

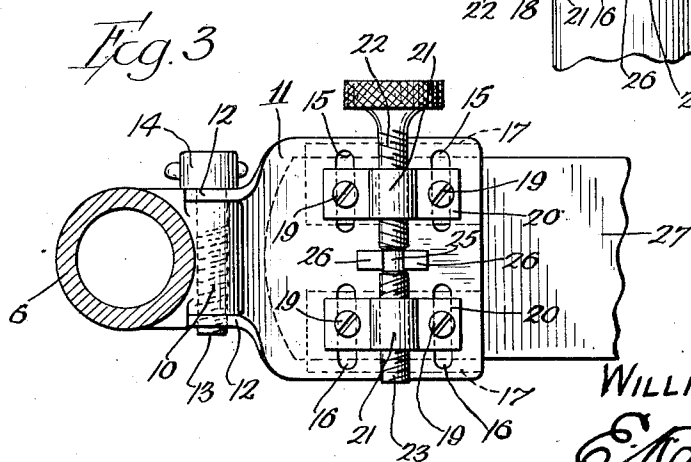
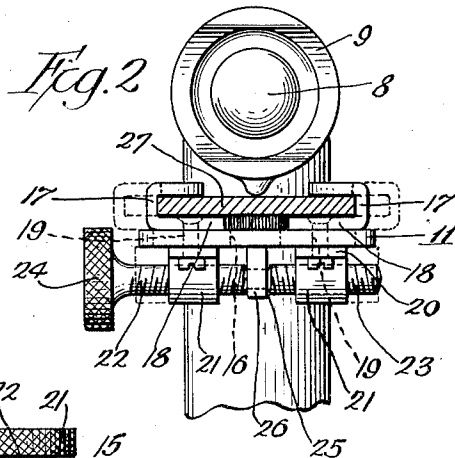
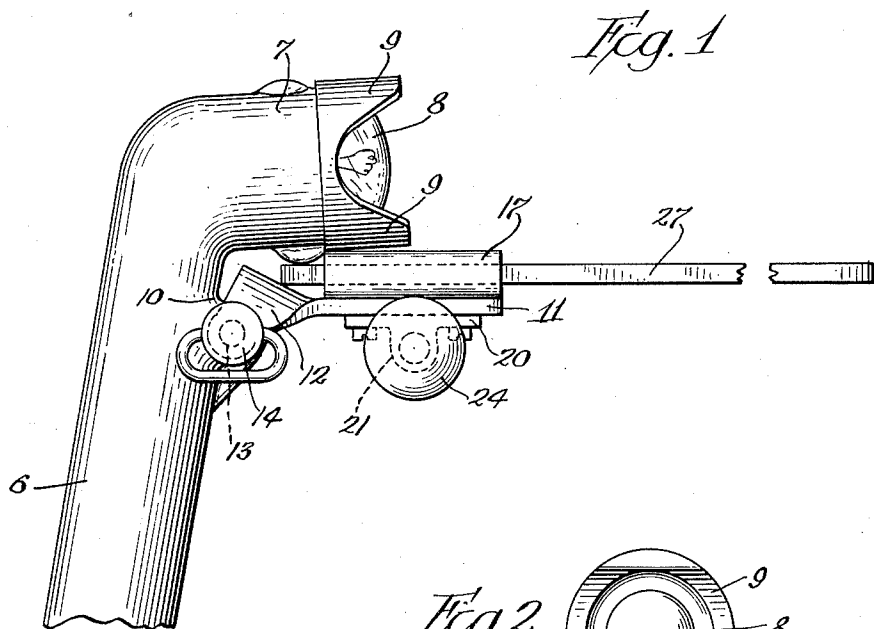
May 9, 1933.

W. J. CAMERON

1,908,010

BLADE HOLDER FOR TONGUE DEPRESSORS

Filed June 1, 1931



Inventor:  
WILLIAM J. CAMERON

*E. J. Lundy*  
Att'y.

## UNITED STATES PATENT OFFICE

WILLIAM J. CAMERON, OF CHICAGO, ILLINOIS

BLADE HOLDER FOR TONGUE DEPRESSORS

Application filed June 1, 1931. Serial No. 541,229.

