

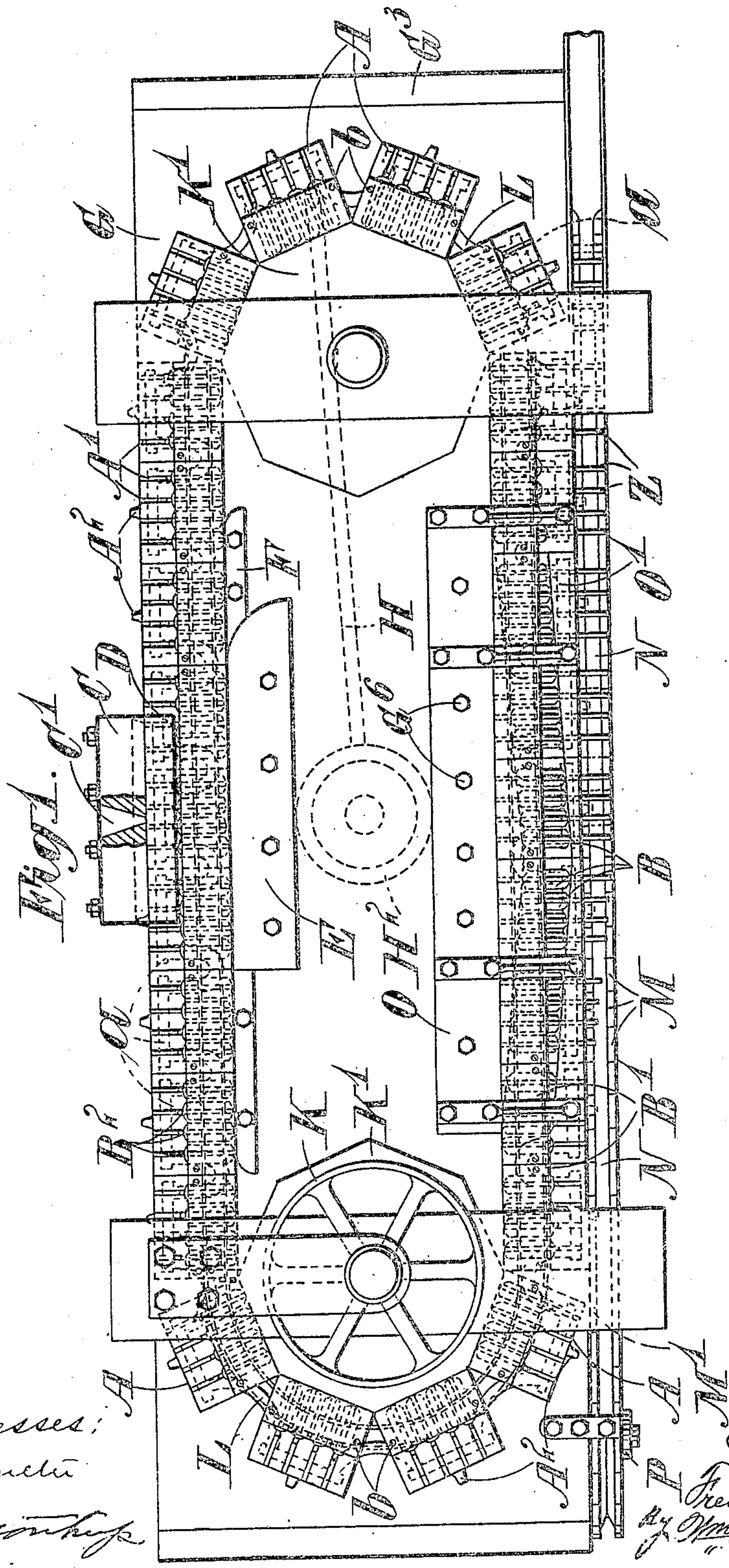
No. 804,764.

PATENTED NOV. 14, 1905.

F. E. PEACOCK.
MACHINE FOR CASTING TYPE.

APPLICATION FILED MAR. 5, 1904.

