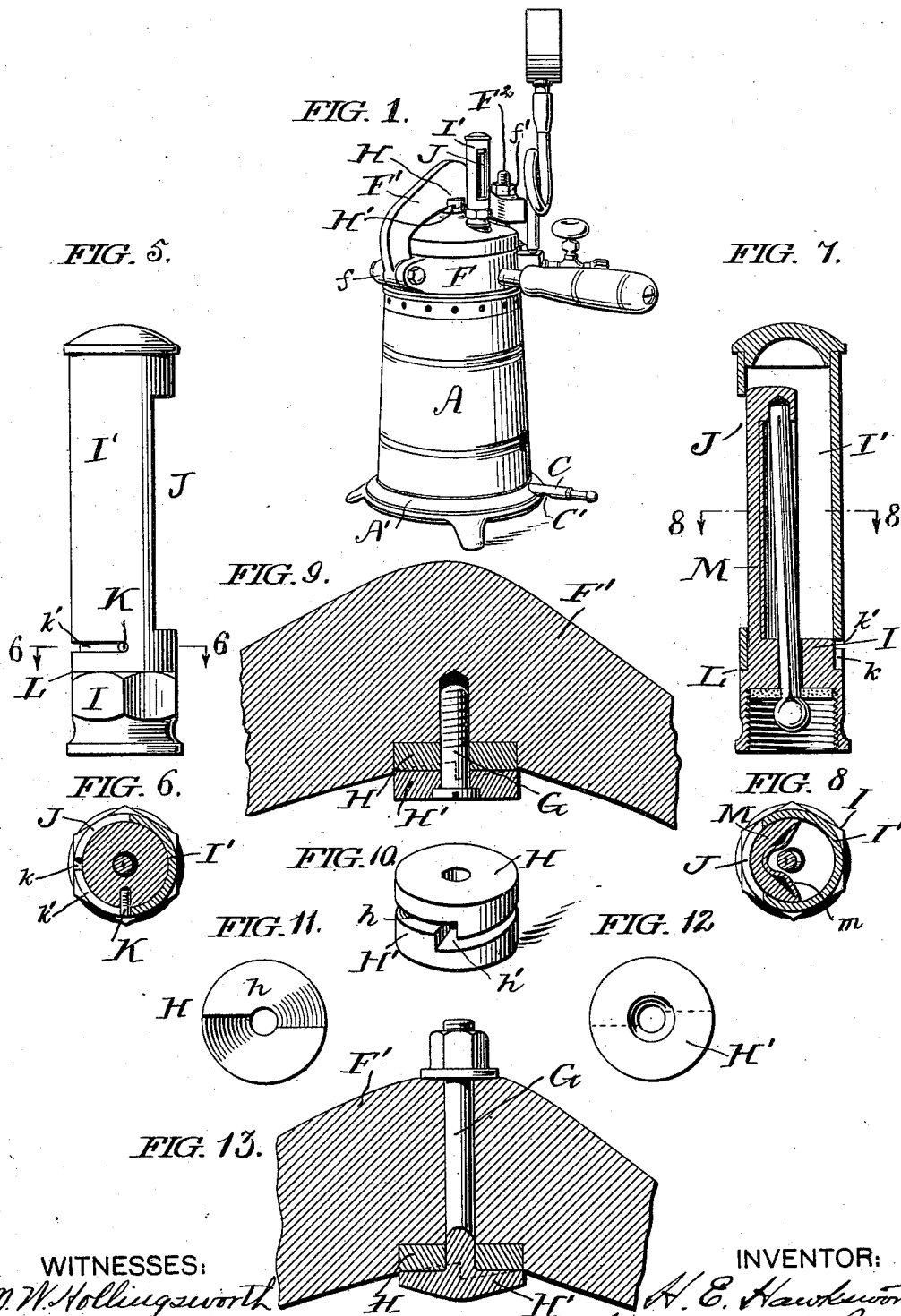


H. E. HAWKSWORTH.
VULCANIZER.

No. 579,798.

Patented Mar. 30, 1897.



WITNESSES:

M. W. Hollingsworth
Edw. A. Simpson, Jr.

INVENTOR:

H. E. Hawksworth
by Ethel J. Peyton.

H. E. HAWKSWORTH.
VULCANIZER.

No. 579,798.

Patented Mar. 30, 1897.

FIG. 2.

