

J. W. GIBNEY,
 APPARATUS FOR MAKING MOLDS.
 APPLICATION FILED OCT. 16, 1907.

900,365.

Patented Oct. 6, 1908.

4 SHEETS—SHEET 1.

Fig. 1.

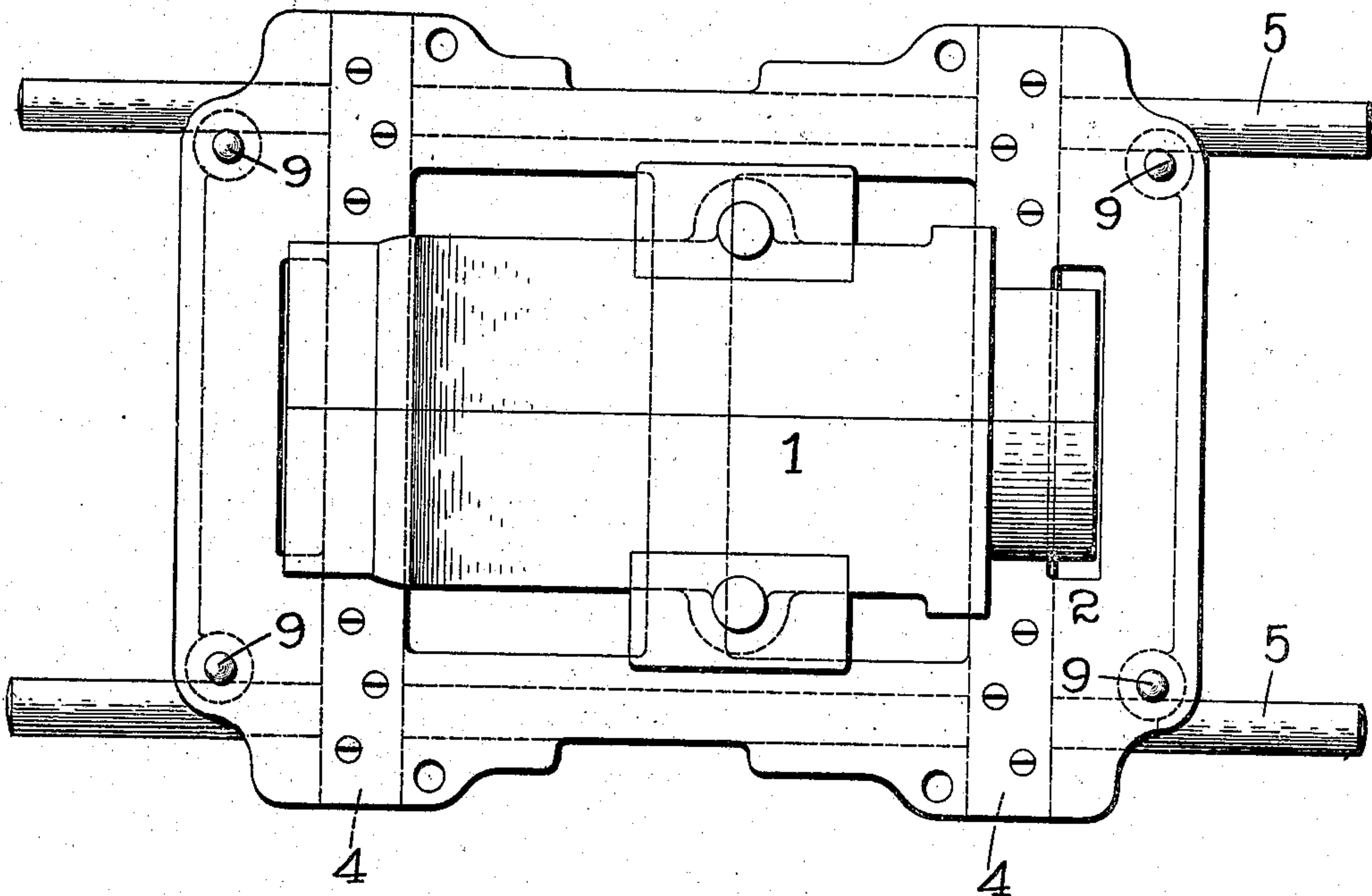
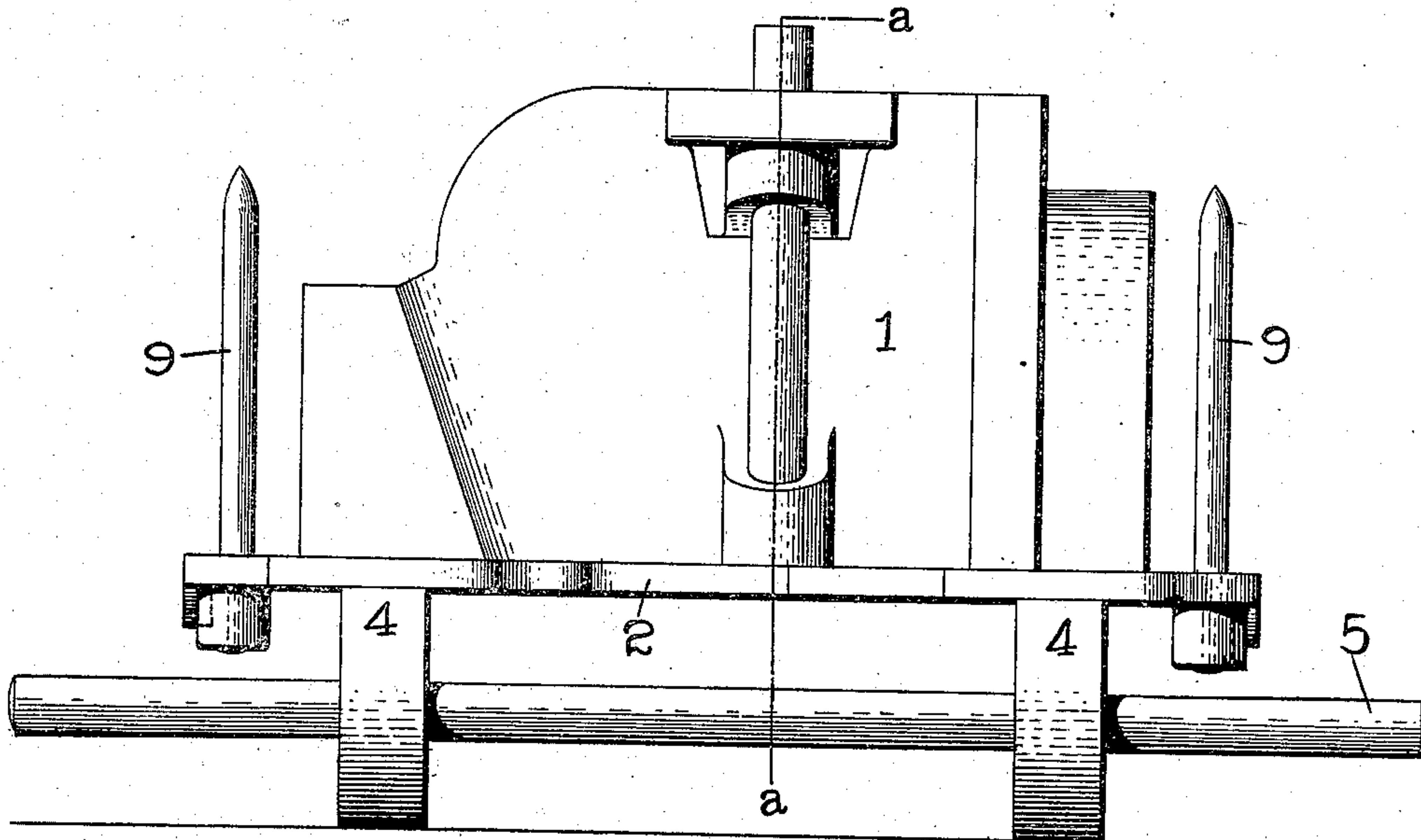


