No. 793,061. PATENTED JUNE 27, 1905.

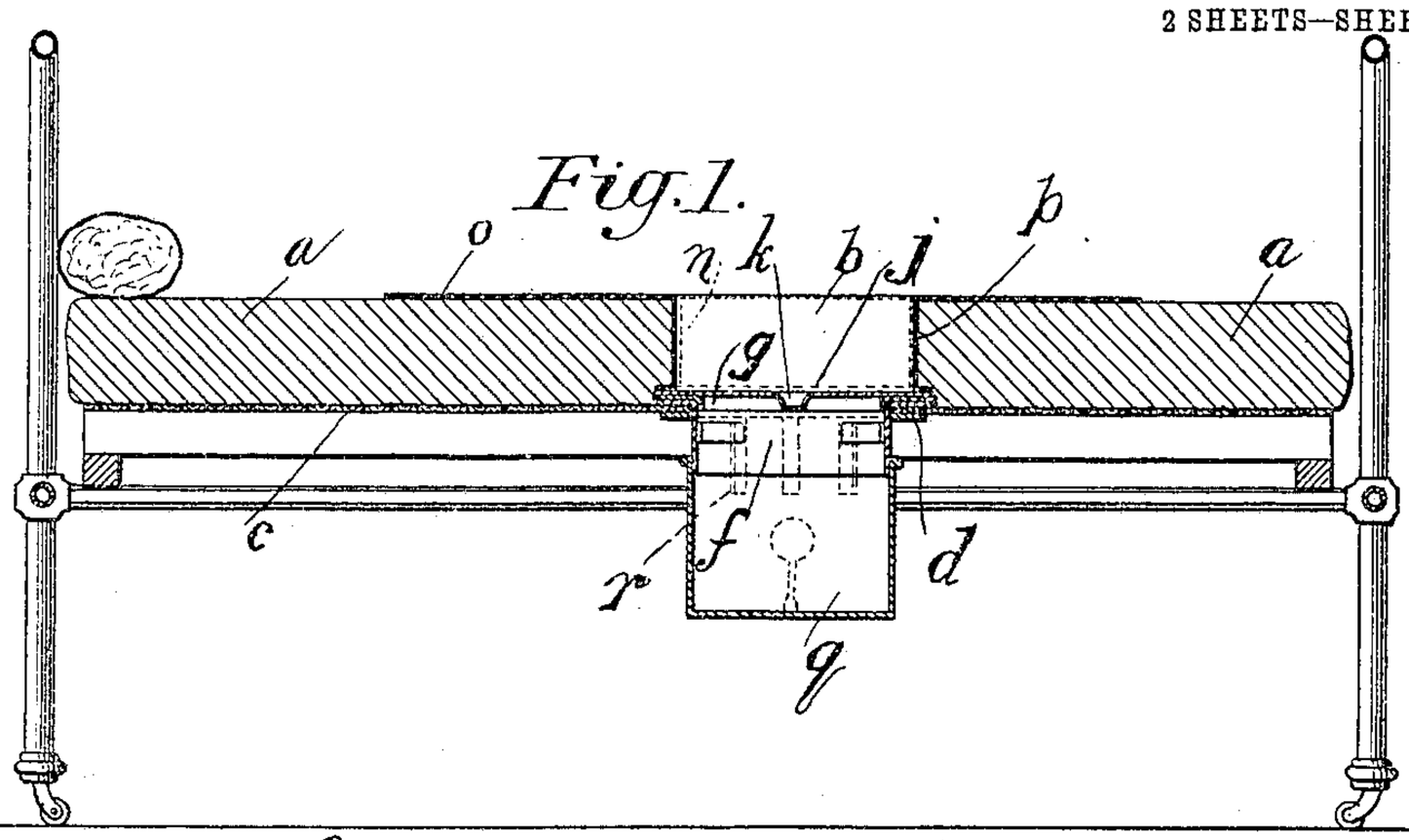
A. B. DUGAN.

MATTRESS AND ACCESSORIES FOR INVALIDS.