6 SHEETS—SHEET 1.



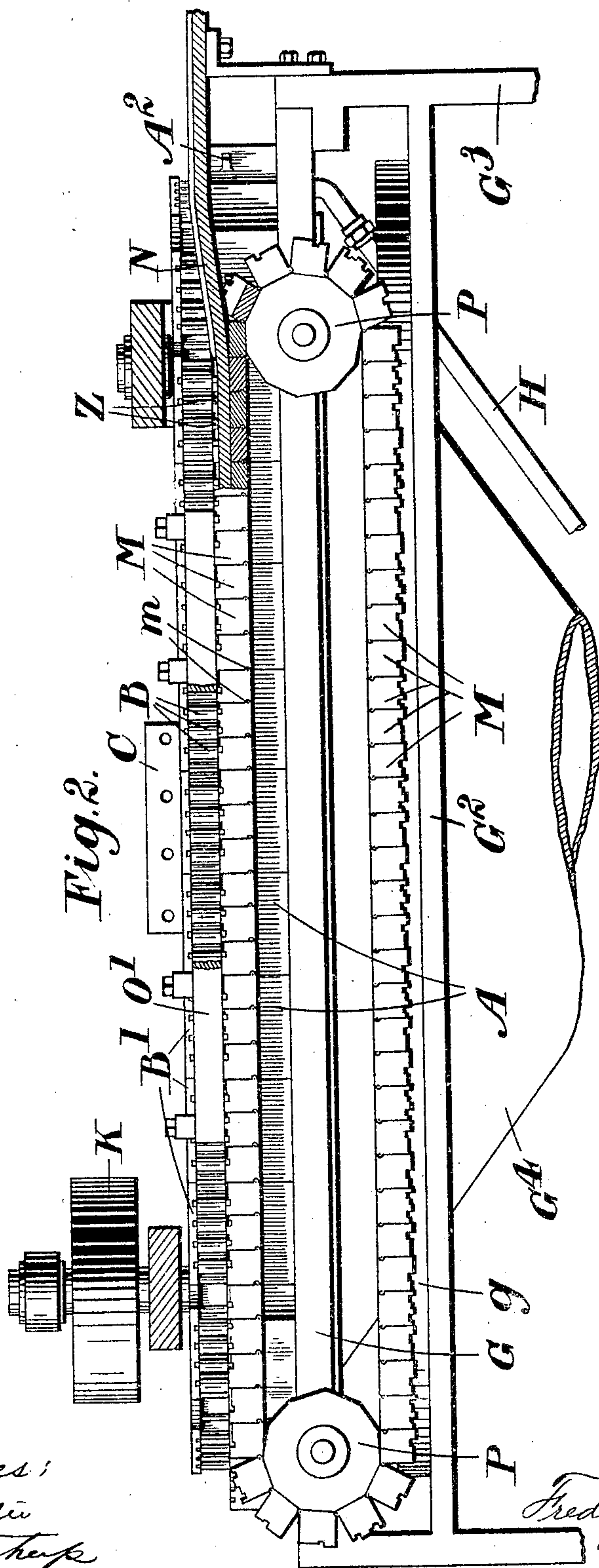
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6 SHEETS—SHEET 2.



