

Sept. 29, 1953

I. J. NICOLI

2,653,341

SPONGE MOP AND THE LIKE

Filed Feb. 11, 1950

2 Sheets-Sheet 1

Fig. 1.

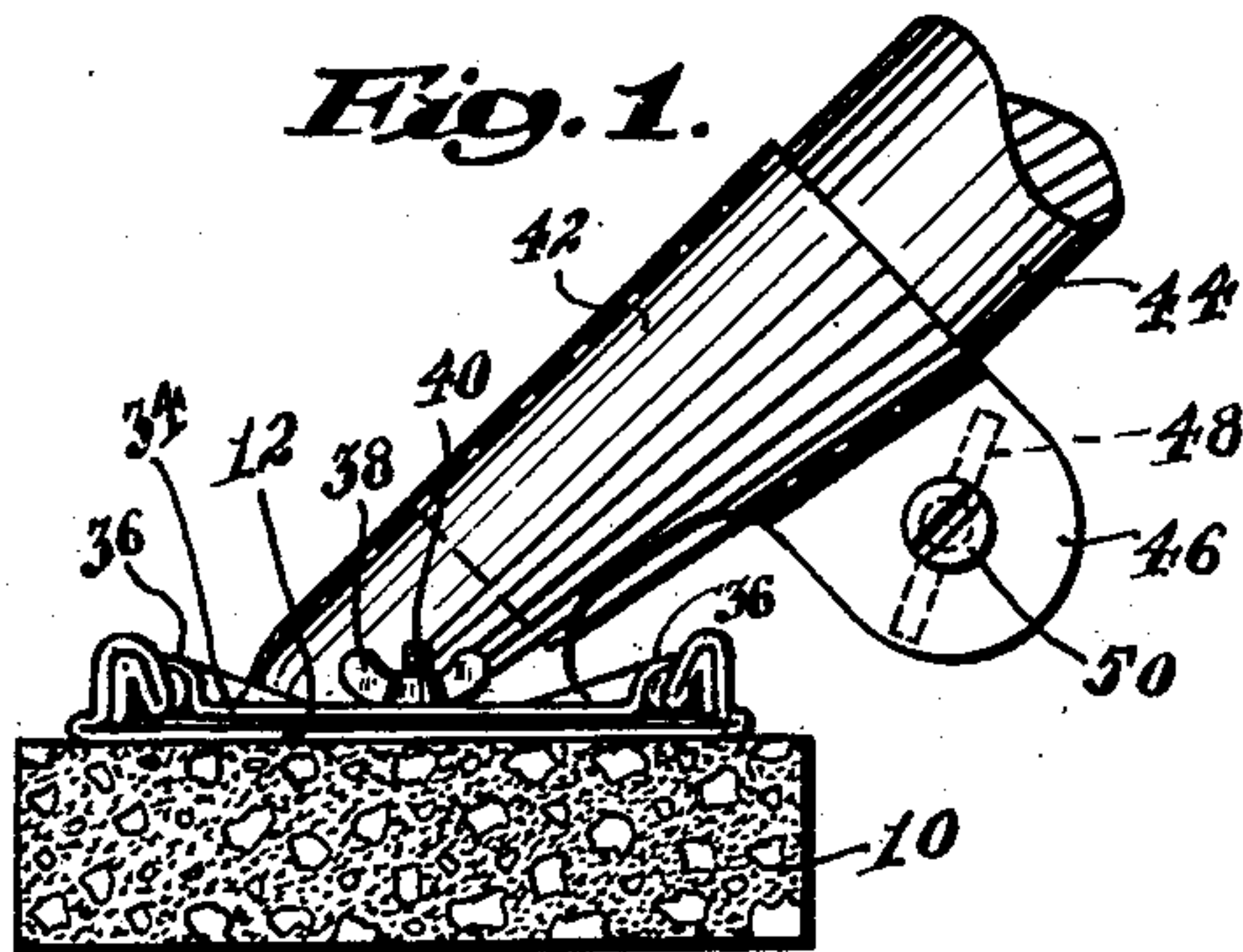


Fig. 2.

