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CLEANING IMPLEMENT

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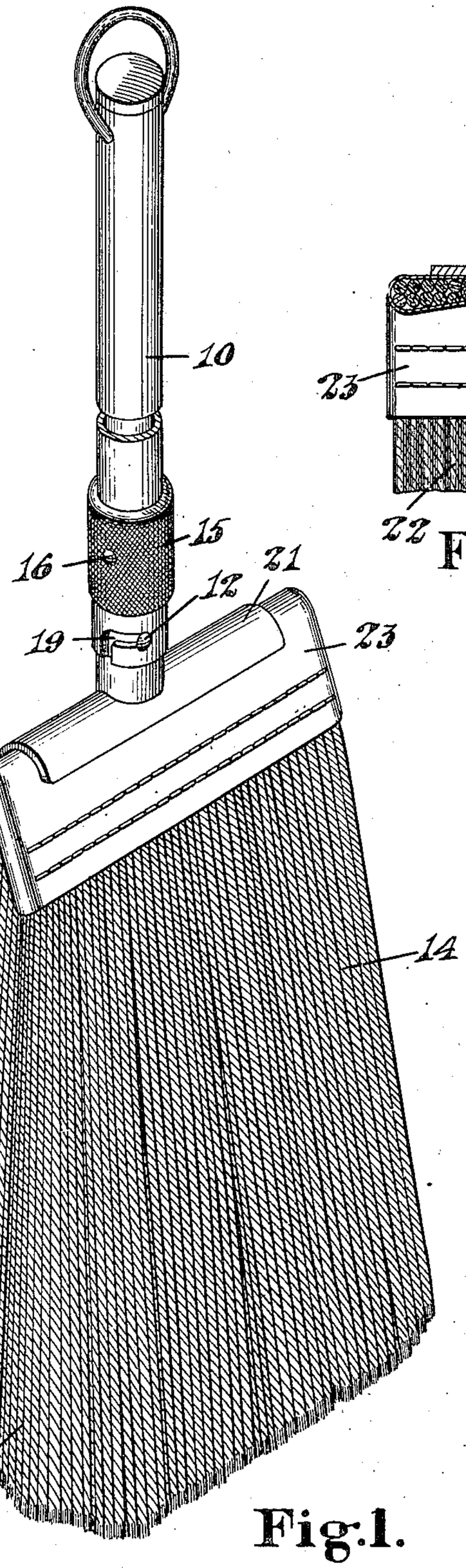


Fig.1.