Fig. 2.



Witnesses.
L. M. Sangster.
George A. Neubauer.

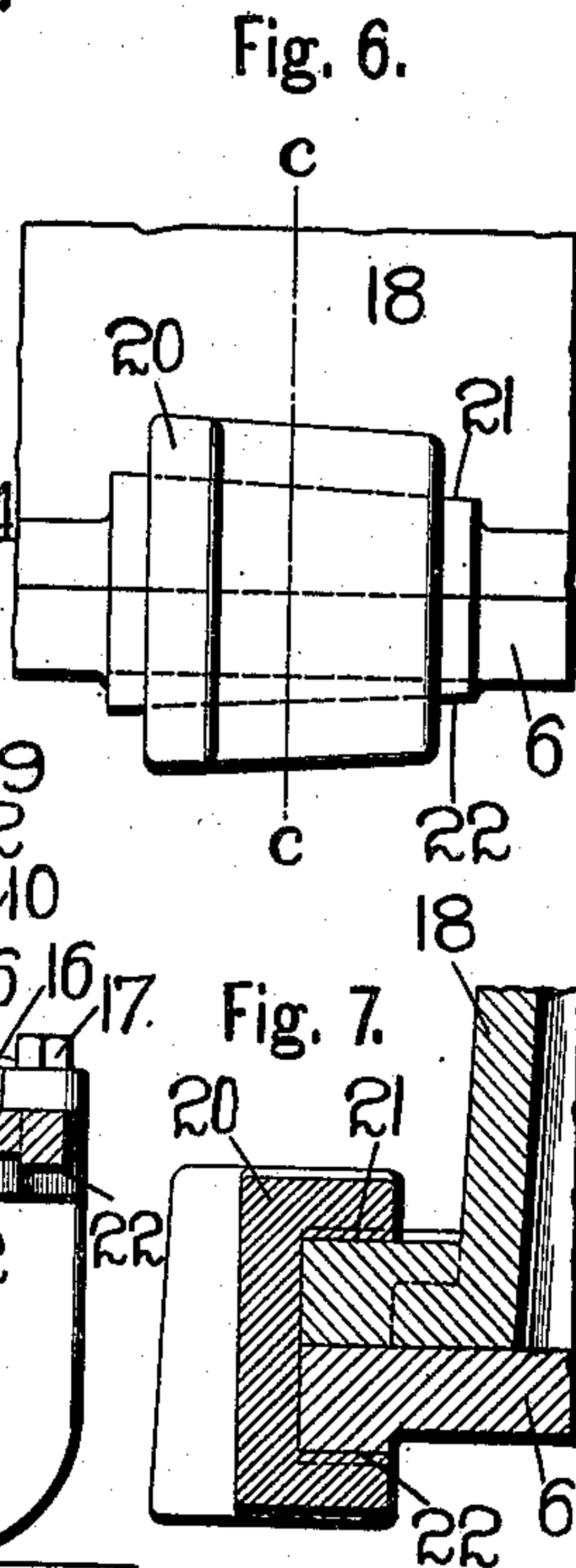
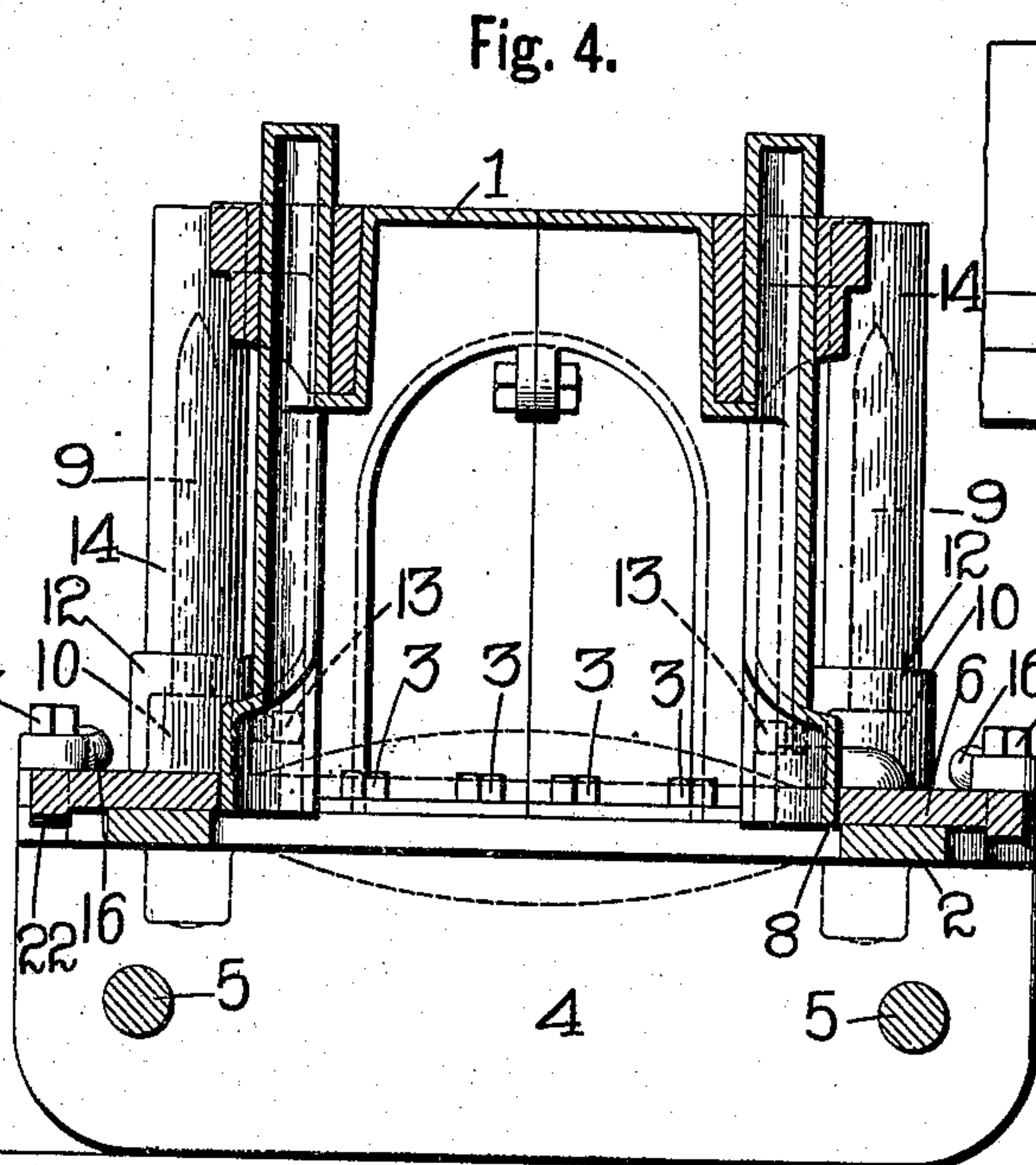
