Nov. 25, 1930. A. E. STEWART 1,782,486

SINKER FOR KNITTING MACHINES

Filed Sept. 21, 1928

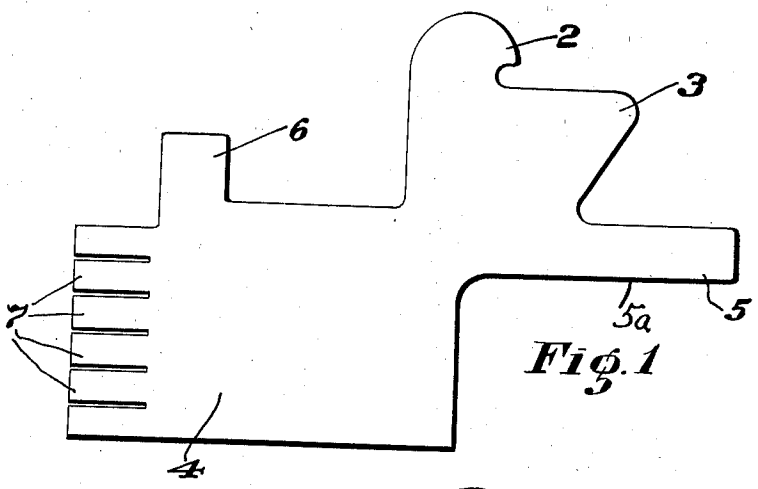


Fig. 1

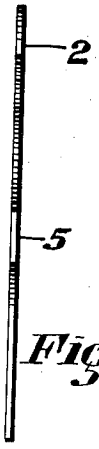


Fig. 2

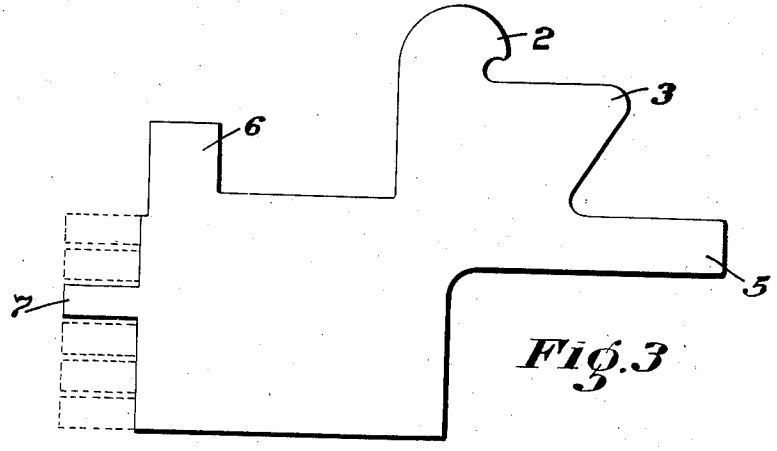


Fig. 3

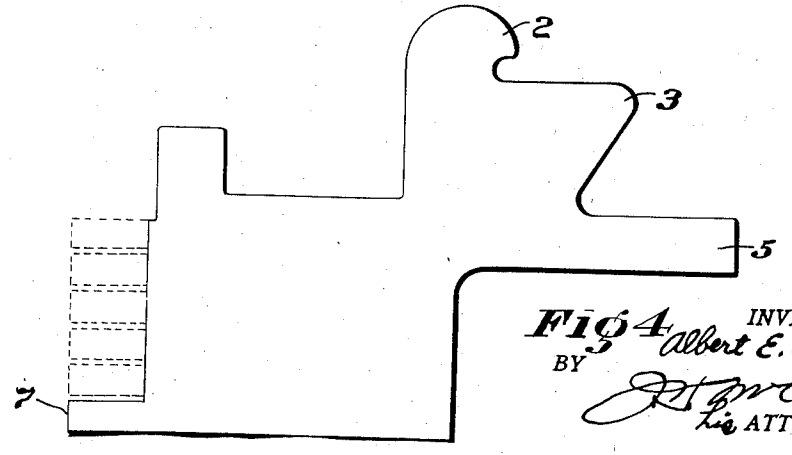


Fig. 4

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Patented Nov. 25, 1930 1,782,486

UNITED STATES PATENT OFFICE

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SINKER FOR KNITTING MACHINES

Application filed September 21, 1928. Serial No. 307,359.

This invention relates to those devices known as sinkers or web holders and which are designed to be used in knitting machines for the purpose of assisting the needles in casting off the stitches and supporting the knitted web.

A reciprocating movement of short amplitude is given to the sinkers during normal knitting by a cam or cams provided for this purpose. In some machines additional mechanism is provided to move the sinkers selectively and independently of said cams and in a special timed relationship to the knitting operations. Examples of such machines are found in my Patent No. 1,602,786, dated October 12, 1926, and in my pending application Serial No. 284,680, filed February 12, 1928. Such additional movements of the sinkers are usually produced by cams acting on auxiliary lugs with which the sinkers are provided, the lugs being located in different positions so that any desired sinker or set of sinkers can be operated without actuating the others.

