

No. 644,713.

Patented Mar. 6, 1900.

W. & J. LANYON.  
CASTING MECHANISM.

(Application filed Sept. 28, 1898.)

(No Model.)

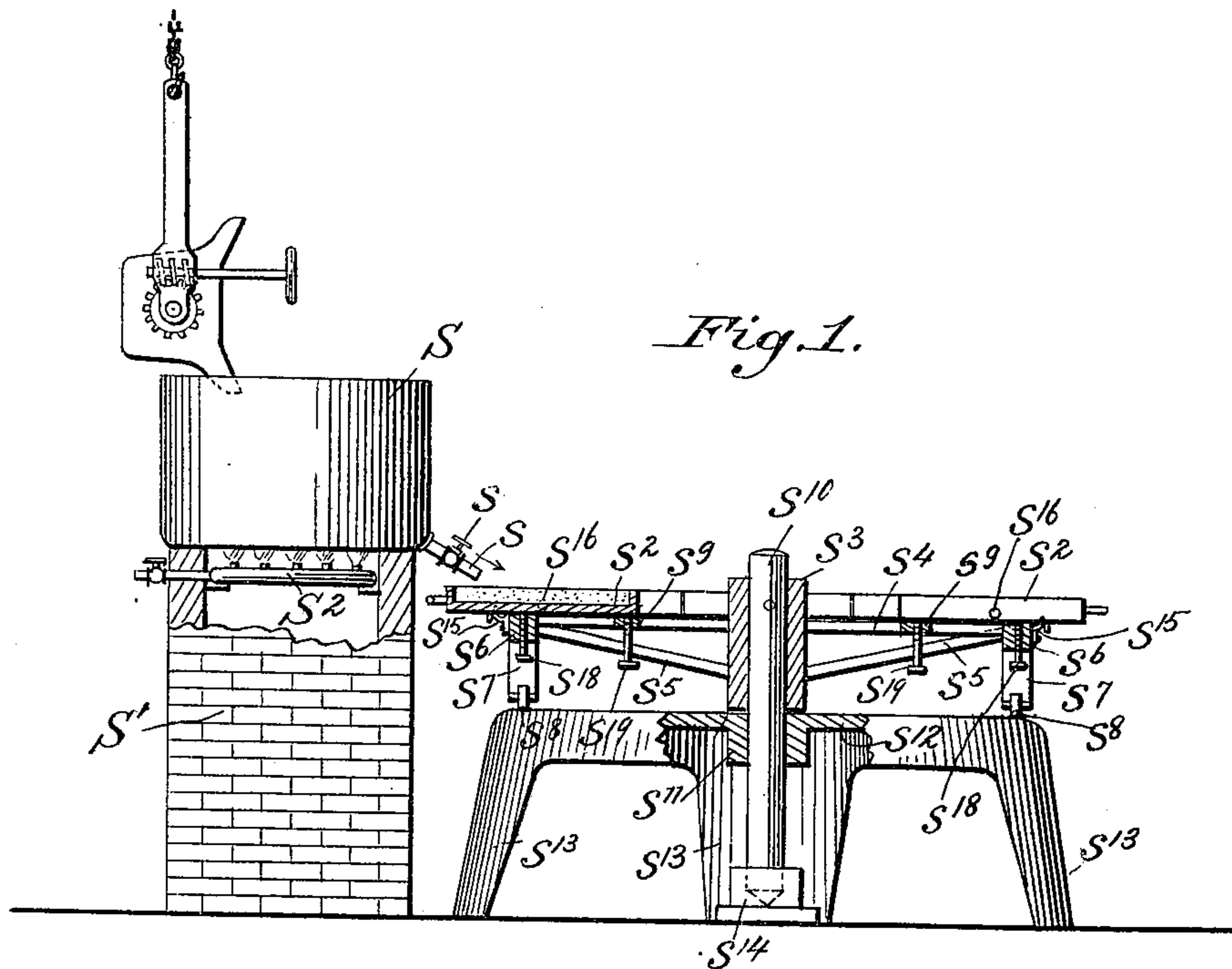


Fig. 1.

