

No. 675,650.

Patented June 4, 1901.

S. COOPER & W. FELKER.

SAD IRON.

(Application filed Feb. 13, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

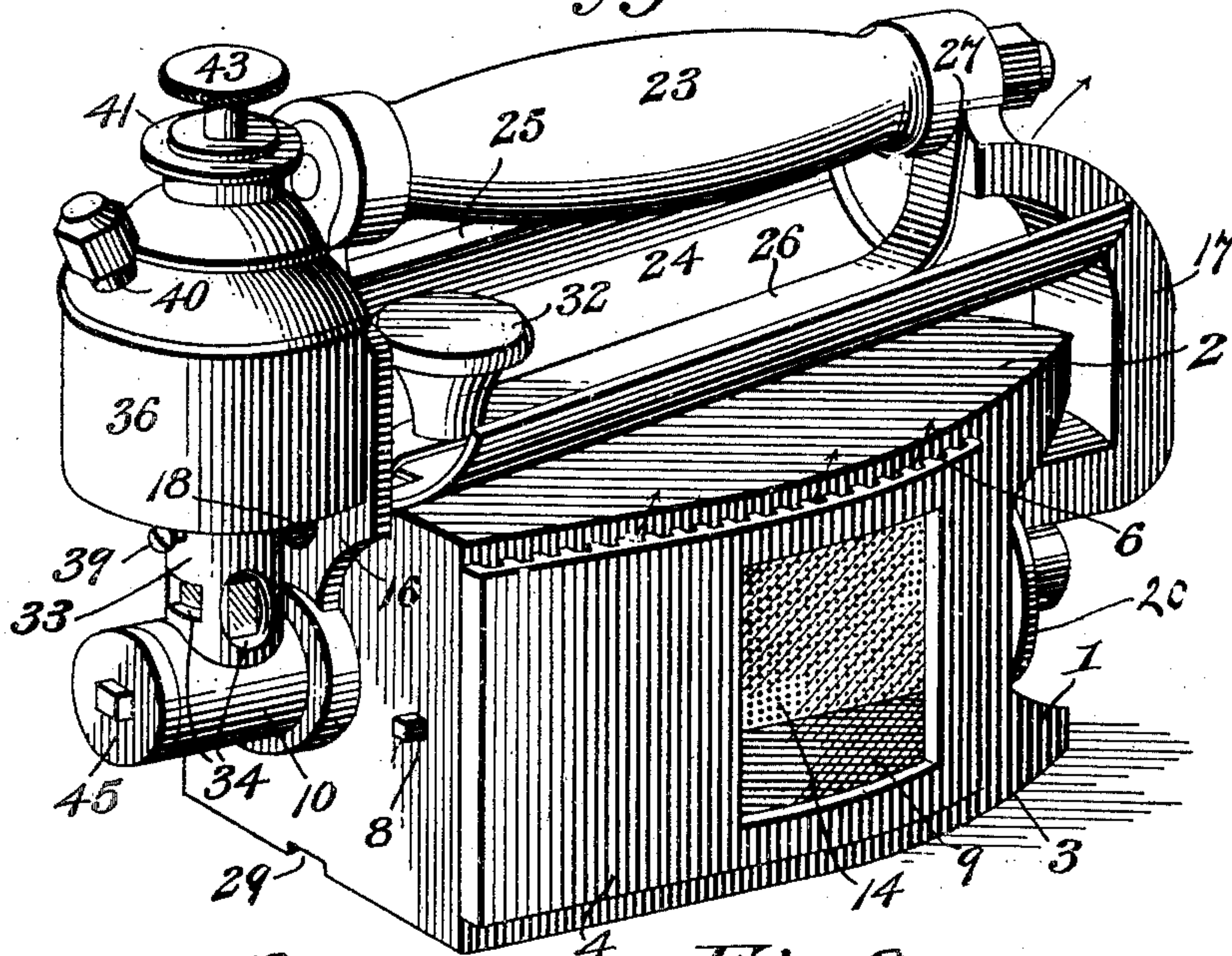
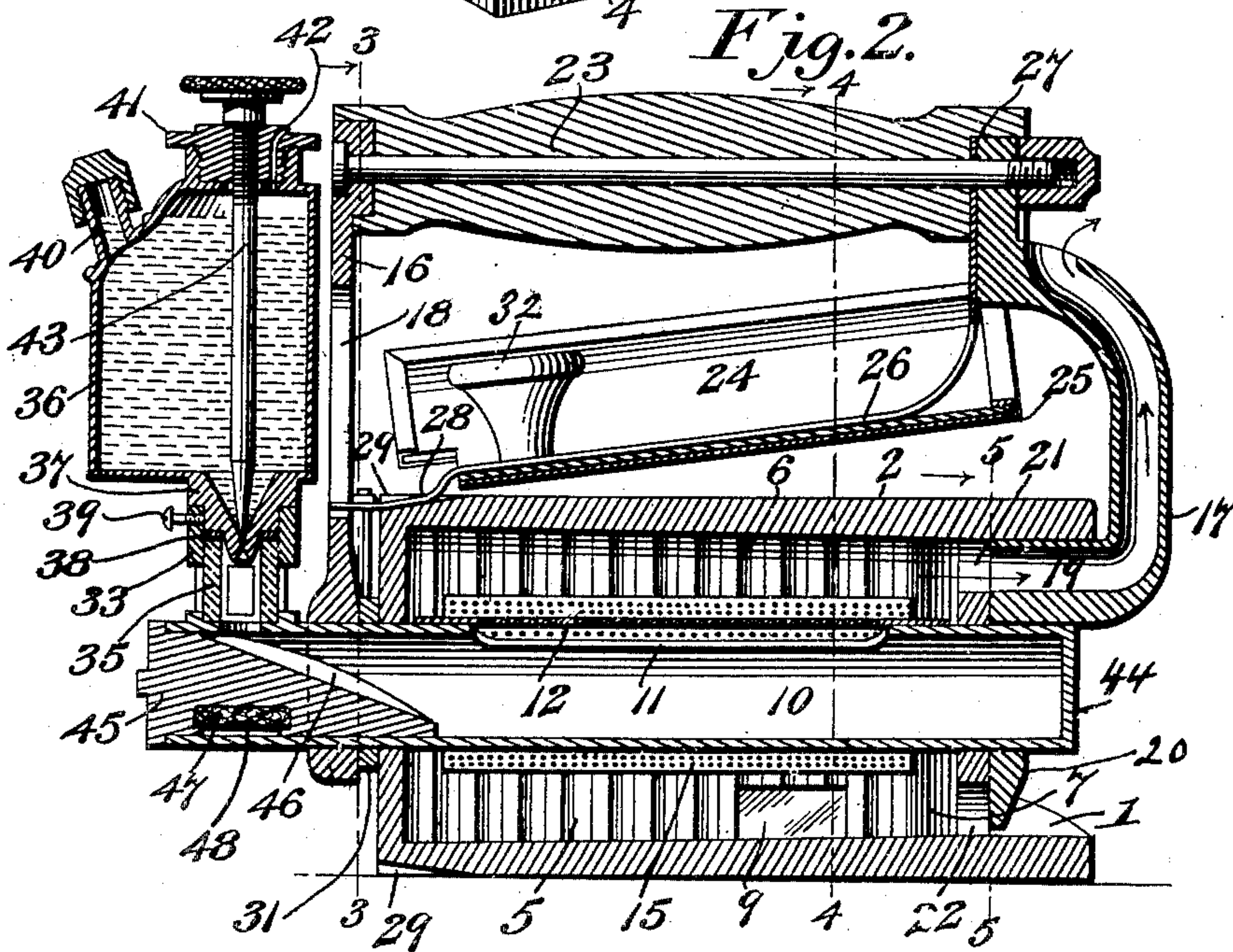