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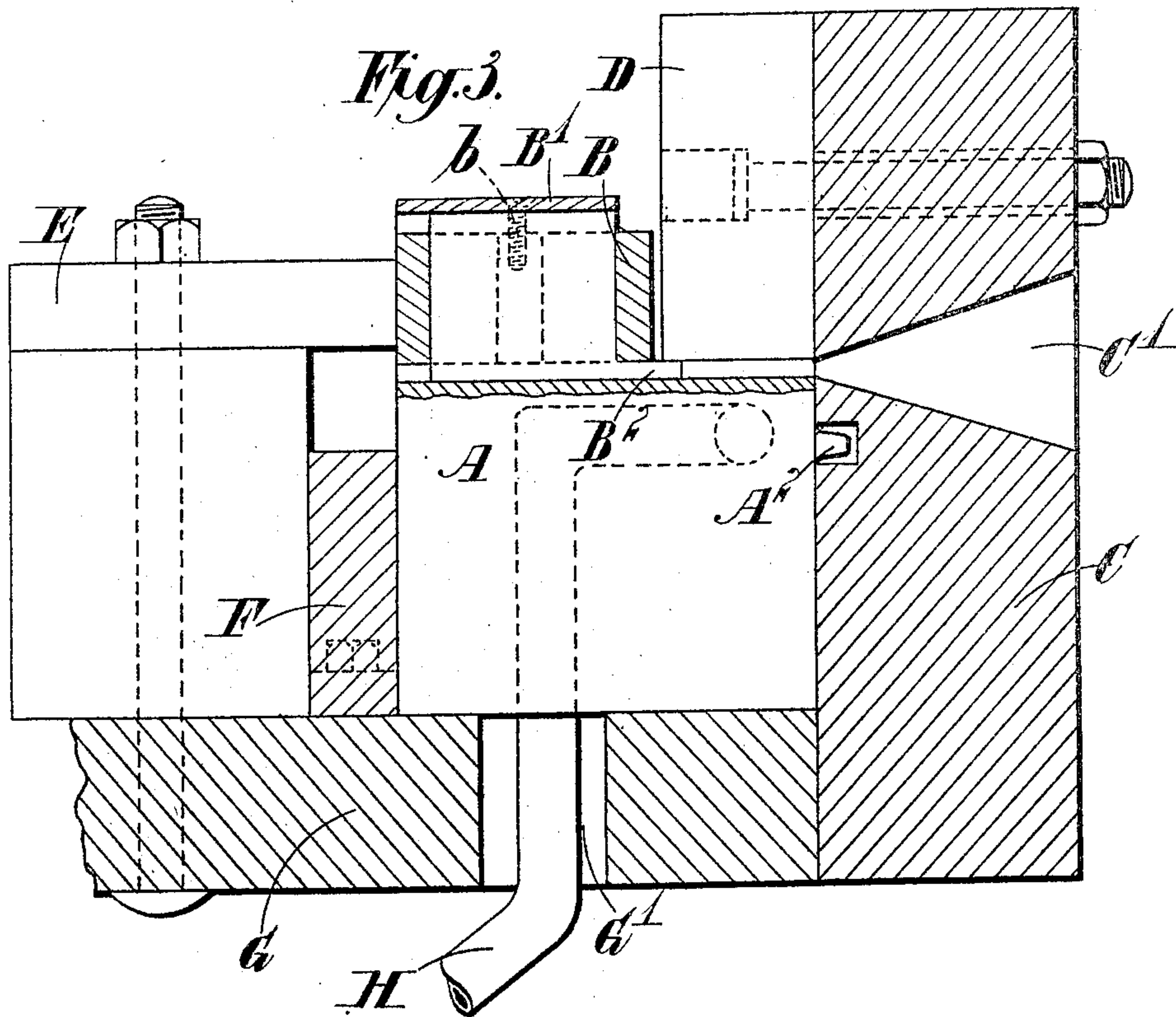
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