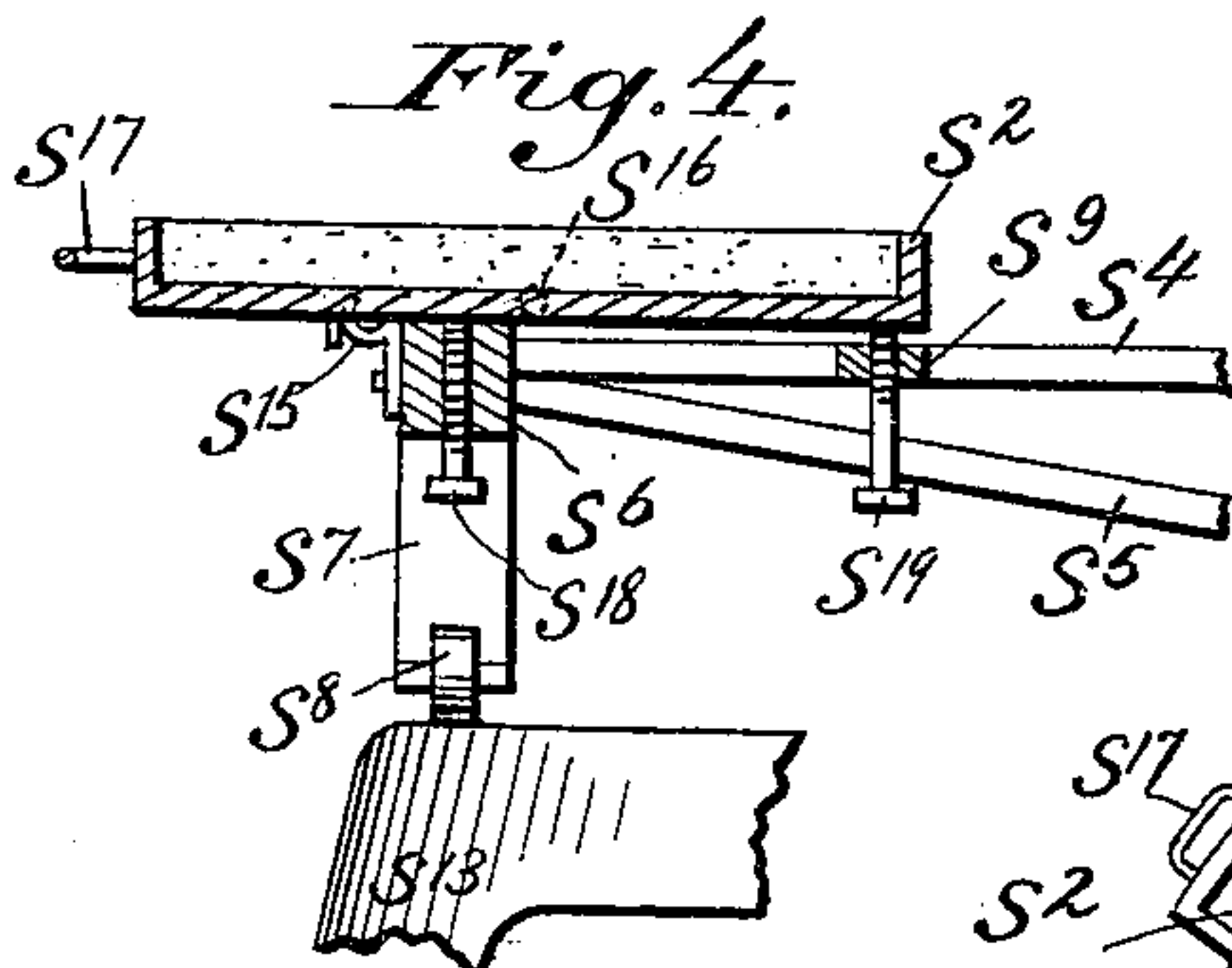


Fig. 4.