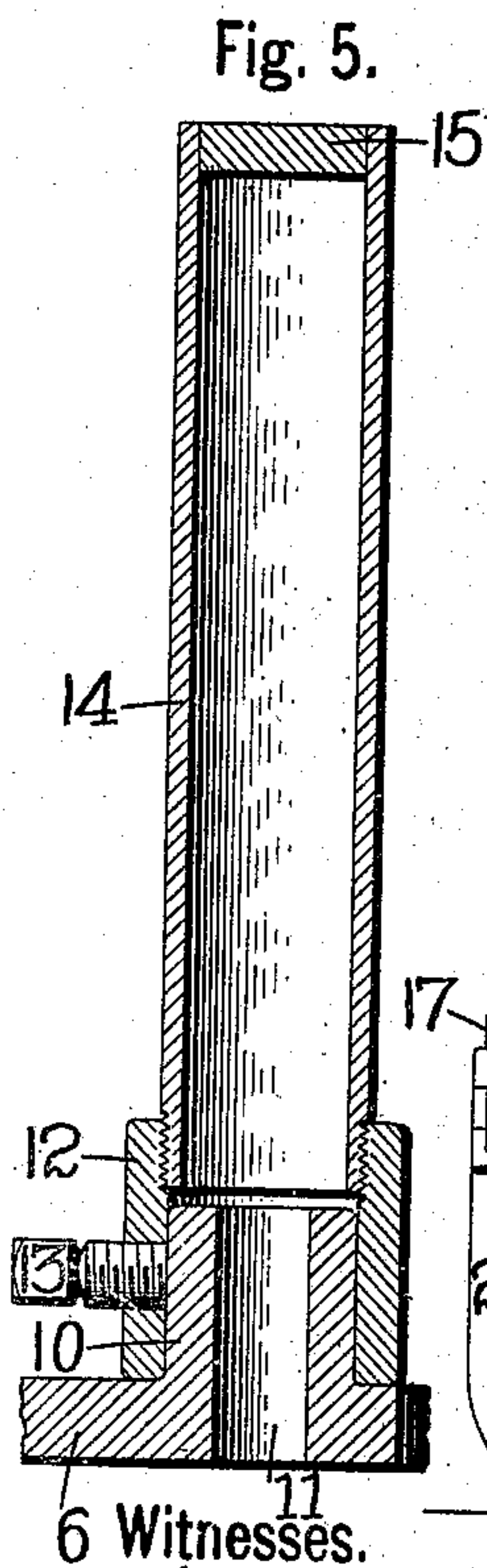
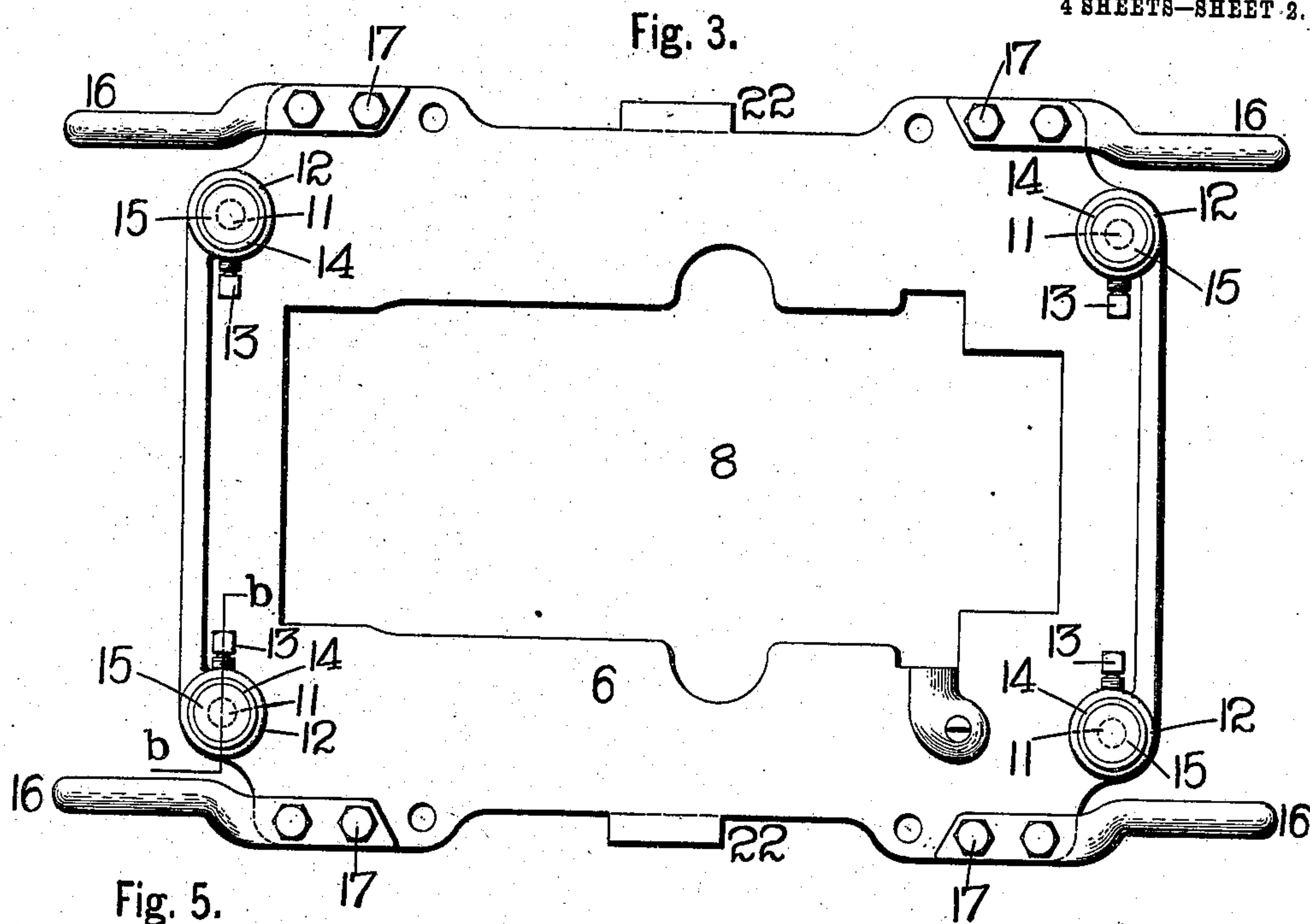
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4 SHEETS—SHEET 2.



