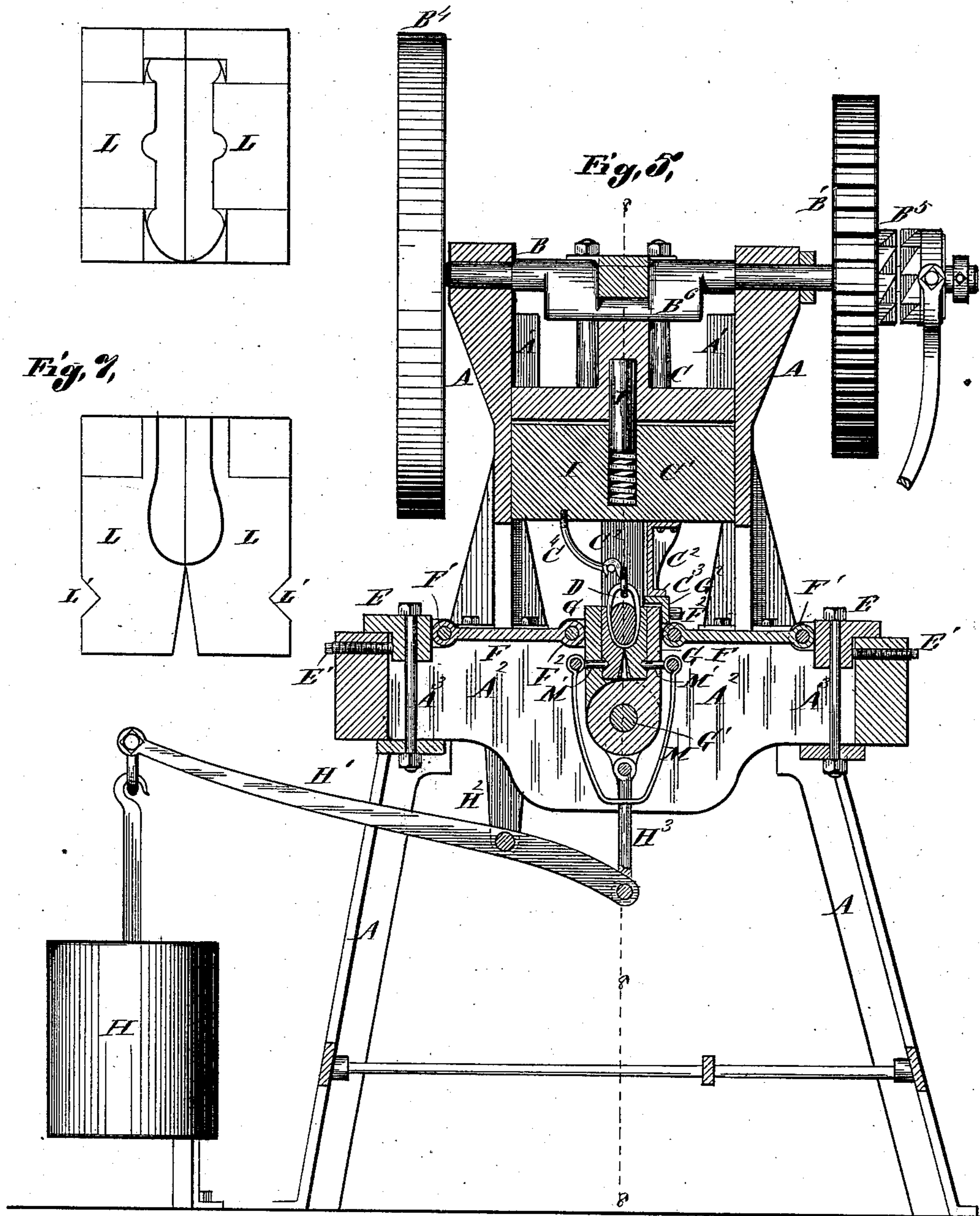
