

(No Model.)

J. HOOD & S. H. REYNOLDS.

2 Sheets—Sheet 1.

VULCANIZER.

No. 341,243.

Patented May 4, 1886.

Fig. 1.

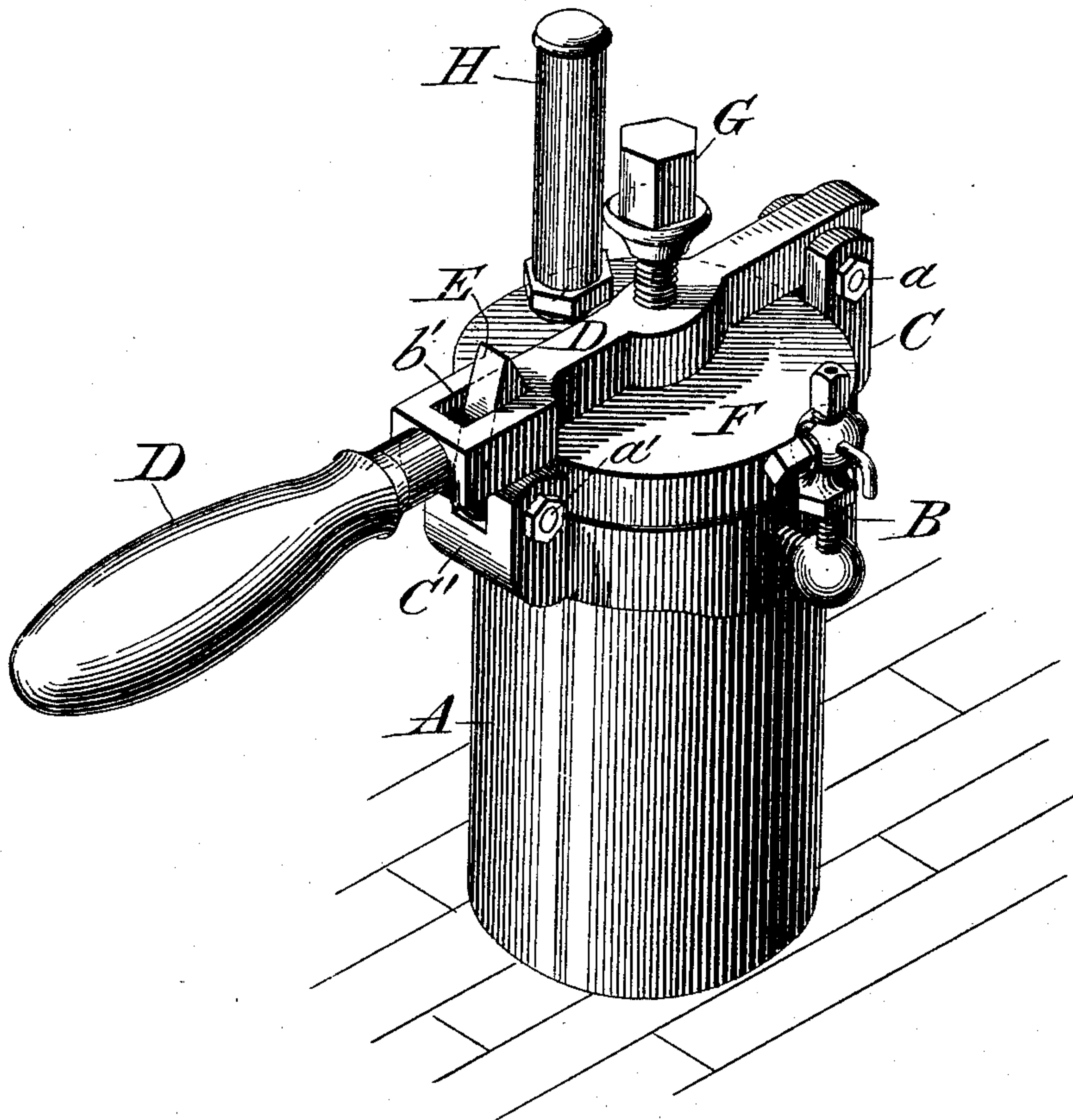
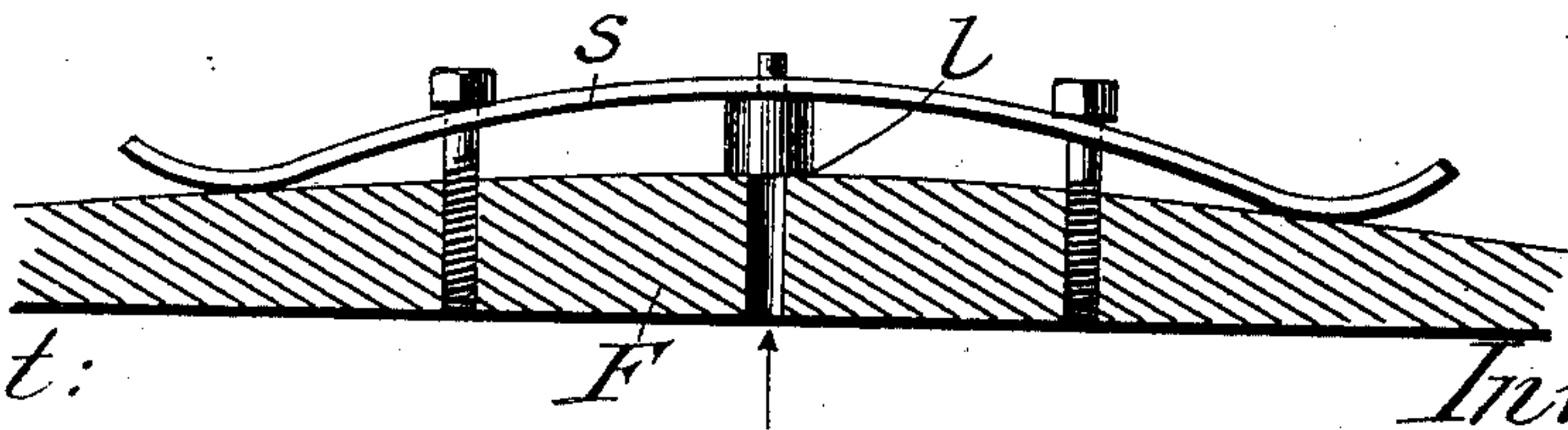