6 Witnesses.

L. M. Baugster.
 George A. Neubauer.

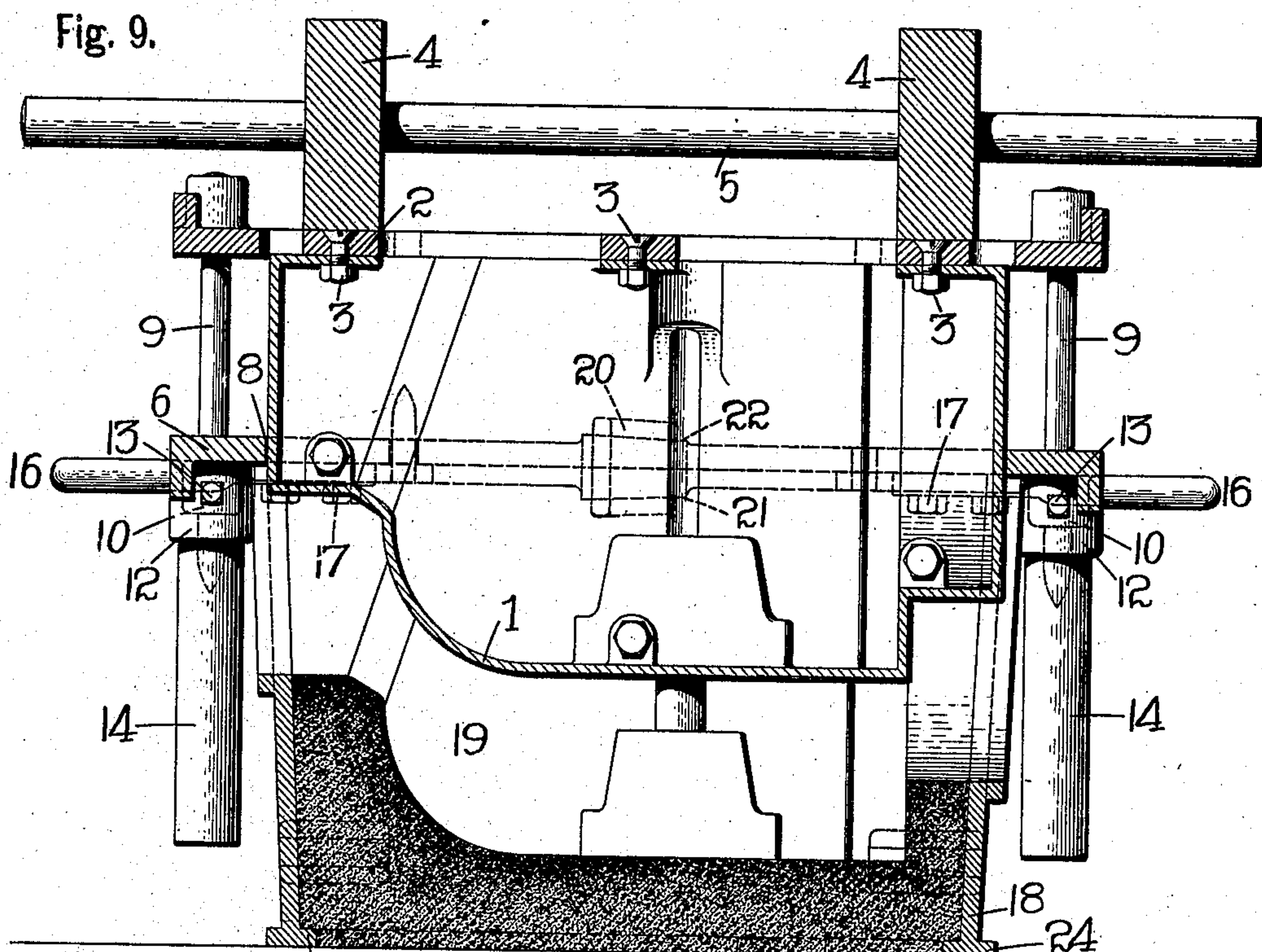
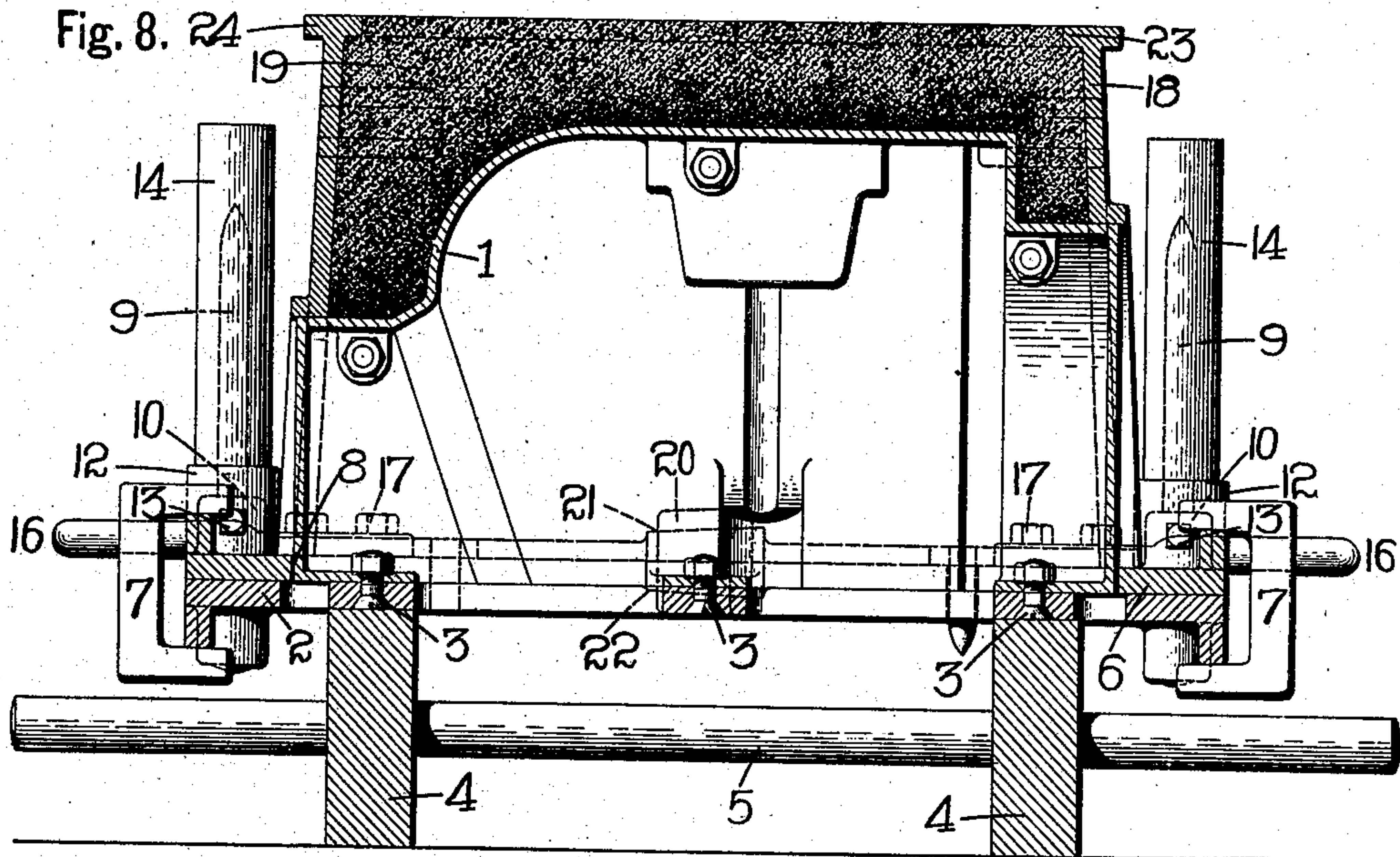
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 4 SHEETS—SHEET 3.



