

June 17, 1924.

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T. HOLST-GRUBBE  
SURGICAL DRAINAGE DEVICE

Filed Jan. 22, 1923

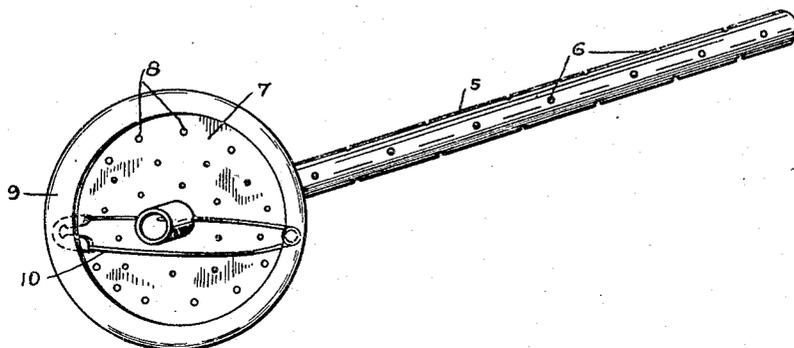


Fig. 1

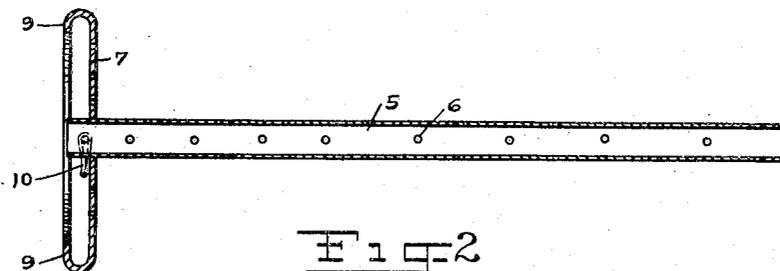


Fig. 2

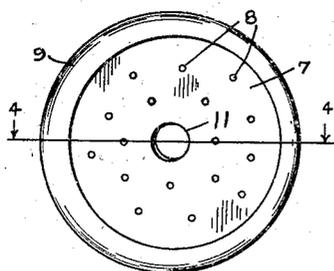


Fig. 3

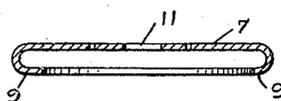


Fig. 4

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## UNITED STATES PATENT OFFICE.

THORA HOLST-GRUBBE, OF BOSTON, MASSACHUSETTS.

## SURGICAL DRAINAGE DEVICE.

Application filed January 22, 1923. Serial No. 614,218.

*To all whom it may concern:*

Be it known that I, THORA HOLST-GRUBBE, a citizen of the United States, and a resident of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Surgical Drainage Devices, of which the following is a specification.

My invention relates to devices such as are used after surgical operations or in the treatment of wounds or injuries, for providing drainage. It is well known that in the case of a wound or injury to the body, whether caused by a surgical operation or by an accident or other cause, it is often necessary to provide for the escape of discharges from the wounded surface, humors which may exude from the tissues or pus in case the wound has become infected. One of the preferred means for permitting such drainage is what is known as a drainage tube, one end of which is inserted in the wound and the other left protruding, but in the use of such a tube only there is often great danger that the end which should protrude will slip into the wound, and the same occasionally occurs, where the wound is a large one, causing suffering and injury to the patient and in some cases even necessitating a new operation to extricate the tube. It is therefore a frequent practice to attach to the protruding end some device too large to slip into the wound and which will serve to hold outside the end of the tube, a very common device used for this purpose being an ordinary safety-pin; this, however, is uncomfortable to the patient, unless a dressing of folded gauze or the like is interposed, but on the other hand such a dressing is unsatisfactory for the reason that it often permits the safety-pin or similar device to become entangled in its fibres, requiring considerable time and trouble to free the same.

Some of the objects of my invention are the overcoming of the above mentioned difficulties and objections, and the providing of a drainage device for use in cases such as are referred to which shall be simple and efficient, easily inserted in the wound for a portion of its length, securely held against slipping in further than is intended, comfortable to the patient, easily removed, unassembled, cleaned and sterilized, and which shall in other ways be a satisfactory device for all needed purposes.

The invention consists in the novel construction, arrangement and combination of various devices and parts, as set forth in the claims hereof, one embodiment of the invention being shown in the accompanying drawings and described in the specification.

In the said drawings, Fig. 1 is a perspective view of a drainage tube and the holding devices for the same constructed according to my invention;

Fig. 2 is a longitudinal section of the same;

Fig. 3 is an end view of the same; and

Fig. 4 is a transverse section along the line 4-4 of Fig. 3.

In carrying my invention into effect in the embodiment thereof which I have selected for the purpose of illustration in the accompanying drawings and description in this specification, I provide a drainage tube 5, which may be of the usual soft rubber or any other suitable construction, preferably providing therein perforations 6 to facilitate the drainage of the wound in which the tube may be inserted. It will be understood that this tube is of proper length to permit as much thereof as shall be necessary under the circumstances to be inserted in the wound and to leave a small portion, say about one-half to one inch, protruding. Upon this protruding portion is placed the securing device forming part of my invention, which is shown unassembled in Figs. 3 and 4. This device consists of a disk 7, preferably of moderately soft rubber or other suitable material, having an overturned edge or flap 9, a large approximately central perforation 11 and a plurality of smaller perforations 8. The flange 9 is preferably somewhat wider at one side than on the other, as shown in Fig. 3. The disk 7 is placed over and around the protruding end of the tube 5, the tube passing through the opening 11, and an ordinary safety-pin 10 is then passed through the end of the tube 5, outside of the disk 7, and the ends of the pin tucked in beneath the flange 9. The object of the perforations 8 is to diminish the tendency of the disk 7 to adhere to the body of the patient. The object of the eccentric shape of the flange 9 is to facilitate the insertion of the ends of the pin beneath the same.

It will be observed that by the use of my invention a device is provided which cannot

possibly slip back into the wound, yet which does not involve the use of gauze or the like, so that all danger of entanglement with the safety pin is eliminated. The disk 7 being  
5 of soft rubber or the like is not only comfortable in use against the body of the patient, but is also very easily cleansed and sterilized. Other advantages of the invention will readily occur to those skilled in the  
10 art to which the same relates, and the operation and method of use of the invention will be obvious without further description.

I do not limit myself to the form of the invention which is here described and which  
15 is shown in the accompanying drawings. It will be evident that various modifications and variations of the same can be made as required under different circumstances, without departing from the spirit and scope of  
20 my invention.

Having thus described my invention, what I claim as new and desire to claim as Letters Patent is as follows:

1. In a surgical drainage device, the combination with a drainage tube of means  
25 adapted to secure the same, comprising a disk-like flexible member adapted to be

placed around said tube and provided with an overturned annular portion, and an elongated member adapted to transfix said tube  
30 adjacent said disk-like member and prevent said tube from entirely slipping inward when placed in position in a wound, the ends of said elongated member being adapted to  
35 be placed under said overturned annular portion of said disk-like member.

2. In a surgical drainage device, the combination with a drainage tube of means adapted to secure the same, comprising a  
40 disk-like member adapted to be placed around said tube and provided with a plurality of perforations and with an overturned annular portion, and an elongated member adapted to transfix said tube adjacent said  
45 disk-like member and prevent said tube from entirely slipping inward when placed in position in a wound, the ends of said elongated member being adapted to be placed under said overturned annular portion  
50 of said disk-like member.

In witness whereof I have hereunto signed my name this 17th day of January 1923.

THORA HOLST-GRUBBE.