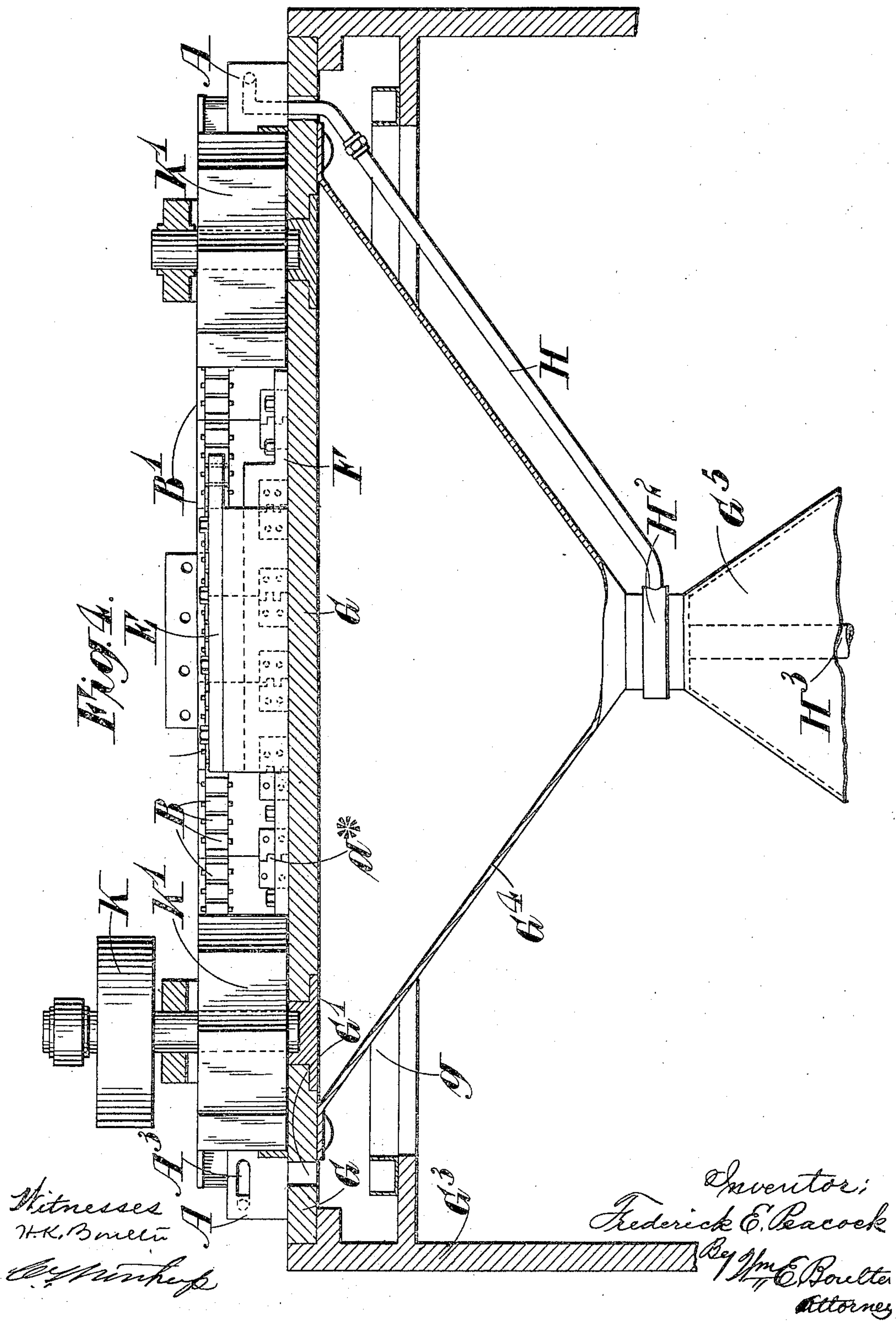
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6 SHEETS—SHEET 4.



