(No Model.)

S. VAN HENNIK.

ALE TAP.

No. 527,739. Patented Oct. 16, 1894.

Fig. 1

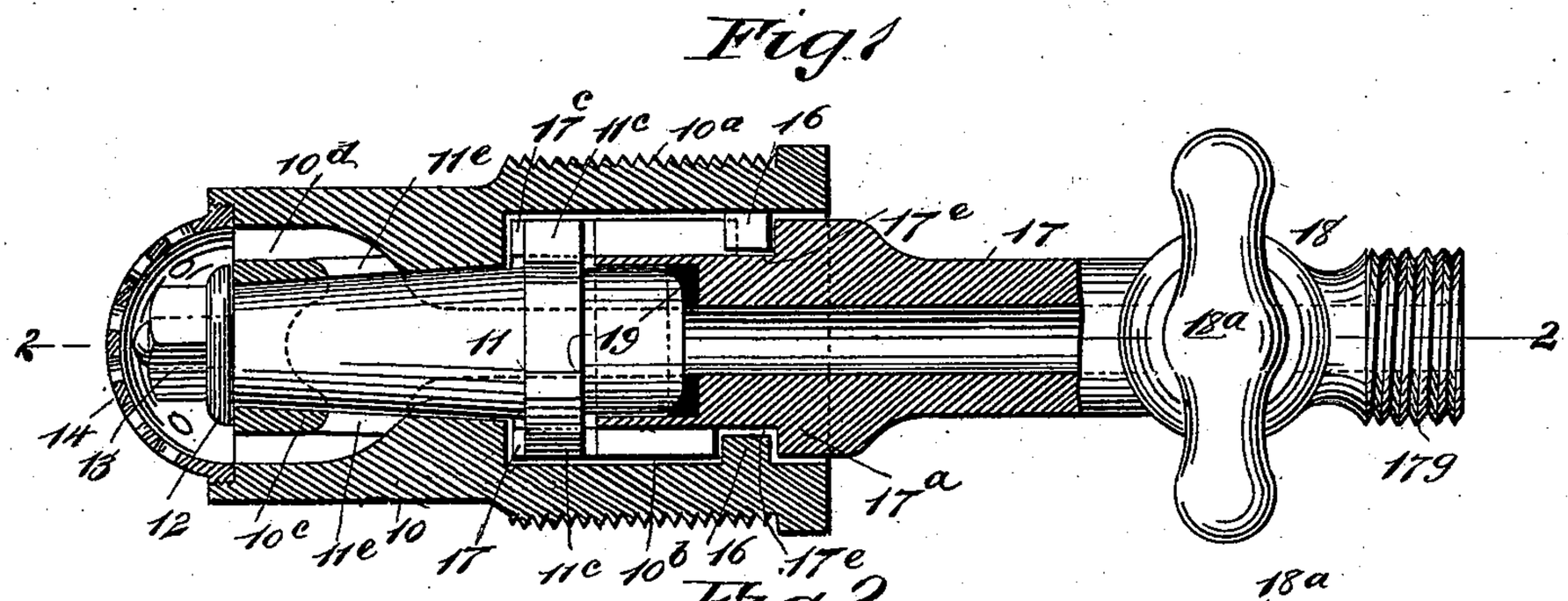

Fig. 2

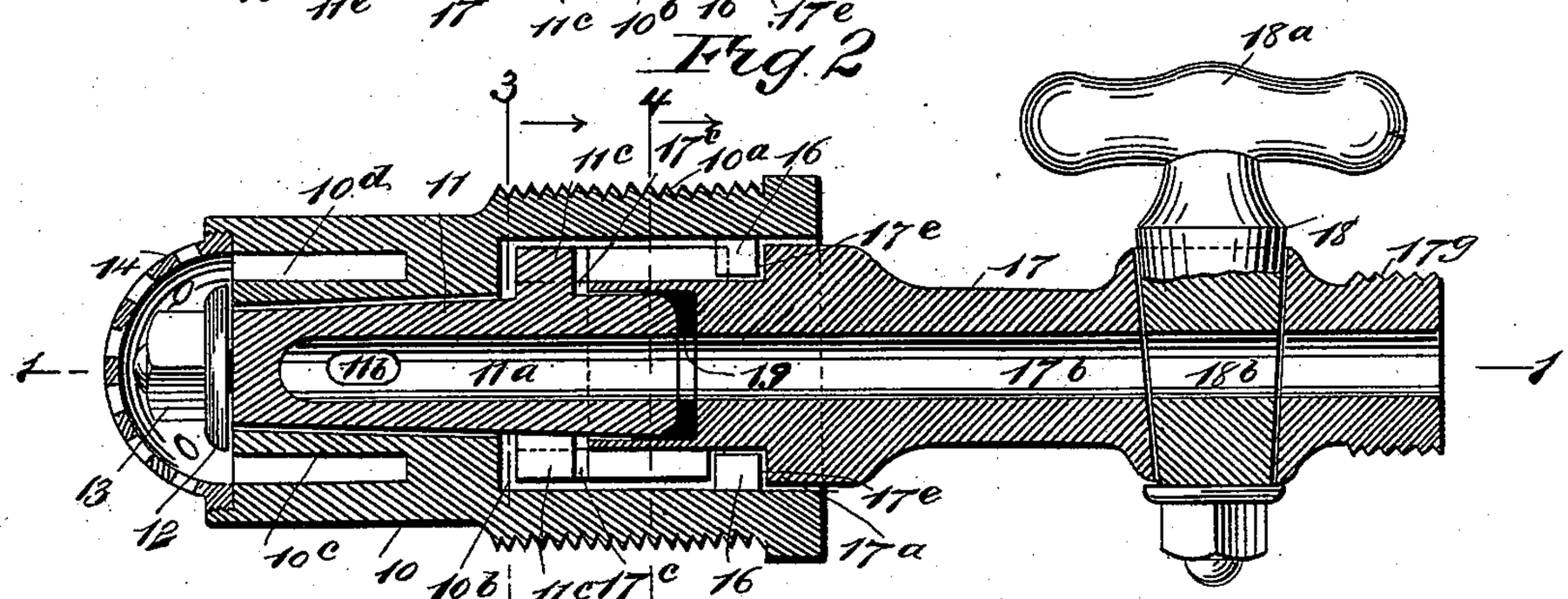

Fig. 3

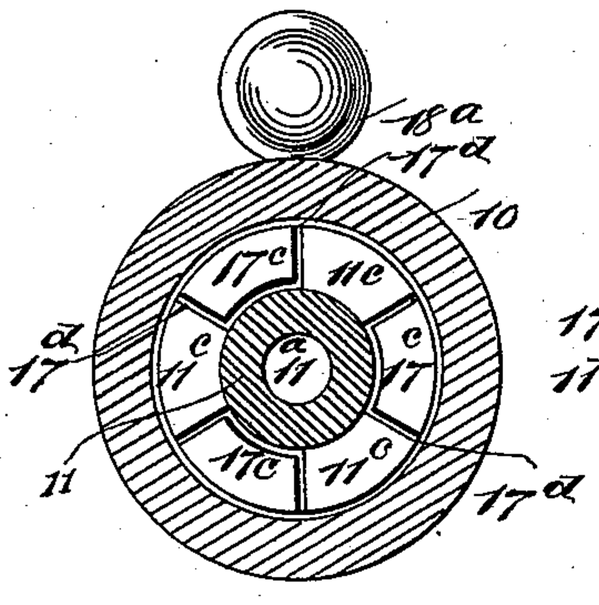

Fig. 5

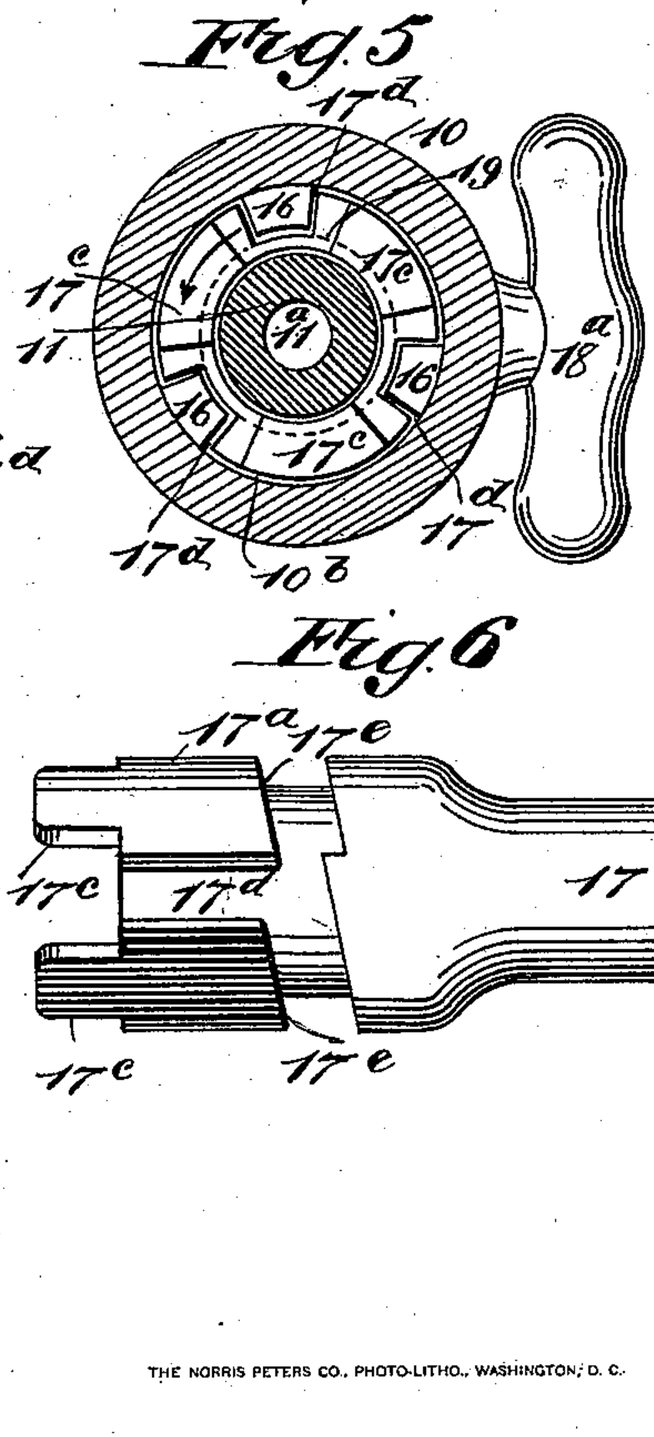

Fig. 4

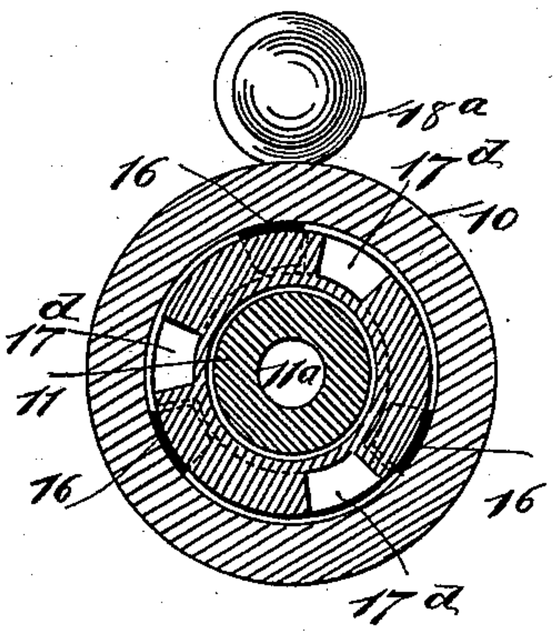

Fig. 6

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ALE-TAP.

SPECIFICATION forming part of Letters Patent No. 527,739, dated October 16, 1894.

Application filed January 20, 1894. Serial No. 497,526. (No model.)

To all whom it may concern:

Be it known that I, SEBASTIAN VAN HENNIK, of Yonkers, in the county of Westchester and State of New York, have invented a new and useful Improvement in Ale-Taps, of which the following is a full, clear, and exact description.

My invention relates to an improved ale or beer tapping device, of a class wherein a valve case and valve is provided, the device being secured in the cask as a fixture and normally sealing the receptacle, a tapping faucet engaging the sealing valve so as to open it when the cask is tapped.

The object of my invention is to provide novel features of improvement in a device of the character indicated, which will afford a convenient and reliable ale tap, that will be protected from obstruction in service, and that can be quickly secured in or removed from a cask.

To this end my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views shown.

Figure 1 is a partly sectional plan view of the improved ale tap and connected parts, on the line 1—1 in Fig. 2, the sealing valve being in open adjustment. Fig. 2 is a sectional side view, mainly on the line 2—2 in Fig. 1, showing the connected parts of the device in open adjustment. Fig. 3 is a transverse sectional view, on the line 3—3 in Fig. 2. Fig. 4 is a transverse sectional view, on the line 4—4 in Fig. 2. Fig. 5 is a transverse sectional view on the same line as Fig. 3, showing a different adjustment of interlocking portions; and Fig. 6 is a side view in part, of a novel detail of construction.

