

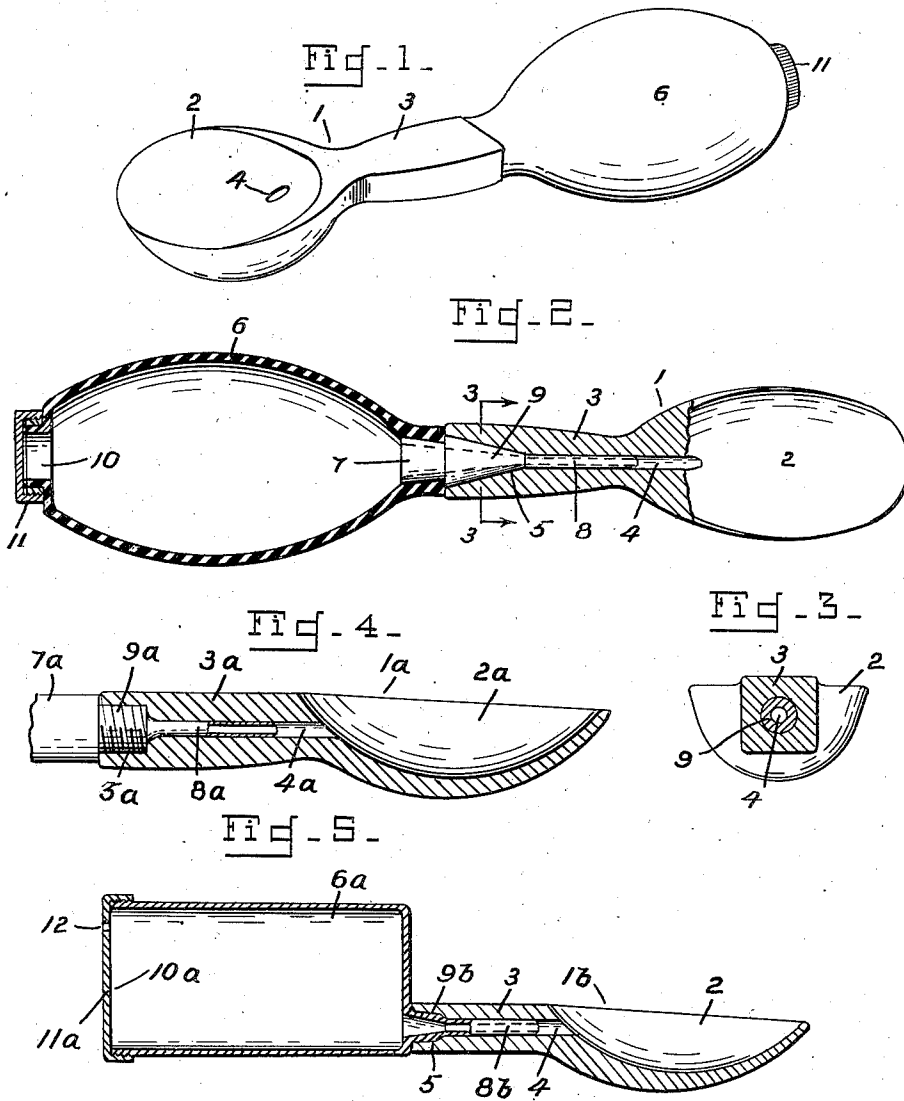
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INFANT'S OR INVALID'S FEEDING SPOON

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INFANT'S OR INVALID'S FEEDING SPOON

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This invention relates to improvements in spoons, and particularly to a novel and improved construction of spoon for use in the feeding of infants and invalids.

The feeding of infants and invalids, whose food consists of liquid and semi-liquid substances, by means of an ordinary spoon, is often tedious and difficult. Where a measured quantity is to be fed, it is difficult to measure the proper quantity spoon by spoon. Spilling of the food in transferring it by spoon to the mouth of the infant or invalid is liable to occur. The liquid during transfer or while left exposed in a vessel from which transfer is made is liable to become contaminated. Furthermore, it is difficult in such an ordinary feeding method to keep the food, if to be supplied hot or warm, from cooling and at the proper temperature for dispensation.

One object of the present invention is to provide a feeding spoon whereby these objections are overcome, and whereby either infants or invalids may be fed with liquid or other fluent food in a ready and convenient manner.

Another object of the invention is to provide a feed spoon which may be employed to continuously feed a regulated amount of food from a supply source of predetermined capacity, in which the food is preserved from contamination during its dispensation.