Fig. 6.



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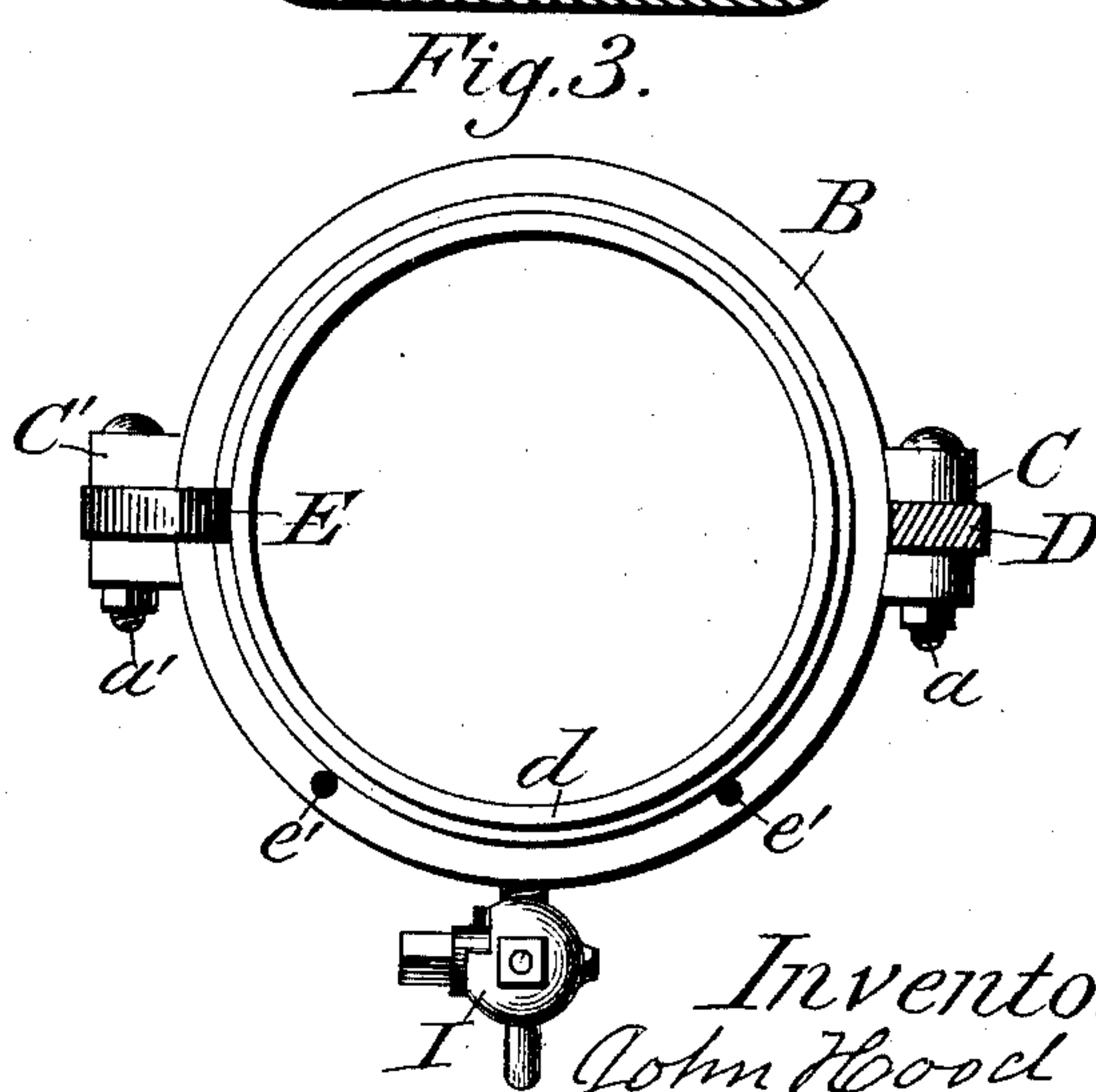
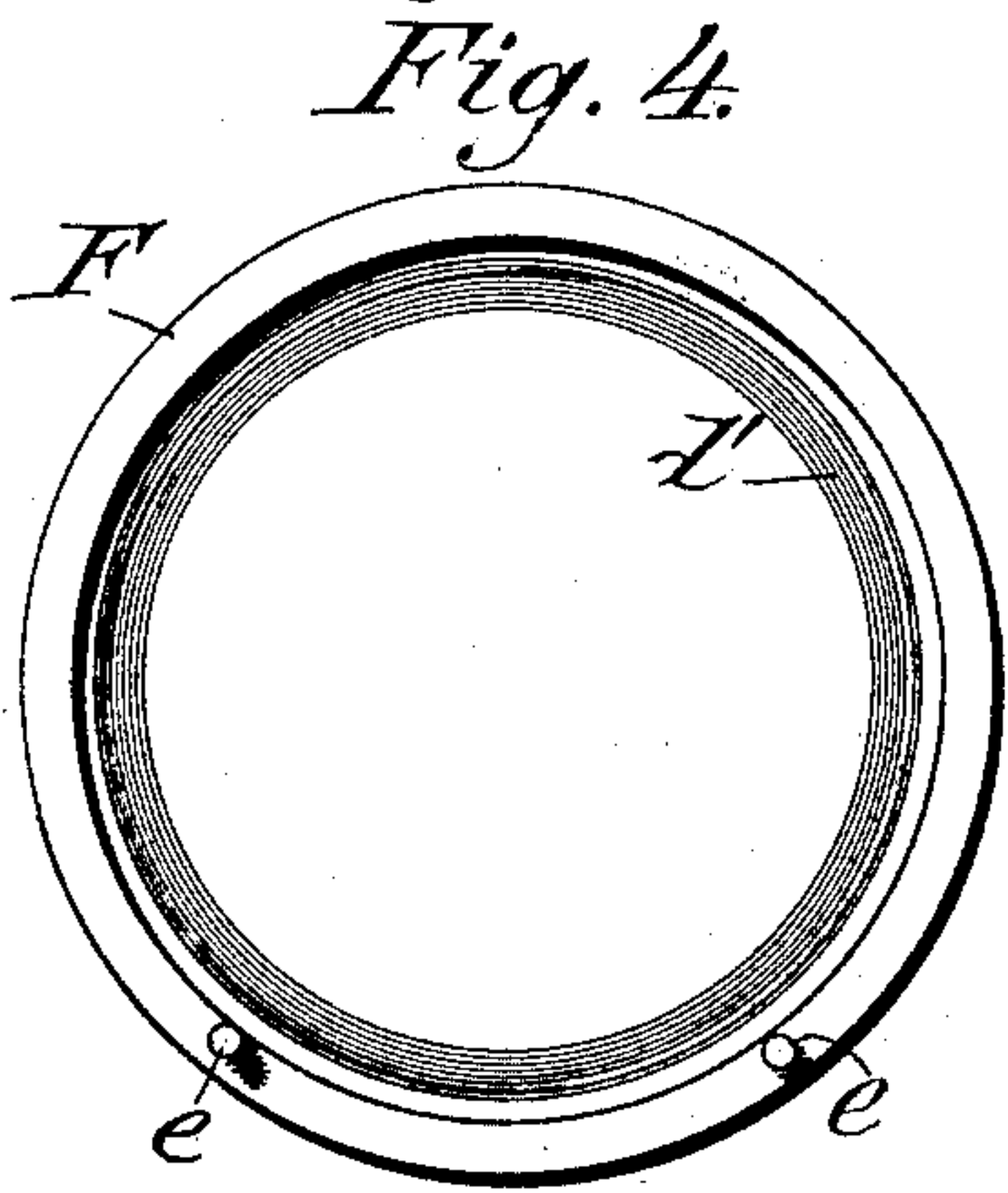