Witnesses.
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4 SHEETS—SHEET 4.

Fig. 10.

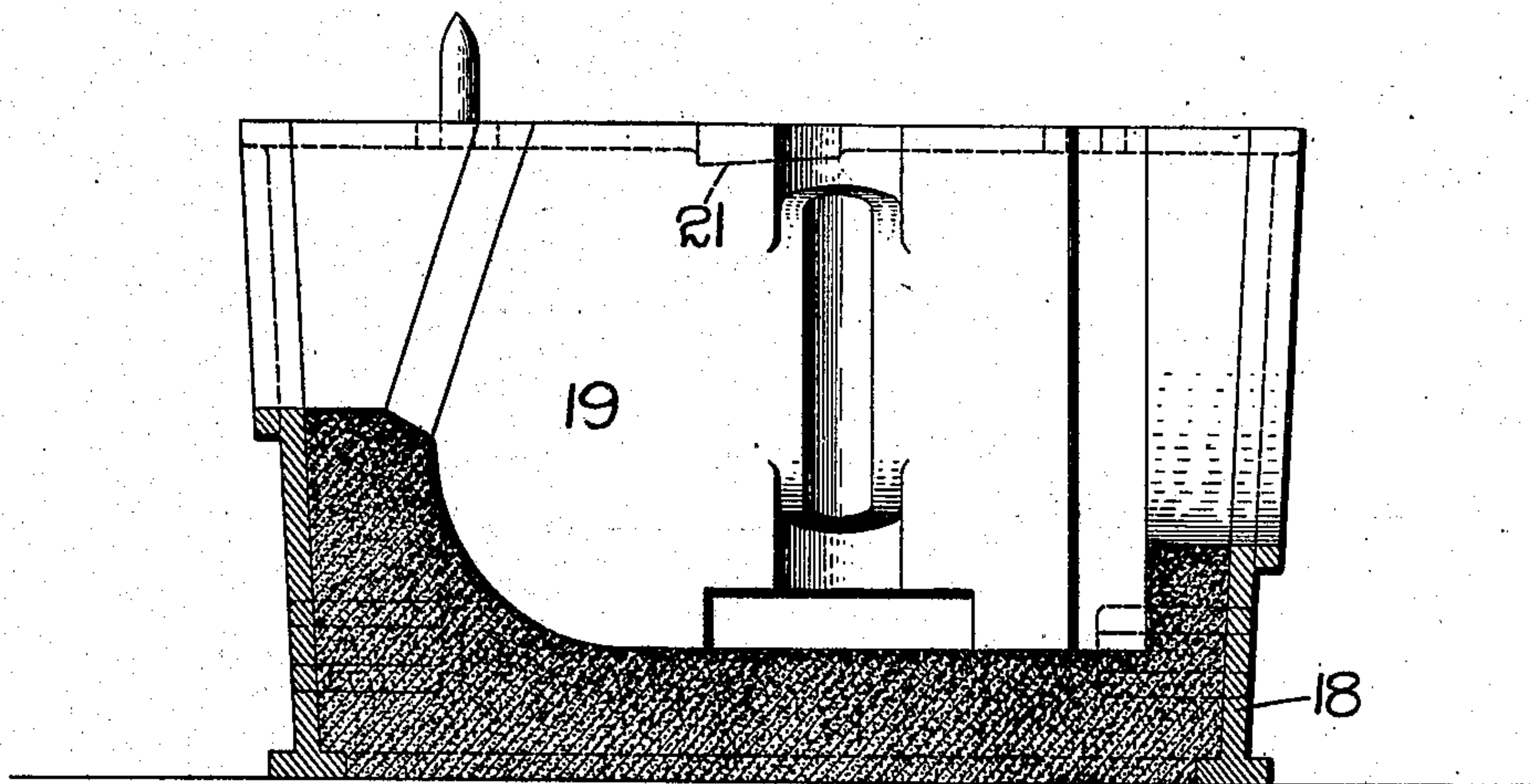
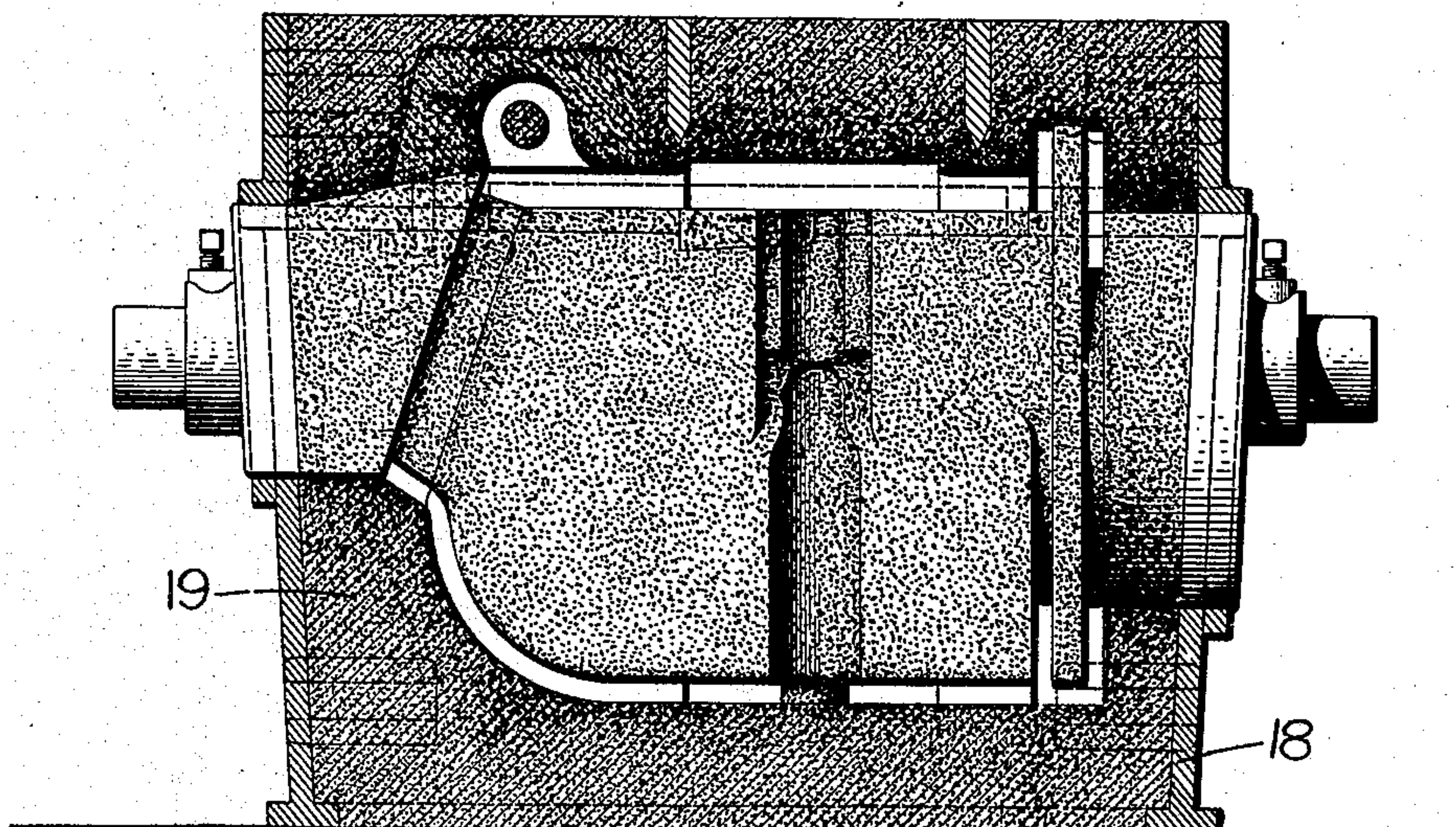


Fig. 11.



Witnesses.
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MAKING MOLDS.

No. 900,365.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed October 16, 1907. Serial No. 397,730.

To all whom it may concern:

Be it known that I, JAMES W. GIBNEY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Improved Apparatus for Making Molds, of which the following is a specification.

This invention relates to an improved molding apparatus and its principal object is to facilitate the preparation of the mold, or a portion thereof.

This invention also has reference to certain details of construction of the improved apparatus which will be hereinafter described and claimed.