The shell 10, that is provided to contain the sealing valve of the device, consists of a cylindrical, metallic piece of suitable dimensions, the exterior of which is threaded as at 10^a to permit a screwed connection to be produced between the shell and the apertured head of a cask or like receptacle.

The shell is longitudinally and axially perforated in two diameters, the larger bore 10^b of a true cylindrical form, extending from one end of the shell to a point therein near its longitudinal center.

From the bottom wall of the bore 10^b, a smaller orifice is centrally extended through the remaining portion of the shell, and tapered toward the end of the shell that is perforated by said coniform orifice.

A plug valve 11, is fitted in the coniform central orifice of the shell 10, so as to permit rotation of the same, and effect a liquid tight joint between the engaged surfaces of said parts the conical portion of the shell thus forming a valve seat.

The plug valve 11, is axially perforated from its largest end toward and near to the smaller terminal, as shown at 11^a, in Fig. 2, and from the imperforate portion of the tapered body, a screw threaded stem is axially projected whereon a washer 12, is loosely slid, and a nut 13, is fitted to bear on the washer that in turn has contact with the true end of the shell, thereby retaining the plug valve body in working connection with the shell.

An annular channel 10^d, is formed in the end portion of the shell 10, extending around the plug valve at its smaller end, and separated therefrom by a circular wall 10^c.

A transverse passage 11^b, is produced in the valve 11, near the terminal wall of the axial perforation 11^a, and mating apertures 11^e, are oppositely formed in the wall 10^c, thus affording communication between the annular channel 10^d, and the longitudinal perforation 11^a, of the tubular plug valve thus formed.

A preferably dome-shaped cap 14, is screwed to the end of the shell 10, as represented in Figs. 1 and 2, said cap having its comparatively thin wall numerously perforated to produce a screen that will arrest hops or other impurities which may be in the cask that is provided with the improved tap.

A portion of the plug valve 11, projects into the bore 10^b, and on the peripheral surface of this end portion three evenly spaced ears or radial shoulders 11^c are outwardly projected in the same transverse plane near the bottom wall of the said bore, a cylindrical portion of the plug valve being extended beyond these ears.

Within the bore 10^b of the shell 10, and equally distant from its outer end, three lock-

ing studs 16, are inwardly projected therefrom, and evenly separated from each other.

The parts that have been described, are normally connected with one another, the shell being inserted liquid tight in a perforation formed to receive it in one head of a cask, and affording means to retain the liquid contents when the plug valve 11 is adjusted to effect this object.

The improvement further consists of a tap valve attachment that is removably connected with the sealing valve shell, and by its introduction and rotatable movement is adapted to lock fast to the shell 10, and at the same time partly revolve the plug valve 11, so as to open a passage from the cask into the body of the tap valve, and to form a tubular key for the plug valve as will be more fully described.

The tap valve consists of a mainly cylindrical body 17, that is axially perforated as at 17^b, and is proportioned in length to permit one end portion 17^a, to enter the shell 10 a proper distance, while the other part of the body is projected therefrom, and near its outer end is fashioned to receive the transverse sealing plug 18. Said plug is of ordinary construction, and has a T-shaped head 18^a, whereby it may be rotated and the tap valve be opened or closed. The plug 18 has a transverse perforation 18^b, that if aligned with the axial passage 17^b, will be adapted to discharge the liquid contained in the cask to which the improvement is applied, such an adjustment of the tap valve being indicated in Fig. 2.

The end portion of the tap valve body is made truly cylindrical and of a proper diameter to loosely fit within the bore 10^b of the shell 10.

On the diametrically enlarged end portion of the tap valve body 17, three longitudinally extending toes or crown teeth 17^c, are formed, which toes are evenly spaced apart, and have such a length, width and thickness, as will allow them to slide freely between the radial ears 11^c of the plug valve 11, the free ends of the toes being rounded on their corners to facilitate such a connection of parts.

In order to permit the introduction of the valve body 17 within the bore 10^b, three evenly spaced longitudinal grooves 17^d, are formed in the enlarged portion of said body, which grooves intervene the toes 17^c, and at their upper terminals intersect a circumferential groove. The latter mentioned groove consists of a series of cam-channels 17^e, that have their side walls inclined in the same direction, as indicated in Fig. 6, where two of these channels are shown. The terminal of each channel 17^e, that is nearest the end of the tap body having the toes projected from it, is intersected by one of the longitudinal grooves 17^d. Hence an insertion of the body 17 within the bore 10^b, with said tap valve body adjusted so that the grooves 17^d loosely receive the studs 16, will locate these studs in the cam-channels at the same time the toes 17^c are interlocked with the ears 11^c on the plug valve 11.