Fig. 2.



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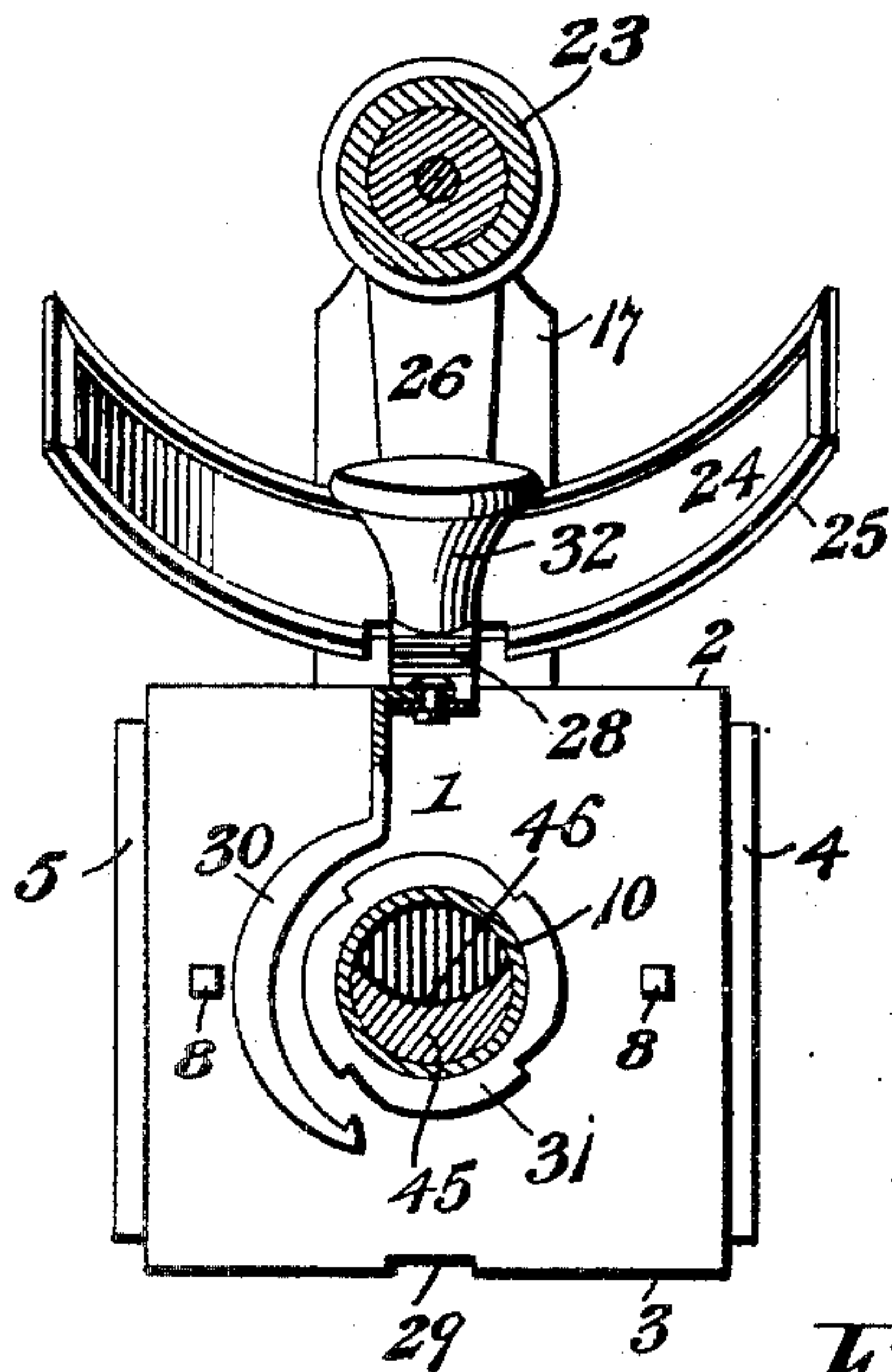
