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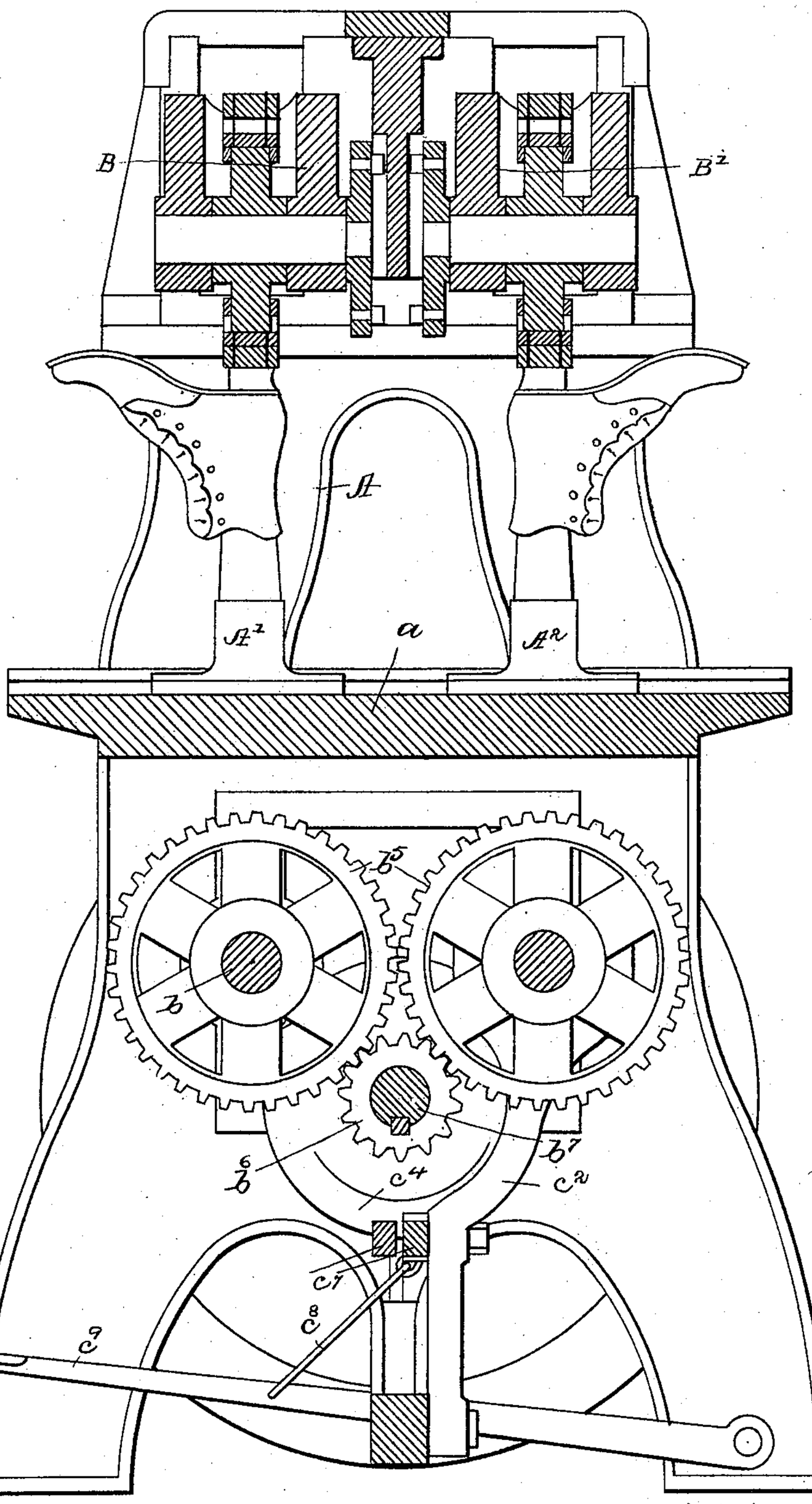
F. F. RAYMOND, 2d.