In the accompanying drawing illustrating the invention—

Fig. 1 is a perspective view of one form of feed spoon embodying my invention.

Fig. 2 is a vertical longitudinal section of the same.

Fig. 3 is a cross section on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary longitudinal section showing a modification in the construction.

Fig. 5 is a vertical longitudinal section showing the use of a different type of feed receptacle.

Referring now more particularly to Figs. 1 to 3, inclusive, of the drawing, 1 designates a spoon of a type embodying my invention, said spoon comprising a bowl 2 of suitable form and having a stem 3, preferably integral therewith. The bowl and its stem may be made of metal, glass, hard rubber or other suitable material and of a size to suit the purpose, either for use as an infant's or as an invalid's feed spoon. Formed in and extending longitudinally of the stem 3 is a feed duct or passage 4 which opens at its discharge end into the rear portion of the bowl. This duct or bore for the greater portion of its length is of uniform diameter and may be of a prescribed diameter to regulate the amount of

food which may be fed therethrough during any given time to the spoon bowl. At its rear end, however, where it opens through the rear end of the stem 3, the bore 4 has an enlarged portion 5 forming a keeper socket for cooperation with a discharge nozzle at the forward end of a food receptacle and force feed device 6.

The food receptacle and force feed device 6 in the form shown in Figs. 1 and 2 comprises an elongated elastic bulb which may be of a given size to receive a prescribed amount of food. The forward portion of this bulb has fitted and secured therein the rear end or shank portion 7 of the discharge nozzle referred to, which nozzle is provided with a forward discharge portion 8 of a form to fit within the portion of uniform diameter of the feed duct 4 in the bowl stem. Between these portions 7 and 8 the nozzle is provided with an enlarged portion 9 to engage the socket 5 in the stem and form therewith a detachable fastening connection between the bulb and the stem. In the form shown in Figs. 1 and 2 the socket 5 and fastening member 9 on the stem are of tapering or conical form and the member 9 is adapted to fit within the socket 5 with a tight frictional wedge fit, thus securely holding the bulb attached to the stem and providing a leak-proof connection between the bulb and stem. This construction at the same time forms a connection allowing instant release of the bulb from the stem to adapt the parts to be separated for cleaning or other purposes. At its rear end the bulb 6 is provided with an opening 10 through which the food to be dispensed, if not drawn thereinto by suction through the nozzle, may be introduced. This opening 10 is closed normally by a screw cap 11 or other suitable closure. The removal of this cap, after the bulb has been detached from the spoon stem, provides for the easy and quick sterilization of the bulb after use.

In the use of the spoon as above constructed it is to be understood that the bulb 6 is filled to the desired degree with the food to be dispensed, which, if liquid, may be drawn thereinto through the discharge nozzle, or the food material may be introduced through the opening 10 which is then closed by means of the cap 11 to keep the foodstuff confined and protected from loss of heat or contamination by exposure. The bulb is then applied to the stem of the spoon, whereupon the device is ready for use. In feeding the foodstuff to an infant or invalid, the spoon bowl is introduced into the mouth of the patient and the bulb compressed to discharge the foodstuff

therefrom into the bowl. The foodstuff thus discharged may be taken up by the patient or allowed to trickle into the mouth of the patient, according to conditions. In practice, the spoon is preferably held at a suitable elevation to allow the food to feed by gravity through the duct and out of the bowl, the bulb being employed to feed the food forward to renew the supply as fast as the food is consumed by the patient, but if desired the bulb may be used for a force feed action under conditions where a force feed action is desirable or necessary. This spoon allows the food to be dispensed as quickly or as slowly as desired, and continuously or in small amounts at a time, the size of the duct being used, in case of a gravity feed or a combined gravity and force feed, to regulate the feed of the food to a definite degree, varied or not, as occasion may require, by manipulation of the bulb. The bulb may be of a size to contain a definite amount of food, which may be the maximum amount to be fed, so that it will act as a measuring container to avoid over feeding. At the close of the feed operation, the spoon and bulb may be separated and thoroughly cleaned by sterilization or otherwise.

In Fig. 4 I have shown a modified form of spoon 1a in which the bowl part 2a and stem part 3a are similar in construction to the parts 2 and 3 with the exception as to the form of the feed duct 4a. This duct 4a is provided with an enlarged rear portion 5a of maximum diameter which is internally threaded. The forward portion of the bowl 4a receives the uniform discharge portion 8a of the nozzle, the shank 7a of which is fitted to the bulb, and between these portions the nozzle is provided with an enlarged portion 9a which is threaded to engage the threaded portion or socket 5a of the stem, whereby the bulb and spoon proper are adapted to be detachably connected.

