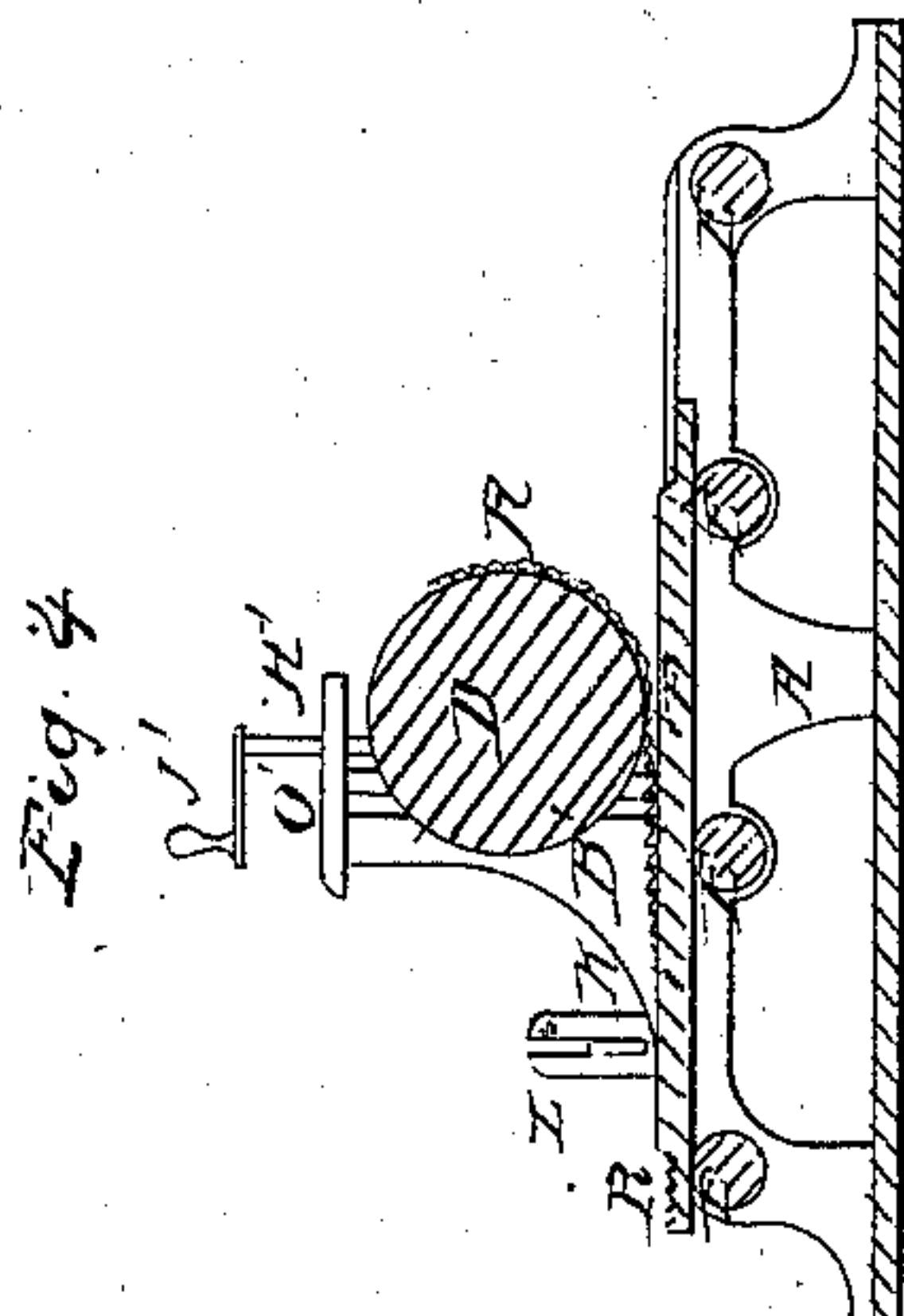