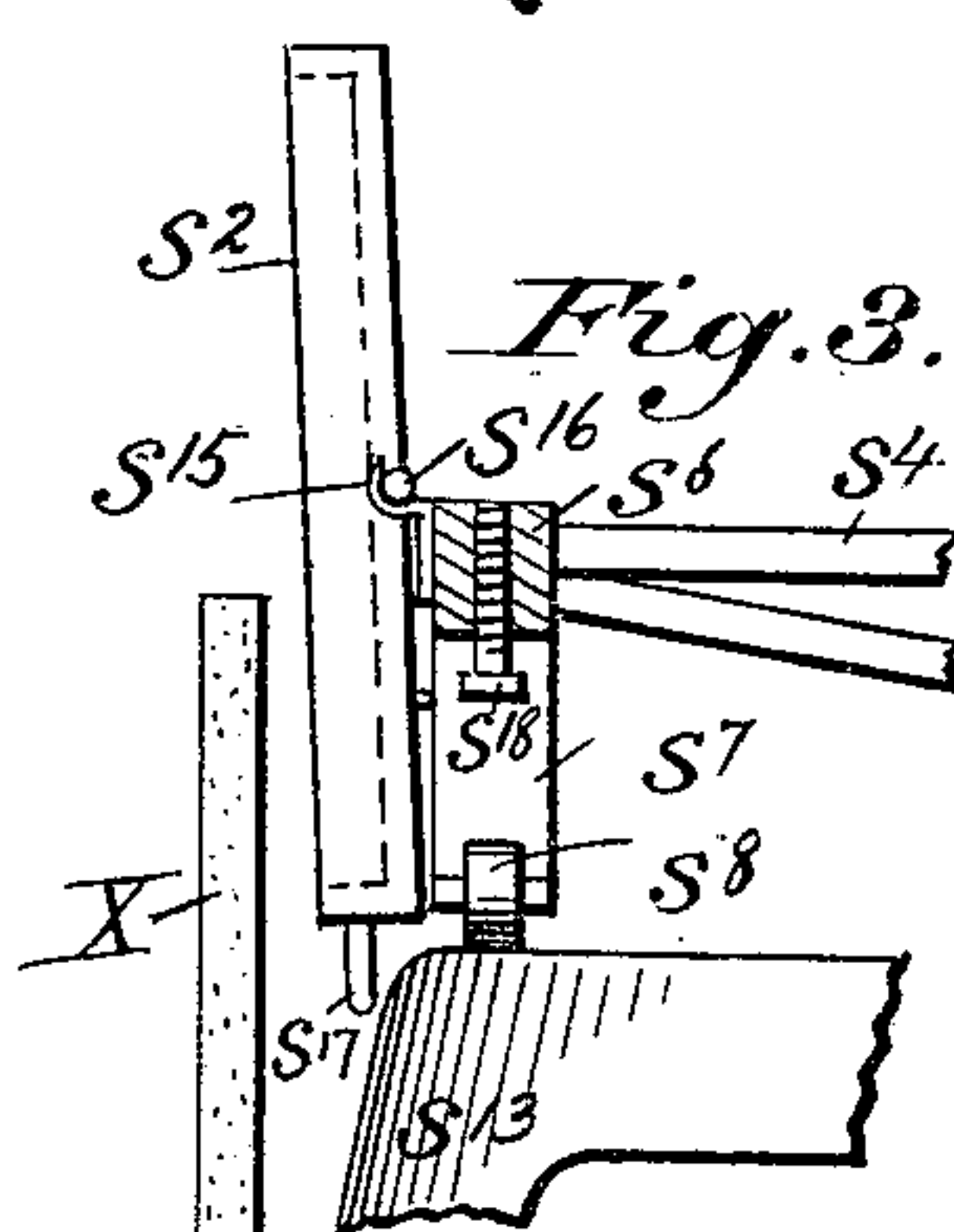


Fig. 3.