In Fig. 5 I have shown another modified form of spoon 1b in which the bowl part 2 and stem part 3 are of a construction corresponding to that shown in Figs. 1 to 3, inclusive, and in which the bowl, stem and feed bore portions are designated by corresponding reference characters. In this construction, however, a different form of food receptacle 6a is provided. This receptacle 6a may be mainly or entirely of rigid type and formed of metal, glass, rubber or other suitable material, and it may be of any suitable shape. As shown, the receptacle 6a is of oblong rectangular form and provided at its forward end with a discharge nozzle having a discharge portion 8b of uniform diameter and a rear attaching portion 9b of conical or tapering form which is adapted to frictionally fit the tapering socket 5 of the bore to detachably connect the receptacle with the spoon stem. The part 9b of the discharge nozzle may be an integral part of or fixed to the receptacle 6a, and the receptacle 6a may be of a size to receive a prescribed amount of food. As shown in the present instance, the receptacle 6a has a normally open rear end 10a adapted to be closed by a cover or cap 11a provided with a vent opening 12 therein. The wall or cap 11a may be of resilient type so that it may be flexed for a force feed action, or it may be of rigid type in the event that it is designed to use the spoon simply and solely as a gravity feeder. In such event, the wall or cap 11a may be provided with a vent opening 12 to allow inlet of air as the food is discharged. This opening may be omitted, however, in the event that the

wall or cover 11a is made of resilient material for a force feed action. The use of the spoon structure shown in Fig. 5 will be evident from the foregoing description so that a further description of this particular form of the device will not be necessary.

The advantages of my novel and improved construction of infant's or invalid's feed spoon will be apparent to those versed in the art. It provides a spoon by which infants, invalids and those who cannot feed themselves or require to be fed may be fed with a suitable food, either of liquid or of semi-liquid character of any degree, so long as it will flow or can be expressed through the discharge duct. By means of the spoon the patient may be fed by a gravity feed action or a force feed action, or a combination of these feed actions, as may be required, and the food supplied in a regulated quantity and at any desired speed. The spoon structure not only provides for feed at a regulated speed, but also for storage of the foodstuff in a receptacle of a given capacity, a very desirable feature where the feeding of an exact and definite amount of foodstuff at each feeding time is specified. The structure also provides for the separation of the spoon proper and food receptacle from each other so that the parts may be thoroughly cleansed after each use and kept in a sanitary condition. Other advantages of the invention will be readily understood and appreciated by those versed in the art from the foregoing description.

It will, of course, be understood that, while the structures shown herein are preferred, changes in the form, construction and arrangement of the parts may be made in the practical constructions of the device, within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

1. An infant's or invalid's feeding spoon comprising a bowl, a stem provided with a bore of predetermined diameter at its inner end and enlarged at its outer end, and a feed reservoir provided with a discharge nozzle having a tubular outer end portion of predetermined diameter to fit within the inner portion of the bore of the stem and an outer enlarged portion to detachably engage the enlarged portion of the bore.

2. An infant's or invalid's feeding spoon comprising a bowl, a stem provided with a bore of predetermined diameter at its inner end and of tapered form at its outer end, and a food reservoir provided with a discharge nozzle having a tubular outer end portion of predetermined diameter to fit within the inner portion of the bore of the stem and a tapered portion to detachably engage the tapered outer end of the bore.

3. An infant's or invalid's feed spoon comprising a bowl, a stem attached to the bowl, the stem and bowl being provided with a feed passage, and a food container having at one end a discharge nozzle detachably engaging the stem and communicating with said passage and having at its opposite end an opening and a detachable closure therefor.

4. An infant's or invalid's feed spoon comprising a bowl, a stem attached to the bowl, the stem and bowl being provided with a feed passage, and a food container consisting of an elastic bulb having at one end a discharge nozzle detachably engaging the stem and communicating with the passage and having at its opposite end an opening and a detachable closure therefor.

5. An infant's or invalid's feed spoon compris-

ing a bowl, a stem provided with a bore of predetermined diameter at its inner end and enlarged at its outer end, and a feed reservoir having at one end an opening and a detachable closure therefor and having at its opposite end a discharge nozzle provided with a tubular outer

end portion of predetermined diameter to fit within the inner portion of the bore of the stem and an outer enlarged portion to detachably engage the enlarged portion of the bore.

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