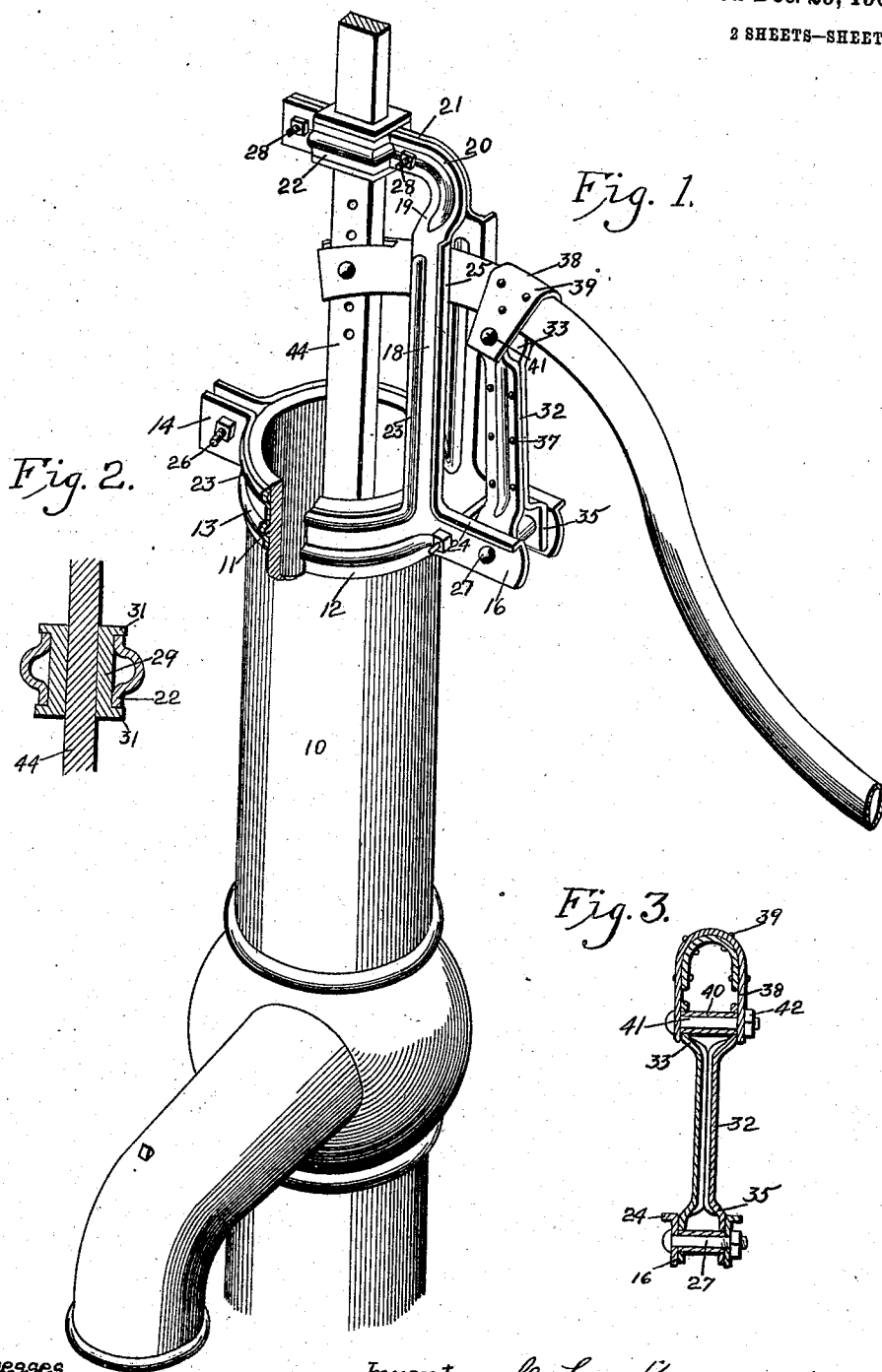


C. L. KENYON.
PUMP HANDLE AND TOP.
APPLICATION FILED MAR. 22, 1904.

908,009.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.