In using machines of this type it is necessary to keep on hand a supply of all forms of sinkers required in the machine in order to replace broken sinkers and to permit the changing of the machine to produce different patterns. In the machine shown in my pending application above identified, eight different sinker forms are used, differing from each other in the number and arrangement of the auxiliary lugs, and in some machines an even greater number of sinkers is employed. The necessity for keeping a supply of all of these forms of sinkers on hand is frequently the cause of annoyance and delay. It also necessitates the manufacture of a correspondingly wide range of sinker forms.

The present invention is especially concerned with this condition and it aims to reduce the number of sinker forms which must be manufactured and supplied to users in order to meet the requirements of these machines.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

Referring now to the drawings,

Figure 1 is a side view of a sinker embodying this invention;

Fig. 2 is an end view of the sinker shown in Fig. 1; and

Figs. 3 and 4 are side views showing different sinker forms which can be made from the construction shown in Fig. 1.

The sinker shown in Figs. 1 and 2 has a beak 2, a web holding shoulder 3, a butt portion 4, and an extension 5, having an edge 5^a, which forms a lower guiding surface for the web holder. The lower edge of the butt normally rides on the sinker ring, while the lower edge 5^a of the extension 5 usually rests on the upper edge of the needle cylinder. Extending from the upper edge of the butt 4 is an upright lug 6 similar to that which most sinkers have, this lug being provided to run in the groove of the regular sinker operating cam. Projecting from the rearward edge of the butt 4 is a vertical series of auxiliary or special cam lugs 7. These lugs are designed to be engaged by special or auxiliary cams, as explained fully in my pending application above referred to, in order to move the sinkers independently of the regular sinker operating cam. The sinker shown has six such lugs. In some instances it may be desirable to use the sinker with a butt exactly like that shown in Fig. 1. The more common forms of sinkers, however, are provided with only one of the lugs 7 and this lug may be in any one of the six positions shown. Typical examples are shown in Figs. 3 and 4.

Any one of these six forms may be made from the sinker shown in Fig. 1 simply by breaking off those lugs which are not desired in any individual form. In the sinker shown in Fig. 3 all of the lugs have been broken off except the third lug from the top, while in Fig. 4 all those have been broken off except the lowermost lug. In some cases no lugs are desired, in which event all of the lugs are broken off. In other cases two or more lugs are required but they may be separated from each other by considerable distances.

Any one of these sinker forms can be made from the construction shown in Fig. 1 simply by breaking off the lug or lugs which are superfluous. These sinkers are usually made of sheet steel which is relatively thin, say ten to fifteen-thousandths of an inch in thickness, so that the lugs are frangible and it is therefore a very simple matter to break off the superfluous lugs with a pair of pliers. This construction, however, makes it necessary for the manufacturer to make and supply to the machine user only the form of sinker shown in Fig. 1, or one constructed in essentially the same manner, and the machine user or knitter modifies these sinkers, as above described, to suit his own convenience. He needs, therefore, to carry in stock only one construction of sinker, and by breaking off suitable lugs he can make any individual sinker form that he desires within the range of the construction provided.

The sinkers may be manufactured by any suitable process as, for example, by dieing them out of sheet stock and milling the slots which separate the adjacent lugs 7, or the sinkers may be punched out of sheet stock and the lugs separated from each other by a shearing operation. Such a process would not necessarily form slots but would separate the lugs from each other laterally by shear cuts. In fact, it is not absolutely essential that the lugs be completely separated from each other laterally, it being sufficient if the connection of the lugs with each other and with the butt of the sinker be such that they can readily be broken off.

While I have herein shown and described a typical sinker construction embodying this invention, it will be understood that this disclosure has been made rather by way of illustration than limitation and that the invention may be embodied in a variety of other forms without departing from the spirit or scope thereof.

Having thus described my invention, what I desire to claim as new is:

1. A sinker for knitting machines having a web holding shoulder at its front end, a broad butt at its opposite end, a horizontal guiding surface on its lower edge, and a vertical series of frangible lugs projecting from the rear edge of said butt and extending below a lower guiding surface of the webb holder, said lugs being integral with said butt and located side by side, each of said lugs being required in some form of sinker but one or more of them being superfluous in other forms, whereby different forms of sinkers may be made by breaking off the lug or lugs which are not required for any individual form.

2. A sinker for knitting machine, having a broad butt and an upstanding cam lug projecting therefrom, and a vertical series of auxiliary lugs projecting horizontally from the rear edge of said butt and extending below a lower guiding surface of the web holder, each of said auxiliary lugs being required in some form of sinker but one or more of them being superfluous in other forms, whereby different forms of sinkers may be made from the same sinker construction by removing the lug or lugs which are not required in any individual form.

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