My invention relates to surgical instruments and has more particular reference to means for removably mounting tongue depressor blades or spatulas upon a handle, that preferably carries a light, whereby different widths of blades or spatulas may be conveniently inserted in the mounting and the area under inspection may be illuminated.

Tongue depressor blades, or spatulas, are usually made from wooden strips or metal pieces and they are of different widths, so that a holder for one size will usually be useless for mounting a blade of another size. The metal blades or spatulas are usually narrow at their ends opposite their operating portions, while the wooden blades are usually the same width throughout their length.

The present structure has been devised for the purpose of receiving and conveniently and quickly mounting blades of different widths and materials so that a single holder or handle is adapted to receive and clamp an unlimited number of types of blades.

Numerous objects have borne in mind in devising the present structure, among which may be mentioned the provision of a handle and holder that may be readily collapsed into a folded position to be conveniently packed in an instrument case or pocket. Another object is the provision of a device of the character described wherein blades of different types and sizes may be conveniently secured into position on the handle.

Other objects are the provision of a device of this character that is arranged in compact form, is novel in construction, simple in the arrangement of its parts, and which is convenient to operate, while at the same time is dependable in performing the functions for which it has been designed. The foregoing and divers other objects I prefer to accomplish by means of the structure hereinafter described and which is more particularly pointed out in the claims. Reference will now be made to the accompanying drawing that forms a part of this specification, in which,

Figure 1 is a vertical side elevation of the upper portion of an instrument handle show-

ing my improvements applied thereto and drawn to an enlarged scale.

Figure 2 is an end or side view of the structure shown in Figure 1, looking at the same from the right end side thereof.

Figure 3 is a bottom plan view of my invention.

The drawing is to be understood as more or less schematic for the purpose of disclosing a typical or preferred form in which my invention may be made, and in said drawing similar reference characters are employed to designate the same parts wherever they appear throughout the different views. Referring more particularly to Figure 1 it will be seen the structure preferably comprises an elongated handle portion 6 that is hollow and of suitable cross-sectional form for convenience in holding it in the hand. The handle is made from suitable insulating material and conductor wires (not shown) lead from a plug connector at the lower end thereof through the handle to a miniature socket in the upper lateral extension 7. A miniature electric light bulb 8 is placed in the socket and the portion of the extension 7 above and below the bulb protrudes beyond the latter to provide shields and guards 9, while the side portions of the extension are recessed or cut back in the manner shown in Figure 1.

The extension 7 is not at a right angle to the axis of the handle but is oblique for the purpose of convenient manipulation of the spatula or blade, and adjacent the extension there is an integral boss 10 formed in the handle just below and spaced from the extension. The boss 10, which is of cylindrical shape, is arranged with its axis transverse to the axes of both the handle and the extension, and it has a smooth axial bore. The blade holder or carrier for the spatula or tongue blade consists of a rectangular metal plate 11 that terminates at one end in lobes or ears 12 that are formed by bending the adjacent corners of the plate inwardly and downwardly and providing them with lateral apertures. The ears 12 are spaced apart a distance corresponding to the length of the boss 10 so that the ears will fit against the ends thereof.

A clamping screw or bolt 13, having a suit-

able head 14, is inserted through the ears and the bore of the boss 10 and has at least the outer portion of its shank threaded so as to engage threads in the bore of the ear 12 that is farthest from the head of the bolt. By tightening the bolt, the ears are drawn together against the ends of the boss and firmly hold the carrier plate 11 in position, while upon loosening the bolt the plate 11 is released and may be moved downwardly alongside the adjacent portion of the handle to provide a compact structure for storage.

Upon each side of its longitudinal axis the carrier plate 11 is provided with a pair of slots 15, 15 and 16, 16. These slots are elongated and extend transverse to the axis of the carrier plate and the slots in each pair align with the respective slots of the other pair. The four slots provide means for guiding the clamping or holder members in which the blade is mounted. These holders or clamping members consist of metal strips 17 that are given reverse bends along their longitudinal planes so as to provide structures that are U-shaped in cross section, as shown in Figure 2, and they are arranged with their open portions facing each other. As seen in Figure 2, the lower flanges 18 of the U-shaped holders are wider than the upper flanges thereof and therefore afford means to which the guide pins 19 are secured. The guide pins 19 are in the form of headed bolts or the like that operate in the slots 15 and 16 and thereby guide the respective holders or clamping elements 17 in their movement transversely across the carrier plate 11.