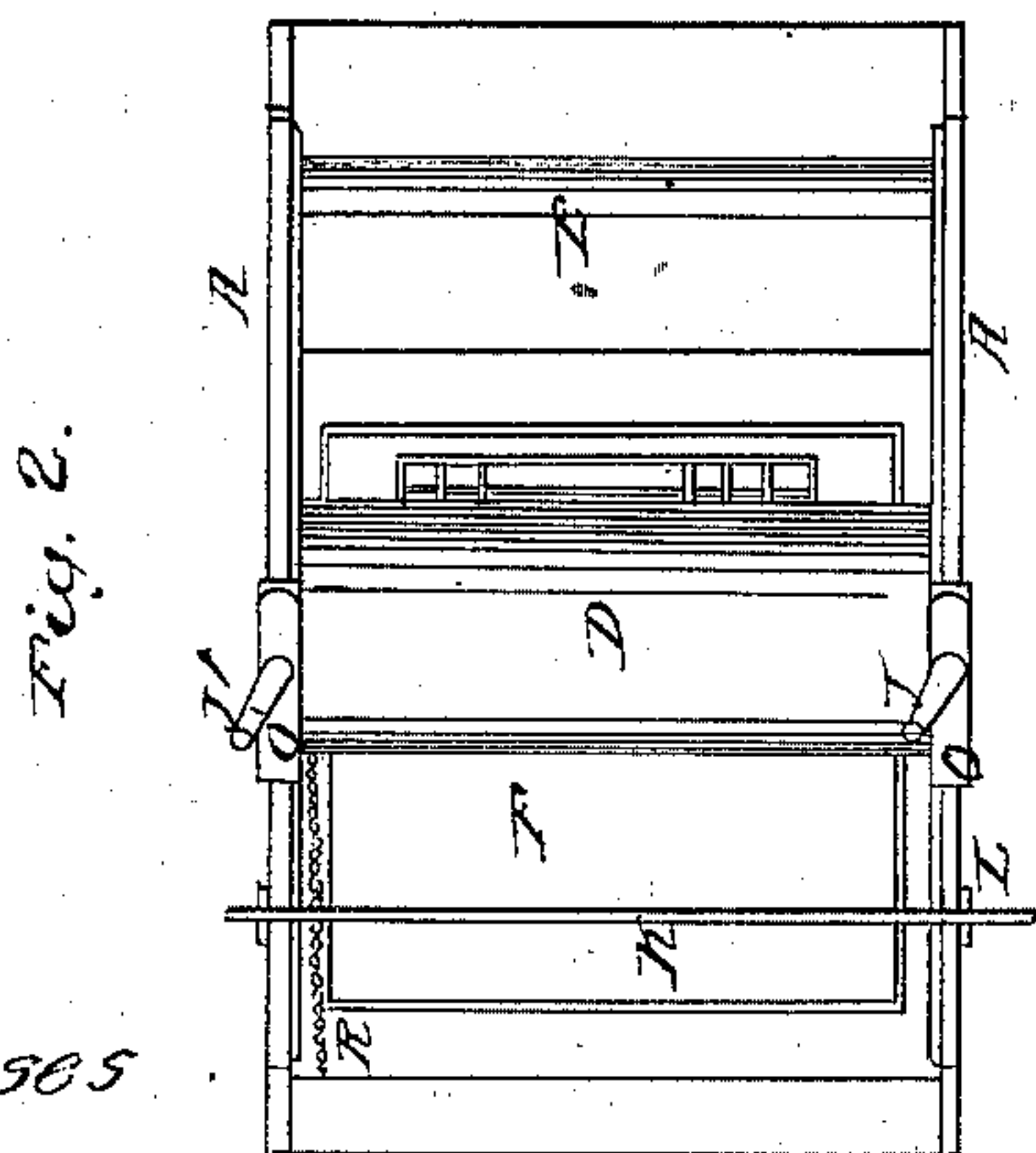
