Jan. 1, 1952 J. C. BURKETT 2,580,888

WALKING AID

Filed May 3, 1948 2 SHEETS—SHEET 1

Fig. 1

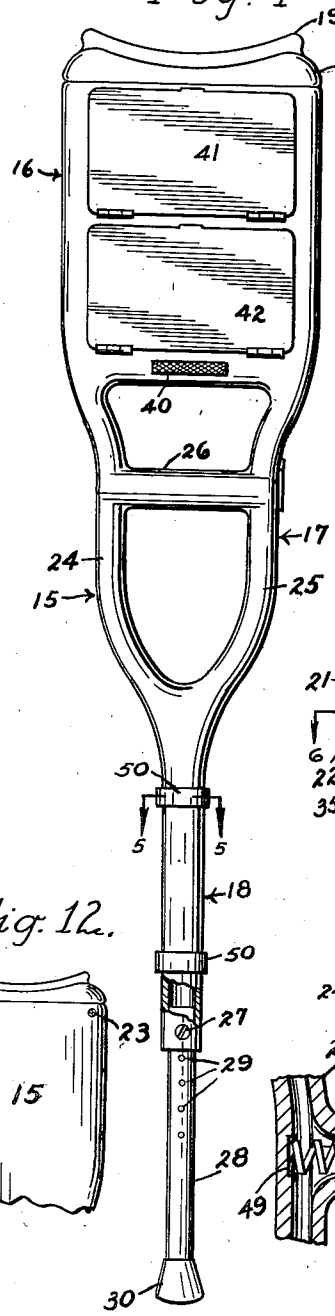



Fig. 2.

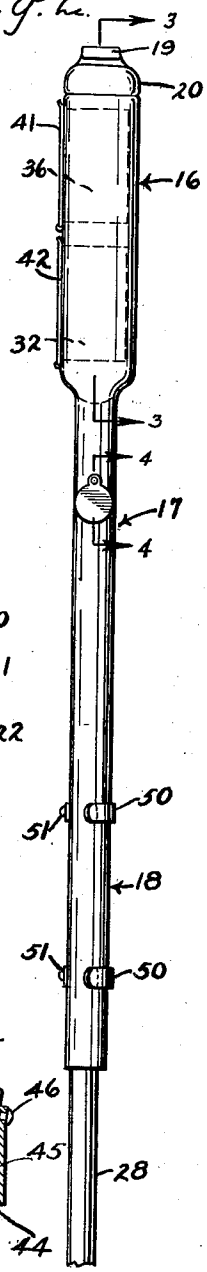



Fig. 5.

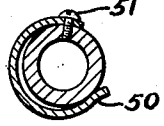



Fig. 6.

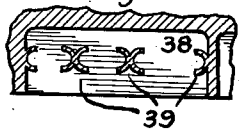



Fig. 3.

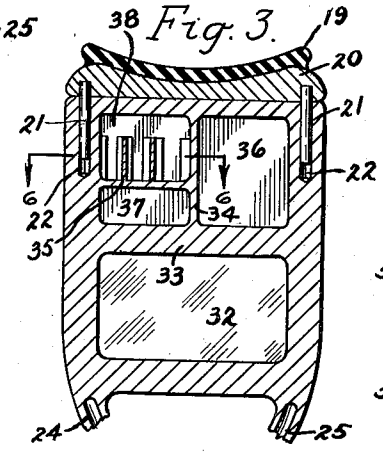



Fig. 12.

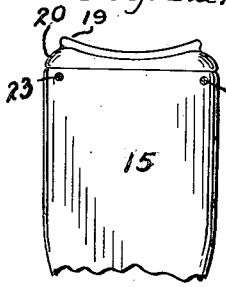
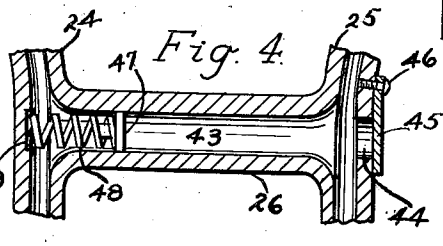



Fig. 4.