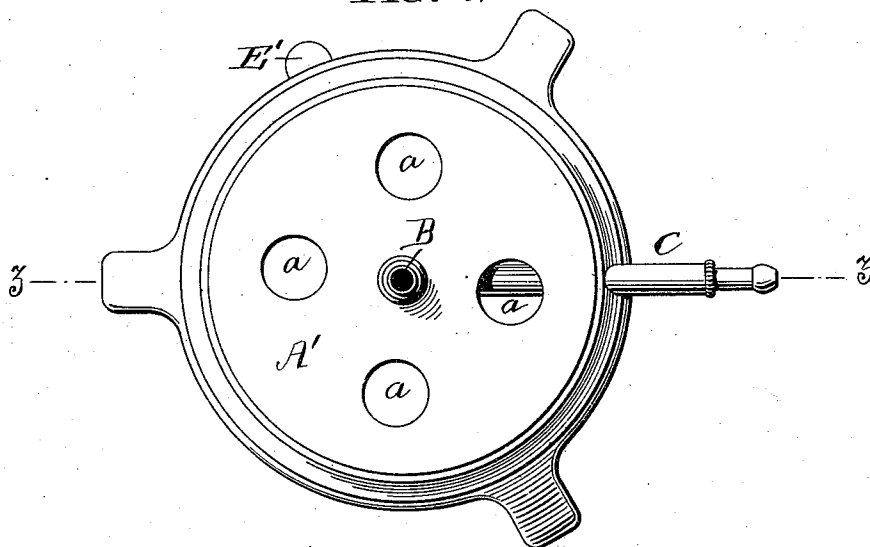


FIG. 3.

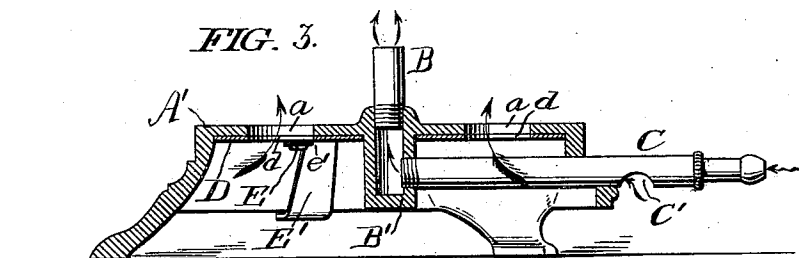
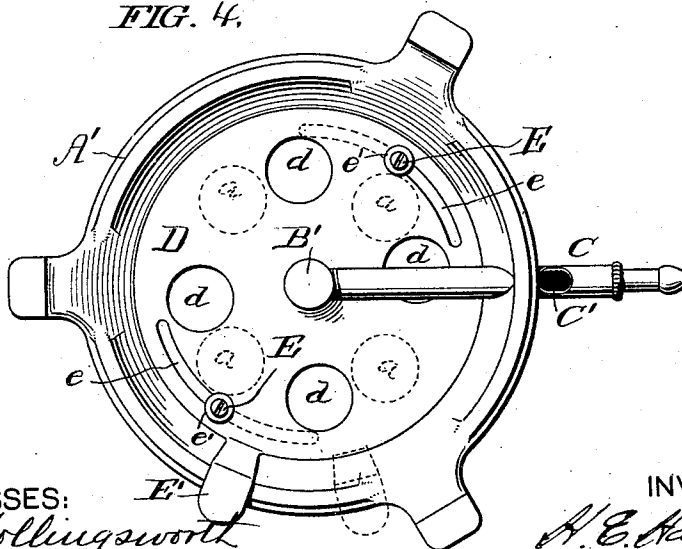


FIG. 4.



WITNESSES:

M. W. Hollingsworth
Edw. S. Simpson, Jr.

INVENTOR:

H. E. Hawksworth.
By Atty. J. S. Keyton.

UNITED STATES PATENT OFFICE.

HARRY E. HAWKSWORTH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF SAME
PLACE.

VULCANIZER.

SPECIFICATION forming part of Letters Patent No. 579,798, dated March 30, 1897.

Application filed July 20, 1896. Serial No. 599,883. (No model.)

To all whom it may concern:

Be it known that I, HARRY E. HAWKSWORTH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vulcanizers; and I 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.

My invention relates to certain improvements, as hereinafter claimed, in vulcanizers of the class especially adapted for use by dentists.

In the accompanying drawings, which show a suitable embodiment of my improvements, Figure 1 is a view in perspective, on a considerably-reduced scale, of the complete vulcanizer; Fig. 2, a plan view showing the base with the casing removed; Fig. 3, a section through the base on the line 3 of Fig. 2; Fig. 4, an inverted plan or bottom view of the base and a draft-regulator attached thereto; Fig. 5, an elevation of the thermometer-carrier detached; Fig. 6, a section on the line 6 of Fig. 5; Fig. 7, a vertical central section of the thermometer-carrier; Fig. 8, a section on the line 8 of Fig. 7; Fig. 9, an enlarged sectional view of a portion of the clamping-yoke and an attachment thereof. Figs. 10, 11, and 12 are detail views showing the adjustable cam-disks of the yoke; Fig. 13, a sectional view of the yoke similar to Fig. 9, showing a modification of the way of attaching the adjustable cam-disks.