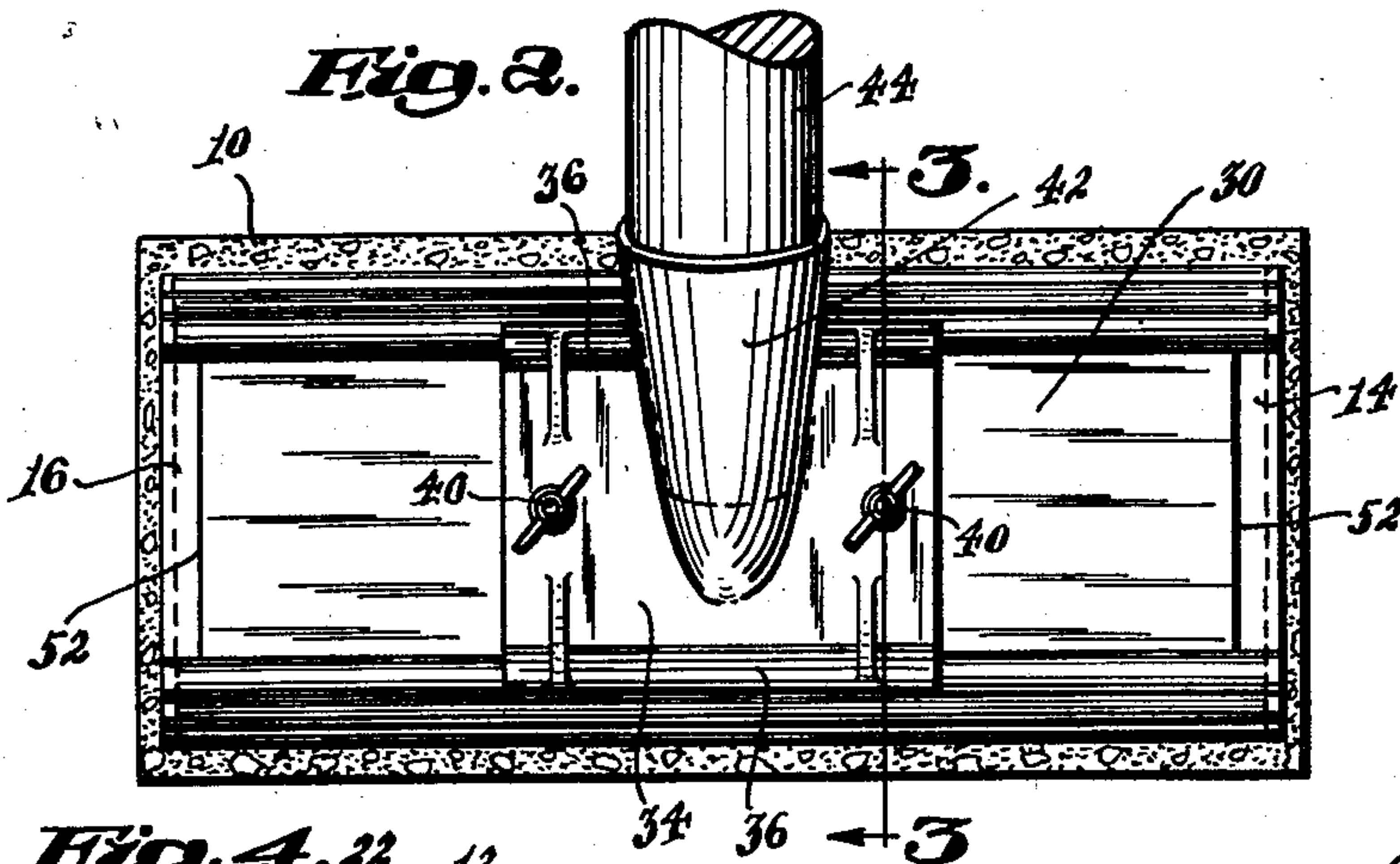


Fig. 4.

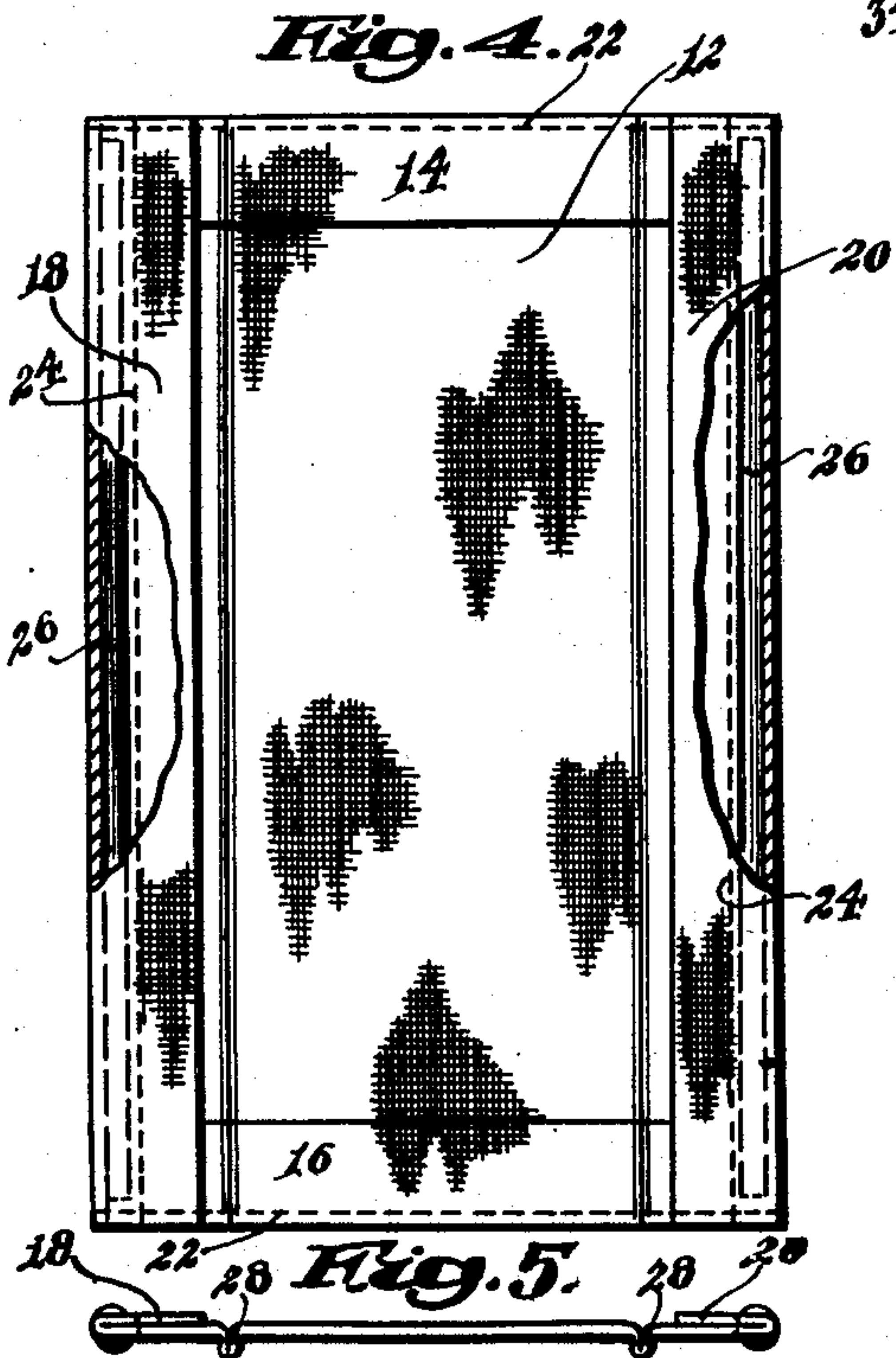


Fig. 3.