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Jan. 1, 1952 J. C. BURKETT 2,580,888

WALKING AID

Filed May 3, 1948 2 SHEETS—SHEET 2

Fig. 8.

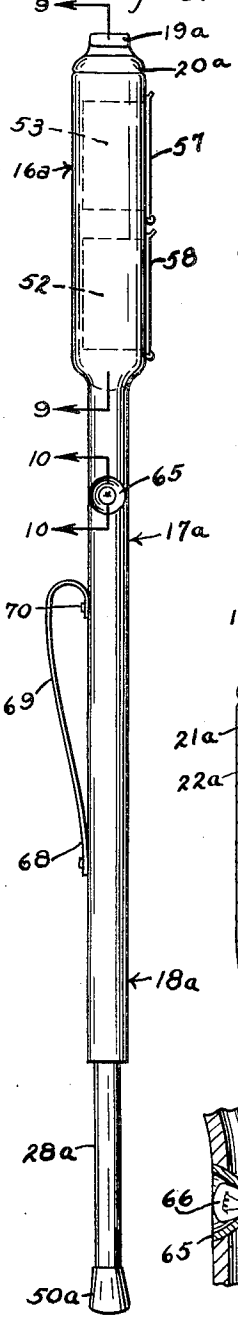



Fig. 11

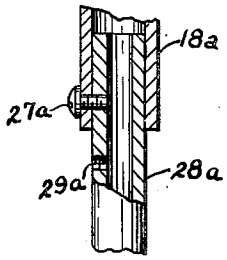



Fig. 7.

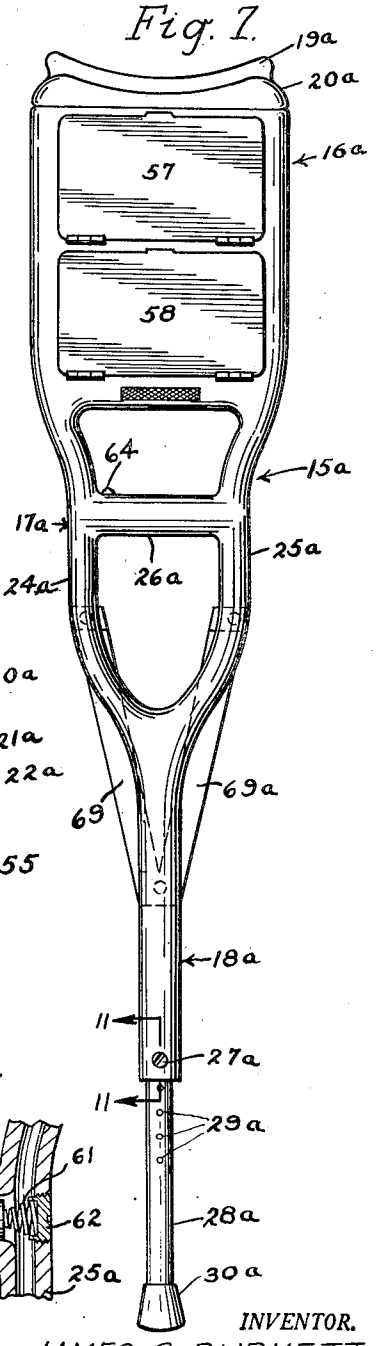



Fig. 9.

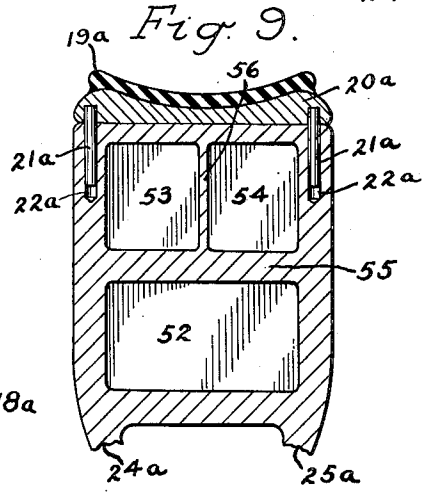
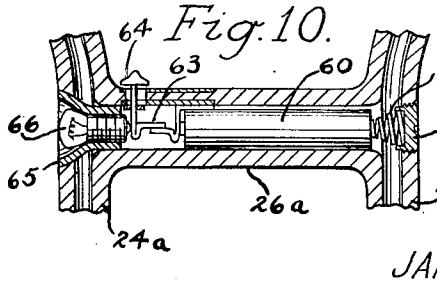



Fig. 10.