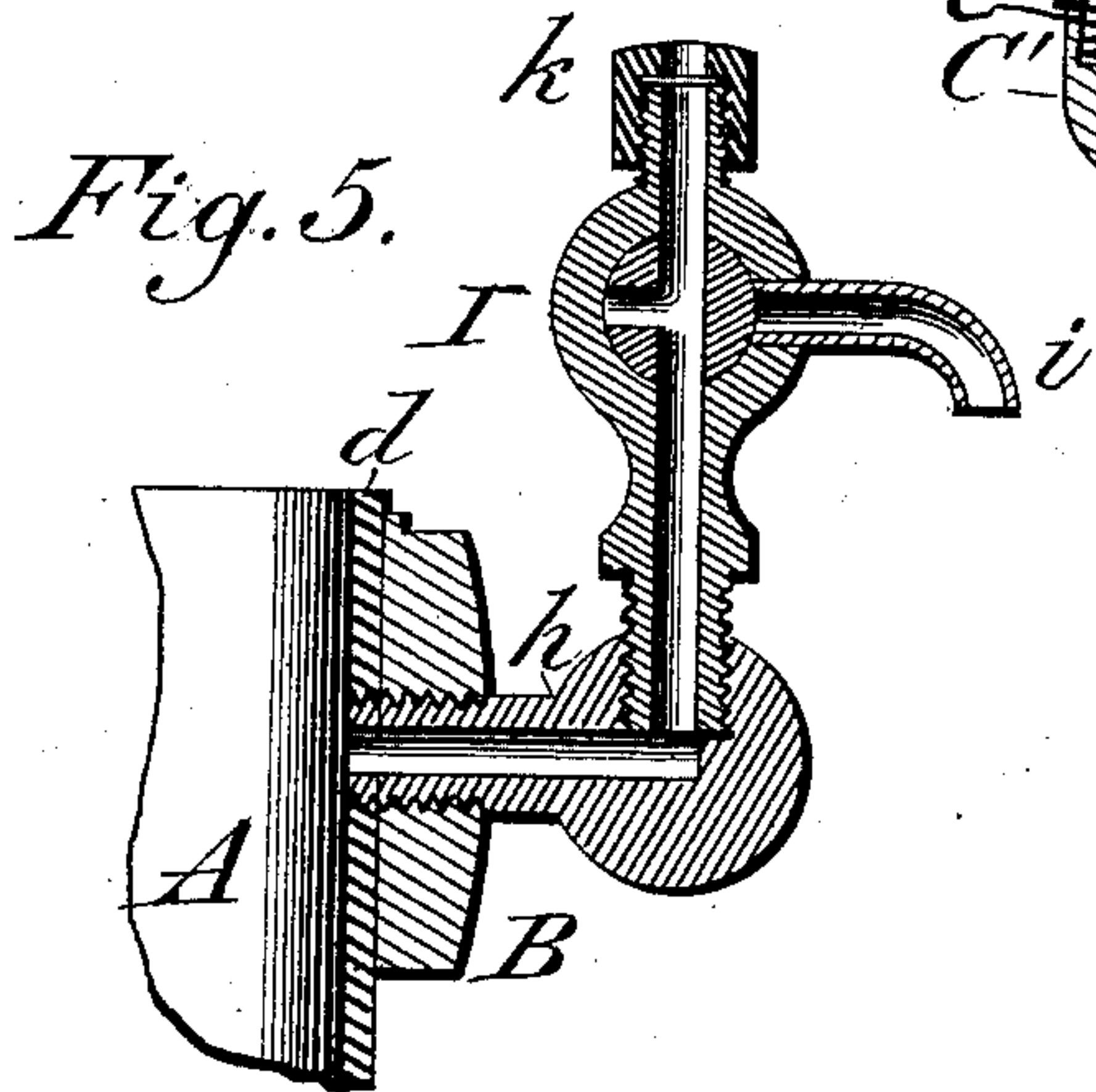