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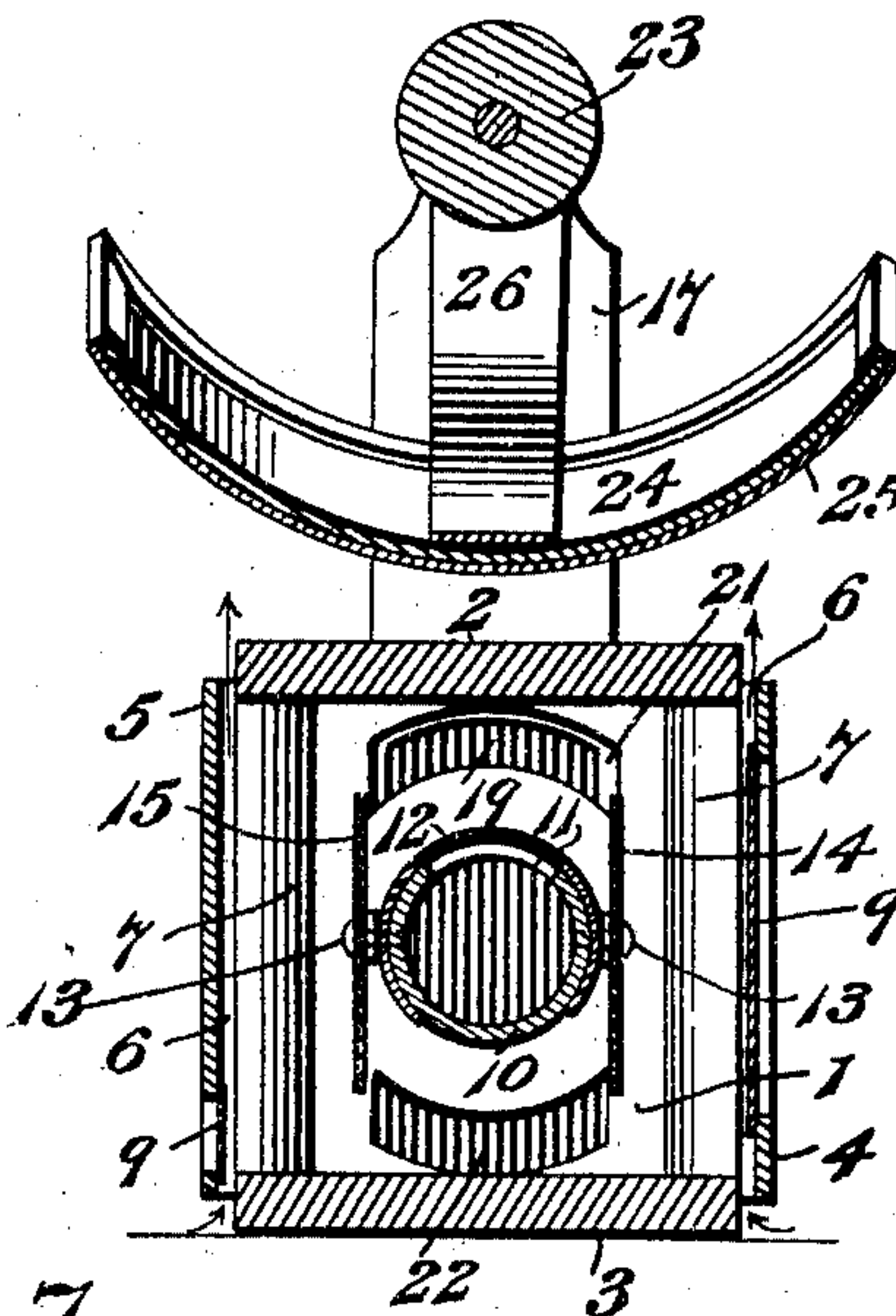
(No Model.)