HEEL ATTACHING MACHINE.

No. 589,396. Patented Aug. 31, 1897.



WITNESSES.
Fred. B. Dolan.
L. M. Dolan

Fig. 1.

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(No Model.) 4 Sheets—Sheet 2.

F. F. RAYMOND, 2d.

HEEL ATTACHING MACHINE.

No. 589,396. Patented Aug. 31, 1897.

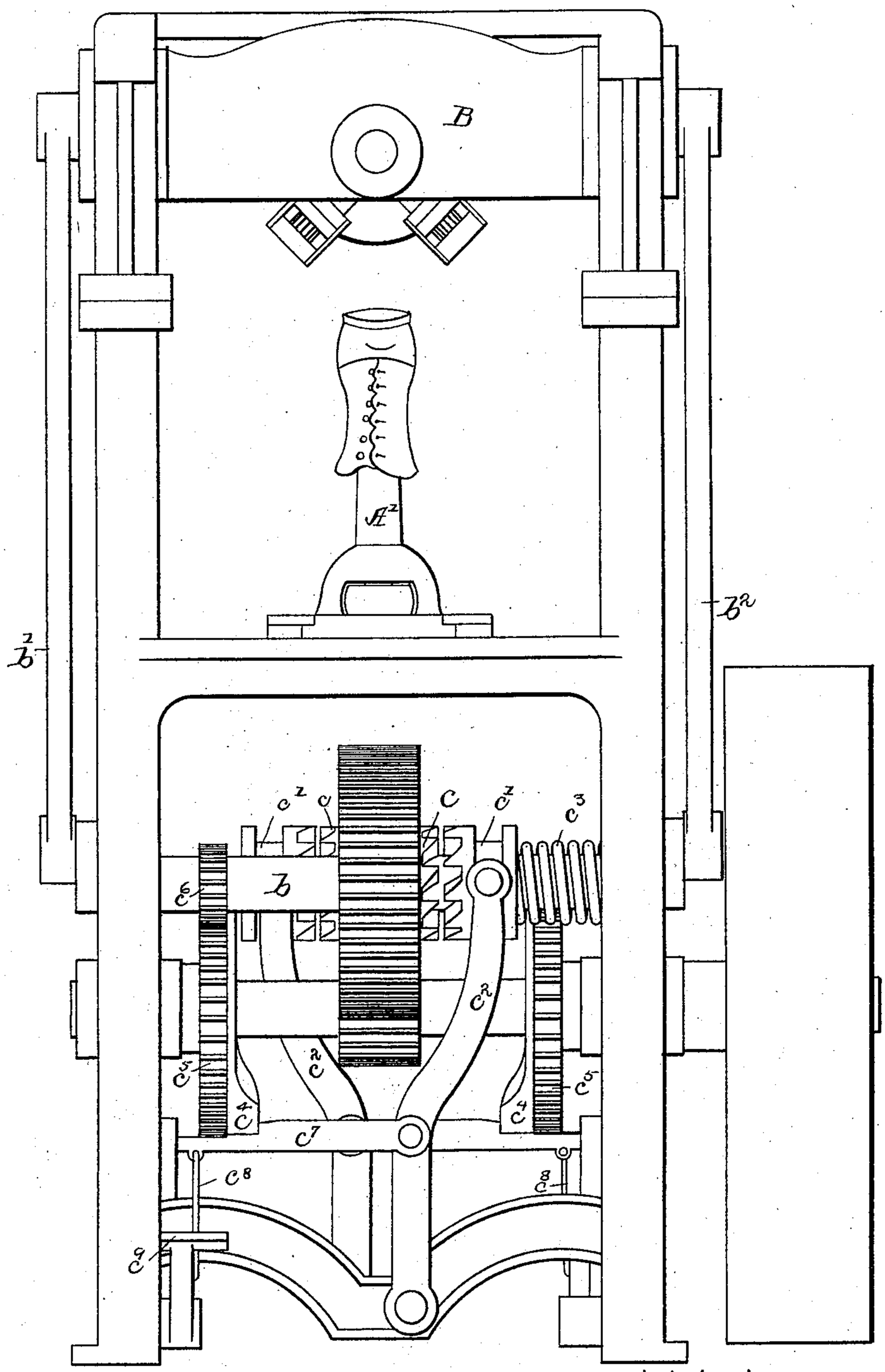

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Fig. 2.