APPLICATION FILED FEB. 7, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



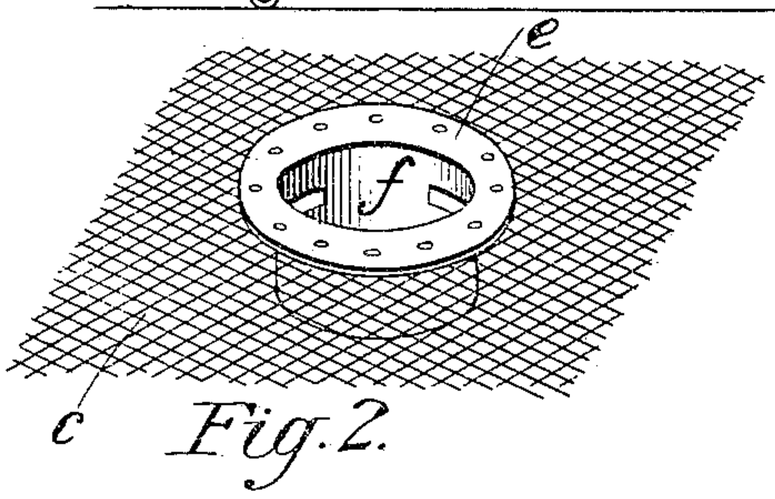


Fig. 2.

Fig. 3.

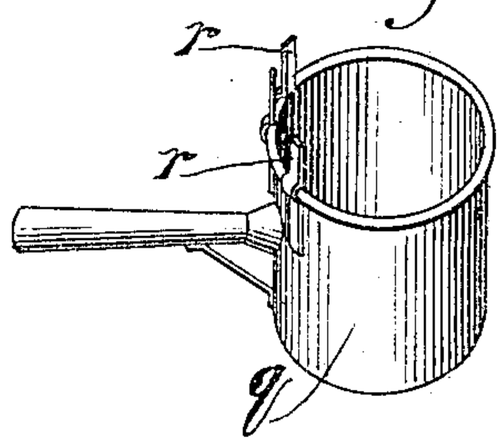
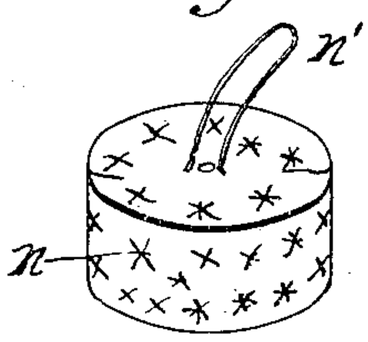


Fig. 4.



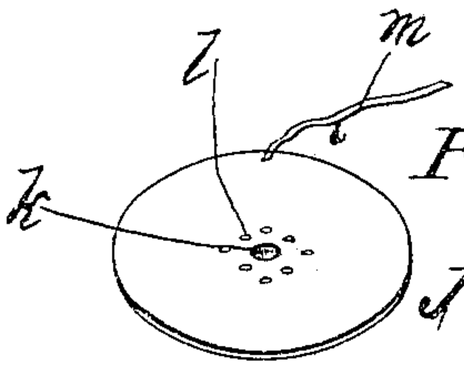


Fig. 5.

Fig. 6.

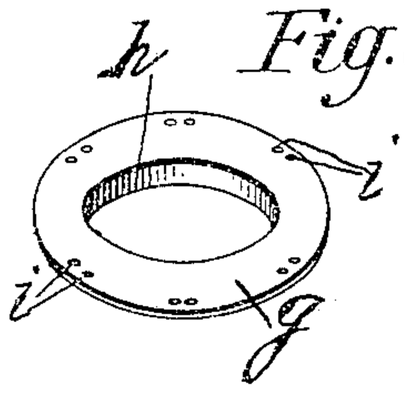


Fig. 7.