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6 SHEETS—SHEET 5.

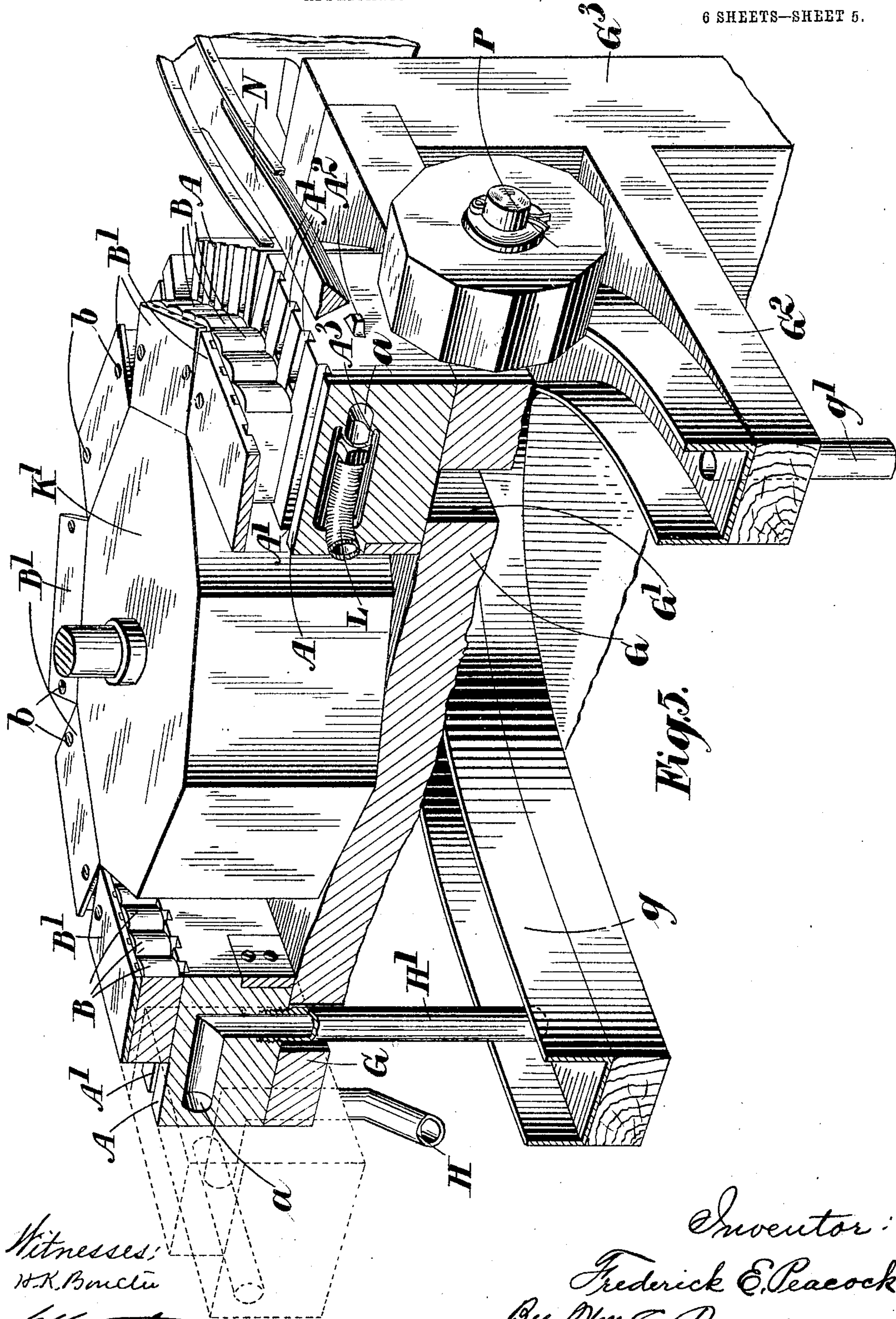


Fig. 5.

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6 SHEETS—SHEET 6.