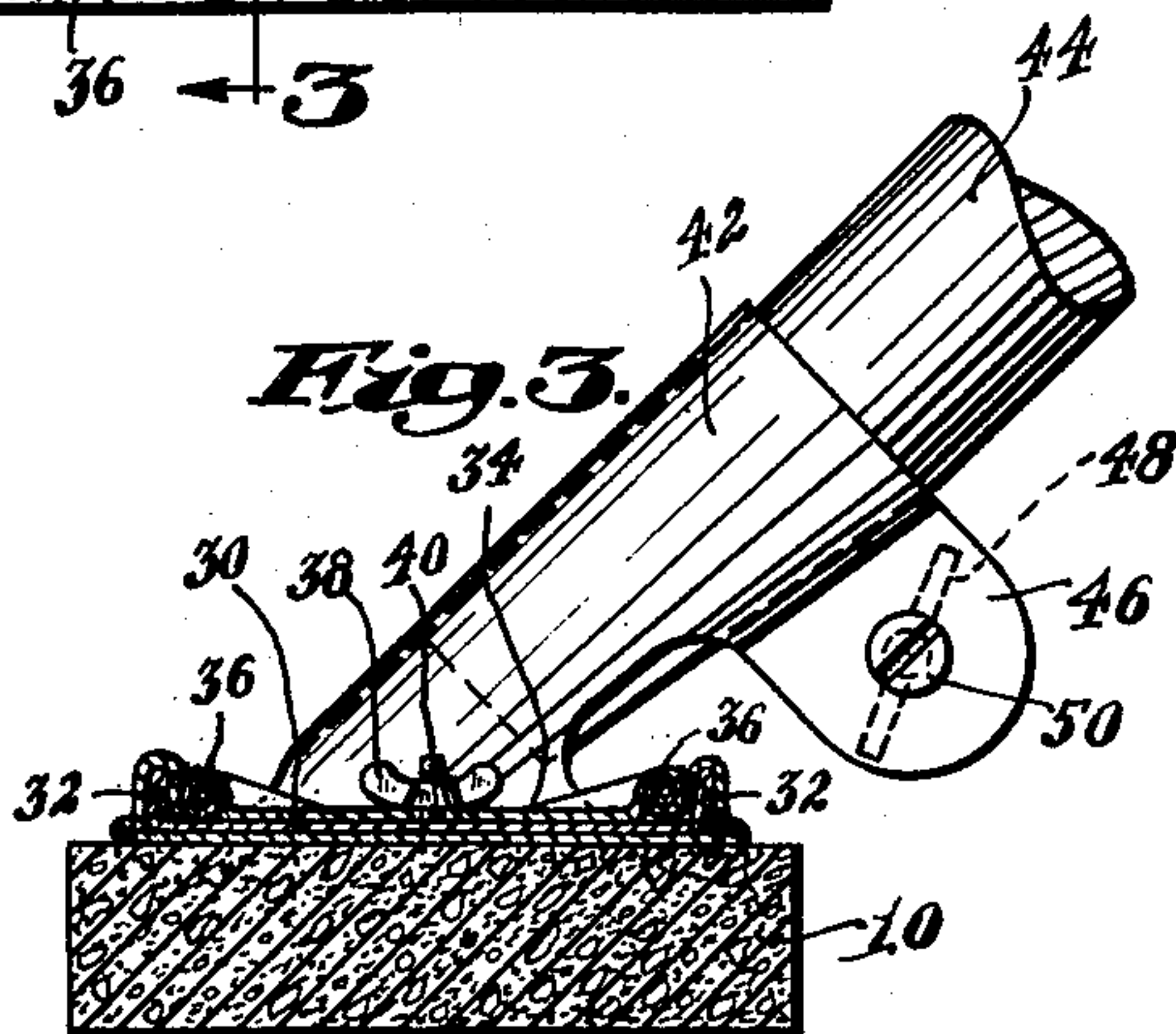


Fig. 6.



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Fig. 7.

