(No Model.)

# M. E. VAN METER.

## SPECULUM.

No. 497,064. Patented May 9, 1893.

*Fig. 1.*

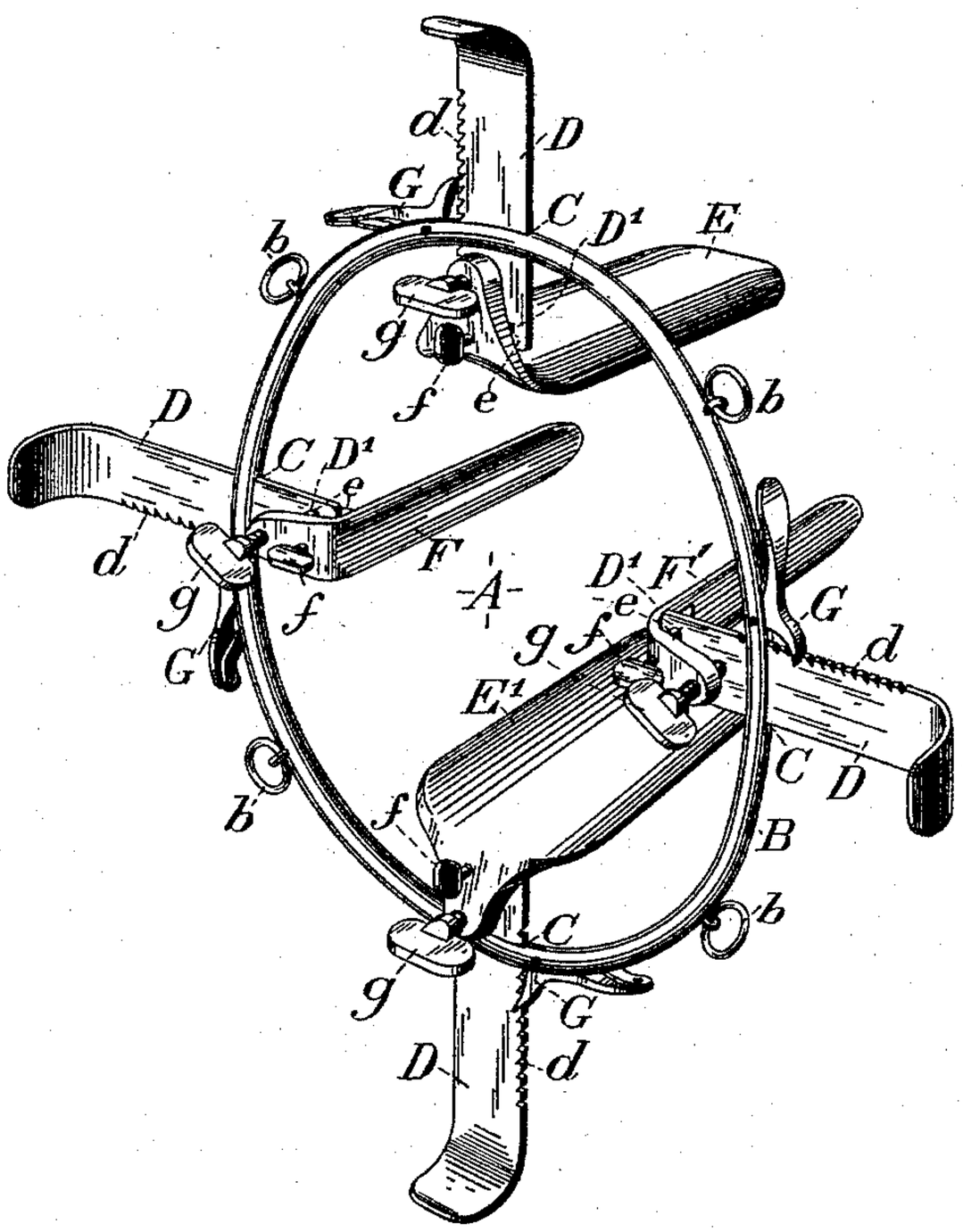



*Fig. 2.*

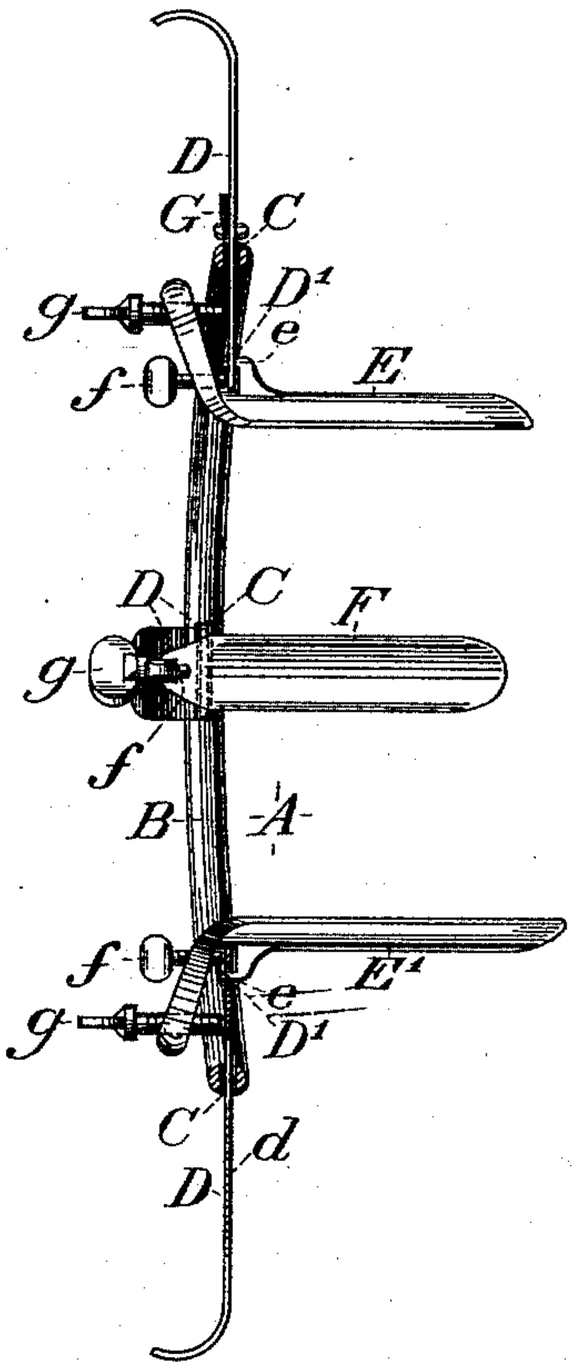



*Fig. 7*

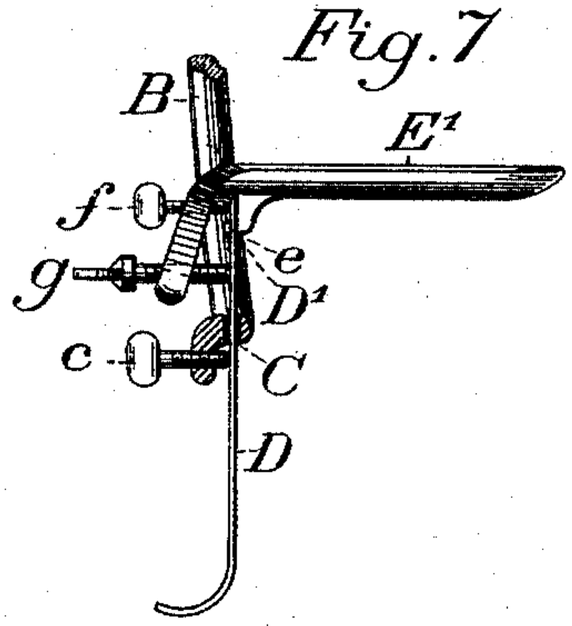



*Fig. 3.*