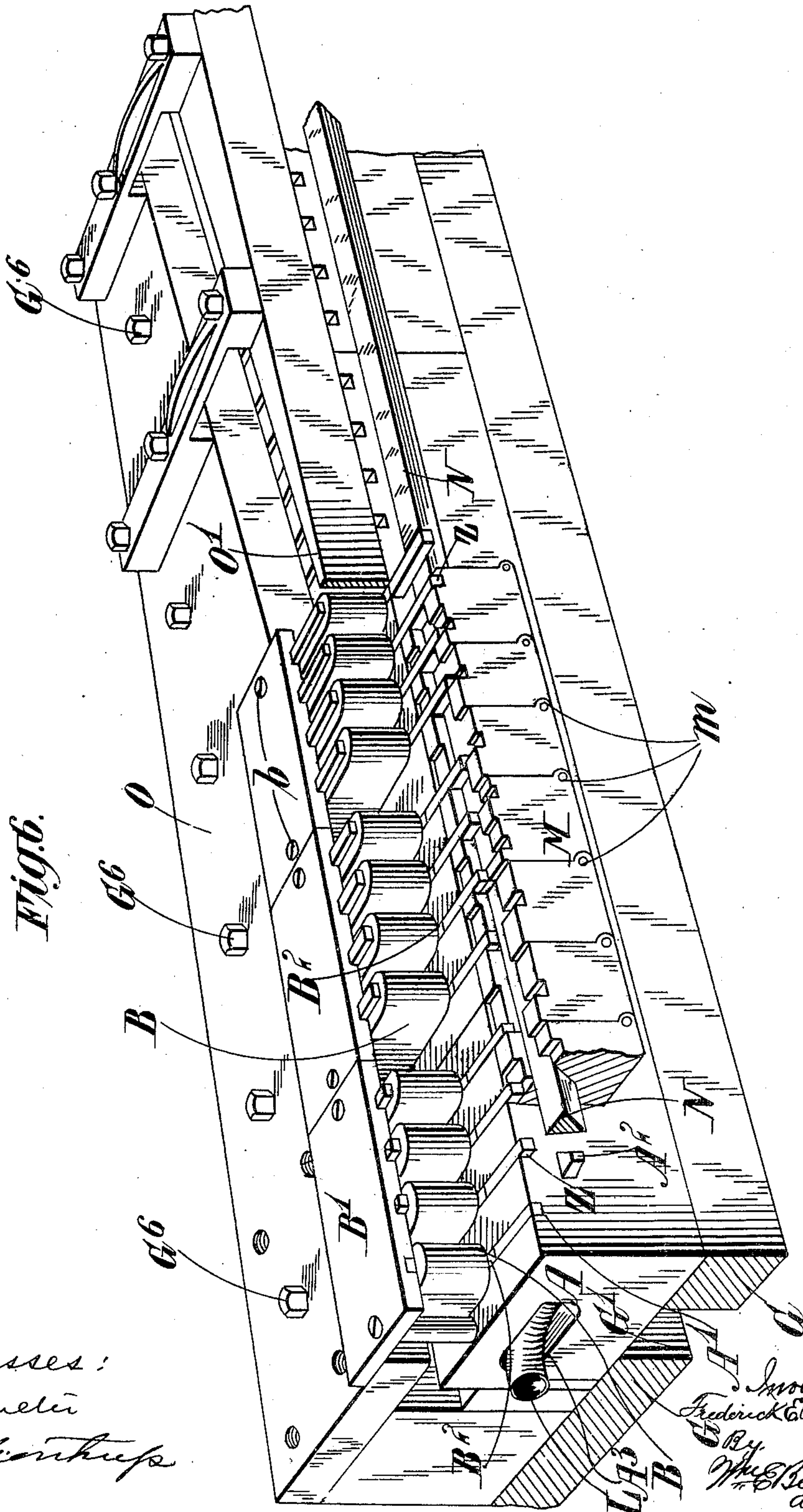


Fig. 6.

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UNITED STATES PATENT OFFICE.

FREDERICK EDEN PEACOCK, OF WEYBRIDGE, ENGLAND.

MACHINE FOR CASTING TYPE.

No. 804,764.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed March 5, 1904. Serial No. 196,663.

To all whom it may concern:

Be it known that I, FREDERICK EDEN PEACOCK, a subject of the King of Great Britain, residing at Weybridge, in the county of Surrey, England, have invented certain new and useful Improvements in or Relating to Machines for Casting Type, of which the following is a specification.

This invention relates to machines for casting and delivering complete fonts of type, so that they may be quickly handled and packed in suitable packets, known in the trade as "batches;" and its main feature consists in carrying the molds and matrices on an endless chain, the matrices being movable in the molds to eject the type. The chain is provided with a water-channel running throughout its entire length, the channel being formed by a passage or passages in each link connected by flexible tubing or joints between the links.