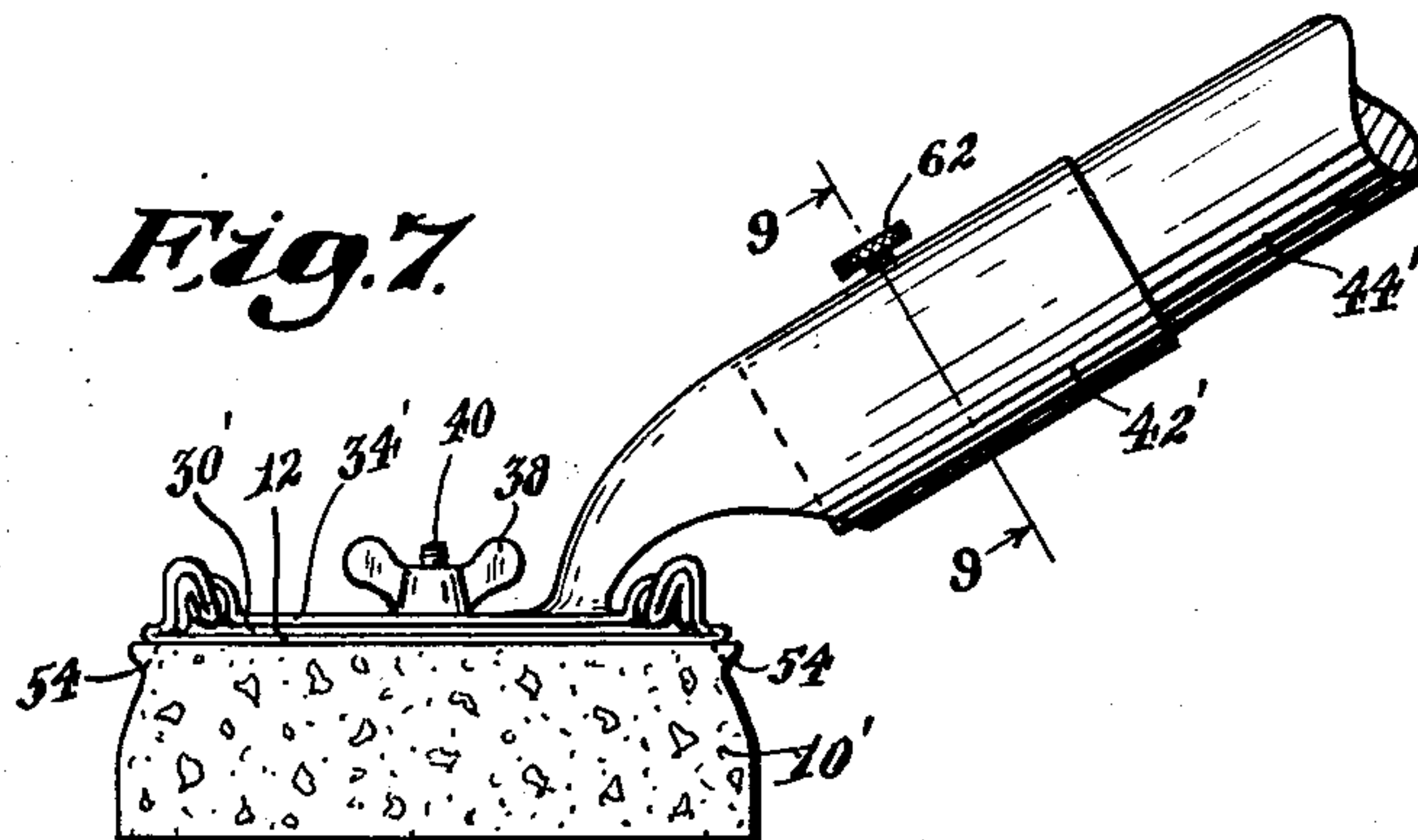


Fig. 8.

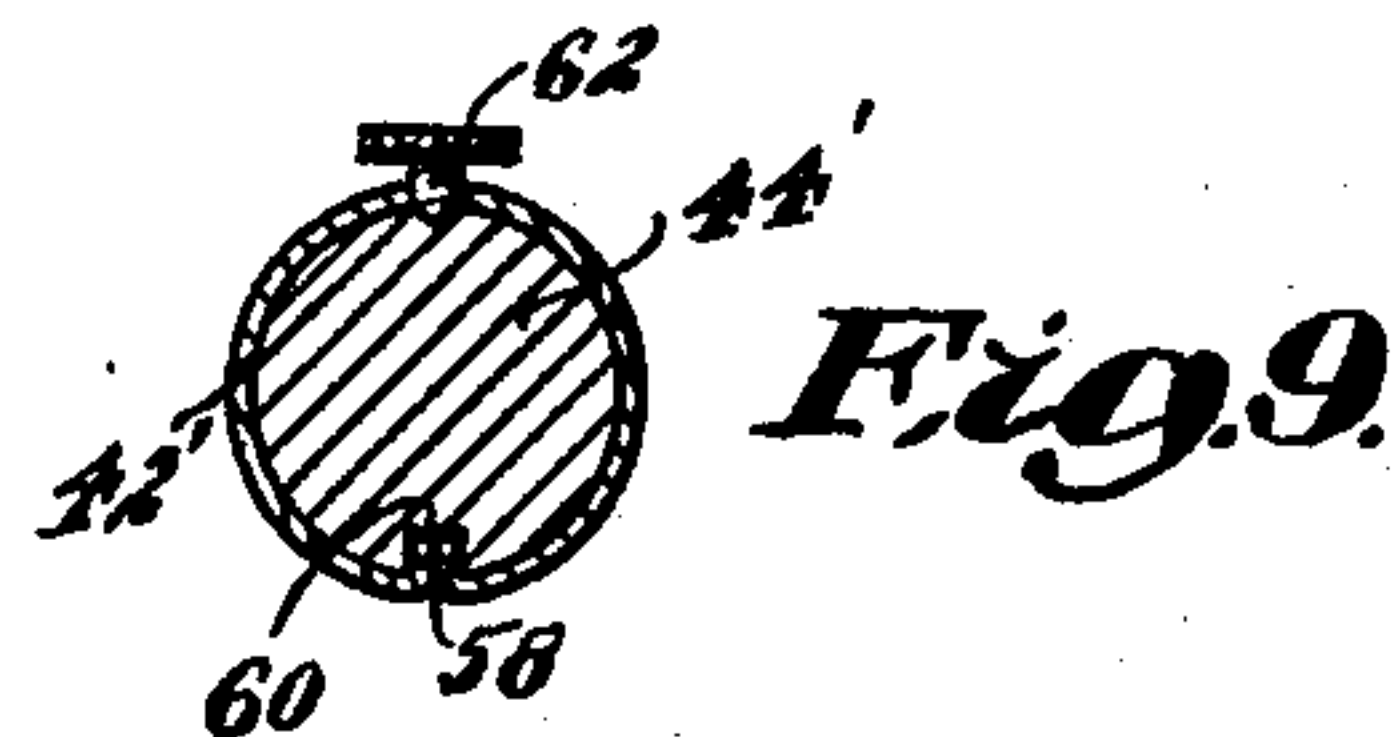
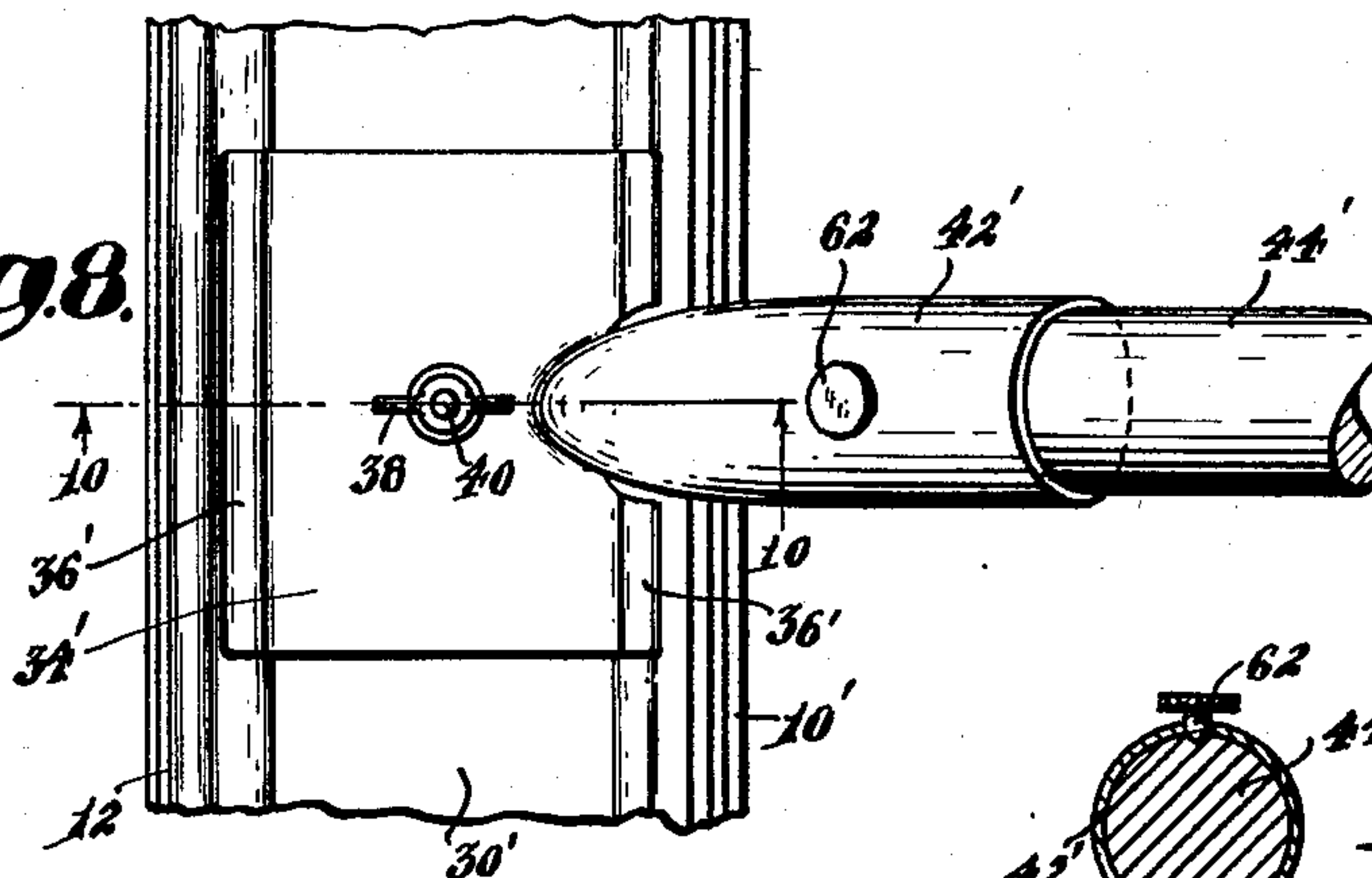


