

March 13, 1956

H. S. ELIAS

2,737,952

X-RAY DEVICE

Filed Dec. 15, 1952

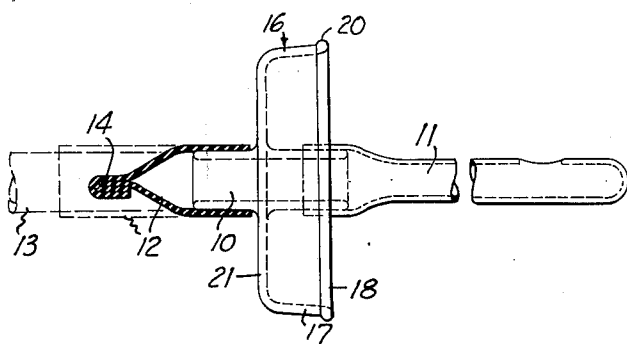


FIG. 2

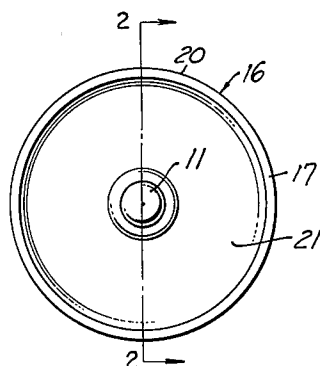


FIG. 1

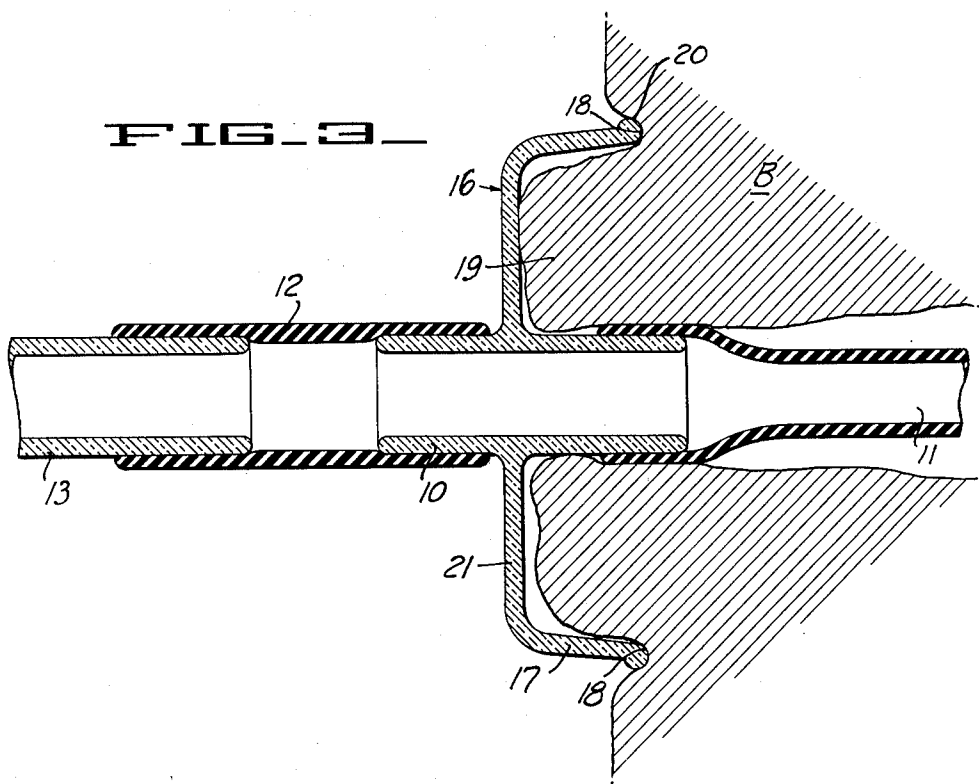


FIG. 3

INVENTOR.
Helen S. Elias

BY *Flehr & Swain*
ATTORNEYS

1

2,737,952

X-RAY DEVICE

Helen Stewart Elias, Napa, Calif.

Application December 15, 1952, Serial No. 326,047

1 Claim. (Cl. 128—245)

This invention relates to devices adapted to be used in connection with the X-raying of colostomies.

As is well known to those skilled in X-ray technique, the X-raying of colostomies presents peculiar and particular problems. The colostomy being an open incision in the abdomen or some other part of the body and not being equipped with muscles whereby the excretion of fluid therefrom can be controlled by the patient, it is apparent that mechanical or artificial devices must be utilized in connection with its X-raying.

In the past it has been customary to insert a more or less conventional enema device in the colostomy and urge a pre-determined quantity of barium or other material therein to facilitate the X-raying of the bowels. Since there is no natural means of retaining the barium within the bowels, it has been necessary to provide some means for preventing the flowing of barium and other excrement therefrom. Towels have been wadded around the open incision and other means have been used to plug the same. However, the devices heretofore used have been unsatisfactory both to the technician and to the patient.