2 Sheets—Sheet 2.

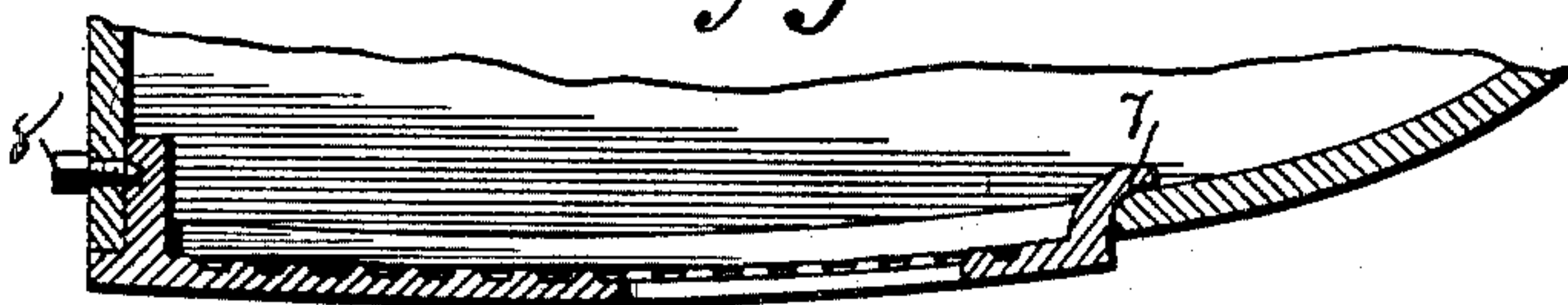
*Fig. 3.*



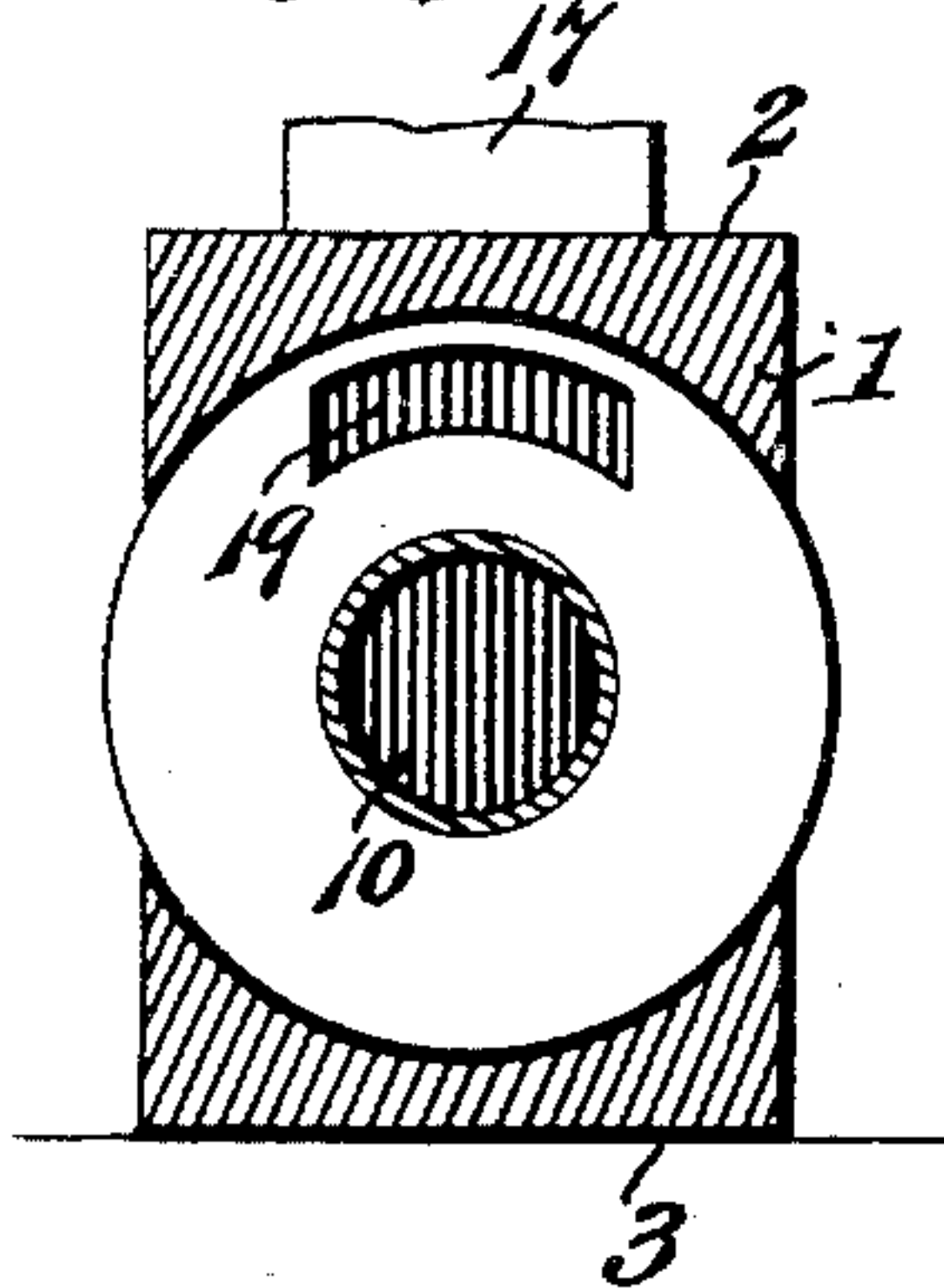
*Fig. 4.*



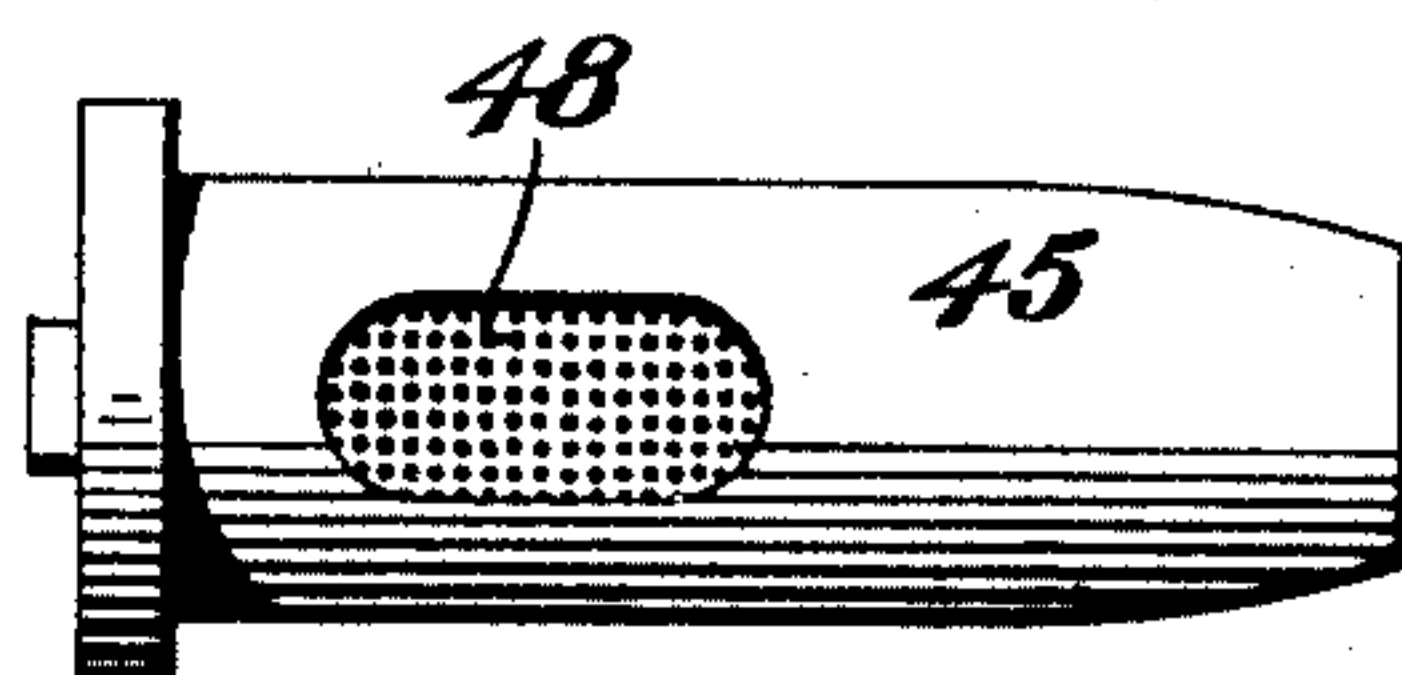
*Fig. 7.*



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

SUTTON COOPER AND WILLIAM FELKER, OF EVANSVILLE, INDIANA.

## SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 675,650, dated June 4, 1901.

Application filed February 13, 1900. Serial No. 5,058. (No model.)