Fig. 9.

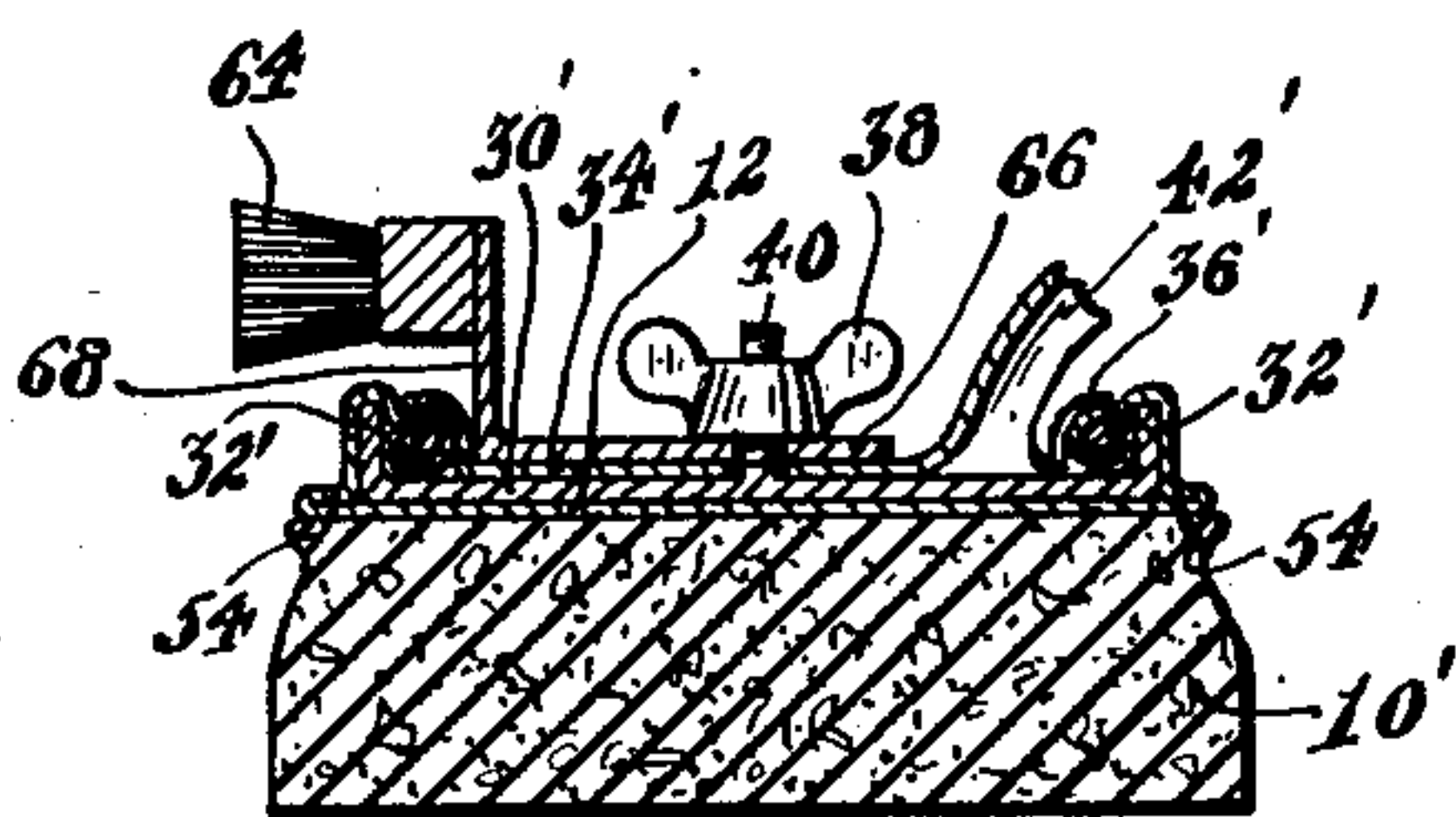


Fig. 10.