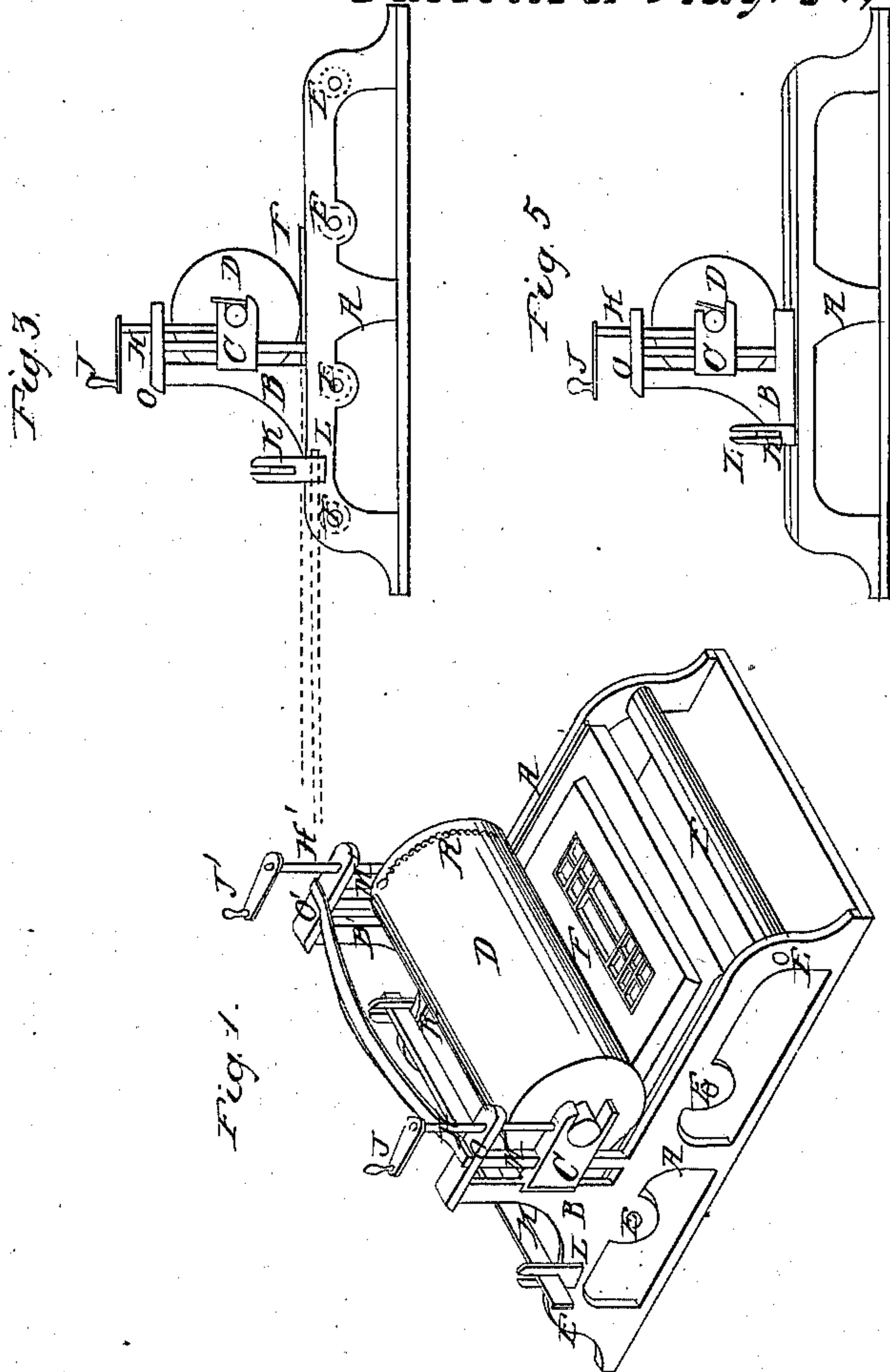