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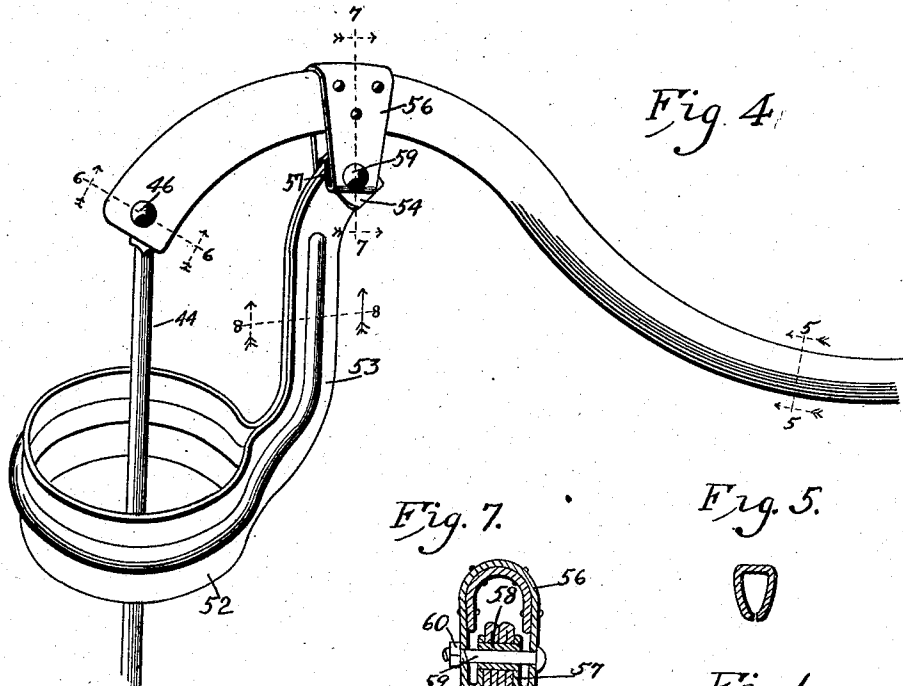


Fig. 4

Fig. 7.

Fig. 5.

Fig. 8.

Fig. 6.

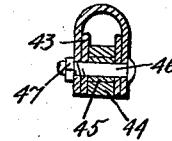
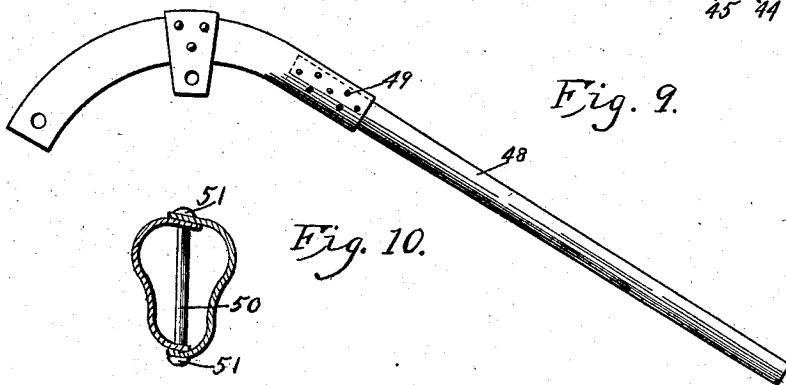
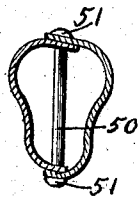


Fig. 9.

Fig. 10.



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UNITED STATES PATENT OFFICE.

CLAYTON L. KENYON, OF TAMA, IOWA.

PUMP HANDLE AND TOP.

No. 908,009.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed March 22, 1904. Serial No. 199,326.