*To all whom it may concern:*

Be it known that we, SUTTON COOPER and WILLIAM FELKER, citizens of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Sad-Irons; 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.

This invention relates to self-heating sad-irons, and more particularly to sad-irons which are heated by gasolene, alcohol, or other gas-generating fluid.

One object of the invention is to provide a self-heating sad-iron provided with a plurality of ironing-faces and so arranged that different ironing-faces can be used at different times, according to the degree of heat needed and the requirements of the occasion.

Another object is the provision, in a self-heating sad-iron, of an improved burner or heater so arranged in connection with a novel form of iron provided with a plurality of ironing-faces that one of the ironing-faces will be subjected to heat while another one is being used on the goods or materials being ironed.

A further object is to provide a self-heating iron having an improved guard to prevent injury to the hand of the user from the heat.

A still further object is to provide a self-heating sad-iron which can be easily lighted and extinguished and the heat regulated at will and which will be perfectly safe, durable, and satisfactory in its operations.

Having the foregoing and other objects in view, the invention consists of certain improved features and novel combinations and adaptations of parts set forth in detail hereinafter and embodied in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of the complete invention; Fig. 2, a longitudinal section; Fig. 3, a vertical section taken on line 3 3, Fig. 2; Fig. 4, a vertical section taken on line 4 4, Fig. 2; Fig. 5, a detail vertical section taken on line 5 5, Fig. 2; Fig. 6, a detail view of the vaporizing-plug; and Fig. 7, a detail horizontal section through one of the side plates, illustrating how it is secured to the iron.

The iron 1 is hollow and has two faces 2

and 3 at its top and bottom. The sides of the iron are open, but covered by plates 4 and 5, having ribbed or corrugated inner surfaces 6, which provide a large number of air channels or passages to allow a plentiful supply of air to the burner and also a free circulation of air up the surfaces of said plates to prevent them from becoming heated. These plates have curved ears 7 at their forward end, which project into and engage the inside of the iron. Screws 8 engage projections on the inner face of the plates at their rear ends. The plates are thus securely held, but can be readily removed to give access to the interior of the iron by loosening the screws. The plates are preferably provided with mica windows 9 to permit inspection of the interior of the iron without removing the plates.

The iron 1 is journaled on a burner tube or pipe 10, which has a slot 11 in its upper part. The greater part of the tube is incased in a foraminous tubular screen 12, which is held in position on the tube and over the slot by screws 13, which also secure in position vertical foraminous plates 14 and 15, Fig. 4, which act as screens to divide up the air and cause it to properly commingle with the gas or vapor rising through the screen 12. It will be observed that the flame of the burner will be directed upwardly against the uppermost face of the iron and not downwardly. We are therefore enabled to obtain the best effects from the burner and to heat one ironing-face while the other is in use, (and through the iron to heat the latter,) thus insuring a hot face ready for use when required. Secured on the burner-tube, near the ends thereof, are arms 16 and 17. Arm 16 is provided with a guide-slot 18, and arm 17 has an air-passage 19 and a circular flange 20.

In the end of the iron 1 are two diametrically-disposed openings 21 and 22, one of which will be covered by the flange 20 when the other is located in alinement with the mouth of the outlet or passage 19. A handle and bolt 23 connect the upper ends of the arms.

To guard the hand of the person using the sad-iron from the heat arising from the iron, we provide a curved shield composed of asbestos-board 24 and sheet metal 25. A spring 26, having one end clamped by the handle at 27, is secured to the shield and supports it.



This spring is bent at 28 to form a catch adapted to engage a notch 29 in the face of the iron and lock the latter, and the extreme end of the spring is received in slot 18. The  
 5 spring is thus secured against lateral movement at both ends and securely locks the iron. Depending from the end of the spring is a dog 30, Fig. 3, which has a hooked end adapted for engagement with the teeth of a ratchet-  
 10 wheel 31, secured to the end of the iron 1.