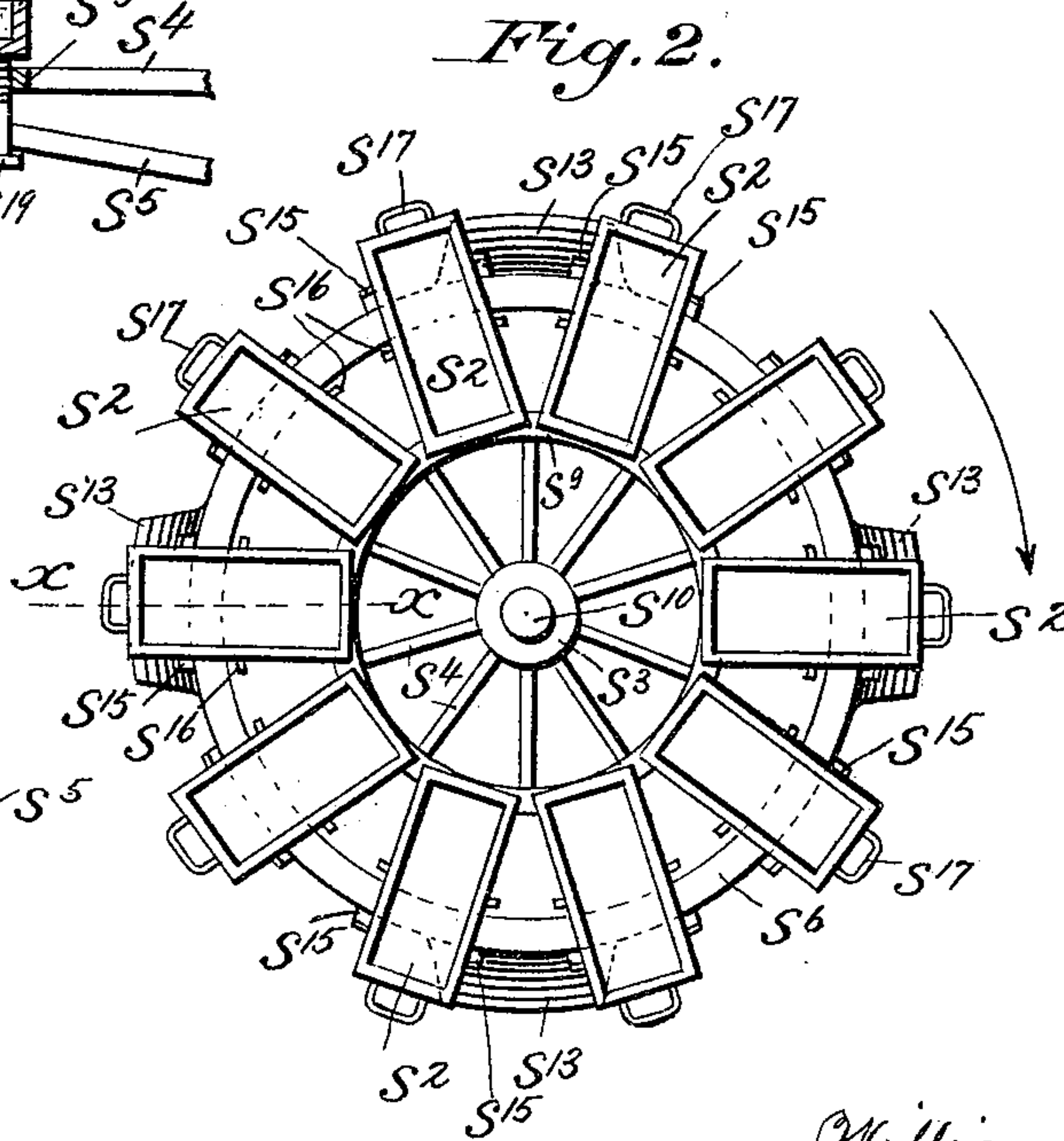


Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM LANYON AND JOSIAH LANYON, OF PITTSBURG, KANSAS.

## CASTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 644,713, dated March 6, 1900.

Original application filed May 25, 1898, Serial No. 681,718. Divided and this application filed September 28, 1898. Serial No. 692,131. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM LANYON and JOSIAH LANYON, citizens of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Casting Mechanism; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in a casting mechanism, and particularly to such mechanism as is specially adapted for use in connection with smelting-furnaces—such, for example, as is disclosed in our application, Serial No. 681,718, filed May 25, 1898, of which this is a divisional application.

The object of our invention is to provide a casting mechanism which will permit of a substantially-continuous operation in the casting of the zinc or other metal and which will at the same time allow a ready removal of the metal after it has solidified.

Our invention consists in the features, details of construction, and combination of parts which will first be described in connection with the accompanying drawings and then particularly pointed out in the claim.

In the drawings, Figure 1 is a transverse sectional view, partly in elevation, of a device embodying our invention; Fig. 2, a plan view of the rotary casting-table; Fig. 3, a detail view of the same, showing the manner of mounting the molds. Fig. 4 is an enlarged sectional detail of a part of the apparatus, taken on the line *xx* of Fig. 2.