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# UNITED STATES PATENT OFFICE

2,580,888

## WALKING AID

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Application May 3, 1948, Serial No. 24,758

1 Claim. (Cl. 135—47)

1

The present invention relates to new and useful improvements in aids to self-locomotion and more particularly to such improvements in walking aids, such as crutches or the like.

It has always been a problem for amputees, such as war wounded and others who have suffered misfortunes necessitating the use of walking aids, to conveniently gain immediate access to articles or accessories frequently and repeatedly used and to carry such articles in readily accessible locations on the person. In attempting to overcome these and other difficulties, consideration must be given to the lightness in weight of the walking aids in order to assure ease of manipulation thereof.

With the foregoing in mind, it is one of the principal objects of the present invention to provide a walking aid, such as a crutch or the like, which is light in weight to facilitate manipulation thereof and which is constructed and arranged to afford convenient means for holding various items in readily accessible places.

Another object of the present invention is to provide a walking aid in the form of a crutch of the above type having holding means for various items located at readily accessible points and wherein maximum leverage with minimum weight is at the same time accomplished during manipulation thereof.

A further object of the invention is to provide a walking aid of the above type having compartmented receptacle means readily accessible to either arm of the user.

A still further object of the invention is to provide a walking aid of the above type wherein the compartmentation is so located that it will not interfere with required ease of manipulation.

A still further object of the invention is to provide a compartmented crutch wherein the compartments open inwardly for ready access to the user.

The invention still further aims to provide a crutch formed of light material, such as aluminum, which is at least partially of hollow tubular stock and which is easily fabricated.

The above and other objects of the invention will in part be obvious and will be hereinafter more fully pointed out.

In the accompanying drawings wherein like numerals of reference designate like parts throughout the several views:

Figure 1 is a side elevation of one of the crutch members;

Figure 2 is a front end elevation of the crutch member of Figure 1;

2

Figure 3 is a fragmentary longitudinal section taken substantially along the line 3—3 of Figure 2 and showing the compartmentation of a part of the crutch member;

Figure 4 is an enlarged sectional view taken substantially along the line 4—4 of Figure 2 and showing a further compartment;

Figure 5 is an enlarged sectional view taken along the line 5—5 of Figure 1 and showing a holding clip;

Figure 6 is an enlarged sectional view taken along the line 6—6 of Figure 3 and showing the coin holder;

Figure 7 is a side elevation showing the other crutch member;

Figure 8 is a front end elevation of the crutch member of Figure 7;

Figure 9 is a longitudinal section taken along the line 9—9 of Figure 8 and showing the compartmentation arrangement;

Figure 10 is an enlarged section taken along the line 10—10 of Figure 8 and showing a flash light mounting;

Figure 11 is an enlarged section taken along the line 11—11 of Figure 7 to show the adjustment of the foot portions; and

Figure 12 is a reduced fragmentary side elevation showing adjustment of the arm pit pad.

Referring more in detail to the accompanying drawings, and particularly to Figures 1 and 2 illustrating the left-hand crutch member 15, and to Figures 7 and 8 illustrating the right-hand crutch member 15*a*, it will be seen that the two crutch members are substantially identical in external configuration and in general structure which will now be briefly described, the more detailed structural features and differences to be referred to hereinafter. Each of the crutch members 15, 15*a* generally includes an upper solid and compartmented portion 16, 16*a*; an intermediate skeleton portion 17, 17*a*; and a bottom depending extension 18, 18*a*.