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UNITED STATES PATENT OFFICE

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SPONGE MOP AND THE LIKE

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5 Claims. (Cl. 15—244)

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This invention relates to improvements in mops and comparable devices for cleaning floors and walls. More particularly it provides improvements in mops and the like wherein a sponge constitutes the cleaning element and a handle is removably secured to the sponge to facilitate movements of the sponge over the surface of a floor or wall which is being cleaned.

Mops of the general type to which the invention relates have been available heretofore but the manner of removably mounting the sponge on the supporting head of the mop has not been entirely satisfactory, and all of the prior mops of this general type, so far as I am aware, have been open to the objection that rigid parts of the sponge-supporting heads frequently come into scratching or otherwise marring contact with the surface being cleaned or with an adjacent surface along which the sponge is being moved.

It is among the objects of the present invention to provide a sponge-type mop having improved means for effecting removable connection of a sponge to the supporting head of the mop, whereby the sponge is more effectively secured to its supporting head and more readily removable and replaceable, as compared with the prior comparable mops of which I am aware. I provide a fabric member which is cemented and/or stitched to the sponge and which has side flaps for folding inward over side flanges of a rigid backing-plate-element of the head, each side flap of the fabric member having a rigid edge-bead thereon adapted to be clamped against the backing-plate element, inside the side flanges of the latter, by a clamping plate to which the mop handle is rigidly secured.

Another object is to provide a sponge-type mop having its sponge removably secured to a rigid backing-plate element of the mop head and having all edge portions of the backing-plate element protectively covered, or adapted to become covered in use of the mop, whereby no rigid edges of the backing-plate element can come into scratching or other marring contact with a surface along which the sponge is being moved. According to the invention, a fabric member is secured to the sponge and removably secured to the backing-plate element, with portions of the fabric member enclosing edges of the backing-plate element or extending to positions for protectively covering exposed edges of said element when the sponge yields, in use, toward a said exposed edge.

It is, moreover, my purpose and object gen-

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erally to improve sponge-type mops and more particularly the means for removably securing a sponge to a mop handle.

In the accompanying drawings:

Fig. 1 is an elevational view of a sponge-type mop embodying features of the present invention, the major portion of the handle being broken away;

Fig. 2 is a top plan view of the mop of Fig. 1;

Fig. 3 is a cross-sectional view on line 3—3 of Fig. 2;

Fig. 4 is a top plan view of the fabric member to which the sponge is secured, it being spread flat and having portions broken away to expose the rigid rods in the edge pockets of the side flap portions of the fabric member;

Fig. 5 is an end view of the fabric member of Fig. 4;

Fig. 6 is a cross-sectional view approximately on line 3—3 of Fig. 2, on a larger scale, showing one of the beaded side flaps of the fabric member in clamped position and showing the other beaded flap in a position prior to being pressed downward into position to be engaged by the clamping plate, portions of the clamping plate and handle socket being broken away;

Fig. 7 is a view similar to Fig. 1 but showing a modified form of the invention;

Fig. 8 is a top plan view of the mop of Fig. 7;

Fig. 9 is a cross-sectional view on line 9—9 of Fig. 7; and

Fig. 10 is a cross-sectional view on line 10—10 of Fig. 8 but showing a brush attachment in place on the mop of Figs. 7 and 8.

Referring to the drawings, and more particularly to Figs. 1-6, a rectangular sponge 10 has a fabric sheet member 12 cemented or otherwise secured to its upper surface. Preferably, the sheet member 12 will be of canvas or duck, with a marginal portion at each side and each end folded inward as best seen in Fig. 4, where the in-folded end margins are represented at 14, 16 and the in-folded side margins are indicated at 18, 20. The in-folded margins are stitched across the ends of member 12, as at 22, and are stitched along the sides of member 12, as at 24, the stitches at 22 at the ends being relatively close to the fold lines, while the stitches at 24 along the sides are spaced inward from the fold lines to provide a pocket along each side edge of member 12 within which a relatively rigid rod 26 is enclosed. Actually, the side stitching at 24 may be done after a rod 26 has been positioned within a folded side margin 18, although, if desired, the side folds may be

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stitched at 24 to provide pockets into which the rods 26 may be inserted endwise, in which case, the end stitching at 22 will be done subsequently at at least one end of the member 12, so that the rods 26 may be inserted through an open end of each side pocket, after which the open ends of the pockets will be closed by the end stitching at 22. If the stitching at 24 is done while the rods are in place within the marginal folds 18, 20, the end stitching 22 along both ends may be done before stitching along the lines 24.

The sheet member 12 also is folded upon itself along two parallel lines a little inward of the edges of the infolded side margins 18, 20 and are stitched as at 23, these latter stitched folds determining the width of sheet member 12 which will be in contact with the sponge 10, as best seen in Figs. 1, 3 and 6.

A rigid plate 30 has length a little less than the fabric sheet member 12, and has upstanding side flanges 32 over which side portions of the fabric member 12 may be turned to bring the enclosed rods 26 on the inside of the plate flanges 32. The flanged plate 30 has width slightly less than the width of fabric member 12 between the fold stitches at 23, so that its flanges 32 may enter between the two thicknesses of fabric along the in-folded side margins 18, 20, with the end stitches 22 confining the flanges against endwise movement relative to fabric member 12 and maintaining end portions of the fabric member 12 in covering relation to the end edges of the flanges.

After the plate flanges 32 have been inserted between the two thicknesses of fabric along the in-folded side margins 18, 20, the enclosed rods 26 are pressed inward and downwardly so as to extend along the inner sides of flanges 32.