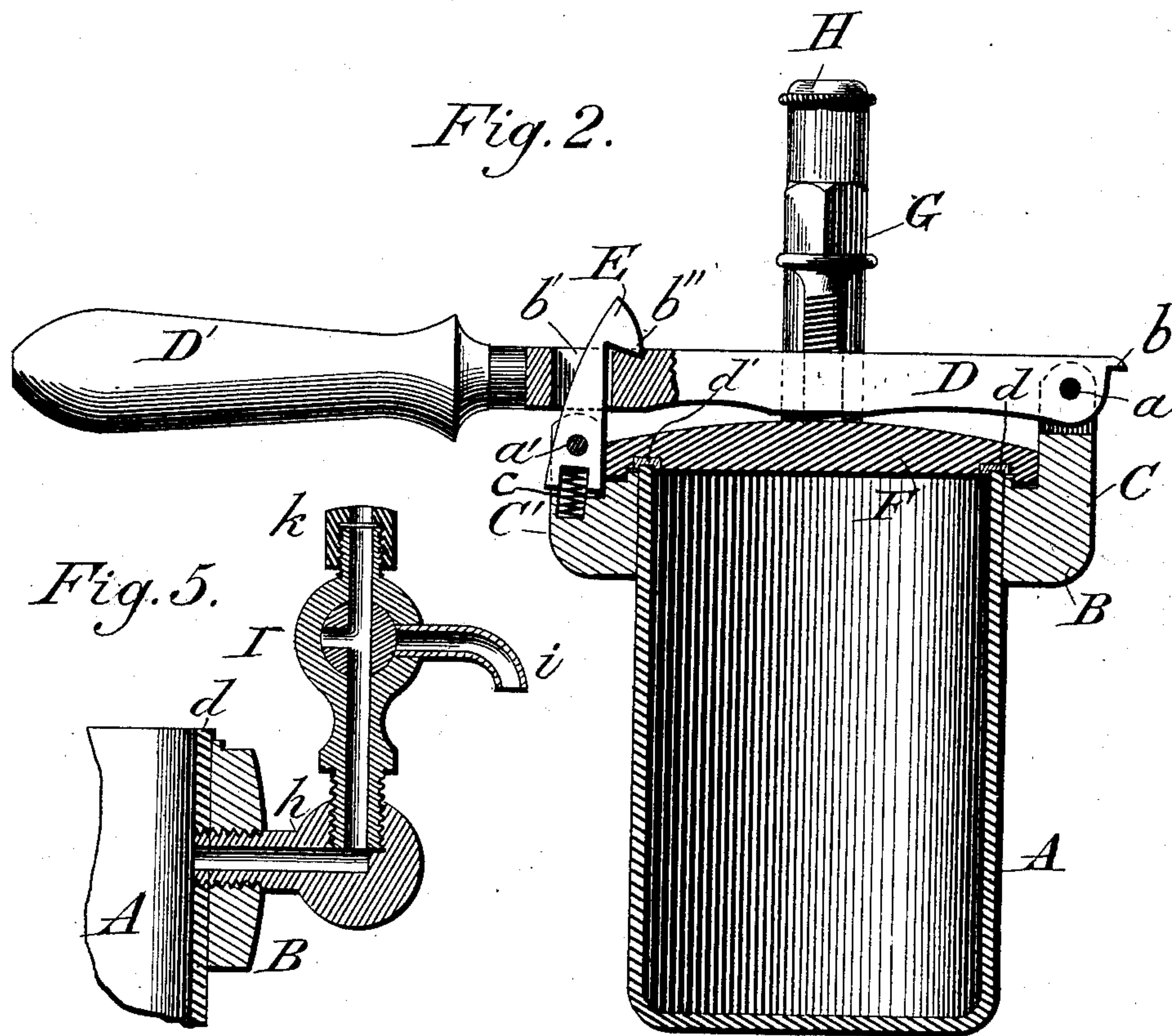
J. HOOD & S. H. REYNOLDS.