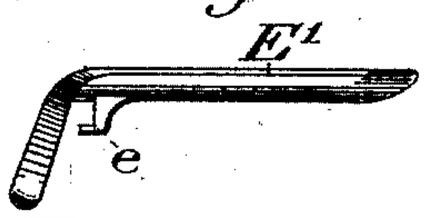



*Fig. 4.*

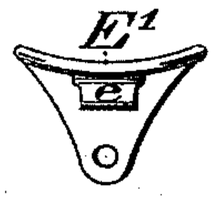



*Fig. 5.*

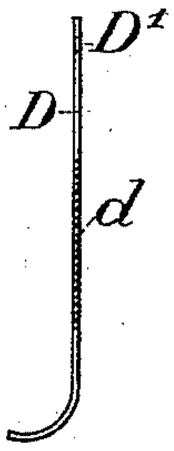
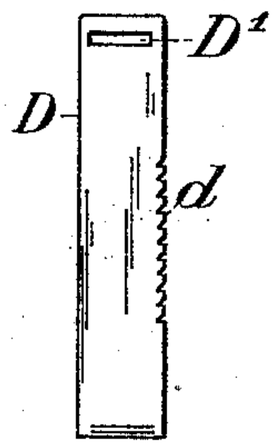



*Fig. 6.*




*Witnesses:*

H. R. Hiley

Kate Brown.

