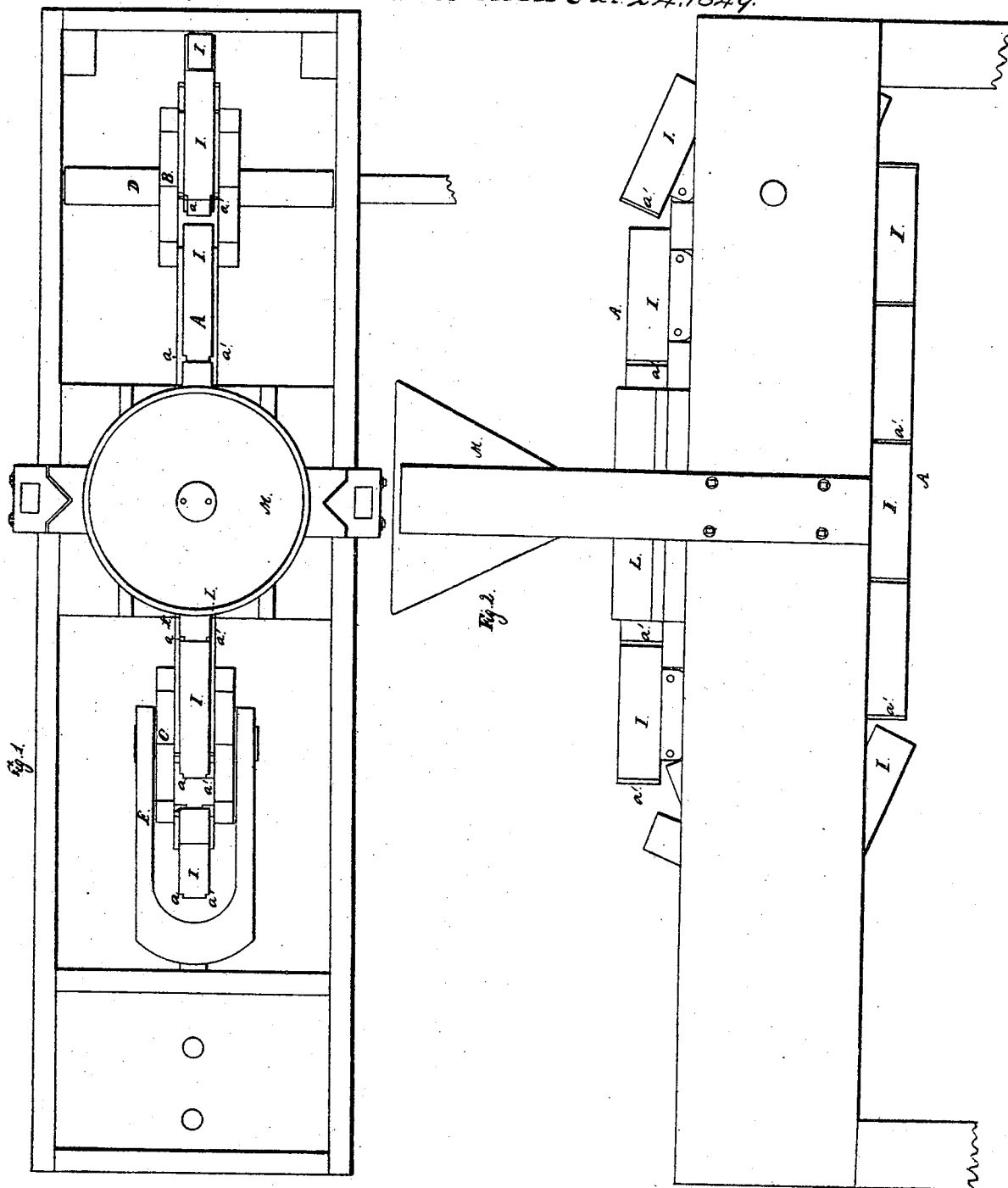


*J. Bachelder & S. D. Iyer. Sheet 1 of 2 Sheets*  
*Mach. for Casting Type.*

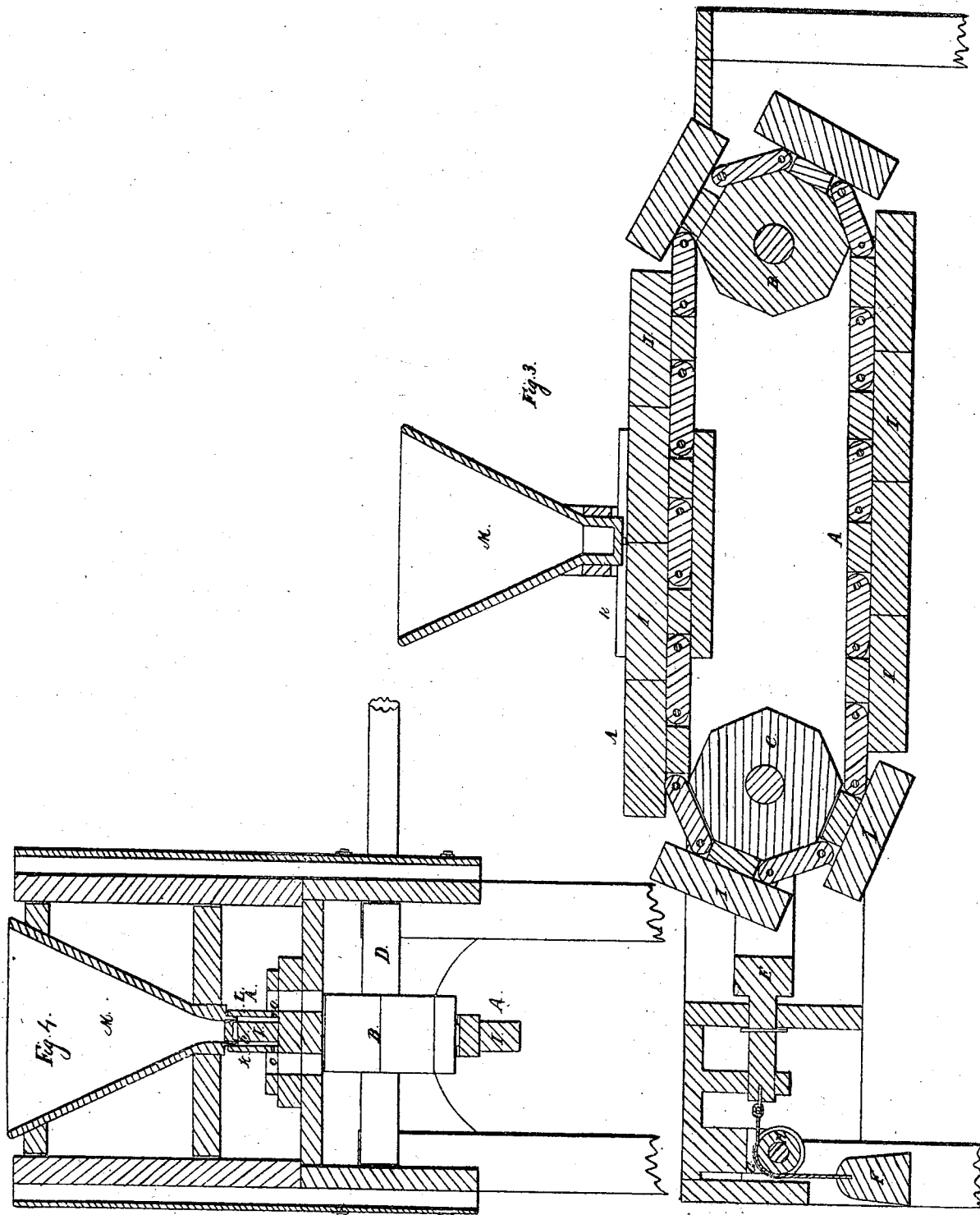
*N<sup>o</sup> 6604.*

*Patented Jul 24. 1849.*



*J. Bachelder & S. D. Dyer. Sheet 2. of 2 Sheets*  
*Mach. for Casting Type.*  
*Patented Jul. 24. 1849.*

*N<sup>o</sup> 6604.*



# UNITED STATES PATENT OFFICE.

JOHN BACHELDER, OF BOSTON, AND SIMON D. DYER, OF CHELSEA, MASSACHUSETTS; SAID DYER ASSIGNOR TO SAID BACHELDER.

