Oct. 21, 1941. A. A. BOHNENBLUST 2,259,725

MOP

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Fig 1

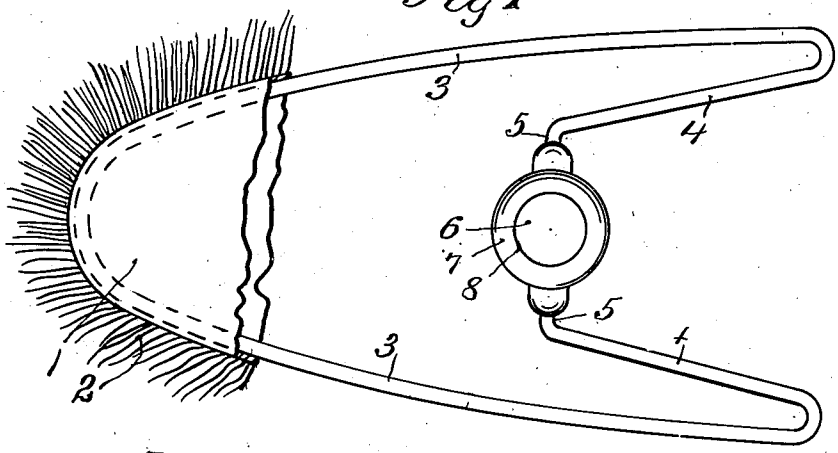


Fig 3

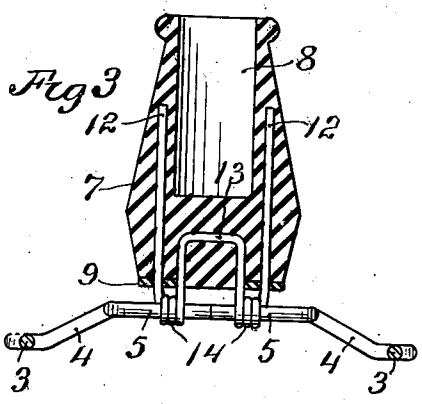


Fig 2

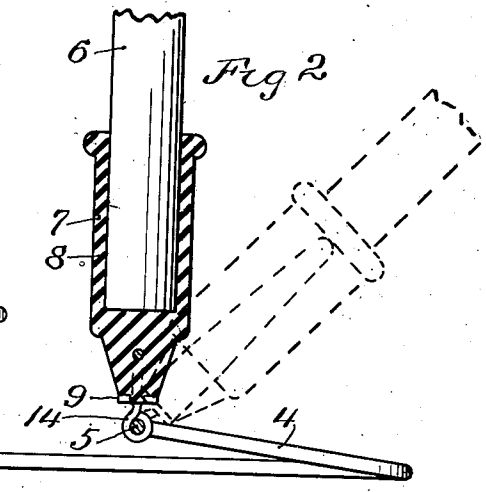


Fig 4

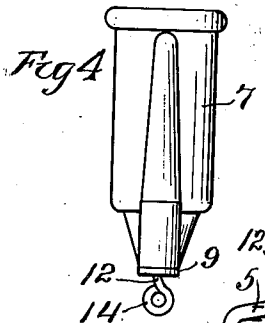


Fig 6

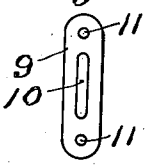


Fig 5

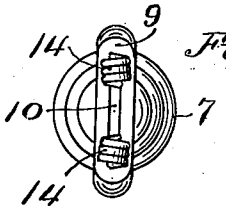
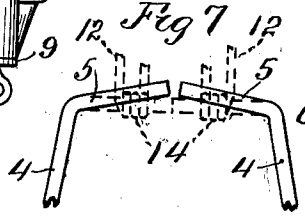