Each upper portion 16, 16*a* is provided with a cushioning pad 19, 19*a* carried by a cradle member 20, 20*a*, respectively. Each cradle member is provided with spaced depending pins 21, 21*a* which extend into corresponding openings or recesses 22, 22*a*, respectively, at the top of the crutch members, as particularly shown in Figures 3 and 9. Referring to Figure 12, screw or bolt elements 23 extend laterally into the upper portion of each crutch member in threaded engagement therewith and into corresponding openings 22 or 22*a* so as to engage corresponding pins 21 or 21*a* to maintain the cradle members

in any predetermined position of adjustment relative to the crutch, such adjustment depending upon the physical characteristics of the user. It is to be noted that each of the cradle members is downwardly dished to impart a similar shaping to the cushioning pads, thus adding to the comfort of the user as the pads engage beneath the arm pits.

The intermediate portion 17, 17a of each crutch member is in the form of a yoke or V-shaped fork including spaced arms 24, 25 and 24a, 25a having the upper ends thereof merging into the edges of the upper portions and having the lower ends thereof merging together and into the depending extensions. It is to be noted that the arms of the yoke portions are made from hollow tubular stock, as are the depending extensions, to maintain the weight of the crutch members at a minimum. It is to be further noted that the arms of the yoke portions 17, 17a are joined by hollow hand grips 26, 26a disposed below the solid upper portions of the crutch members.

Each depending extension 18, 18a is provided with a transverse opening adjacent to the bottom end thereof for the reception of a screw or bolt element 27, 27a. Hollow depending struts or strut members 28, 28a telescope within the extensions 18, 18a, respectively, and are provided with a plurality of vertically spaced and aligned threaded radial openings 29, 29a through the wall thereof. As more clearly shown in Figure 11, the screws or bolts 27, 27a are adapted to threadedly engage a preselected one of the openings 29, 29a, depending upon the length of the lower portion of each crutch as desired by the particular user. The strut members 28, 28a are each provided with a ground contacting and gripping pad or shoe 30, 30a, respectively, which may be formed of rubber, plastic or other suitable material.

Considering now the more specific details embodied in the left-hand crutch 15, reference being had to Figures 1 through 6 of the accompanying drawings, the upper portion 16 is internally recessed to provide a plurality of readily accessible compartments, this compartmentation also maintaining minimum weight characteristics. Thus, the upper solid portion, as particularly shown in Figures 3 and 6, is provided with a lower recess or chamber 32 defined by the adjacent walls of the upper portion and a horizontal web 33 from which a central vertical web 34 extends to the top of the upper portion and, in conjunction with a short horizontal web 35, defines three additional and smaller compartments 36, 37, 38. While these compartments may, of course, be used for holding such articles as the user may desire, it is suggested, for example, that the compartment 32 may hold a thermos bottle or other container; the compartment 36 for cigarettes or the like; the compartment 37 for matches; and the compartment 38 for coins, and to this end, suitable coin holders 39 are mounted therein. A flint 40 or the like may be secured exteriorly of the upper portion 16 and suitable hinged closures 41 and 42 may be provided for the compartments. Thus, the upper closure 41 is adapted to close the compartments 36, 37, 38, and the lower closure 42 is adapted to close the lower compartment 32.

The hand grip 26 is, as previously indicated and as shown in Figure 4, hollow throughout the length thereof to provide a compartment 43 and an opening 44 in line therewith is provided at the leading edge of the arm 25 of the yoke portion 17. Access to the compartment 43 through the opening 44 is controlled by a shutter 45 pivotally mounted on the arm 25 by a screw pivot 46. A false bottom in the nature of a plunger 47 snugly fits in the compartment 43 and is urged toward the opening 44 by a coil spring 48 seated in an internal recess 49 in the arm 24 so that upon opening of the shutter 45, the contents of the compartment, such as a knife, corkscrew, nail file, bottle opener or the like, will be urged outwardly in position for the user to readily grasp the same.