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN HOOD AND STEPHEN H. REYNOLDS, OF BOSTON, MASSACHUSETTS.

VULCANIZER.

SPECIFICATION forming part of Letters Patent No. 341,243, dated May 4, 1886.

Application filed December 30, 1885. Serial No. 187,105. (No model.)

To all whom it may concern:

Be it known that we, JOHN HOOD and STEPHEN H. REYNOLDS, citizens of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Vulcanizers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to an improvement in that class of vulcanizers especially designed for the use of dentists in the manufacture of dental plates for holding artificial teeth. Much difficulty has been experienced in the
15 construction of these vulcanizers, and much time spent in trying to devise some efficient means for holding the cover in place that could be quickly adjusted and would form a perfectly steam-tight joint under the great
20 pressure to which it is subjected during the operation of vulcanizing, and at the same time afford a ready means of escape for the surplus steam should the pressure at any time reach a dangerous point.

25 The object of our invention is therefore to construct a vulcanizer in which these difficulties are obviated by an improved construction of the devices used for retaining the cover in position, and an improved arrangement of the
30 apparatus for securing safety in case of over pressure as well as to improve the general construction so as to adapt the whole apparatus to a more perfect manipulation and greater safety in use.

35 In the accompanying drawings, Figure 1 is a perspective view of the apparatus complete. Fig. 2 is a vertical section on the line of one side of the holding-bar which retains the cover in place. Fig. 3 is a top or plan view of the
40 vulcanizer with the holding bar and cover removed. Fig. 4 is a view of the under side of the cover, showing the guide-pins. Fig. 5 shows a vertical section through the escape-cock and its connections with the vulcanizer,
45 and Fig. 6 shows the escape-valve.

50 The body of the vulcanizer A is of metal, preferably copper, which possesses great tenacity, and is also an excellent conductor of heat. Around the open end of the body A is firmly secured, by riveting or in any other
suitable manner, the collar B, which is provided

at diametrically opposite sides with the projecting ears C and C'. These ears are bifurcated, and when the collar is in place upon the body A project above the open end of said
55 body.

Pivoted in the bifurcation of the ear C, by means of the bolt *a*, is the handle-bar D. This bar at the end adjacent to the ear C is provided with a projection, *b*, which, when the bar is
60 turned upon the pivot *a* into a vertical position, catches against the outer side of the ear beneath the bifurcation and prevents the handle-bar from going farther, so that it is retained in that position and out of the way of
65 the operator while he is manipulating the contents of the vulcanizer or arranging the cover. A hook, E, is pivoted in the bifurcation of the ear C' by means of a bolt, *a'*. This hook passes through a mortise, *b'*, in the bar D when
70 the latter is brought down to a horizontal position and enters a recess or extension, *b''*, of the mortise formed in the top of the bar. It will be noticed that the end of the recess *b''* farthest from the mortise is the deepest, and
75 that the hook fits this form of the recess. Therefore, when the hook is in place, pressure upward upon the bar will cause the hook to be firmly held in the recess.

In order that the hook may readily enter
80 the recess and remain there until removed by the operator, a coiled spring, *c*, is placed in recesses formed in either the hook or ear, or both, so as to throw the upper end of the hook inward and retain it in that position until it
85 is forcibly pressed back, when the bar may be lifted off the hook which passes through the mortise. The end of the bar D, which projects beyond the ear C', is provided with a handle,
90 D', by which it is operated.

The body of the vulcanizer A projects a short distance above the collar B, and is provided with a still further projecting tongue, *d*, which enters a groove, *d'*, in the cover, F. This groove *d'* is partially filled with some
95 compressible material, preferably lead, which, when the cover is forced down, will be compressed by the tongue *d* upon the body A, and thus insure a steam-tight joint between the
100 body and the cover.