## IMPROVEMENT IN CASTING TYPES.

Specification forming part of Letters Patent No. 6,604, dated July 21, 1849.

### *To all whom it may concern:*

Be it known that we, JOHN BACHELDER, of Boston, and SIMON D. DYER, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Machine for Casting Types, which machine is also applicable to the founding of various other articles; and we do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view of our machine; Fig. 2, a side elevation of it; Fig. 3, a vertical central and longitudinal section of it; Fig. 4, a vertical and transverse section taken through the vessel for holding the melted metal and conducting it to the molds.

In the said drawings, A exhibits an endless chain extended around two polygonal or other proper-shaped wheels, B C, the former of which is fixed on a driving-shaft, D, while the latter is sustained by a forked slide, E, which has a weight, F, connected to it by a cord or chain, G, which is carried over a pulley or sheave, H, and suspended therefrom, as seen in the drawings, the said weight serving the purpose of keeping the endless chain fully extended under any enlargement or diminution of it, which may be created by changes of temperature. The said chain is made to support and carry the mold sections I I I, &c., each of which is attached to and upon some one of the links of the chain, and extends beyond each of the two ends of the same to the middle of the next link, and so as when the links are in line with each other to abut against one end of the next adjacent mold-section, as seen in the drawings. The said series of mold-sections is made to rest and move in contact with one or two vertical plates or walls, K L, disposed with respect to them, as denoted in the figures, each of said plates making, together with any two mold-sections, the boundaries of the matrix of the body of a type, the said matrix being cut downward in the end and side of each mold-section, as seen at a a, &c., in Figs. 1 and 4. The letter-matrix or mold for the letter may be formed in or suitably applied to that link of the endless chain

which is directly underneath the two ends of any two of the mold-sections in contact. In the drawings, type-matrices a a, &c., a' a', &c., are exhibited as made in the two opposite sides of the series of mold-sections. They may, however, be formed in but one side, in which case only one of the plates or walls K L would be employed. Each of the said walls should have a small hole or air-passage, c, made through it, as seen in Fig. 4, and in such a position as to allow air to pass through it and out from the matrix or mold of the type when and while the same is brought into the position necessary to receive the melted type-metal and be filled with it. The peculiar object of the said hole is to allow the escape of air, which would otherwise either prevent or hinder the admission of the metal into the mold, and by so doing be productive of injury to the type, as more or less metal will escape through the said orifice c, and with the air such of said metal as may flow out will by the movement of the endless chain and molds be separated from that in the molds. Should under any circumstances one air-hole be deemed insufficient to discharge the air, two or any other suitable number of such holes may be made through the plate or wall.

Directly over the series of molds a vessel or receptacle, M, for holding molten metal is arranged, the same having one or more suitable conductors leading from it in such manner as to convey the melted metal into either of the molds when it is brought directly underneath one of the said conductors. This vessel may be constructed of any proper shape or material, and may be heated or kept at the necessary temperature by a furnace or any other convenient means so applied as to effect the end desired.

From the above it will be seen that when the vessel M is charged with metal or any composition in a molten state and the driving-shaft is put in revolution types will be successively formed from the several matrices or molds as fast as they are successively carried directly underneath the sprue hole or holes, conductor or conductors, from the said vessel M.

While the mold-sections are passing around either one of the wheels of the chain they are

caused to separate from one another in such manner as to permit the types to drop or be removed from between them.

We do not intend to limit our invention to the casting or founding of any particular form or shape of types, or to the founding or casting of types alone, as it may not only be adapted to the manufacture of types of various shapes, but of various other things or matters usually made from metal or other material when in a melted state.

What we claim as our invention is—

A combination of machinery made up of the following elements or their mechanical equivalents, the same consisting of the endless chain

and its wheels, the series of mold-sections applied thereto, and having molds made in them, essentially as described, one or more plates or walls, K L, (having one or more air-escape holes, c, made through them,) and a vessel, M, or other suitable substitute, all made to operate together, substantially in manner and for the purpose as above specified.

In testimony whereof we have hereto set our signatures this 28th day of June, A. D. 1848.

JOHN BACHELDER.  
SIMON D. DYER.

Witnesses:

R. H. EDDY,  
F. GOULD.