A relatively small clamping plate 34 next is secured in place on the rigid plate element 30, it having lips 36 along its opposite side edges for engaging the enclosed rods 26 for forcing them downward during the securing of the clamping plate 34 to the plate element 30. This securing of clamping plate 34 may be accomplished in any suitable manner, as by the wing nuts 38 on screws 40 which latter may be fixed to plate element 30, as in Fig. 6, and extend loosely through holes in clamping plate 34. Conveniently, the clamping plate 34 may have a socket member 42 thereon for reception of a handle 44 to which the socket member may be secured in any suitable manner, as by being of split construction with projecting spaced ears 46 by which the socket walls may be closed upon the handle when a wing nut 48 is tightened on a screw or bolt 50 extending through the ears 46.

It will be apparent from the foregoing description, in connection with Figs. 1-6 of the drawings, that the sponge 10 becomes effectively and rigidly backed by the relatively large rigid plate element 30 to which it becomes securely clamped by the coaction of the enclosed rods 26 and the clamping plate 34. The ends of the plate element 30 stop substantially short of the ends of the fabric member 12, and the ends of the flanges 32 of plate member 30 are effectively enclosed and protected against contact with a surface along which the sponge 10 is being wiped. The sponge itself projects a little beyond the fabric member 12 at both sides and both ends of the mop. When an end of the sponge is pressed against a surface, the sponge will yield and the extra length of the fabric member 12 will yield

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to cover and protect the end edge of plate element 30, where it extends between the plate flanges, as seen at 52 in Fig. 2. The ends of the flanges are covered by the stitched infolded end portions of the two thicknesses of fabric between which the main extents of the flanges are enclosed. Hence, no metal or other scratching or marring element of the mop can come in contact with any surface along which the mop is being moved. Actually, when the sponge is secured to its backing plate, four double thicknesses of the fabric 14 are relatively closely associated in projecting relation to each end of each flange of the backing plate, as best seen in the end views of Figs. 1 and 7 wherein each portion of the fabric between adjacent lines is a folded double-thick edge due to the infolded end margin 16 and the infolded side margins 18, 20, as clearly shown in Fig. 4. In Fig. 5, the fabric between adjacent parallel lines is folded fabric of two thicknesses of the fabric sheet. These four-fold projecting portions of the fabric constitute cushioning bumpers at the opposite ends of the mop for resiliently and harmlessly and noiselessly engaging mop-boards, walls or furniture, as compared with the prior harmful and noisy engagements of solid parts of the prior mops under similar conditions.

It should be noted also that each fold of the fabric secured by the stitches 23 constitutes a yieldable bumper rib projecting outwardly from and extending along each of the covered flanges of the backing plate. If the sponge yields in use, or shrinks, to the outer edge of one of these side bumper folds, the folded fabric bead yieldably engages the wall or object being worked upon rather than the relatively solid covered plate flange.

Another very definite advantage of my improved mop is the ease with which a sponge 10 may be mounted or removed from its holder. The sponges 10 will be available in proper sizes with a fabric member 12 secured thereon, so that sponges 10 will be quickly interchangeable.

Figs. 7, 8 and 10 illustrate a modified form of mop, or comparable cleaning device, wherein the fabric member 12 may be substantially the same as in the Figs. 1-6 form, but the sponge 10' is stitched at 54 to the fabric member 12 along both sides of the member 12. This stitching preferably will be in addition to a cement securing of the sponge to member 12 although the stitching alone in some cases may be adequate.

The clamping plate 34' of the Figs. 7, 8 and 10 form requires but a single wing nut 38 and screw 40 for securing it in place on a plate element 30' which may be in all respects the same as plate element 30 excepting that the edges of the side flanges 32' of plate element 30' are not turned over upon themselves, it being assumed that flanges 32' will have adequate inherent rigidity without any stiffening due to a turned over edge. The socket member 42' is integral with clamping plate 34', it being represented as formed from a sheet of metal with opposed edges turned inward to provide a key 58 for slidably engaging in a longitudinal slot 60 in a handle 44'. A set screw 62, or the like, may secure the handle against pulling out of the socket member.

While the sponge 10 or 10' ordinarily is adequate for effectively cleaning floors and walls, it sometimes is desirable to apply a greater scrubbing force to particular regions than can be applied with a sponge. For this purpose, a bristle-

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brush attachment is shown in Fig. 10, clamped in place by the same wing nut 38 which secures the clamping plate 34'. The brush 64 projects outward a little beyond the plane of one side of the sponge 10', generally opposite the socket member 42', and may have any desired length less than the length of the plate elements 30'. Its mounting bracket will have a foot part 66 for resting on the clamping plate 34', and an upstanding part 68 fitting snugly against a lip 36' of the clamping plate 34', whereby the single wing nut securement can clamp it securely in place. Obviously, a similar bristle-brush attachment may be mounted on the mop of the Figs. 1-6 form, in which case the mounting bracket would have spaced foot portions for clamping engagement by the two wing nuts 38.

If desired, a conventional squeegee device for wiping windows may be mounted on the mop in place of the brush 64, by means of a bracket with foot parts 66 similar to the bracket as illustrated for the brush.

While I have shown and described specific embodiments of my invention which presently appear to be preferred embodiments, various modifications will be obvious, and it is intended that the patent shall cover, by suitable expression in the appended claims, whatever features of patentable novelty exist in the invention disclosed.

I claim as my invention:

1. In a mop, a generally rectangular cleaning element, a flexible sheet member secured to the upper surface of said cleaning element and having area in its secured operative position slightly less than that of the top surface of the cleaning element, whereby the cleaning element extends beyond the flexible sheet member at all four edges of the latter, said flexible sheet member being folded to provide plural thickness flap portions at each of its two opposite side edges, and each said flap portion having a beaded longitudinal edge and having its plural thicknesses stitched together at its opposite ends, a rigid backing-plate element engaging the flexible sheet member between said flap portions and terminating short of the opposite ends of said flexible sheet member, said backing-plate element having two upstanding side flanges and each said flange being inserted between said plural thicknesses of a said flap portion with said end stitches of the flap portion restraining relative longitudinal movement between the flange and the flap portion, said beaded edges of the flap portions being turned inward over said flanges, and handle mounting means removably engaging generally flatwise against a central portion of said backing-plate element and holding said beaded edges of the flap portions in their positions turned inward over said flanges.