Fig 7



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Fig 8

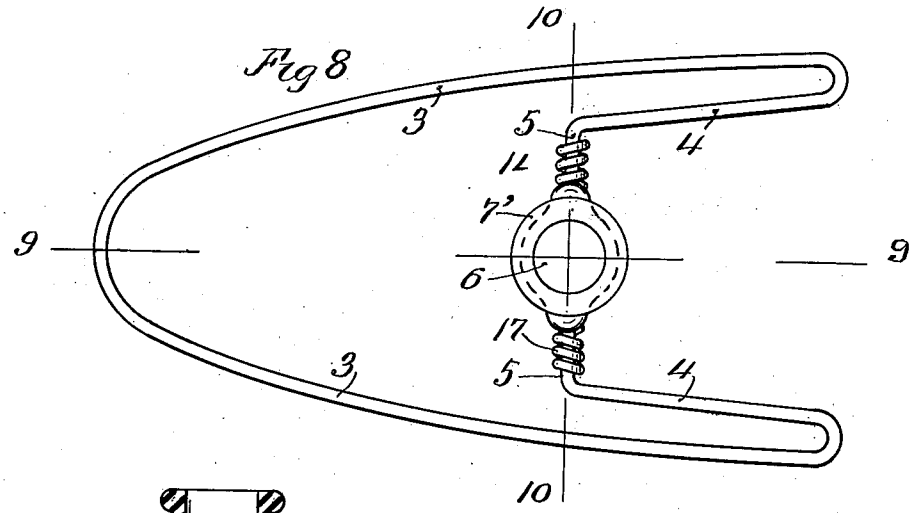


Fig 10

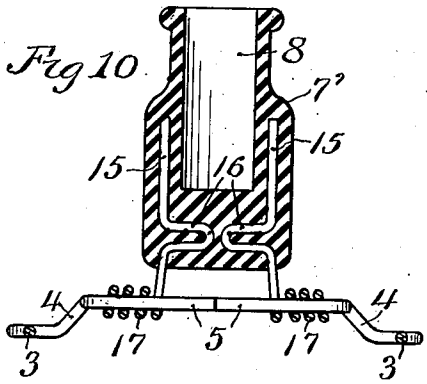


Fig 9

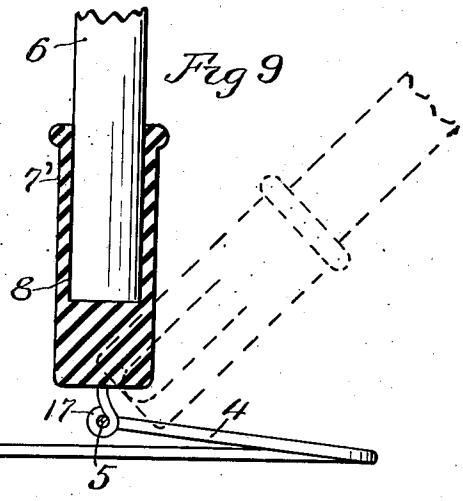


Fig 11

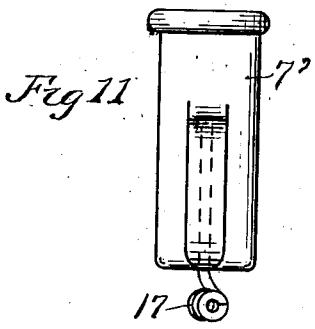
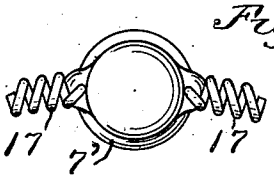


Fig 12



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Patented Oct. 21, 1941 2,259,725

UNITED STATES PATENT OFFICE

2,259,725

MOP

Alvin A. Bohnenblust, Kansas City, Kans., assignor, by mesne assignments, to Kansas City Broom Company, Kansas City, Mo., a corporation of Missouri

Application May 27, 1940, Serial No. 337,463

2 Claims. (Cl. 15—147)

My invention relates to improvements in mops. It relates particularly to a type of mop in which the mop cloth is in the form of a shoe in which is fitted a spreader wire foot member pivotally connected to a handle.

The object of my invention is the provision of a novel connecting mechanism between the foot member and the handle, which is simple, cheap, durable, not likely to get out of order, which is easily and quickly applied to its operative position, which prevents the loose swinging of the foot member on the handle, yet permits of its easy adjustment to different positions relative to the handle, and which is efficient in its operation.

The novel features of my invention are fully set forth and described.

In the accompanying drawings, illustrating two forms of my invention,

Fig. 1 is a plan view of one form of my improvement, with a portion of the shoe broken away.

Fig. 2 is a vertical longitudinal sectional view, the shoe being omitted, and part of the handle broken away, of the form shown in Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a side elevation of the pivotal connecting mechanism between the foot member and the handle.

Fig. 5 is a bottom view of what is shown in Fig. 4.

Fig. 6 is a plan view of the metal plate attached to the socket member.

Fig. 7 is a rear elevation of the end portions of the wire foot member, shown in solid lines bent for insertion into the two spirals, shown in dotted lines.

Fig. 8 is a plan view of the other form of my improvement, the shoe being omitted.

Fig. 9 is a section on 9—9 of Fig. 8.

Fig. 10 is a section on 10—10 of Fig. 8.

Fig. 11 is a side elevation of the socket member shown in Fig. 8.