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(No Model.) 4 Sheets—Sheet 3.

F. F. RAYMOND, 2d.

HEEL ATTACHING MACHINE.

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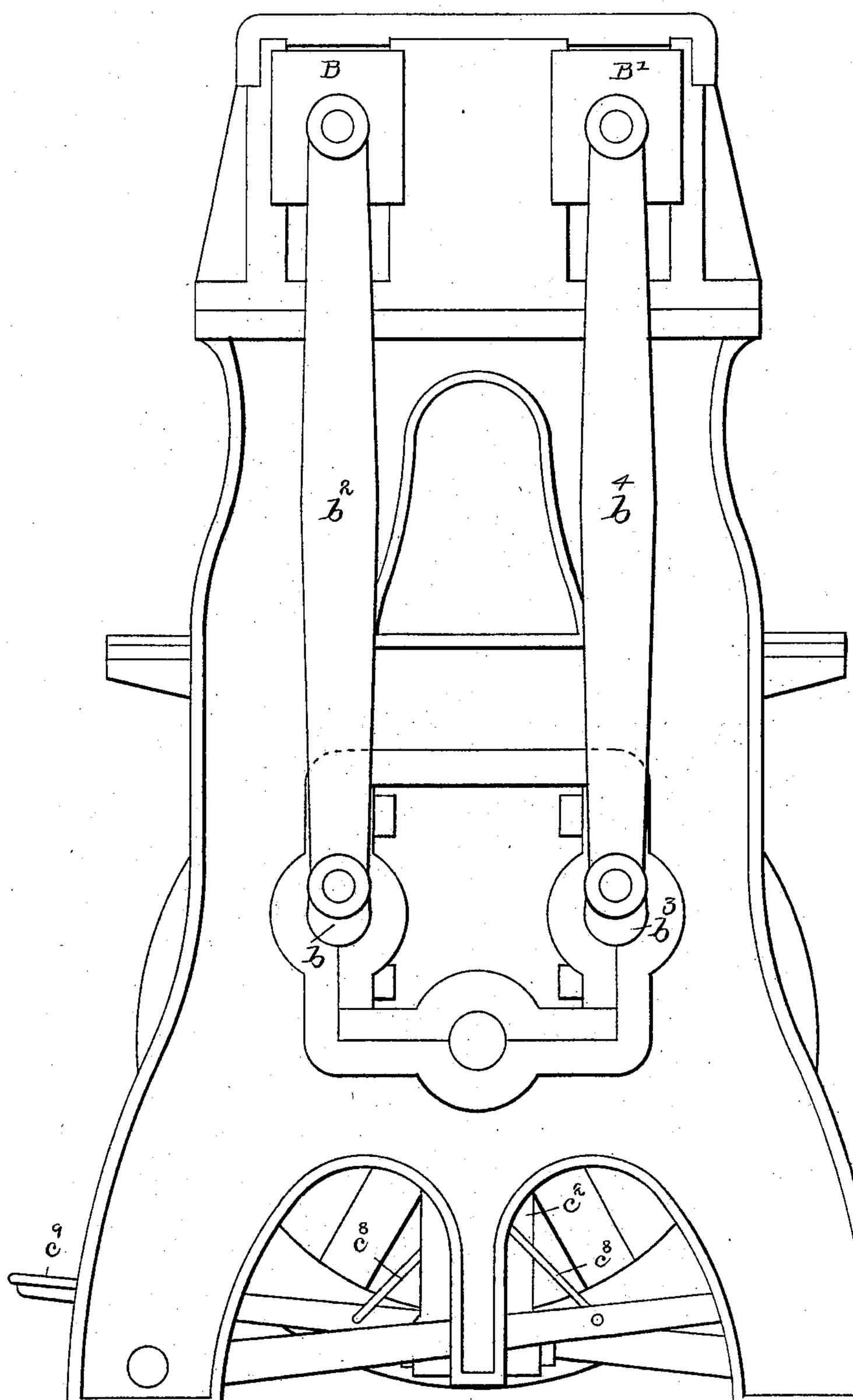