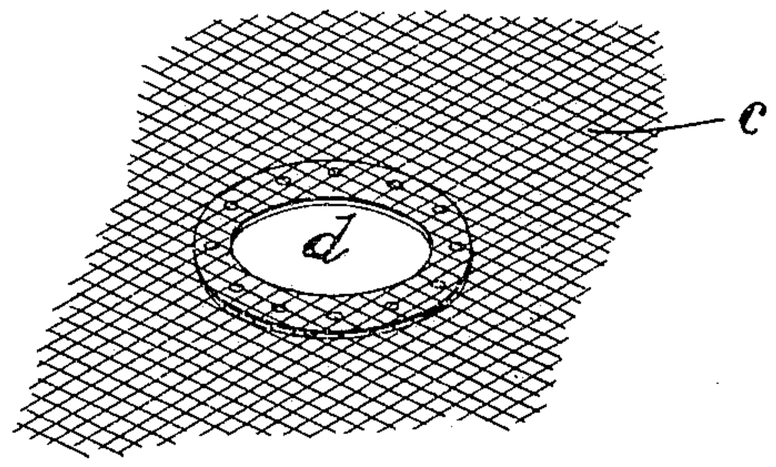
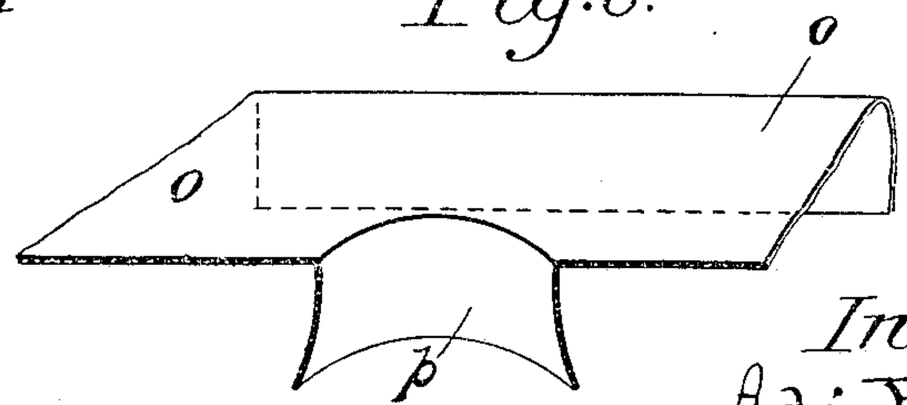


Fig. 8.



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No. 793,061. PATENTED JUNE 27, 1905.

A. B. DUGAN.

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2 SHEETS—SHEET 2.