In the accompanying drawings, Figure 1 is a plan, and Fig. 2 a sectional side elevation, of a preferred form of the apparatus. Fig. 3 is a section taken through the casting-point. Fig. 4 is a sectional elevation, showing the water circulation. Fig. 5 is a perspective view, partly in section, showing the relative positions of the molds and matrices. Fig. 6 is another perspective view, showing the position of the delivery-band.

The links A of the chain are hinged together at a^x , (see Fig. 4,) and each link consists of a block having grooves A', forming part of the molds and accommodating the matrices B. These matrices are held in position by plates B', secured to the upper side of the links by screws b or otherwise. Each matrix proper, B², is formed integrally with a vertical part, and surrounding this vertical part is a sleeve constituting the body B.

G is a horizontal table upon which moves the mold-chain A, which is led round a pair of polygonal drums K' at opposite ends of the machine. These drums are mounted on vertical shafts, turning in bearings in the table, the desired motion being imparted to one of the drums by a pulley K.

At the casting side there is mounted a block C, in which is formed a jet-opening C', through which the metal is inserted to the mold, and in front of this is mounted a block D, against which the mold-chain A is pressed. The chain is led on this side of the machine between a straight bar-guide F and a block D, which are both rigidly secured to the machine and are

parallel with each other, so that at the casting-point this chain is always straight and the links closed up tightly against each other, as shown in Fig. 1. The block D is adapted to bear with a metal-tight fit upon the top of the links of the mold-chain as they are moved beneath it, and this block forms the top of the mold, thus completing the mold conjointly with the grooves in the chain. The opening C is connected with the metal-injecting pump, which is not shown in the accompanying drawings.

E is a cam-plate which is rigidly secured to the table and serves to firmly hold the matrices in position at the casting-point.

a is a water-channel in each link, these channels being all, with the exception of two, connected in series by flexible connections L. The water-channels of the excepted links above referred to are provided, respectively, at their inlet with a pipe H, leading from a water-supply pipe H³, to which the pipe H is connected by a rotating head H², and an outlet-pipe H', leading to a trough g, from which the water is drawn off by a pipe g', as clearly shown in Fig. 5.

The table G is provided with a continuous opening G' to enable the pipes H and H' to pass to the under side of the table. Cooling-water is forced by simple means through the pipe H and after passing through the entire series of water-channels in the links passes away by the pipe H'. The outer part of the table G is supported by the frame G³, while the central part is carried by a double-cone-shaped support G⁴ G⁵, as shown in Fig. 4.

At the side of the machine opposite to the casting-point is mounted an endless delivery-chain M, the links of which are pivoted or jointed together at m. (See Fig. 6.) This chain is carried onto vertically-arranged polygonal drums P and driven by teeth A² on the links of the chain A. These teeth engage with openings in the sides of the links of the chain M, so that this latter chain is rotated at the same speed as the mold-chain. Grooves are formed on the upper surfaces of the links M to receive the type as they are ejected from the molds. (See Figs. 1 and 6.) The type-bodies are ejected from their respective molds by a fixed cam O, secured to the bed of the machine by bolts G⁶. This cam engages with the ends of the body B, surrounding the matrices, and the matrices are withdrawn after they have ejected the type into their normal positions by another cam O'.

N is a fixed bar which extends along an angular channel in the links of the chain M. (See Fig. 6.) This bar has its upper surface flush with the lower edges of the notches in the links M and rises gradually above the level of the top of the delivery-chain M at the end of the machine, as shown in Figs. 2 and 5, the incline beginning at or about the point at which the mold-chain begins to turn round one of the drums K', so that by the onward movement of the chain the types are raised out of the notches and pushed up the incline onto a continuation of the bar N, which is provided with ribs or sides to keep the types in line.