WITNESSES.
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Fig. 3.

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F. F. RAYMOND, 2d.

HEEL ATTACHING MACHINE.

No. 589,396. Patented Aug. 31, 1897.

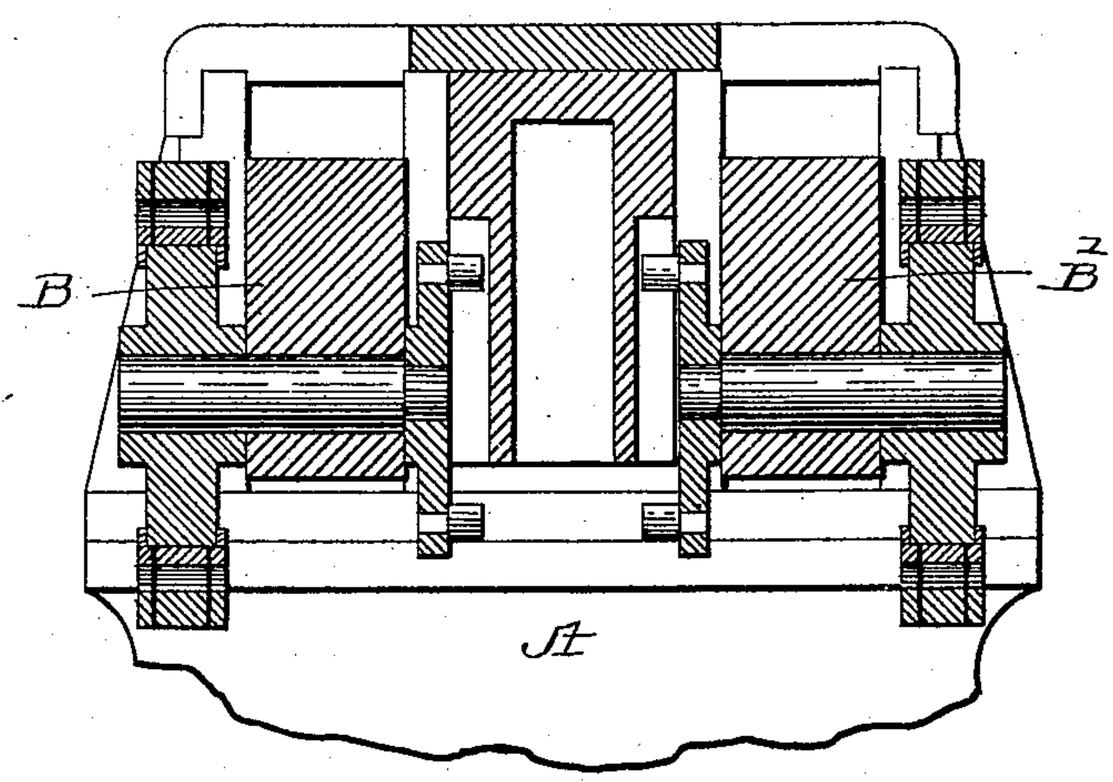

Fig. 4.

WITNESSES.
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UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO JAMES W. BROOKS, OF PETERSHAM, AND JOHN BROOKS, OF CAMBRIDGE, MASSACHUSETTS, TRUSTEES.