Fig. 9

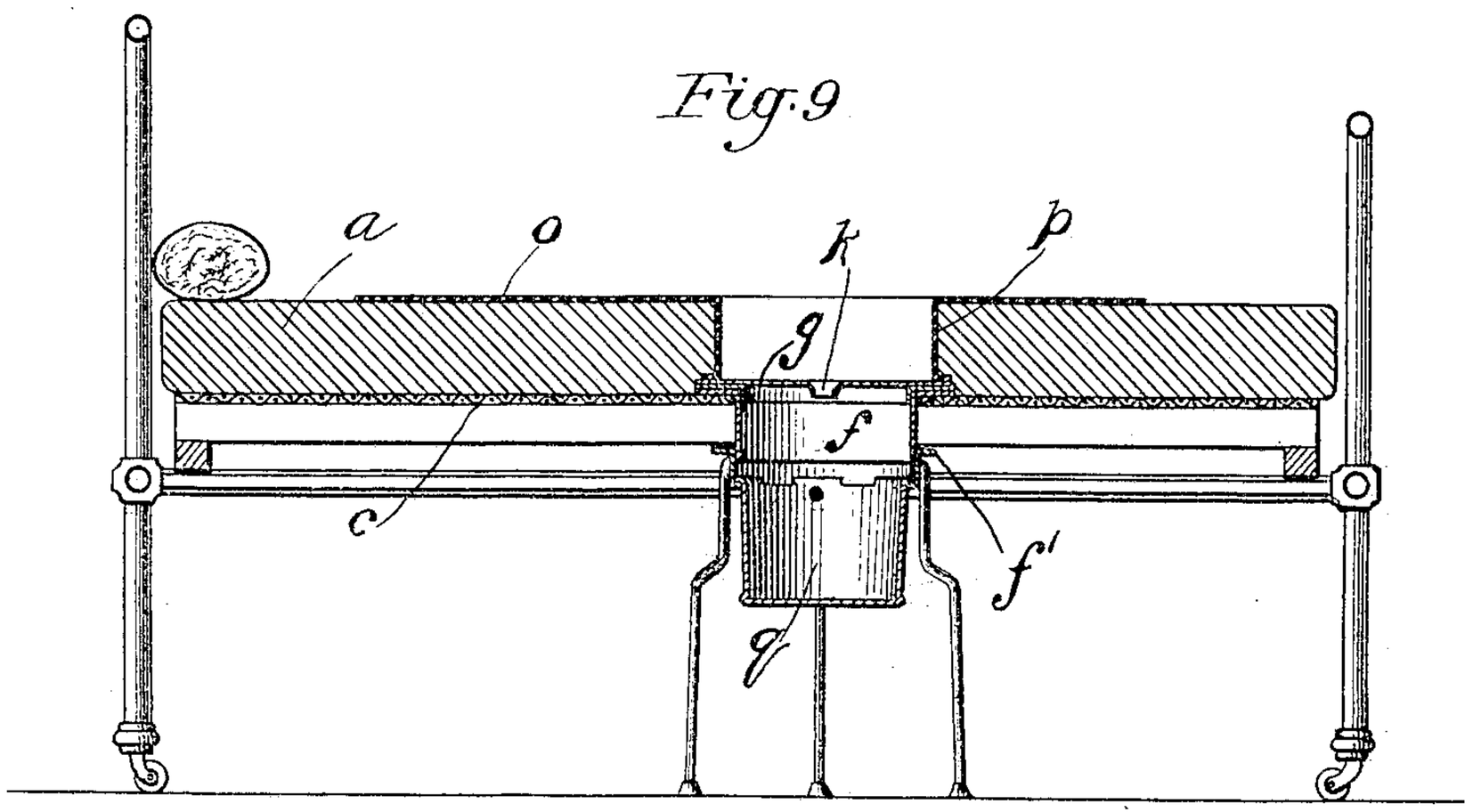


Fig. 10.

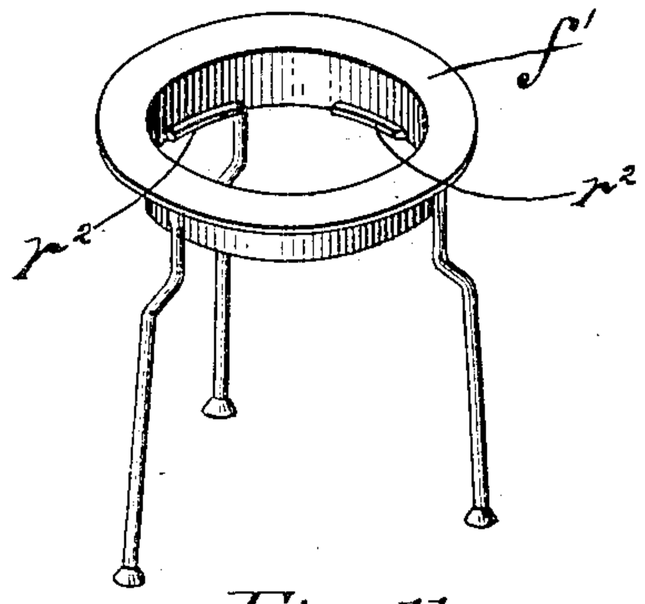
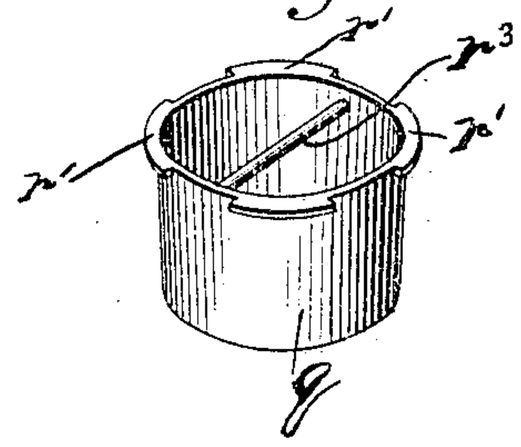


Fig. 11.



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No. 793,061. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

ADA BYRON DUGAN, OF LONDONDERRY, IRELAND.

MATTRESS AND ACCESSORIES FOR INVALIDS.

SPECIFICATION forming part of Letters Patent No. 793,061, dated June 27, 1905.

Application filed February 7, 1905. Serial No. 244,595.

To all whom it may concern:

Be it known that I, ADA BYRON DUGAN, a subject of the King of Great Britain, residing at No. 5 Asylum road, Londonderry, Ireland, have invented certain new and useful Improvements in Mattresses and Accessories for Invalids, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to beds and their accessories for the use of invalids, and is especially designed for those affected by paralysis or otherwise so as to be unable to move the body or to help themselves for any purpose.

Briefly stated, my invention comprises a mattress provided with an opening and with means for closing said opening when desired and in combination therewith certain fittings and a support whereby a very desirable and efficient outfit is produced, which may be applied to an ordinary bed-frame.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a bed embodying some features of my improvement. Figs. 2 to 8, inclusive, are detail views in perspective of the various fittings employed in Fig. 1. Fig. 9 is a sectional view similar to Fig. 1, showing the preferred form of my invention. Figs. 10 and 11 are detail perspective views of the fittings in Fig. 9.