*Inventor:*

Miles Edwin VanMeter

# UNITED STATES PATENT OFFICE.

MILES EDWIN VAN METER, OF SAN FRANCISCO, CALIFORNIA.

## SPECULUM.

SPECIFICATION forming part of Letters Patent No. 497,064, dated May 9, 1893.

Application filed May 10, 1892. Serial No. 432,643. (No model.)

*To all whom it may concern:*

Be it known that I, MILES EDWIN VAN METER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Speculum, of which the following is a specification.

My invention relates to improvements in specula used in surgical operations; and the objects of my improvements are, first, to provide an instrument that shall be practically and completely self-retaining; second, to secure more room for operating and a more distinct view of the organs operated upon than are attained by the use of other specula; third, adjustability of the parts of the speculum so as to regulate the size and form of the opening to suit the nature of the operations and the conveniences of the operator; fourth, the easy removal of one or more of the blades of the speculum or the substitution of blades of different size without removing the instrument from the patient. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1. represents the speculum complete and ready for use; Fig. 2. an inside view of one-half of the speculum ring showing three blades; Fig. 3. a side view of one of the blades; Fig. 4. a front view of blade; Fig. 5. a side view of adjusting sliding bar with rack; Fig. 6. an adjusting sliding-bar with rack; full view of side toward patient; Fig. 7. a section of the speculum showing a modification by substituting a thumbscrew (*c*) for the pawl and rack for adjusting the sliding bars.

Similar letters refer to similar parts throughout the several views.

A. represents the speculum complete; B., the ring of the speculum to which the blades are attached; C., the slots in the ring through which the adjusting sliding-bars, D, pass; D., the adjusting sliding bars with pawl and rack to which the blades E. E′. and F. F. are attached; and by means of which those blades are moved, lessening or enlarging the space to suit the convenience of the operator; E., the anterior blade; E′., the posterior blade; F. F., the two lateral blades; G., the pawl that holds the adjusting, sliding bars in place when the speculum is adjusted for use; *b.*, the rings to which are attached the straps for holding the speculum in place; *c.*, (Fig. 7) a thumbscrew substituted in place of the pawl and rack for holding the sliding bar in place; *d.*, the rack in the adjusting, sliding bars; *e.*, a flat finger on the blade, being the same width of and working in the slots D′ thus forming a hinge joint; *f.*, a set screw passing through the posterior end of the blade to and against the adjusting sliding bar preventing the same from becoming detached from the finger on the blade; *g.*, a thumbscrew passing through the posterior end of the blade against the sliding bar by means of which the angle of the blade is regulated.

To use the speculum, close it, by first bringing together the two lateral blades; then bring together the anterior and the posterior blades completely inclosing the lateral blades. The blades are then introduced and the speculum held in place by straps snapped to the small rings *b.* and passing to a belt around the waist. The blades are then separated by pressing outward with the thumbs or by pulling on the curved ends of the sliding bars D. and are held in place by the pawl G. and rack *d.* or by the thumbscrew *c* (Fig. 7). When the blades have been separated the necessary distance they are then set at the desired angle by means of the thumbscrews *g.* as shown in Figs. 1, 2 and 7. If, in the course of the operation, it becomes necessary or expedient to remove one or more of the blades, loosen the set screw *f.* and free the blade from the slot D′.

The speculum can be used with two, three or four blades as the fancy of the operator may dictate.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination in a speculum, of the ring B, the slots C. the adjusting, sliding bars D. with pawl G. and rack *d.* or equivalent securing device as described.

2. The combination, in a speculum, of the slot D′. in the sliding bar D. and the finger *e.* on the blade as a means of attaching the blade to the sliding bar, and a set screw *f.* for securing the same, all substantially as described herein.

3. The combination, in a speculum of blades with posterior ends curved outward, with a thumbscrew *g.* passing through the curved end of each blade and abutting against a sliding bar D. as shown in Figs. 1, 2 and 7.

MILES EDWIN VAN METER.

Witnesses:

KATE CRONEY,

H. R. WILEY.