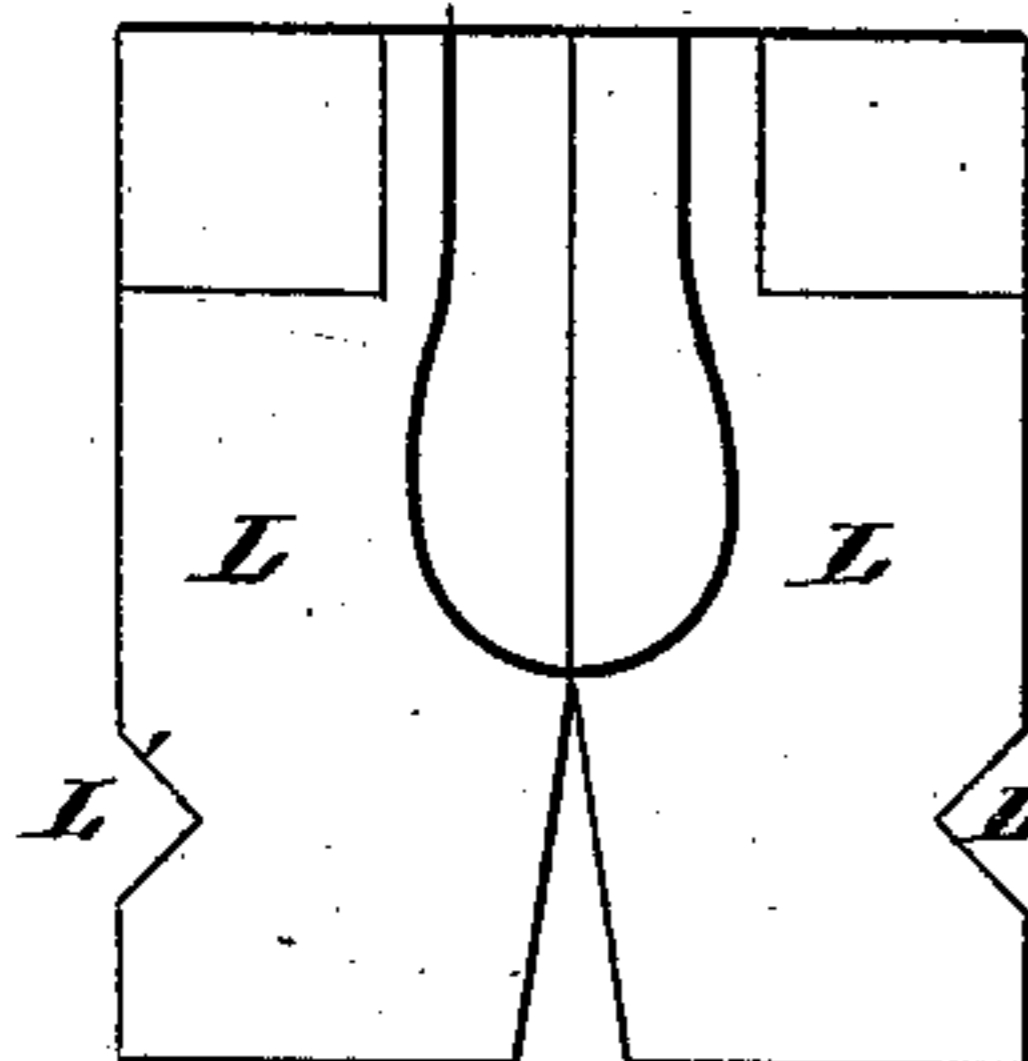