2. In a mop, a cleaning element, a flexible sheet member secured to the cleaning element and having flap portions at opposite side margins thereof, each said flap portion being folded to provide a plurality of thicknesses of the sheet material therein and each flap portion having its said plurality of thicknesses of sheet material stitched together at the opposite ends of the flap portion, a relatively rigid bead extending along the longitudinal edge of each said flap portion, a rigid backing-plate element engaging said flexible sheet member between said flap portions and having rigid upstanding parallel flanges along its opposite side edges, each said rigid flange being inserted between said plurality of

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thicknesses of a said flap portion and having longitudinal extent therebetween approximately equal to the length of the flap portion between said stitched ends thereof, said beaded edges of said flap portions being turned inward over said rigid flanges of the backing-plate element, clamping means arranged generally flatwise against said backing-plate element at a location centrally between the ends of said element and between said inwardly turned beaded edges of said flap portions, said clamping means having portions outward from said backing-plate element engaging said beaded edges of the flap portions and holding them in their positions turned inward over said rigid flanges, and a handle projecting from said clamping means.

3. In a mop, a sponge constituting a cleaning element, a flexible sheet member secured to a surface of the sponge and having flap portions extending along opposite side margins thereof, each said flap portion having two thicknesses of the sheet material therein throughout the major part of the extent of the flap portion and having at least two thicknesses of the sheet material at the opposite ends of the flap portion, said sheet material being folded upon itself along the base of each said flap and the two thicknesses of the sheet material along the folded edge being stitched together inward of the folded edge and along the said base of the flap whereby the said folded edge constitutes a buffer outward of and along the base of the flap, means securing together the thicknesses of sheet material in each flap portion across the opposite ends of each flap portion and leaving an edge of one thickness of sheet material free of the adjacent thickness of sheet material along said major part of the extent of each flap portion, a rigid backing-plate element engaging said flexible sheet member between said flap portions and having upstanding parallel flanges along the opposite sides of the backing-plate element, each said flange being inserted between the said two thicknesses of sheet material of a said flap portion at the said major part of the extent of the flap portion, each said flap portion having width substantially greater than the height of the inserted plate flange whereby a substantial excess of flap portion is available and turned inward over the plate flange, said backing-plate element and its flanges having length substantially less than the length of said flexible sheet member and its flap portions whereby said sheet member projects appreciably beyond the ends of the backing-plate element, and a plurality of thicknesses of the sheet material are associated together at each end of each said turned-inward flap portion in projecting relation to the ends of each said plate flange, whereby said projecting edges constitute yieldable bumpers at the ends of the mop, and clamping means on said backing-plate element for engaging and securing said inwardly turned excess of each said flap portion in its inwardly turned position.

4. In a mop, a sponge constituting a cleaning element, a flexible sheet member secured to a generally flat surface of the sponge, a rigid generally rectangular backing-plate element engaging said flexible sheet member and having generally parallel upstanding flanges extending along two opposite sides thereof, said sheet member projecting beyond the backing-plate member at its said two opposite sides and at its opposite ends, and the sheet material of said sheet member being folded upon itself along each said pro-

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jecting portion thereof, and the thicknesses of the sheet material at each fold being stitched together along and inward of the folded edge whereby each said stitched fold constitutes a resilient bumper projecting beyond and extending along each side and each end of said backing-plate element, said sheet member having two flaps of flexible sheet material extending along the opposite sides thereof, each said flap having a pocket therein extending longitudinally along the inner side of the flap and open toward the base of the flap, and each said flap having a substantial longitudinal portion extending along the margin of the free longitudinal edge of the flap and outward of the said pocket, a said flange of the backing plate element being inserted into each said flap pocket, and said substantial longitudinal marginal portions of the flaps which are outward of the flap pockets being turned inward over the flanges of the plate with the flap material at the ends of the flaps projecting as resilient bumpers beyond the ends of the plate flanges, and clamping means between the flanges of the backing-plate element engaging said substantial longitudinal marginal portions of the flaps which are turned inward over the plate flanges and securing them in their inward-turned positions.

5. In a mop, a sponge constituting a cleaning element, a flexible sheet member secured to a surface of the sponge and having flap portions extending along opposite side margins thereof, each said flap portion having two thicknesses of the sheet material therein throughout the major part of the extent of the flap portion and having at least two thicknesses of the sheet material at the opposite ends of the flap portion, said sheet material being folded upon itself along the base of each said flap and the two thicknesses of the sheet material along the folded edge being stitched together inward of the folded edge and along the said base of the flap whereby the said folded edge constitutes a buffer outward of and along the base of the flap, means securing together the thicknesses of sheet material in each flap portion across the opposite ends of each flap portion and leaving an edge of one thickness of sheet material free of the adjacent thickness of sheet material along said major part of the extent of each flap portion, a rigid backing-plate ele-

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ment engaging said flexible sheet member between said flap portions and having upstanding parallel flanges along the opposite sides of the backing-plate element, each said flange being inserted between the said two thicknesses of sheet material of a said flap portion at the said major part of the extent of the flap portion, each said flap portion having width substantially greater than the height of the inserted plate flange whereby a substantial excess of flap portion is available and turned inward over the plate flange, means providing a substantial bead on and extending longitudinally of each said inward turned excess of flap portion, said backing-plate element and its flanges having length substantially less than the length of said flexible sheet member and its flap portions whereby said sheet member projects appreciably beyond the ends of the backing-plate element, and a plurality of thicknesses of the sheet material are associated together at each end of each said turned-inward flap portion in projecting relation to the ends of each said plate flange, whereby said projecting edges constitute yieldable bumpers at the ends of the mop, and clamping means on said backing-plate element for engaging said longitudinal beads on the said inwardly turned excesses of the flap portions in their inwardly turned positions.

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