To all whom it may concern:

Be it known that I, CLAYTON L. KENYON, a citizen of the United States, residing at Tama, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Pump Handles and Tops, of which the following is a specification.

The objects of my invention are to provide an improved pump handle and top made of sheet metal so that it cannot be easily broken and also to provide a pump handle and top so arranged that wear between the moving parts thereof is reduced to a minimum and when wear takes place, the parts may be readily, quickly and easily readjusted to take up wear and to prevent lost motion and rattling between the movable parts.

My invention consists in certain details in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 shows a perspective view of a pump stock with my improved handle and top applied thereto as in practical use. Fig. 2 shows an enlarged detail sectional view through the upper end of the pump top and rod. Fig. 3 shows a longitudinal sectional view through the link and connected parts. Fig. 4 shows a perspective view of a pump top, handle and rod of modified form. Fig. 5 shows a transverse sectional view through the line 5—5 of Fig. 4. Fig. 6 shows a transverse sectional view through the line 6—6 of Fig. 4. Fig. 7 shows a transverse sectional view through the line 7—7 of Fig. 4. Fig. 8 shows a transverse sectional view through the line 8—8 of Fig. 4. Fig. 9 shows a modified form of the pump handle, and Fig. 10 shows a transverse sectional view of a modified form of handle.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the pump stock. Near the top of the pump stock is an annular rounded rib 11 for purposes hereinafter made clear. The pump top is formed complete of two pieces of sheet metal. These pieces are counterparts of each other except, of course, that one is formed for the right and the other for the left side. Each part comprises a segmental collar piece 12 provided with an outwardly projected rounded rib 13. Said rib designed to receive the annular rib 11 and the body

portion of the collar is designed to engage the exterior of the pump stock. By forming the rib 13 to receive the rib 11 of the pump stock, I provide means by which up and down movements of the collar relative to the stock are prevented. At the front of the collar 12 is a forwardly projecting lug 14 and at the rear of the collar 12 is a rearwardly projecting lug 16. Near the inner end of the part 16, I have formed an upright 18 extending upwardly a considerable distance, then curved laterally at 19 and then curved inwardly at 20 over the center of the collar 12 and at the end of the curved portion 20, I have formed the arm 21. This arm 21 is provided with a laterally projecting portion 22 having square shoulders on its inner surface.

For strengthening the part just described, I have formed near the top of the collar 12, a rounded rim 23 which rim is continued upwardly to the top of the part 18. I have also provided an outwardly projecting rib 24 extended along the outer edges of the part 18 and I have provided for strengthening the part 22 by forming the rib 25 therein which rib projects outwardly, as clearly shown in Fig. 1. When the top sheet metal top parts, just described, are assembled, the top of the pump stock is surrounded by the collar formed by the parts 12 and a bolt 26 is passed through the opening in the lugs 14 to adjustably secure them together and a bolt 27 is passed through the lugs 16 to adjustably secure them together. The upright portions 18 stand spaced apart a considerable distance for the reception of the handle and link hereinafter described. The said parts, however, come together at the curved part 20 and the arms 21 are connected together by the bolts 28. The laterally extended portions 22 of the arms 21 are designed to receive a rectangular bearing block made of cast metal to receive the pump rod and to permit it to slide freely through said bearing. This bearing block is indicated by the numeral 29 and is provided with a rectangular opening and also with outwardly projecting flanges at its upper and lower ends which flanges overlap the tops of the parts 22. I have provided for supporting the pump handle between the rearwardly projecting lugs 16 by providing a link composed of two sheet metal parts. Each part having a straight central portion 32, an upper end portion 33 provided with an opening to receive the

handle bolt and the parts thereof are spread and a lower end portion 35 having an opening for a bolt and the parts thereof are also spread. Said body portion 32 is firmly
 5 connected together by the rivets 37. The lower end of said link is inserted between the extensions 16 and the bolt 27 is passed through the lugs 16 and the link and forms a pivot for said link and the upper end of
 10 the link is capable of moving in and out between the uprights 18.