Fig. 7,



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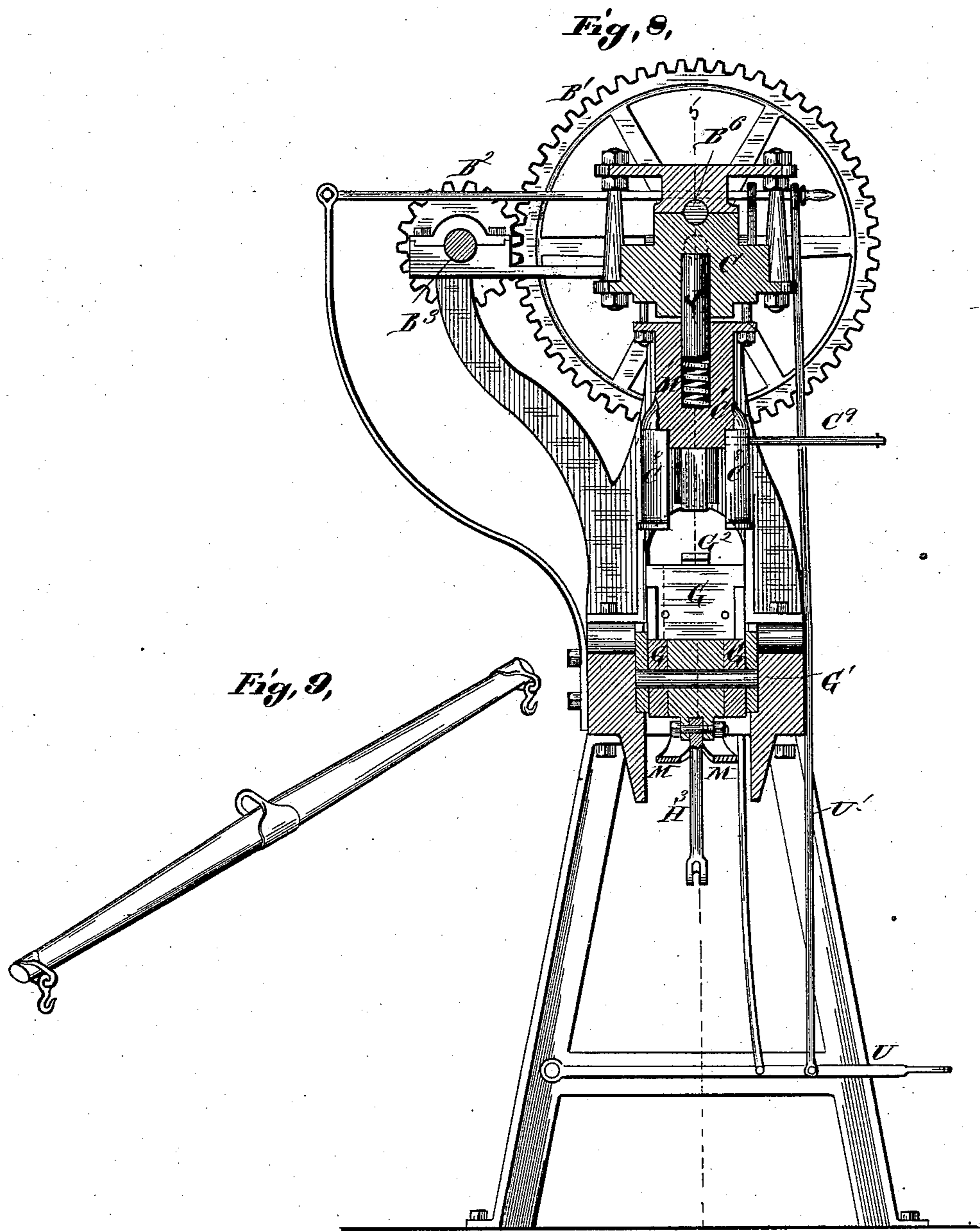
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MACHINE FOR ATTACHING BANDS TO WHIFFLETREES.

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UNITED STATES PATENT OFFICE.

FRANZ KREIN, OF ST. LOUIS, MISSOURI.

MACHINE FOR ATTACHING BANDS TO WHIFFLETREES.

SPECIFICATION forming part of Letters Patent No. 365,390, dated June 28, 1887

Application filed November 2, 1886. Serial No. 217,833. (No model.)