The advantages attained by the use of endless chains instead of rotary tables as have heretofore sometimes been used are both obvious and numerous. Some of the advantages derived are, first, by using an endless chain an absolutely rectangular mold is obtained, whereas on a rotary table the end of the mold which comes upon the periphery or outer circumference of the table forms an arc of a circle; second, it is possible in practice to employ more of these endless chains than rotary tables, thus increasing the actual output of the machine; third, the endless chain is cheaper to construct than a rotary table; fourth, when part of the chain wears out, that link can be removed without necessitating a complete new chain being inserted, whereas when part of the rotary table gives way the entire table has to be removed and replaced; fifth, another advantage is that a perfect system of cooling can be obtained, since the conduit which extends throughout the entire length of the chain is of the same proportions all through, and therefore the entire body of water constantly in movement is being replaced, whereas with a rotary table the cooling consists of a system having an inlet and an overflow; but the water within this system is never at the temperature of the inflowing water.

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

1. In a machine for casting type, the combination with an endless chain and molds carried thereby, of means for rotating the chain continuously, matrices carried by the chain and means for ejecting the type from the molds, substantially as set forth.

2. In a machine for casting type, the combination with an endless chain and type-molds carried thereby, of matrices carried by the chain and movable relatively thereby, and means for rotating the chain.

3. In a machine for casting type, the combination with an endless chain and means for rotating it, of molds for the type-bodies carried by the chain, and matrices mounted in the molds and adapted to move therein to eject the type.

4. In a machine for casting type, the combination with an endless flexible chain, molds

carried by the chain for the type-bodies, matrices mounted in the molds, means for moving the endless chain, and means for moving the matrices relatively to the molds to eject the type, substantially as set forth.

5. In a machine for casting type, the combination with a continuously-moving endless chain comprising a series of links, of molds on the links, matrices mounted in the molds, and means for moving the matrices relatively to the molds to eject the type, substantially as set forth.

6. In a machine for casting type the combination with an endless chain, of molds formed in the links of the chain, matrices mounted in the molds, and a cam for moving the matrices relatively to the molds to eject the type, substantially as set forth.

7. In a machine for casting type, the combination with an endless continuously-moving chain consisting of a number of links, of means connecting the links together, molds formed in the links, matrices mounted in the molds, a cam for moving the matrices relatively to the molds to eject the type, and a cam for returning the matrices to the normal position, substantially as set forth.

8. In a machine for casting type, the combination with an endless continuously-moving chain consisting of a number of links connected together, of molds formed in the links, matrices mounted in the molds, means for moving the matrices relatively to the molds, and a delivery-band for carrying away the type when delivered from the molds, substantially as set forth.

9. In a machine for casting type, the combination with an endless continuously-moving chain, of molds formed in the links of the chain, matrices mounted in the molds and arranged to slide therein, water-conduits in the links, and means for supplying water to the conduits, substantially as set forth.

10. In a machine for casting type, the combination with a continuously-moving endless chain consisting of a number of links hinged together, of molds formed in the links, matrices mounted in the molds, a cam for moving the matrices relatively to the molds to eject the type, a cam for returning the matrices to the normal position, means for holding the molds against the casting-point, water-conduits in the links, connections between the water-conduits in the various links, a continuously-moving chain to receive the type when ejected from the molds, and means for rotating the chains at the same speed.

11. In a machine for casting type, the combination with a continuously-moving chain carrying molds for the type and matrices movable relatively to the molds, of a chain rotated by the mold-chain for receiving the type when delivered from the molds, and means for carrying away the type from the delivery-chain, substantially as set forth.

12. In a machine for casting type, the combination with a continuously-moving chain, molds formed in the links of the chain, matrices mounted in the molds, and means for
5 moving the matrices relatively to the molds, of a delivery-chain rotated by the mold-chain and having grooves to receive the type when ejected from the molds, a bar extending
10 along the center of the delivery-chain, a raised portion of the bar to deliver the type from

the chain and water-circulating conduits throughout the mold-chain, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two sub- 15
scribing witnesses.

FREDERICK EDEN PEACOCK.

Witnesses:

HARRY Z. FREDYL,

WM. F. DOW.