The handle is formed complete of a single piece of sheet metal. The central portion of the handle is approximately oval in
 15 section as shown in Fig. 5. Near the fulcrum point of the handle, the sides are relatively wide apart and a fulcrum strip 38 is secured by rivets 39 to the outer surface of the handle, the lower ends thereof extend
 20 downwardly below the handle. To connect the fulcrum piece 38 with the top of the link, I insert a sleeve 40 through the upper ends of the link and then pass a bolt 41 through the fulcrum strip 38 and through
 25 the sleeve 40 and provide a nut 42 for the end of the bolt. In this way, the said sleeve holds the lower ends of the fulcrum strip spaced apart to give a maximum resistance to lateral movement of the pump
 30 handle and the said parts being made of sheet metal are yieldingly held together so that they will not rattle when the pump handle is operated. Furthermore in case wear should take place, it is only necessary
 35 to adjust the nut 42 thus bringing the parts closer together and take up the wear and thereby preventing the parts from working loose or rattling.

The inner end of the pump handle is formed
 40 with flat, parallel sides and the end portions of the metal are doubled inwardly and then backwardly parallel with the sides forming the reinforcing pieces 43. I connect the inner end of the handle with the pump rod, as follows: The
 45 numeral 44 indicates the pump rod which is passed through the inner end of the handle between the reinforcing sides thereof. I pivot the handle to the pump rod by placing a sleeve
 50 45 through the pump rod 44 and allowing the ends of the sleeves to project slightly beyond the sides of the pump rod. I then place a bolt 46 through the sides of the pump handle and through the sleeve and place a
 55 nut 47 on one end of the bolt then by drawing up the nut, the sides of the pump handle are yieldingly held against the ends of the sleeve. Thus the wear takes place between the pump rod and the sleeve and is not
 60 thrown upon the bolt and if the parts should become loose, the wear may be taken up by adjusting the nut 47.

In the modified form shown in Fig. 9, I have provided a wooden handle 48 inserted in the end of the sheet metal handle and held
 65 in place by rivets 49.

In the modified form shown in Fig. 10, I have shown a pump handle made of two pieces of sheet metal forming a pump handle substantially oval in cross section. The parts being divided at their top and bottom
 70 and the edge portions overlapping each other. The said parts being connected by a rivet 50 extended through the overlapping ends above and below. Said rivet provided with heads
 75 51 at its ends which heads prevent the edges of the parts from springing outwardly while the resiliency of the sheet metal of which the parts are formed prevents them from springing inwardly.

In the modified form shown in Fig. 4, I
 80 have shown a pump top made of a single piece of sheet metal designed to be used in places where the pump rod extends only to the pump handle and does not project above it. This top comprises a collar 52 formed in
 85 the central portion of the piece of sheet metal. The ends of the sheet metal brought together and projected upwardly at 53 forming a standard and the end portions doubled outwardly and then backwardly over the sides
 90 at 54 to reinforce and strengthen the ends of the upright. An opening is formed in the said overlapping ends. When this pump top is used, I connect it with the handle by providing a fulcrum strip 56 riveted to the pump
 95 handle and having its lower ends inclined inwardly and then upwardly at 57. The end portions being spaced apart slightly from the sides of the fulcrum strip. I then place a sleeve 58 in the opening 55 and pass a bolt 59
 100 through the fulcrum strip and through said sleeve and place a nut 60 on the end thereof, as clearly shown in Fig. 7.

In practical use, I attach the pump top to the pump stock by placing the sides of the
 105 collar 12 around the pump stock and passing a bolt 26 through the extensions 14 at the front. I then connect the link and the handle, as shown in Fig. 3 and then connect the link with the projections 16 by means of the
 110 bolts 27. I then pass the pump rod 44 through the bearing block 29 and pivotally connect it with the handle, as shown in Fig. 1. The sides of the pump top are strengthened and reinforced by the ribs 13 and 23
 115 and the flange 24, and the top is prevented from up and down movement on the pump stock by the rib 13 engaging the rib 11.