The shell or casing A of the vulcanizer is of any suitable usual construction and is supported by the base A', the top of which is perforated to provide draft-openings *a* in suitable number to admit air to the flame for heating the vulcanizer. A gas-burner B is secured centrally to the top of the base by being fitted to a socket provided by a tube B' of the base, and a gas-supply pipe C beneath the perforated top of the base has communication with the burner by being fitted to the tube B' above its closed bottom. This supply-pipe is adapted to have a rubber tube attached to it for supplying gas and has an air-inlet open-

ing C', as usual. A perforated draft-regulator for controlling the amount of air admitted by the draft-openings *a* or closing these openings entirely is shown as formed of a circular plate D, having openings *d*, corresponding in size and number with the draft-openings *a*. This draft-regulator pivots on the burner-supporting tube B' of the base, beneath the top of the base, and is adjustably connected with the base, so as to be capable of turning about its pivot, by screws E, secured to the base and engaging suitably-curved slots *e* in the regulator-plate. Washers *e'* are interposed between the screw-heads and the regulator-plate to insure proper engagement, and the regulator is provided with a handle E' by which to adjust it. By means of the handle the regulator may be turned to bring its openings fully in register with the openings in the base, so as to give the maximum draft and most intense heat the burner is capable of producing, or the regulator-openings may be caused to only partially register, more or less, with the base-openings or moved entirely out of register therewith to regulate heat as desired.

The usual boiler or pot is provided at or near its top with the collar F, by which it is supported upon the casing and to which the clamping-yoke F' is pivoted at one end, as at *f*. The usual top or cover for the boiler is adapted to be tightly clamped in position by the yoke, which is drawn down by suitable clamping means, such as the commonly-employed bolt F², pivoted at its lower end to the collar F, passing through the end of the yoke opposite that by which it is pivoted to the collar, and provided with the clamp-nut *f'*.

To provide for accurate clamping action of the yoke upon the cover, its bearing upon the cover is made adjustable as follows: A bolt or screw G is provided midway the length of the yoke and passes through and is adapted to adjustably clamp together two disks H H', the contiguous faces *h h'* of which are cam-shaped, as plainly shown. The upper disk bears against and is seated in a recess in the under side of the yoke and the lower disk bears against the center or apex of the cover.

It will be seen that by loosening the clamp

screw or bolt and turning the lower disk the adjustable bearing formed by the disks may be made to project more or less, as desired, and the bearing made rigid by tightening the
5 screw or bolt.

In Fig. 13 the disk-attaching bolt passes through the yoke, the lower cam-faced disk is made integral with the bolt, and a clamp-nut is provided at the upper end of the bolt
10 for adjustment and locking of the bearing in an obvious way.

The thermometer-carrier I is adapted to be screwed at its lower end to a hollow plug in the cover, so as to expose the thermometer-bulb to the steam in the boiler, as usual. To
15 effectually protect the thermometer from injury and yet permit of its being most readily inspected at any time, the cover I' of the carrier instead of being screwed to the lower
20 part of the carrier, as heretofore usual, is adapted to be turned on the carrier and is provided at one side with an opening J for fully exposing the thermometer-scale when the
25 cover is properly adjusted. The turning cover is fitted to the carrier by what may be termed a "bayonet-joint," consisting of a stud or pin K on the carrier and an angular slot in the cover comprising the vertical portion *k*, extending
30 upward from the lower end of the cover, and the horizontal portion *k'*, intersected by the vertical portion. The cover is supported by resting at its lower end on the seat or shoulder L of the carrier. When the cover is adjusted so as to fully protect the thermometer,
35 its opening is brought opposite the standard or upwardly-projecting portion M of the carrier to which the scale *m* is applied.

It will be seen that the waste of time and trouble of unscrewing the cover is avoided by
40 providing the turning cover with the side

opening, and misplacement or possible loss of the cover guarded against.

I claim as my invention—

1. The combination, in a vulcanizer, of the shell or casing, the base having the perforated
45 top, the burner supported by the base and projecting above its perforated top, the supply-pipe beneath the perforated top of the base and having communication with the
50 burner, and the turning perforated draft-regulator beneath the perforated top of the base for controlling the amount of air admitted to the shell or casing through the base-perforations to vary the heat emitted by the
55 burner-flame, substantially as set forth.

2. The combination of the vulcanizer-boiler, its cover, the yoke having jointed connection with the boiler, means for clamping
60 the yoke down upon the cover, the adjustable bearing midway the length of the yoke by which it presses upon the cover, and means
65 for adjusting and locking said bearing in position, substantially as set forth.

3. The combination of the vulcanizer-boiler, its cover, the yoke having jointed connection at one end with the boiler, means acting upon the opposite end of the yoke for
70 clamping the yoke down upon the cover, the cam-faced disks constituting an adjustable bearing midway the length of the yoke by which it presses upon the cover, and the screw
75 or bolt by which said disks are secured to the yoke and locked in their position of adjustment, substantially as set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

HARRY E. HAWKSWORTH.

Witnesses:

R. DALE SPARHAWK,
JOS. HAIK.