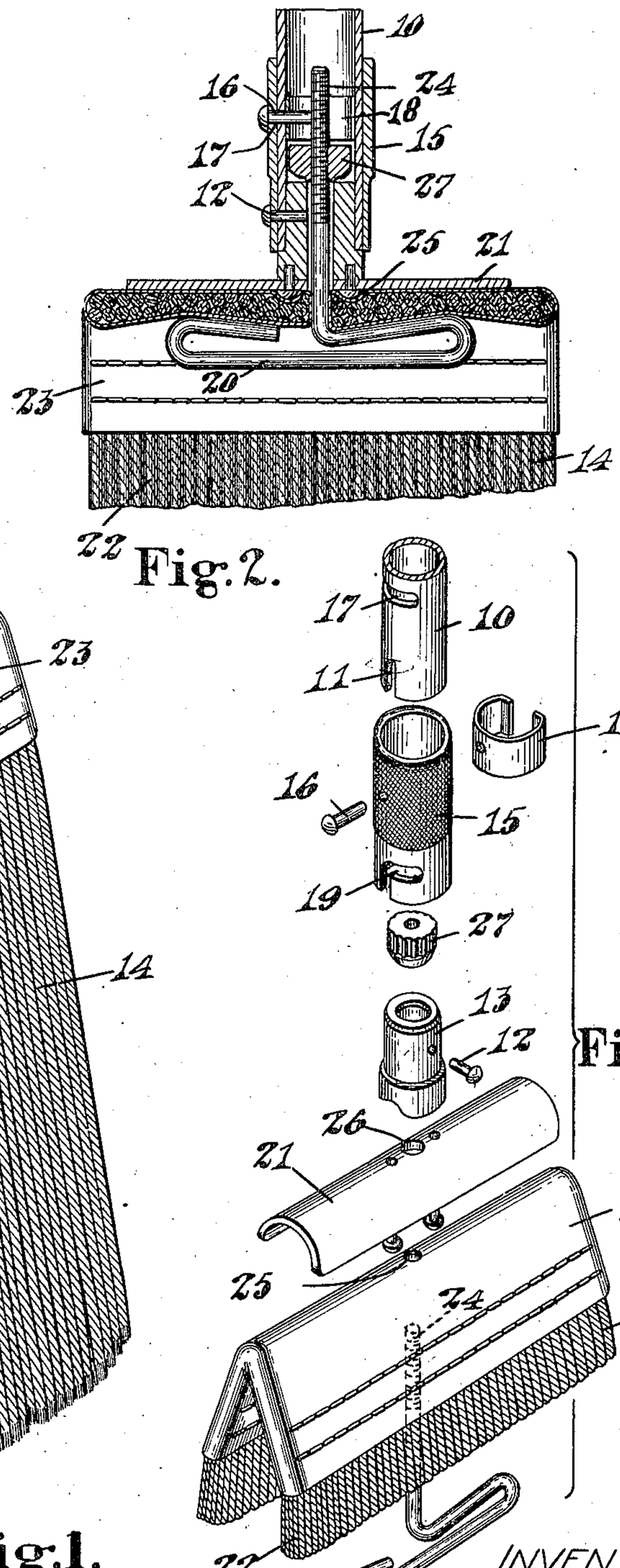


Fig.2.




Fig.3.

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## CLEANING IMPLEMENT

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4 Claims. (Cl. 306—23)

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The present invention relates to improvements in cleaning implements, such as mops, scrubbing brushes, brooms, squeegees, etc., and more particularly to means for coupling or uniting cleaning heads with the handle of the implement.

Mechanisms for detachably mounting a mop head or other cleaning head upon a handle are old and well known in the art. However, as far as known, it has been heretofore the general practice to so construct the head and the handle that only a head of a specific type is adapted to be mounted upon said handle.

One of the objects of the present invention is to provide an improved coupling between the head of a cleaning implement and the handle thereof whereby mop heads, brush bodies, broom heads, squeegees, and the like may be interchangeably attached to a universal handle, that is to say, so to construct the handle that practically all cleaning implement heads used in a normal household may be mounted on the handle, as occasion of the use of these implements arises.

Another object of the invention is to provide a coupling element which is capable of being attached to all of the cleaning elements above referred to, said coupling element being so constructed that it may be immovably mounted on a head, pivoted thereto, or arranged as to permit angular adjustment of the cleaning head on the handle.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination arrangement and construction of parts hereinafter described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the handle of the implement and of the cleaning head is illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the improved handle and a mop head mounted thereon;

Fig. 2 is a central longitudinal section taken through the handle, the mop head, and the coupling between the said two elements; and

Fig. 3 is an exploded view, in perspective, showing the several parts of the cleaning implement.

Referring now to the drawings, the numeral 10 indicates the handle of the implement, which,

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in the case illustrated, is shown as being in form of a tube, although this is not essential. For instance, the said handle may be in the form of a staff, to the lower end of which may be attached an open ferrule, projecting a substantial distance below the staff so as to form a socket in the handle. In the case illustrated, the tubular handle is open at its lower end, and the latter will be referred to hereinafter as a socket. From the open end of the handle extends upwardly a slot 11, running parallel with the longitudinal axis of the tube and serving to receive a pin 12 on a cylindrical stem 13, which is carried, in a manner hereinafter to be described, by the mop head 14. Surrounding the open end of the tube is a locking sleeve 15, part of which is knurled to facilitate manual operation of the same. The sleeve is oscillatably mounted on the handle by means of a lug 16, which extends through a slot 17 in the handle and carries a spring 18 which is disposed within the socket. The purpose of this spring is to prevent accidental turning of the locking sleeve when the implement is in operation. In the locking sleeve is formed a bayonet slot 19; the vertical leg of which extends from the lower end of the locking sleeve and merges into a horizontal leg. The length of said horizontal leg corresponds substantially to that of the handle slot 17, and the latter is so located that it permits the vertical leg of the bayonet slot to be brought into alignment with the handle slot 11, so that the pin 12 above-referred to may be fitted simultaneously into the slot 11 and the bayonet slot 19.