It is an object of this invention to provide a device which may be used in conjunction with the X-raying of colostomies and intestines which will be comfortable to the wearer and which may be worn during the entire X-ray procedure without casting shadows, and at the same time retaining barium and excrement within the patient.

It is a further object of this invention to provide such a device which may be used in connection with the conventional enema device for urging barium or other material into the intestines and which will provide a suitable means for restricting the flow of barium therefrom.

Other objects and advantages of this invention will appear from the following specification, taken in conjunction with the accompanying drawings in which:

Figure 1 represents a plan view of my X-ray apparatus; Figure 2 represents a side sectional view of Figure 1; and

Figure 3 is a cross sectional view of my device showing the same positioned with respect to the human body and in a position in which barium is adapted to be inserted into the wound.

As illustrated in Figures 1 and 2 I provide a tubular member 10, one end of which is adapted to accommodate a substantially conventional enema member 11 which is adapted to be inserted into the intestine and carry the barium or other material to the place where it is desired.

The other end of the tubular member 10 is adapted to accommodate a flexible tubular member 12 which, as illustrated in Figure 3, may receive one end of a tube 13 which leads to a source of barium or other material. As illustrated in Figure 3 and in the dotted line position in Figure 2, the member 12 is adapted to permit the flow of material into the tubular member 10. However, as shown in the full line position in Figure 2, the member 13 may be removed and the flexible member 12 bent upon itself to prevent the flow of barium or excrement

2

through the member 10 and into the atmosphere. The fold at 14 is conventional and may be maintained by a clip, rubber band, or other device.

As illustrated in the drawings I provide an annular and coaxially aligned cup member 16 about the tubular member 10. The lip 17 of the cup 16 is adapted to engage the human body B at 18 and, as viewed in Figure 3, provides a seal between the tubular member 10 and the human body. That portion of the human body 19 surrounding the wound is commonly known as the "bud" and the cup 16 is preferably of such size that it substantially enfolds the bud indicated in Figure 3 but is preferably not of such a large size that there is any substantial space between the inner walls of the cup 16 and the bud 19.

The cup member 16 may be formed in any particular manner but, as shown here, consists primarily of a disk-like portion 21 which is provided with a lip 17 which, in turn, is provided with a lip 20. The disk portion 21 may either be flat, as illustrated in the accompanying drawing, or it may be curved.

The entire device is preferably made of material which is transparent with respect to X-rays and which will cast a minimum shadow, or no shadow at all when used.

The device is adapted to be retained on the wearer by means of a cotton web belt member which is preferably not provided with pins, buckles, etc., but which is also transparent to X-rays.

Operation of the device may briefly be described as follows: A conventional enema tube 11 is mounted on one end of the tubular member 10 and a member 13 is inserted in one end of the member 12. The entire apparatus is then positioned in the human anatomy substantially in the manner illustrated in Figure 3 with the lip of the member 16 in close frictional engagement with the human body in such a manner that a leak-proof seal is established between the bud 19 and the lip of the member 16 at point 18. Barium is then introduced through the tubular member 13, the tube 12 and the member 10 into the human body. When a sufficient quantity of barium has been introduced, the member 13 is separated from the member 12 which is then bent upon itself as illustrated generally in Figure 2 and a seal is effected as, for example, by means of wrapping a rubber band about the bent over portion 14.

The apparatus may be secured closely to the body by means of a belt or other device which is transparent to the passage of X-rays and which will cast no shadow.

It is apparent from the foregoing that I have created a device which is comfortable to the patient and which is most satisfactory for the purpose for which it is intended, to-wit, to retain barium and excrement within the patient while the patient is being X-rayed.

When the X-ray has been completed, the member 12 may be opened and the barium and excrement may be allowed to flow therefrom.

The device may be easily sterilized and it is my experience that only one or two sizes are needed inasmuch as the wounds in connection with which this device is adapted to function range within a very small range of sizes.

I claim:

In a colostomy device of the type suitable for use in taking X-rays and which is adaptable for use in urging a predetermined quantity of a barium solution through a colostomy into a body cavity and then retaining the solution within the body while the X-rays are being taken, the device comprising a rigid cup-like member having a circular portion and an annular rim extending from said circular portion, the annular rim being adapted to encircle the colostomy and engage the body, said cup-like member having a rigid tubular member extending through said circular portion and coaxially aligned with the rim, one

end of the tubular member extending outwardly from the circular portion and the other end of the tubular member extending inwardly from the circular portion and adapted to be inserted into the colostomy, and a flexible tubular member connected to the end of said rigid tubular member extending inwardly from the circular portion, said flexible tubular member having an opening for the discharge of barium solution, and a flexible tubular member connected to the end of said rigid tubular member extending outwardly from the circular portion and adapted to receive a barium solution, said device being made of

materials which will cast a minimum shadow when the X-ray is being taken.

References Cited in the file of this patent

UNITED STATES PATENTS

1,642,819	Long	Sept. 20, 1927
1,841,406	Galazin	Jan. 19, 1932
2,331,226	Pritchard	Oct. 5, 1943
2,617,417	Condit	Nov. 11, 1952