To all whom it may concern:

Be it known that I, FRANZ KREIN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Attaching Irons to Whiffletrees, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a front view. Fig. 3 is an enlarged top view of the die removed. Fig. 4 is an enlarged end view of the dies removed, and showing them in their closed position. Fig. 5 is a vertical section taken on line 5 5, Fig. 8. Figs. 6 and 7 are respectively top and end views of the dies, showing the irons in place. Fig. 8 is a vertical section taken on line 8 8, Fig. 5. Fig. 9 is a perspective view of a whiffletree such as is ironed by my improved machine.

My invention relates to a machine for securing irons to whiffletrees and the like without heating them; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents the frame of the machine, in the upper part of which is journaled a shaft, B, provided with a cog-wheel, B', engaged by a pinion, B², on a driving-shaft, B³, having a pulley, B⁴. The cog-wheel B' has one member of a clutch, B⁵, the other member of which slides on the shaft B, but is held from turning on the shaft by a feather and key or by other suitable means. The wheel B' is loose upon the shaft, so that it will be seen that the shaft only turns when the clutch is brought into engagement, as hereinafter described. The shaft B has a crank, B⁶, connected to a cross-head, C, held in guides A' of the frame A. Beneath the cross-head C is a block, C', which moves vertically with the cross-head, and is also held in position by the guides A'. Depending from the block C' is an arm, C², with a horizontal projection, C³, on its lower end. Depending from the block C' is also a rod, C⁴, over which the iron D to be attached to the whiffletree is hooked, as shown in Fig. 5, and by which the iron is suspended.

E represents adjustable blocks resting upon a table, A², of the machine, and held on the table by bolts A³, which do not interfere with their horizontal adjustment, which may be ef-

fectured by set-screws E', passing through the sides of the table. Pivoted to the plates E at F', are links or arms F, the inner ends of which are pivoted at F² to a die-holder, G, the holder being made in two parts and each part being connected at F² to the inner end of one of the links. The two parts of the holder are pivoted together by a pin, G', and are capable of being opened out from the position shown in Fig. 5 to the position shown in Fig. 2, and they are thus opened out while being moved vertically from the position shown in Fig. 5 to the position shown in Fig. 2 by means of the links F, turning on their pivots F'.

The links and holder are raised from their lower to their upper position by means of a weight, H, on the outer end of a lever, H', fulcrumed to an arm, H², depending from the table of the machine and connected at its inner end by means of a rod, H³, to the holder. Thus when the holder has been forced down and the power that forced it down removed, the weight will elevate it again, and as the links are held from movement at their outer ends it will be readily understood how they cause the holder to open as it rises, and in like manner it will be understood how, on the descent of the holder, it is made to close up by the inner ends of the arms approaching toward each other as they come to a horizontal position. The holder is forced downward by the projection C³ on the arm C² coming against a bracket, G², on the holder, and by pieces C⁸ on the block C' coming against the top of the holder. This takes place at each descent of the cross-head C and block C', or, in other words, at each revolution of the shaft B. To avoid the necessity of fitting the parts to a nicety, and also to compensate for wear in the parts, I locate a spring, I, and pin J between the cross-head and block, the spring acting to relieve the parts of any undue strain.

In order that the pieces C⁸ will not interfere with putting the irons in place on the hook C⁴, I make one of them movable on a pin, C⁹, so that when an iron is to be put on the hook this piece can be slid out on the rod to the position shown in Fig. 1, and when the iron is put in place the piece is moved back again into working position, as shown in Fig. 8.

The holder may be made to open or close more or less by adjusting the blocks E by the screws E', thus changing the horizontal position of the links.

L represents two dies that fit side by side in the holder, and which are recessed on their adjacent faces, as shown in Figs. 3 and 4, to conform to the shape of the irons. As the holder rises and opens, the dies are opened, as shown by dotted lines, Fig. 4, by means of a spring, M, having pins M' on its upper end that pass through perforations in the holder and bear against the lower ends of the dies. At the point of contact with the pins the dies are notched at L', and to allow them to open, as stated, their lower adjacent faces are beveled, as shown in Fig. 2.