The mop head 14 comprises two clamping members 20 and 21, between which the mop material 22 is held. The mop material consists of a suitable number of strands, bound along their longitudinal center between fabric strips 23, which are fastened together, preferably, by sewing. The mop material is folded upon itself as shown in Figs. 1 and 3 of the drawings and placed between the clamping members 20 and 21. The clamping member 20 is, preferably, made of wire and includes a substantially vertical portion 24 that is screwthreaded at its free end. The vertical portion 24 is passed through holes 25 in the fabric strips and also through a hole 26 in the clamping member 21, it extending through and above the stem 13 already referred to. The stem 13 is immovably fixed to the clamping member 21, its pin 12 extending laterally thereon. A knurled nut 27 engages the threads of the vertical portion of the clamp 20, being adapted to bear against the free end of the stem 13, whereby

the members 20 and 21 are held in clamping positions upon the mop material.

When it is intended to assemble the mop head with the handle, first the locking sleeve 15 is moved upon the handle so that the vertical leg of its bayonet slot is brought into alignment with the handle slot 11. The pin 12 is then fitted into the last-mentioned two slots and the stem 13 shifted into the handle socket until the pin 12 is in alignment with the horizontal portion of the bayonet slot. The locking sleeve is then turned so that the pin 12 is brought into the horizontal portion of the bayonet slot, whereby the implement is ready for use. As mentioned heretofore, the spring 18 prevents accidental movement of the sleeve while the implement is in operation.

It is obvious that other cleaning elements, such as scrubbing brushes, squeegees and the like may be provided with the stem 13 above referred to, the latter being adapted to be fastened to mop frames, backs of brushes, or blade carrying frames of squeegees, for the purpose of coupling said mop frames, brushes or squeegees with the handle above-described.

The user having acquired different types of cleaning elements, that is mop heads, brushes and squeegees, is in a position to mount all of the same interchangeably on the handle as occasion arises.

For removing a cleaning element from the nandle, obviously the operations above recited for mounting the same on the handle are performed in the reverse order.

What I claim is:

1. The combination with a handle having a socket in its lower end, of a cleaning material supporting frame co-operating therewith, said socket being provided with a longitudinal slot running inwardly from its open end, a cylindrical stem mounted upon said frame adapted to be seated in said socket, a laterally extending pin on said stem for engagement with said slot, a locking sleeve oscillatably arranged on said handle over said socket and being provided with a bayonet slot having one leg capable of overlying said first-named slot and its other leg running at right angles thereto, whereby said pin is prevented from disengagement from said first-named slot when said locking sleeve is turned so that one of its legs is brought out of alignment with said first-named slot, and a spring mounted on said sleeve and bearing against the



inner surface of said socket to prevent accidental turning of said sleeve on said handle.

2. In a combination according to claim 1, said spring being wholly disposed within said socket.

3. The combination with a handle having a socket in its lower end, of a cleaning material supporting frame co-operating therewith, said socket being provided with a longitudinal slot running inwardly from its open end, a cylindrical stem mounted upon said frame adapted to be seated in said socket, a laterally extending pin on said stem for engagement with said slot, a locking sleeve oscillatably arranged on said handle over said socket and being provided with a bayonet slot having one leg capable of overlying said first-named slot and its other leg running at right angles thereto, whereby said pin is prevented from disengagement from said first-named slot when said locking sleeve is turned so that one of its legs is brought out of alignment with said first-named slot, said socket being provided with a slot running at right angles to said first-named socket slot, a lug fixed to said sleeve extending through the socket slot which runs at right angles to said first-named slot, and a spring mounted on said lug and bearing against the inner surface of said socket to prevent accidental turning of said sleeve on said handle, said lug limiting the oscillating movement of said sleeve on said socket.

4. In a combination according to claim 3, said spring being wholly disposed within said socket.

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