Fig. 12 is a bottom view of what is shown in Fig. 11.

Similar characters of reference designate similar parts in the different views.

1 designates the toe portion of the usual cloth mop shoe having the usual shag 2. Fitted in the shoe 1 is the foot member comprising a piece of wire having a portion 3 in the form of the contour of a half shoe sole. At the rear ends of the wire portions 3, two portions 4 converge upwardly and forwardly to near midway of the shoe. From there the end portions 5 of the wire are bent horizontally transversely toward each other into alinement. The wire foot member is resilient and serves as a spreader for the shoe 1.

For pivotally connecting the foot member with the handle 6 of the mop, I provide a soft rubber member 7 having in one end a socket 8 in which one end of the handle 6 is tightly fitted. The other end of the socket or connecting member 7 has attached to it, as by being molded thereto, a flat metal plate 9 having through it a slot 10, and two holes 11 spaced respectively from the ends of the slot.

For pivotally connecting the foot member wire portions 5 to the socket member 7, there is provided a substantially U shaped spring wire, having, as shown in Fig. 3, two parallel arms 12, an inverted U shaped portion 13 between the arms, and two, substantially alined, spiral portions 14 between the portion 13 and the arms 12.

The inverted U shaped portion 13 of the spring wire is inserted through the slot 10, and the arms 12 through the holes 11 and the rubber member 7 is cast about them in the manufacture of the connecting means, thus forming an integral unit for connecting the foot member with the handle. In making such connection, one end of the handle 6 is forced into the socket 8, and the end portions 5 of the foot member, are forced apart, as shown in Fig. 7, and inserted respectively into the spiral portions 14, as shown in dotted lines in Fig. 7.

As shown in Fig. 5, the spirals 14 are bent slightly at angles to each other, and their internal diameters are such that, when the portions 5 of the shoe member, resume their alined positions, as shown 3, and in dotted lines in Fig. 7, the spirals will tightly grip yet will pivotally embrace the portions 5 of the foot member. This construction prevents loose swinging of the foot member, yet permits the handle to be swung to and yieldingly held in different positions.

The construction shown in Figs. 8 to 12 is very similar to that just described. In the modified form shown in Figs. 8 to 12, the foot member corresponds substantially to that shown in Fig. 1, as does the soft rubber socket member 7'. In the modified construction, the metal plate 9 of the other form is omitted. Instead of a single spring wire being employed to connect the socket member with the foot member, two spring wires having one set of end portions 15, provided with two intermediate U shaped portions 16, are molded into the socket member 7'. The other end portions, outside of the socket member 7', are respectively provided with two spiral transverse

portions 17, which are mounted on and snugly fit the end portions 5 of the foot member.

As shown in Fig. 12, the spiral portions 17, before being mounted on the alined portions 5 of the foot member, are oblique to each other, whereby when mounted on the portions 5, they will be constantly under strain pressing against said portions 5 and greatly increasing the frictional resistance of the spirals from turning on the alined portions 5, for holding the foot member from loosely swinging on the handle 6.

In the form shown in Figs. 1 to 7, the metal plate 9 serves to very much reduce the strain and wear of the spring portions 12 and 13 on the soft rubber socket member 7, due to pressure applied by the handle 6 on the spiral portions 14, the plate 9 absorbing the greater part of such applied pressure. By having the end portions 12 and the inverted U shaped portion 13 of the connecting wire member embedded in the soft rubber member 7, a strong connection is afforded for attaching the soft rubber member to the foot member end portions 5.

The transverse portion of the inverted U shaped member 13, furthermore, holds the end portions 12 of the wire from working out of the rubber socket member 7.

Other modifications of my invention, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:

1. In a mop having a wire foot member with two horizontal transverse alined end portions, in combination with a resilient member having at one end a socket adapted to receive a handle, a metal plate attached to the other end of said resilient member, and a resilient wire having two arms extending through said plate into said resilient member and having a portion embedded in said resilient member intermediate of and transverse to said arms, said wire being provided with two alined spiral portions respectively gripping and pivotally embracing said end portions.

2. In a mop of the kind described having a wire foot member with two alined end portions, in combination with a soft rubber member having means adapted for attaching it to a handle, and a resilient wire member having an inverted U shaped portion embedded in said rubber member with its arms extending downwardly outside of said rubber member, said wire member having two spirals pivoted respectively on said two end portions, and having one set of ends respectively joining with said two arms, the two end portions of said wire member respectively joining with the other set of ends of said spirals and extending into said rubber member.

ALVIN A. BOHNENBLUST.