A preferred adaptation of the invention principally designed for making the drag of a green sand mold for a car journal box is illustrated in the accompanying drawings, in which,—

Figure 1 is a plan view of the base plate of the improved apparatus having a pattern of suitable design fastened thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a detached plan view of the stripping plate. Fig. 4 is a transverse section on line *a a*, Fig. 2, through the base plate and the pattern, a transverse section being also shown through the stripping plate which is in position on the base plate. Fig. 5 is an enlarged vertical section through one of the guide sockets of the stripping plate on line *b b*, Fig. 3. Fig. 6 is an enlarged fragmentary side view of the flask and the stripping plate, showing the clamp for securing them together. Fig. 7 is a section on line *c c*, Fig. 6. Fig. 8 is a central vertical longitudinal section through the improved apparatus in operation, with a flask in position thereon and filled with sand which has been tamped in. Fig. 9 is a view similar to Fig. 8, showing the apparatus inverted and the base plate and the pattern in the act of being withdrawn from the drag. Fig. 10 is a central vertical longitudinal section through the completed drag as made by this improved apparatus. Fig. 11 is a central vertical longitudinal section through a completed mold, the core which is shown in full, being set in position and the cope being in place upon the drag.

While this improved molding apparatus is capable of wide use in the preparation of

molds it is chiefly adapted for use in making the drag or lower portion of green sand molds for car journal boxes.

Briefly considered the making of the drag of a mold with this apparatus consists in first filling a flask containing a suitable pattern with green sand, ramming the sand to form the drag, then turning the flask over and finally lifting the pattern up and removing it from the finished drag.

In making a drag with the preferred type of this improved apparatus as illustrated in the accompanying drawings, a pattern 1, of suitable shape is placed upon a base 2, and secured thereto by screw bolts 3.

The base has depending transverse supporting fins 4 and horizontal bars 5, which extend through the fins and project sufficiently at their ends to constitute handles for the workmen to grasp to conveniently move the base.

A skeleton plate 6 which I term a stripping plate is fitted upon the base 2 and secured thereto by clamps 7. These clamps are located on the exterior of the stripping plate and base so as to not interfere with the passage of the pattern through the stripping plate. This plate is formed substantially as shown in Fig. 3 and has an opening 8 which conforms approximately in shape to the contour of the pattern.

To center the plate 6 and base 2, a series of centering pins 9 are fastened to the base, one at each corner, and extend vertically therefrom, and a series of vertical sockets are secured to the plate into which the pins fit. These sockets are formed substantially as shown in Fig. 5 and each consist of bosses 10 formed at the four corners of the plate and having circular vertical openings 11, short sleeves 12 fitted on the bosses and secured thereto by bolts 13 and tubes 14 which screw into the outer ends of the sleeves and are closed at their outer ends by caps 15. A handle 16 is fastened by bolts 17 to each corner of the stripping plate as shown in Fig. 3. These handles are adapted to be grasped by the workman to conveniently manipulate the plate. A flask 18 of proper form is fitted upon the pattern, and green sand is introduced into the top of the flask by the molder and rammed upon the pattern in the usual manner to form the drag 19 as shown in Fig. 8. The flask 18 is secured to

the stripping plate by clamps 20 which have tapered slots as shown in Figs. 6 and 7 and fit upon opposed tapering surfaces 21 and 22 of the flask and stripping plate so that the flask and stripping plate may be wedge locked together by the clamps 20.

It will be noted by referring to Figs. 8, 9, 10 and 11 that the flask 18 is of a tapering form gradually enlarging from the bottom upward, and that its bottom edge is provided with oppositely extending inner and outer lateral flanges 23 and 24. These flanges serve to provide a fairly wide bottom edge and the inner flange 23 supports the sand in the flask. A bottom board is not necessary with this form of flask and in fact a better foundation is provided by seating the flask upon a bed of sand and the sand surface conforms to and fits the bottom surface of the sand within the flask. The advantage of this is that the sand seats on and is supported upon a foundation at every point and cannot be distorted out of shape.

The operation of this apparatus is as follows,—The pattern 1, is first fastened to the base, and the stripping plate 6 is clamped to the base around the pattern and the flask is fitted in place. The green sand is now rammed upon the pattern by the workman to form the drag and the apparatus is turned over to bring the drag in its proper position. The clamps securing the stripping plate and base together are now removed and the pattern is withdrawn from the mold up through the stripping plate. The main purpose of the stripping plate is to serve as a protection for the top surface of the drag and prevent

the pattern breaking or marring the edges thereof as it is withdrawn.

I claim as my invention—

1. In an apparatus for making molds, a base carrying a suitable pattern, a flask around the pattern, a stripping plate and an exterior clamp for securing the stripping plate to the base.

2. In an apparatus for making molds, a base carrying a suitable pattern, a flask around the pattern, a stripping plate and an exterior \square shaped clamp for securing the stripping plate to the base.

3. In an apparatus for making molds, a base carrying a suitable pattern, a flask around the pattern, a stripping plate, an exterior clamp for securing the stripping plate to the base and separate clamps for securing the stripping plate to the flask.

4. In an apparatus for making molds, a base carrying a suitable pattern, a flask around the pattern and a stripping plate, an exterior clamp for securing the stripping plate to the base and separate tapered clamps for securing the stripping plate to the flask.

5. In an apparatus for making molds, a base carrying a suitable pattern, a flask around the pattern, a stripping plate and an exterior clamp for securing the stripping plate to the base; said stripping plate having handles secured thereto at each corner thereof.

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Witnesses:

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