In order to move the clamping members towards and from each other the guide pins 19 engage the flange portions 20 of lug or block elements 21 and, after these parts have been assembled the upper ends of the guide bolts 19 may be upset, if desired, to prevent withdrawal thereof.

The lug members or blocks 21 are of semi-cylindrical shape in cross-section and have bores that axially align with each other. These bores are provided with respective right-hand and left-hand threads to receive the correspondingly threaded portions 22 and 23 on the shank of a bolt that passes through the blocks 21. The bolt has an outer knurled handle or grip 24 by which it may be grasped, and intermediate its ends it is provided with a reduced smooth portion 25. A pair of spaced rigid guide lugs 26 depend from the under surface of the carrier plate 11 intermediate the width of the latter, the space between these lugs being sufficient to accommodate therein the reduced smooth portion 25 of the bolt so as to maintain the latter against longitudinal movement while at the same time permitting it to rotate in the desired manner.

The depressor blade or spatula 27 may be of any of the types now in use. In order to insert the blade, the bolt is rotated by the

head 24 until the channeled portions of the clamping members have moved far enough apart to receive the adjacent end of the blade which is then inserted and the bolt is rotated in the opposite direction, thus moving the clamping members towards each other and firmly grasping the end of the blade in their facing channeled portions. The blade having been secured the operator may move it to the desired angle for operation and switch on the light.

The light rays from the lamp or bulb 8 will illuminate the tissues being examined by the operator when the blade is inserted in the mouth of the patient in the usual manner. After the blade has been used the bolt is rotated to move the clamping members apart as shown in dotted lines in Figure 2 whereupon the blade may be taken out and either sterilized or discarded.

The structure I have illustrated discloses two movable holding or clamping members but it will be understood that one of these members may be in the form of a stop and the other member moved toward and away from it by the bolt. The drawing and description herein given are for the purpose of clearness of understanding only and no unnecessary limitations are to be understood therefrom. The claims are therefore to be construed as broadly as permissible in view of the prior art.

What I claim is:—

1. A device of the kind described comprising a handle, a plate hinged thereon having a plurality of transverse guide-slots, U-shaped facing holders on said plate adjacent said slots, lugs on the other side of said plate connected to said holders through said guide-slots and having aligned bores that are oppositely threaded, and a bolt extended through the lugs and having its shank provided with right and left threads for engagement with the threads in the respective lugs.

2. A device of the kind described comprising a handle, a plate hinged thereon, U-shaped holders on one face of said plate and extended longitudinally thereon with their open portions facing each other, said plate having a pair of parallel guide-slots adjacent each holder arranged with the slots of one pair aligned with the respective slots of the other pair, lug members on the other face of said plate and aligned with the respective holders, guide studs connecting said lug members with the adjacent holders through said slots, the lug members having oppositely threaded aligned bores, and a bolt extended through the bores of the lug members and having right and left threads for engagement with the threads in the respective bores.

3. A tongue depressor comprising a handle, a plate mounted thereon having elongated aligned guide-slots extending transversely thereof, elongated grooved clamp-members

extending longitudinally on a face of said plate at the respective slots, guide-blocks movable towards and from each other on the other face of said plate and having alined threaded bores, means operatively connecting the respective clamp-members and blocks through said slots, a rotatable actuating bolt extending through the bores of said blocks, and means engaging said bolt and preventing longitudinal movement thereof.

4. A tongue depressor comprising a handle, a plate mounted thereon having elongated alined guide-slots extending transversely thereof, elongated grooved clamp-members extending longitudinally on a face of said plate at the respective slots, guide-blocks movable towards and from each other on the other face of said plate and having alined threaded bores, means operatively connecting the respective clamp-members and blocks through said slots, a rotatable actuating bolt extending through the bores of said blocks, and a bearing yoke engaged with said bolt intermediate said blocks and preventing longitudinal movement thereof, and whereby rotational movement of said bolt causes said clamp-members to move with respect to each other.

Signed at Chicago, in the county of Cook, and State of Illinois, this 26th day of May, 1931.

WILLIAM J. CAMERON.

35

40

45

50

55

60

65