It will be seen from the foregoing description that the introduction of the tap valve body 17 as stated, will connect its inner end with the outer end or crown of the plug valve 11, and it is essential that the relative position of parts be so arranged that the plug valve will be in closed adjustment, when the studs 16 are located at the points of intersection of the grooves 17^b with the cam channels 17^e.

An elastic joint ring 19, is seated in a counter-bore enlargement of the axial perforation 17^b in the tap valve body 17, this counter-bore extending from the bases of the toes 17^c toward the smaller portion of said body. The depth of the counter-bore is so proportioned that the rounded outer end or crown of the plug valve 11, will have contact with the joint ring, when the studs 16 are entered in the cam-channels 17^e, a partial rotation of the tap valve body in the direction of the curved arrow in Fig. 5, causing the studs to traverse a portion of the cam-channels and ride on their inclined side walls, that are so pitched as to draw the joint ring tightly against the engaged end or crown of the plug valve, thereby producing a tight joint between the tap valve body and the plug which joint will be hereinafter referred to as the faucet joint valve. At the same time a continuous passage for liquid is produced from the cask to the valve plug 18.

On the end portion of the tap valve body 17, that is nearest to the sealing plug 18, a circumferential thread is cut as shown at 17^g, in Figs. 1 and 2, this provision being made to permit an ordinary union nut to be screwed on the valve body, which nut (not shown) serves to connect the ale tap as an entirety with a conduit pipe, that may be extended to any desired point of discharge, as is usual in such devices, for the transfer of ale or other malt liquor from a cool vault or ice-box to the dispensing apparatus.

It is claimed for this improvement, that the peculiar construction of parts, affords convenient means for the insertion of the shell of the sealing valve within an orifice in the head of a cask, as the tap valve body may be utilized as a wrench for such a purpose.

The connection of parts between the sealing valve and tap valve is reliable, and the provision of the removable perforated cap at the inner end of the sealing valve protects the entire device from being obstructed by any floating substance that may be in the cask having the improved tapping device.

As the shoulders or projections 11^c are so located upon the periphery of the valve as to lie behind the projections 16 on the inner surface of the shell and to be in longitudinal alignment therewith, when the valve is in a position to close the ports, and as the said shoulders or projections 11^c are formed upon the valve behind its forward end or crown,

it will be seen that it will be impossible to open the valve by inserting any straight instrument and engaging it with one of the projections or shoulders on the valve, since after a slight movement, insufficient to open the valve, the instrument used, which must, owing to the projecting crown of the valve, be held close to the wall of the shell, will impinge upon the projection 16 of the shell which is in alignment with the projection or shoulder of the valve engaged by the instrument, thus affording great security and rendering the use of a tubular key necessary to open or turn the valve. It will also be seen that as the ports are located in the shield which is surrounded by the longitudinal and rearwardly extending flange of the shell or bushing, a tap so constructed is adapted to be used with any cask or barrel, irrespective of the thickness of its head, and that as the packing ring 19 is seated in the counter bore enlargement in the tap, it is protected from the accidental or malicious injury that might result should it be placed upon the outer end of the plug valve where it would be accessible and in full view during the transportation of the cask from point to point.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, of the shell and tubular valve plug, provided with registering ports, the plug having its rear end seated in the shell, and having a central opening in its forward end, the crown of which forms one face of the faucet joint, the plug having radially projecting shoulders formed upon the periphery behind its crown, and the shell having inwardly extending projections in front of the shoulders on the plug, and in a line therewith parallel with the axis when the ports are closed, substantially as described.

2. The combination, with the shell and tubular valve plug, provided with registering ports, the plug having its rear end seated in the shell, and having a central opening in the forward end, the crown of which forms one face of the faucet joint, the plug having radially projecting shoulders formed upon the periphery behind its crown, and the shell having inwardly extending projections in front of the shoulders on the plug and in a line therewith parallel with the axis when the ports are closed, of a tubular key having a plug seat in its one end formed by a counter bore enlargement, the shoulder formed thereby forming one face of a faucet joint, and having crown teeth projecting longitudinally from the same end and adapted to engage the shoulders upon the plug and to encircle the forward end thereof, the key having longitudinal external grooves upon the same end, as is provided with the teeth, and having inclined transverse grooves connected therewith, the said longitudinal and transverse grooves being adapted to receive the projection upon the interior of the shell, and a washer seated in the counter bore enlargement of the key and against the shoulder therein substantially as described.

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Witnesses:
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