Obviously the handle and top being made of sheet metal will not be broken if accidentally struck and the pump top being made of sheet metal, braced by ribs formed in the metal cannot be broken by rapid movements of the pump handle, or when the pump handle is accidentally forced laterally, the pump
 120 top may be caused to bend laterally without breaking it and it could be easily straightened. All of the joints of the handle, top and link are so arranged that there will be a minimum of wear and this wear will fall upon the
 130

sleeve rather than upon the bolt and if any of the joints should become loose they may be readily tightened to take up wear by simply turning the nuts upon the bolts.

5 Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States therefor is:—

1. The combination of a pump handle body portion formed of sheet metal, and a reinforcing piece shaped to fit the handle at the point where it is attached, and means for fixing the reinforcing piece to the handle, said reinforcing piece also shaped to form a fulcrum for the pump handle.

15 2. The combination with a pump stock having an annular rib at its upper end, of a pump top comprising a collar made of sheet metal provided with a rib formed by bending the sheet metal outwardly, said collar encircling the pump stock and having the rib of the pump stock inserted in the rib formed in the collar, said collar also provided with two integral arms at one side forming a fulcrum for a pump handle.

25 3. The combination with a pump stock having an annular rib at its upper end, of a pump top comprising a collar made of sheet metal provided with a rib formed by bending the sheet metal outwardly, said collar encircling the pump stock and having the rib of the pump stock inserted in the rib formed in the collar, said collar also provided with two integral arms at one side forming a fulcrum for a pump handle, said arms also having their outer end portions doubled back over the arms to reinforce the end portion thereof.

4. The combination with a pump stock having an annular rim around its top, of a pump top formed of sheet metal and provided with a rib formed by bending the sheet metal outwardly, said rib receiving the rib on the top of the pump stock, for holding the pump top against vertical movement on the pump stock, said pump top formed with upward projections at one side spaced apart, the upper ends of the projections secured together and extended over the central portion of the pump top and a bearing block supported in said upper ends.

50 5. The combination with a pump stock and a pump rod, of a pump top made of two pieces of sheet metal, each piece comprising a collar portion having projections at its end portions, said collar portions provided with upwardly projecting arms spaced apart, the upper end portions of said arms brought together and inclined laterally over the collar portion, a link made of two sheet metal portions connected with each other, their lower ends inserted between two of the projections on the collar portion, a bolt passed through the said projections on the collar portion and through the lower end of the link, a sleeve surrounding the central portion of the bolt passed through the link and resting against the in-

ner faces of the said projections, a nut on one end of said bolt, a pump handle pivoted to the link and to the pump rod, the upper end of the pump rod guided by the arms that project over the collar.

6. The combination with a pump stock having an annular rib around its upper end, a pump top formed of two pieces of sheet metal, each piece comprising a collar portion formed with an outwardly projecting rib to receive the rib of the pump stock, projections at the ends of said collar portions, an arm on each collar portion projected upwardly, said arms spaced apart, ribs formed on the collar portions and arms by bending the metal outwardly, reinforcing margins formed on the said arms and on the adjacent extensions by bending the edges of the metal outwardly, the upper ends of the arms secured together and provided with laterally projecting portions, a bearing block supported between the upper ends of the said arms in the laterally projecting portions thereof and provided with flanges at its upper and lower ends to overlap the edges of the said arms, for the purposes stated.