Referring to Fig. 1, *a* is a mattress, of hair or other material, provided with an opening *b*. This hair mattress rests upon a spring-mattress *c*, having a hole adapted to register with the opening *b*, and around this opening the spring is reinforced and the edge protected by upper and lower rings *e* and *d*, riveted together through the spring. The upper ring *e* is provided with a depending flange *f*, which is preferably made integral therewith, but may be separate, in which case the inner edges of the ring must be turned down tightly to prevent fouling of the joint. A cover-plate *j* is provided of a diameter to fit within the opening in the upper mattress, (see Fig. 5,) this plate having a central downwardly-flanged opening *k* and a number of small drainage-openings *l*. For the purpose of readily removing this plate *j* it is preferably provided with a cord *m*. The ring *g* may be secured to the other rings or the mattress by means of wires threaded through the holes *i*. (See Fig. 6.)

For the purpose of closing the hole in the mattress when the attachment is not in use a pad or plug *n*, Fig. 4, is provided, having a handle *n'* of flexible material. When in position, this plug rests on the plate *j*, as indicated in dotted lines in Fig. 1.

A waterproof sheet *o*, Figs. 1, 8, and 9, is laid on the upper mattress *a* and is provided with a depending tubular part *p*, adapted to fit into the hole *b* to form a lining for the same.

The receiving vessel for use with the above fittings, as shown in Fig. 1, is illustrated separately in Fig. 3 and in section in Fig. 1. This consists of a pail or can *q* with upwardly-extending prongs *r* and a handle extending to one side. The diameter of this vessel is such as to permit the entrance of the circular flange *f*, upon which it is held in place by the prongs pressing against the outside thereof. When the vessel is thus placed in position, the pad *n* and the cover-plate *j* are removed and the waterproof sheet is adjusted.

The construction thus described, while it embodies some desirable features, is open to the objection that the weight of the apparatus is all borne by the spring-mattress, the movements of which in response to movements of the body of the patient are communicated to the vessel *q*, with a consequent lack of security and danger of fouling in operation. To obviate this objection, I have devised and prefer to use the construction shown in Figs. 9, 10, and 11, wherein the vessel *q* is separately supported without reference to either the mattress or the bed-frame, the support being rigid and the joints being maintained tight in all positions of the mattress. Herein I provide a stand, shown as a tripod, with a supporting-ring *f'*, having a flat horizontal flange and an inner depending flange fitted to receive the flange *f* on the ring of the mattress. The vertical dimension of this ring *f'* is such and the adjustment of the parts is so made that

the flange f may slide up and down in the ring f' sufficiently to permit any desired vertical motion of the mattress, thus forming a tight sliding joint. Preferably at the lower edge of the ring f' and around its inner face I provide projections r^2 to support the receptacle q. The latter is best shown in Fig. 11 and around its upper edge is provided with a horizontal mutilated flange r'. The vessel is also provided with a transverse bar-handle r^3, which serves the double purpose of a handle and a stiffener to maintain the vessel in shape.

In operation the stand or tripod is first put in position beneath the bed and may remain there, if desired. The vessel q is then adjusted from beneath so that its flange r' passes up within the ring f', the projections r^2 passing through the openings or mutilations in the flange. The vessel is then slightly turned, so that the solid portions of the flange r' rest on the projections r^2 and the vessel is supported thereby. This support, it will be observed, is independent of the mattress or the bed-frame, requiring no special construction of the latter and remaining rigid no matter what the position or movement of the mattress. The contents of the vessel are therefore not liable to be displaced, and it need not be removed after use until the patient has been attended to and made comfortable.

In accordance with the best practice my attachments are so designed as to be readily made of metal and enameled to permit of thorough cleansing and disinfection.

I am aware that it is not new to provide a mattress with an opening and fittings to receive a vessel supported either by the mattress or by the bed-frame, and I therefore do not claim the same as my invention.

What I do claim, and desire to secure by Letters Patent, is—

1. A sanitary appliance for invalids comprising in combination, a mattress provided with an opening, a waterproof shield or lining for said opening, a flexible support or spring for said mattress provided with a registering opening, a bedstead and frame supporting the mattress and spring, a flanged drainage-tube supported by the spring beneath the opening in the mattress and a cover therefor adjustable within the opening, a stand or support independent of the bed-frame, a supporting ring or tube thereon adapted to receive and form a sliding joint with the lower end of the said drainage-tube, and a receiving vessel held by and supported upon said ring, substantially as described.

2. A sanitary appliance for invalids comprising in combination a spring-supported mattress having an opening, a drainage-tube extending downwardly from the mattress, and movable therewith, an independently and rigidly supported ring or tube receiving the end of said drainage-tube and forming a sliding joint therewith, and a receiving vessel connected to said ring and carried by the same rigid support, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ADA BYRON DUGAN.

Witnesses:
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