W. E. Bird,
Molding Pine.
No. 68,033. *Patented Aug. 27, 1867.*



Witnesses
A. Louis Bury
Frank A. Parker

Inventor
W. E. Bird

United States Patent Office.

WILLIAM E. BIRD, OF WEST BRIDGEWATER, MASSACHUSETTS.

Letters Patent No. 68,033, dated August 27, 1867.

IMPROVED METHOD OF MAKING CORES FOR PIPE CASTING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM E. BIRD, of West Bridgewater, in the county of Plymouth, and State of Massachusetts, have invented certain new and useful improvements in Machines for Making Cores; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference being marked thereon.

The nature of my invention consists in making a simple machine into which I can put a core-spindle, and by means of a platform, which forms a part of this machine, I can spread the sand from which the core is to be made evenly and rapidly over the cylindrical surface of the spindle.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and use. In the drawings—

Figure 1 is an isometric view of the entire machine, showing the core-spindle in position.

Figure 2 is a plan of the same.

Figure 3 is a side elevation of the same.

Figure 4 is a longitudinal-vertical section of the same.

Figure 5 is a side elevation of a machine so modified that the part holding the boxes in which the core-spindle hangs slides so as to carry the core-spindle over the platform.

To construct my improved machine for making cores I first make a suitable frame, A, in general form as represented in the drawings. B B' are two standards attached to this frame. M M are slide-bars which in combination with the standards B B', form slides or ways upon which the journal-boxes C C' slide. The journal-boxes C C' are raised or lowered by means of the screws H H', which are attached to the journal-boxes C C', and work through female screws cut in the pieces O O'. The screws H H' are operated by the crank-handle J J'. The journal-boxes C C' serve to hold the core-spindle by means of journals made upon the ends of the spindle for that purpose. F is a platen or table which slides upon the rolls E E E E immediately under the core-spindle. The platen F is connected to the core-spindle D by means of a chain, R R, figs. 1, 2, and 4, so that the motion of the platen will always coincide with the motion of the core-spindle. The platen F may be smooth, or may be ornamented so as to impress any desired figure upon the surface of the core. L L are standards attached to the frame A, in which the striker K slides. The striker K may be raised or lowered by means of similar device of that used for raising and lowering the journal-boxes, or may be held in position by set-screws.

To use my machine I proceed as follows: The platen F is run out as represented by the dotted lines in fig. 3, so that it extends beyond the striker K a distance equal to the circumference of the core-spindle upon which I wish to construct the core. The striker K is adjusted so that its lower edge shall be at the desired height above the platen F. The platen F is now covered with core-sand and made to pass under the core-spindle D. This action presses the core-sand against the core-spindle and causes it to adhere to the surface, thus completing the core. As the platen F always traverses in a precise relation to the core-spindle D, (since they are connected by the chain R R,) it is very easy to gauge the length of the bed of sand upon the platen F, so that its length shall be just sufficient to pass around the core-spindle D. For this purpose stops may be placed upon the platen. In fig. 5 I have shown a modification of my machine, that is, the platen F remains stationary while the frame B O, carrying with it the journal-boxes C C', and, of course, the core-spindle D, slides longitudinally on the lower frame A, thus rolling the core-spindle over the surface of the platen, instead of sliding the platen under the core-spindle, as first described.

The advantages that I claim for my improved machine for making cores are as follows: The core can be made with great rapidity and accuracy. Cores can be rapidly made with embossed surfaces, so as to give any desired impressions upon the inside of the castings, that of a female screw, for instance.

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

1. The method of forming a sand-core by making on a platen a sheet of core material of the desired shape and size, and then transferring it to the core-spindle by causing the said spindle to roll over said sheet of core material, substantially as described and for the purpose set forth.
2. The combination and arrangement of the platen with the adjustable revolving core-spindle and chain, or its mechanical equivalent, made substantially as described and for the purposes set forth.
3. The platen F, in combination with the striker K, made substantially as described and for the purpose set forth.

Witnesses:

F. G. PARKER.

A. HUN BERRY.

WM. E. BIRD.