HEEL-ATTACHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,396, dated August 31, 1897.

Application filed May 2, 1890. Serial No. 350,309. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Heel-Attaching Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to an attaching-machine having a duplex organization in which the nailing-heads are independently operated, but obtain their power from the same prime motor or power shaft.

Referring to the drawings, Figure 1 is a view in vertical central section of a machine having the features of my invention. Fig. 2 is a view in front elevation thereof. Fig. 3 is a view in side elevation thereof. Fig. 4 is a detail view in section representing cross-heads of somewhat different construction from those represented in Fig. 1.

A represents the frame of the machine, and *a* the bed. Upon the bed are mounted jacks A′ A^2, the jack A′ preferably facing toward one front of the machine and the jack A^2 toward the other front of the machine.

B is the nailing-head used in connection with the jack A′, and B′ the nailing-head used in connection with the jack A^2. Each head has mounted upon it a rotary head or its equivalent for carrying the heel-nailing devices.

The head B is connected with a crank-shaft *b* by means of the connecting-rods b' b^2. The head B′ is connected with the crank-shaft b^3 by means of the connecting-rods b^4. Each crank-shaft has a gear b^5, and these gears are engaged by a pinion b^6 upon the power-shaft b^7. The gears b^5 constantly rotate upon their respective shafts, and each gear-wheel has attached to it a section *c* of a clutch. The other member c' of the clutch is secured to its respective shaft by a key or fast feather to slide thereon, and it is moved into position to engage the member *c* upon the gear by a lever c^2 and springs c^3 and out of engagement with such clutch by a cam c^4 upon a gear c^5, free to turn upon the power-shaft b^7 and operated by a gear c^6 upon the crank-shaft and a latching-arm c^7. This latching-arm is connected by means of a rod c^8 with a treadle c^9 and is held in position to engage the cam projection by a suitable spring. One of the treadles c^9 extends to one front of the machine or in position to be actuated by the operator running the jack A′ and the other treadle c^9 to the other front of the machine or in position to be actuated by the operator at that side of the machine. It will be seen that from this construction both heads may be simultaneously operated or operated in any order, that the operation of one of the treadles c^9 causes an engagement between the gear on one crank-shaft and the crank-shaft to take place, which reciprocates the head connected with it, while the movement of the other treadle causes a like connection to take place between the gear upon the other crank-shaft and that crank-shaft, by which the other head is reciprocated, and that, if desired, both engagements may be made at the same time or successively.

I prefer to arrange the mechanism for turning the rotary heads upon the inside of each head or between the two, but this location is not essential. The rotary heads may be moved by cross-heads having central cavities, as represented in Fig. 1, or by slide cross-heads, as represented in Fig. 4, in which case each head would be upon the outside of the cross-head and its various arms are all accessible to the operator.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination in a heel-attaching machine of two nailing-heads, a last or work-support for each head, a common motor-shaft, two independent or separate shafts each of which is connected with the motor-shaft by a separate or independent clutch independently-actuated mechanism connecting each nailing-head with its actuating-shaft comprising connecting-rods and cranks upon the shaft, as and for the purposes described.

2. The combination of the frame of the machine having two fronts, the jacks A′ A^2 mounted thereon back to back to face each front of the machine, the cross-heads B B′, a

rotary head carried by each cross-head, the crank-shaft b and connecting-rods b' b^2 connecting it with the head B, the crank-shaft b^3 and the connecting-rods b^4 connecting it with the head B', the gears b^5 on the crank-shafts, the power-shaft b^7, the pinion b^6 to mesh with the gears b^5, the said gears b^5 being loose upon their respective shafts, and each of them having a section of a clutch c and the movable section or member c' of a clutch upon each of the shafts b b^3, a spring for forcing each movable member of the clutch into engagement with the other member, and separate treadles, latches, and stopping-cams for each clutch, as and for the purposes described.

FREEBORN F. RAYMOND, 2D.

Witnesses:
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