To insure the proper registration of the cover at each successive replacement of the

same, it is provided with two guide-pins, *e*, which enter corresponding holes, *e'*, formed for their reception in the collar B. In order to force the cover down on the body, and thus insure a steam-tight joint, the bar D is pierced over the center of the cover by a screw-threaded opening, which receives the set-screw G. Thus, when the cover is in place on the body and the handle-bar brought down and locked by the hook, the set-screw may be turned so as to force down the cover upon the tongue *d*, which is thereby embedded in the lead packing of the cover, and a perfectly tight steam joint between the cover and body of the vulcanizer is the result. The safety-valve *l*, held in place by the spring *s*, is attached to the cover, as shown in Fig. 6, and serves for the escape of steam under ordinary circumstances. The cover is also provided with the thermometer H, by which the temperature and therefore the pressure of the inclosed steam upon the cover can be determined; but to insure safety, the vulcanizer is provided with an apparatus consisting of the safety devices formed by the steam-cock I, the lower end of which is connected with the vulcanizer by the horizontal pipe *h*, which is screwed into the collar B, and connects by a suitable orifice with the interior of the vulcanizer. This steam-cock is provided with a three-way cock, which, when turned into one position, will allow steam to escape through the outlet-pipe *i*, but when turned the opposite way opens a connection between the vulcanizer and the perforated screw-cap *k*, which covers the upper end of the cock. Secured between this screw-cap and the upper end of the cock is a fractureable disk composed of any suitable material capable of standing the heat without essential change, but which will bear only a certain predetermined amount of pressure without fracture. This point of fracture is above the pressure of steam employed in vulcanizing, but below the safety-point of the apparatus, so that before the pressure can reach a dangerous point the disk will be fractured, the steam escape, and the pressure be relieved. The pipe *i*, screwed into the side of the cock, serves as a means of escape for the inclosed steam after the completion of an operation, thus allowing the cover to be removed with safety.

Although many of the devices hereinbefore described are old, yet their union and arrangement as specified produces better results than has heretofore been attained, so far as our knowledge extends, from any of the numerous styles of vulcanizers now in use.

Having thus described our invention, we

claim as new and desire to secure by Letters Patent the following:

1. As an improvement in vulcanizers, the body provided with an encircling collar having two upwardly-projecting bifurcated ears, in combination with a handled bar pivoted in the bifurcation of one ear and provided with a mortise and recess which receives a hook pivoted in the bifurcation of the opposite ear to hold the bar in a horizontal position, as set forth.

2. In a vulcanizer, the handle-bar pivoted in the bifurcation of an upwardly-projecting ear and provided with an extension, *b*, which, when the bar is turned up to a vertical position, catches on the ear and retains the bar in such position, as and for the purpose specified.

3. In a vulcanizer provided with upward-projecting ears and the mortised handle-bar pivoted to one of said ears, in combination with the spring-hook pivoted to the other ear, and operating in the manner set forth.

4. In a vulcanizer, the combination, with the body of the collar and ears carrying the handle-bar and its securing-hook, of the cover and set-screw passing through the handle-bar, for the purpose of forcing the cover down upon the body, in the manner specified.

5. In a vulcanizer, the body provided with a collar having holes *e'*, in combination with the cover provided with guide-pins *e*, to guide and assist in the placing of the cover upon the body, also to prevent rotary or lateral movement of the cover on said body, as set forth.

6. In a vulcanizer, the combination, with a cover provided with a groove containing packing and guide-pins secured to said cover outside of the packing-groove, of the body having a tongue which enters said groove and a collar provided with holes located outside of or beyond the tongue for the reception of the guide and holding pins, which prevent lateral movement or wear of the tongue on the packing, substantially as shown and described.

7. A vulcanizer consisting of a handled bar recessed and mortised for the reception of a spring-hook, and having a set-screw and extension, a cover having a groove, packing, and guide-pins, and a body with an encircling collar provided with bifurcated ears, spring-hook, tongue, and holes for the guide-pins, substantially as shown and described.

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

JOHN HOOD.

STEPHEN H. REYNOLD3.

Witnesses:

JOHN MAY,

WILLIAM HYLAND.