Referring to the drawings, S is a receiving-pot arranged to receive molten metal to be cast and to keep the same hot during the casting operation or to receive metal in the solid form and to melt the same. This pot is placed on a suitable support—as, for instance, the hollow brick piers S'—and arranged to be heated in any suitable manner, as by gas-burners S<sup>2</sup>, supplied with gas from any desired source. The receiving-pot S is provided with an outlet s, closed by a suitable device—as, for example, the valve s', Fig. 1. A rotary casting or mold table is located adjacent to the receiving-pot and arranged to support a

plurality of casting-molds s<sup>2</sup>. The casting-table comprises a circular framework having a central hub s<sup>3</sup>, from which extends radial arms s<sup>4</sup>, trussed by braces s<sup>5</sup>, the outer ends of the arms and braces being connected to a peripheral ring s<sup>6</sup>, from which feet s<sup>7</sup> extend downward, these feet carrying rollers s<sup>8</sup>. The radial arms s<sup>4</sup> also carry an inner ring s<sup>9</sup>, whose upper surface is preferably somewhat below the plane of the upper face of the peripheral ring s<sup>6</sup>.

Through the hub s<sup>3</sup> of the casting-table extends a vertical shaft or pivot s<sup>10</sup>, which is fixed in the hub and projects downward through hub s<sup>11</sup>, formed in the top s<sup>12</sup> of a stand having legs s<sup>13</sup>, the pivot or shaft s<sup>10</sup> being stepped in a step-box s<sup>14</sup>, secured to the floor.

To the outer face of the exterior or peripheral ring are attached a series of hooks s<sup>15</sup>, one pair for each casting-mold s<sup>2</sup>, arranged to receive trunnions s<sup>16</sup>, secured to each casting-mold, preferably near the center of the length of said molds. Each mold is also provided with a handle s<sup>17</sup> at its outer end, whereby it may be pulled outward until its trunnions s<sup>16</sup> engage the hooks s<sup>15</sup>, in which they may then rotate, so as to permit the casting-mold to swing down to a position such as is shown in Fig. 3. When in their normal positions, as shown in Figs. 1 and 2, the casting-molds s<sup>2</sup> rest upon leveling-screws s<sup>18</sup> s<sup>19</sup>, passing through the outer and inner rings s<sup>6</sup> s<sup>9</sup>, respectively, and serving to level the casting-molds s<sup>2</sup> for an obvious purpose.

The operation of our mechanism is as follows: The metal is placed into the receiving-pot S, when it is melted, or, if already melted, is kept in its molten condition in said receiving-pot by the gas-burners S<sup>2</sup> until it is desired to run off its contents. This is done as follows: The casting-molds s<sup>2</sup> being in their places upon the rotary mold-carrier or casting-table and properly leveled by means of the screws s<sup>18</sup> and s<sup>19</sup> one of said casting-molds is brought beneath the spout s of the receiving-pot and the valve s' opened, allowing the metal to flow into the mold and fill the same to the desired extent. The flow of metal may then be stopped and the table rotated to bring the next adjacent empty mold under the spout, or the table may be rotated



without shutting off the metal, since if quickly done but little metal will be scattered, and this when cold may be thrown back into the pot S. As the casting process continues the table is rotated and the metal already poured into the molds has time to cool to a solid condition by the time it has made a certain fraction of a revolution on the table—for instance, say three-fourths of a revolution. The handle  $s^{17}$  of the mold is then caught by tongs or a hook and drawn forward in order to cause the mold to dump to the position shown in Fig. 3 and discharge its load, which by this time consists of a slab X of solid metal, the latter being then duly removed.

It will be observed that by our construction the drawing off and casting of the metal is practically continuous.

20 While we have shown a receiving-pot which is arranged to receive molten zinc or similar readily-fusible metal and to keep the same in its molten condition, it is to be understood that our construction of rotary casting-table

may be employed in connection with any form of melting device. 25

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a casting or molding apparatus, a rotary mold-table comprising radial trusswork and concentric supporting-rings, a series of movable molds arranged radially upon the rings, each mold being provided at the sides with trunnions, brackets or hooks on the outer ring adapted to receive the trunnions on the molds when the latter are moved outward to dump a casting, and means passing through each of said supporting-rings for adjusting the position of the molds, substantially as described and shown. 30 35 40

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM LANYON.  
JOSIAH LANYON.

Witnesses:

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A. A. MELLETTE.