The spring is provided with a knob 32, conveniently arranged for manipulation by the fingers of the operator, which when raised lifts the spring and shield and disengages the  
 15 spring from the notch in the iron, at the same time causing the dog to turn the ratchet-wheel, and with it the iron, on the burner-tube as an axis. Two manipulations will turn the iron one-half around, thus reversing the  
 20 position of the faces. On the end of the burner-tube is a pillar 33, communicating with the interior of the burner-tube and having sight-openings 34 and inclosing a glass sight-tube 35.

The numeral 36 designates a fluid-reservoir adapted to contain the gasoline, alcohol, or other gas-generating fluid to be used for heating the device, which has a stepped outlet-boss 37, that is seated in the pillar 33 and on an  
 30 asbestos washer 38 on the upper end of the sight-glass. A set-screw 39 secures the boss in the pillar. The usual filling-nipple 40 is provided, and the reservoir has a screw-cap 41, provided with an air-vent 42, while 43 designates a needle-valve which is threaded through the cap and governs the flow of the liquid through the boss. The forward end  
 35 44 of the burner-tube is closed, and the rear end is closed by a removable metallic vaporizing-plug 45, having a grooved inclined face 46, onto which the gas-generating fluid falls from the reservoir. The opposite side of the plug is chambered out and filled with a packing of asbestos 47, covered by a foraminous  
 45 screen 48.

In using our sad-iron a few drops of the fluid are allowed to fall on the asbestos packing 47, after which the valve is closed and the vaporizing-plug withdrawn and a match  
 50 applied to the packing to ignite the fluid therein. The plug will then become heated and should be replaced in the burner-tube with the vaporizing-face in the position shown in Fig. 2. The valve is next opened to allow  
 55 the fluid to drip down on the plug and on coming in contact therewith it immediately becomes vaporized. A flame should now be applied to the mouth of the air-passage 19, whereupon the burner will become ignited  
 60 and remain so without further attention until the supply of fluid is cut off by the valve. The heat of the parts keeps the vaporizing-plug constantly hot and a continual vaporization of the fluid results. The size of the  
 65 flame at the burner can be regulated by opening or closing the feed-valve and the amount

of feed determined by glancing through the sight-tube. The advantage of having the flame from the burner directed upwardly rather than downwardly will be obvious, as  
 70 the full heating effect of the flame can be obtained, while the revolubility of the iron and the provision of a plurality of ironing-faces, one of which is being directly heated while the other, which is in use, is indirectly heated,  
 75 is a feature of great importance.

We are aware that our invention can be varied in many respects without sacrificing any of its advantages or changing its operation, and we do not therefore limit ourselves  
 80 to the precise constructions herein shown and described, but consider that we are entitled to all changes and variations falling within the spirit and scope of the invention.

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

1. In a sad-iron, the combination with a burner-tube and burner or heater therefor, of a hollow iron which receives the tube and  
 90 burner and is journaled on the tube, a handle secured to the tube, a ratchet-wheel on the iron, and a movable dog on the handle adapted to engage and turn the ratchet-wheel and iron when manipulated.  
 95

2. In a sad-iron, the combination with an iron, of a handle to which the iron is journaled, a movable shield secured to the handle above the iron, and means on the shield for turning the iron when said shield is moved.  
 100

3. In a sad-iron, the combination with an iron, of a handle to which the iron is journaled, a movable shield secured to the handle above the iron, means on the shield for turning the iron when moved in one direction,  
 105 and means on the shield for locking the iron when it moves in an opposite direction.

4. In a sad-iron, the combination with an iron, of a handle journaled thereto, a leaf-spring having one portion secured to the handle and its other portion free, and means on the free end of the spring for turning the iron.  
 110

5. In a sad-iron, the combination with an iron, of a handle journaled thereto having a guide-slot, a leaf-spring having one end secured to the handle and the other end movable in the slot, said spring being adapted to lock the iron and carrying means for turning said iron.  
 115

6. In a sad-iron, the combination with an iron, of a handle journaled thereto, a leaf-spring secured to the handle and adapted to engage and lock the iron and carrying means for turning said iron, and a shield secured to said spring and movable therewith.  
 120

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

SUTTON COOPER.  
 WILLIAM FELKER.

Witnesses:

SAMUEL CRUMBAKER,  
 J. E. MEACHAM.