Intermediate the extremities of the depending extension 18, there are provided upper and lower spring clips 50 which are secured to the extension by screws 51 or the like (see Figure 5). These clips extend partially around the extension and are adapted to grip and hold a newspaper or the like thereagainst.

Referring now in more detail to the right-hand crutch member 15a, as shown in Figures 7 through 10, the upper portion 16a thereof (see Figure 9) is also recessed to provide a plurality of compartments 52, 53, 54, the lower relatively large compartment 52 being separated from the upper compartment by a horizontal web 55, and the upper compartments 53, 54 being separated from one another by a vertical web 56. The user's particular needs and desires will determine the articles to be received in these compartments, but for example, the compartment 52 may conveniently hold magazines or a lunch box; the compartment 53 may be for cards or the like; and the compartment 54 for miscellaneous items. These compartments are also closed by suitably hinged closure members 57, 58; the upper closure 57 being for the compartments 53, 54 and the lower closure 58 for the lower compartment 52.

As shown in Figure 10, the hollow hand grip 26a provides an internal chamber for a dry cell battery 60, the rear end of which is engaged by a spring 61 seated in a recessed screw plug 62 threadedly mounted in an opening through the rear arm 25a of the yoke portion 17a. Thus, the battery is urged toward the switch mechanism 63 which is controlled by a button 64 on the hand grip and readily accessible to the user. The front arm 24a is apertured at the leading edge thereof to receive a reflector 65 in which a bulb 66 is mounted. There is thus provided a flashlight under immediate control of the user and so located as to cast a beam forwardly from the leading edge of the crutch member for guidance when desired by merely shifting the button 64 to make or break the circuit from the battery to the bulb.

As shown in Figures 7 and 8, the right-hand crutch member 15a is provided with additional spring holding means in the form of a V-shaped member having the bottom apex 68 thereof secured, as by riveting, welding or the like, to the outside of the depending extension 18a. The upwardly extending and diverging arms 69, 69a have the upper ends thereof reversely curved and secured by rivets 70 or the like to the arms 24, 24a, respectively, of the intermediate yoke portion 17a. The arms 69, 69a are thus spaced outwardly from the adjacent surface of the crutch member and provide a convenient holder for a brief case or the like.

The crutch members may be formed from any suitable material having the required weight and strength characteristics, and the fabrication thereof may be accomplished in any suitable manner. Aluminum or thin gauge stainless steel

are examples of suitable materials; and as indicated, the intermediate yoke portions 17, 17a, the depending extensions 18, 18a, and the strut members 28, 28a are preferably of hollow tubular form and the upper portions 16, 16a may be stamped, molded or otherwise formed to provide the described compartmentation. Assembly and fabrication of the parts may be accomplished as desired in the manufacturing process.

From the foregoing description it will be seen that the present invention provides efficient and useful walking aids illustrated in the form of crutch members which are suitably compartmented to conveniently hold various articles. The upper portions 16, 16a are arranged with the closures of each crutch member opening inwardly to facilitate employment of the user's opposite hand in gaining access to the compartments. The location of the solid compartmented upper portions above the hand grips 26, 26a and between the arms and body of the user greatly facilitates manipulation of the crutch members without adding bulk or increased dead weight thereto.

While the invention has been described in connection with the illustrated embodiments of the invention, it is to be clearly understood that various changes in the details of construction and arrangement of parts may be made without departing from the scope of the invention as set forth in the appended claim.

I claim:

A crutch comprising a ground engaging tubular extension merging at the upper end thereof in an intermediate skeleton portion including transversely spaced tubular frame portions and a



tubular hand grip joining said frame portions intermediate the ends thereof to leave open spaces on opposite sides of said hand grip, a top arm pit engaging cradle, an imperforate portion immediately below said cradle and defining the upper limit of the open space above said hand grip, said imperforate portion being recessed to provide an article carrying compartment between the hand grip and the cradle whereby the added weight of articles in said compartment is confined to the top of the crutch above said hand grip to facilitate manipulation of the crutch through the hand grip, and closure means for the compartment in said imperforate portion.

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