In using the machine the iron D is put in place on the hook C', and the whiffletree passed through it. The machine is then started, and the holder and dies are forced downward and closed up, as stated, which causes the iron that has been clasped between the dies to be securely pressed upon the whiffletree, and thus permanently attached thereto. The parts (the shaft B continuing to revolve) now go back to their former position, and the whiffletree, with the iron attached, can be removed and the operation repeated with another set.

To start the machine, the operator puts his foot on a treadle, U, and presses downward on it, the treadle being connected by a rod, U', to one end of a bell-crank lever, U'', which is pivoted to the table of the machine, and the other end of which is connected to the sliding member of the clutch. The pressure on the treadle causes the clutch to engage and the machine to commence its movement. In order that the machine may be automatically stopped at each revolution, I locate a bar, U', over the shaft B in close proximity to the crank, the outer end of the bar being pivoted at U³ to a bracket, U⁶, extending upward from the table of the machine, and the inner end of the bar being connected by a rod, U⁷, to the treadle U. The bar passes through a curved slot, U¹⁰, in the bracket U⁹. As the clutch engages, the bar moves outward and downward in the slot U¹⁰, the crank B' turning downward away from the bar, which is located over it. As the crank begins to move up again on the other side, it comes against the bar, and, lifting it upward in the slot and through means of the described connection, disengages the clutch.

I claim as my invention—

1. In a machine for attaching irons to whiffletrees, &c., the combination of mechanism for holding the irons, dies, mechanism for holding the dies, and mechanism for causing the dies to move to and from each other, substantially as set forth.

2. In a machine for attaching irons to whiffletrees, &c., in combination with the dies, mechanism for causing the dies to move to and from each other, substantially as set forth.

3. In a machine for attaching irons to whiffletrees, &c., the combination of the dies, holder, pivoted links connecting the holder to fixed objects, and mechanism for depressing and lifting the holder, substantially as set forth.

4. In a machine for attaching irons to whiffletrees, &c., the combination of the hinged holder, weight for lifting the holder, links connecting the holder to adjustable plates, dies in said holder, and means for depressing the holder, substantially as set forth.

5. In a machine for attaching irons to whiffletrees, &c., the combination of the hinged holder, weight for lifting the holder, arms connecting the holder to adjustable plates, dies located in the holder, and mechanism for depressing the holder, consisting of a cross-head, crank-shaft, block located beneath the crank-shaft, arm on the block, pieces C' on the block, and bracket G² on the holder, substantially as set forth.

6. In a machine for attaching irons to whiffletrees, &c., the combination of the hinged holder, means for lifting the holder, arms connecting the holder to adjustable plates, and mechanism for depressing the holder, consisting of a crank-shaft, cross-head, block, the pieces C', one of which is movable in and out, arms C², and bracket G², substantially as and for the purpose set forth.

7. In a machine for attaching irons to whiffletrees, &c., the combination of the hinged holder, dies in the holder, means for lifting the holder, means, substantially as described, for opening and closing the holder, means, substantially as described, for depressing the holder, and hook for supporting the iron to be attached to the whiffletree, substantially as set forth.

8. In a machine for attaching irons to whiffletrees, &c., the combination of the hinged holder, means for lifting the holder, means for depressing the holder, dies in said holder, and pivoted arms by which said holder is opened and closed, substantially as set forth.

9. In a machine for attaching irons to whiffletrees, &c., in combination with the holder and mechanism for operating it, substantially as described, the dies located in said holder and beveled at L², and the spring for opening said dies when the holder is opened, substantially as set forth.

10. In a machine for attaching iron to whiffletrees, &c., in combination with the holder and mechanism for operating it, substantially as described, the dies located in said holder and having notches L', and bevels L², spring M, and pins M', substantially as and for the purpose set forth.

11. In a machine for attaching irons to whiffletrees, &c., the combination of the holder, dies located in the holder, means for elevating the holder, and means for depressing the holder, consisting, essentially, of a cross-head and sliding block and a spring located between the head and block, substantially as set forth.

FRANZ KREIN.

In presence of—

EDW. S. KNIGHT,
JOSEPH WAHLE.