7. The combination with a pump stock having an annular rib around its upper end, a pump top formed of two pieces of sheet metal, each piece comprising a collar portion formed with an outwardly projecting rib to receive the rib of the pump stock, projections at the ends of said collar portions, an arm on each collar portion projected upwardly, said arms spaced apart, ribs formed on the collar portions and arms by bending the metal outwardly, reinforcing margins formed on the said arms and on the adjacent extensions by bending the edges of the metal outwardly, the upper ends of the arms secured together and provided with laterally projecting portions, a bearing block supported between the upper ends of the said arms in the laterally projecting portions thereof and provided with flanges at its upper and lower ends to overlap the edges of the said arms, a link formed of two pieces of sheet metal, their body portions secured together and their ends separated, the lower ends of the link inserted between the projections adjacent to the upright arms, a bolt pivotally supporting the lower end holding the arms together against the link, a bolt passed through the other projections, a pump handle pivoted to the upper end of the link and a pump rod pivoted to the handle and passed through the bearing block.

8. The combination of a pump handle body portion formed of sheet metal, and a reinforcing piece also formed of sheet metal and shaped to fit the handle at the point where it is attached, and means for fixing the reinforcing piece to the handle, said reinforcing piece also shaped to form a fulcrum for the pump handle.

9. An improved pump handle formed hollow and of sheet metal and a reinforcing fulcrum piece made of sheet metal secured to the handle and projecting below the handle.
- 5 10. An improved pump handle formed hollow and composed of a single piece of sheet metal and a reinforcing fulcrum piece secured to the handle and projecting below the pump handle.
- 10 11. An improved pump handle formed hollow of a single piece of sheet metal and having its end portions doubled backwardly parallel with the sides of the pump handle and provided with a bolt opening through
- 15 the doubled portions of the sides.
12. An improved pump handle formed hollow of sheet metal, a bolt passed through the adjacent sides of the handle portion and a sleeve surrounding the bolt and engaging the
- 20 inner surfaces of the handle sides.
13. An improved pump handle formed hollow of a single piece of sheet metal, a reinforcing fulcrum piece made of sheet metal riveted to the exterior of the handle body and projecting
- 25 downwardly below the handle body, a bolt passed through the lower ends of the fulcrum piece, a support inserted between the lower ends of the fulcrum piece, a bolt
- 30 passed through the lower ends of the fulcrum piece and through the support, a sleeve surrounding the bolt with its ends in engagement with the inner faces of the fulcrum
- piece and a nut on one end of the bolt.
14. The combination with a hollow sheet
- 35 metal pump handle, of a reinforcing fulcrum piece overlapping the body portion of the pump handle, permanently secured thereto, and having its lower ends projecting below
- 40 the handle body and then upwardly and inwardly, a support between the lower ends of the fulcrum piece below the body portion
- and also through the upturned fulcrum piece and through the support and a nut on one end of the bolt engaging the adjacent outer
- face of the fulcrum piece.
- 15 15. The combination with a pump top, of lugs spaced apart, a link inserted between the lugs, a sleeve passed through the link and engaging the lugs and a bolt passed through the lugs and sleeve.
- 50 16. The combination with a pump top, of lugs spaced apart, a link made of sheet metal, the lower ends thereof separated, said lower ends inserted between the lugs, a sleeve
- 55 passed through the ends of the link and engaging the lugs and a bolt passed through the lugs and sleeve.
17. The combination with a pump top, of sheet metal lugs formed integral with the pump top and spaced apart, a link inserted
- 60 between the lugs, a sleeve passed through the link, a bolt passed through the lugs and sleeve having a head on one end engaging the outer face of one lug and a nut on the other
- 65 end of the bolt forcing the sheet metal lugs against the ends of the sleeve.
18. In a pump, the combination of a link having sheet metal sides spaced apart, a handle, a sheet metal fulcrum strip secured
- 70 to the handle with its ends projecting below the handle, a sleeve passed through the ends of the link and engaging the inner faces of the fulcrum strip and a bolt passed through the fulcrum strip and sleeve provided with a
- 75 head on one end engaging one side of the fulcrum strip and a nut on the other end of the bolt engaging the other side of the fulcrum strip.

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Witnesses:

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