

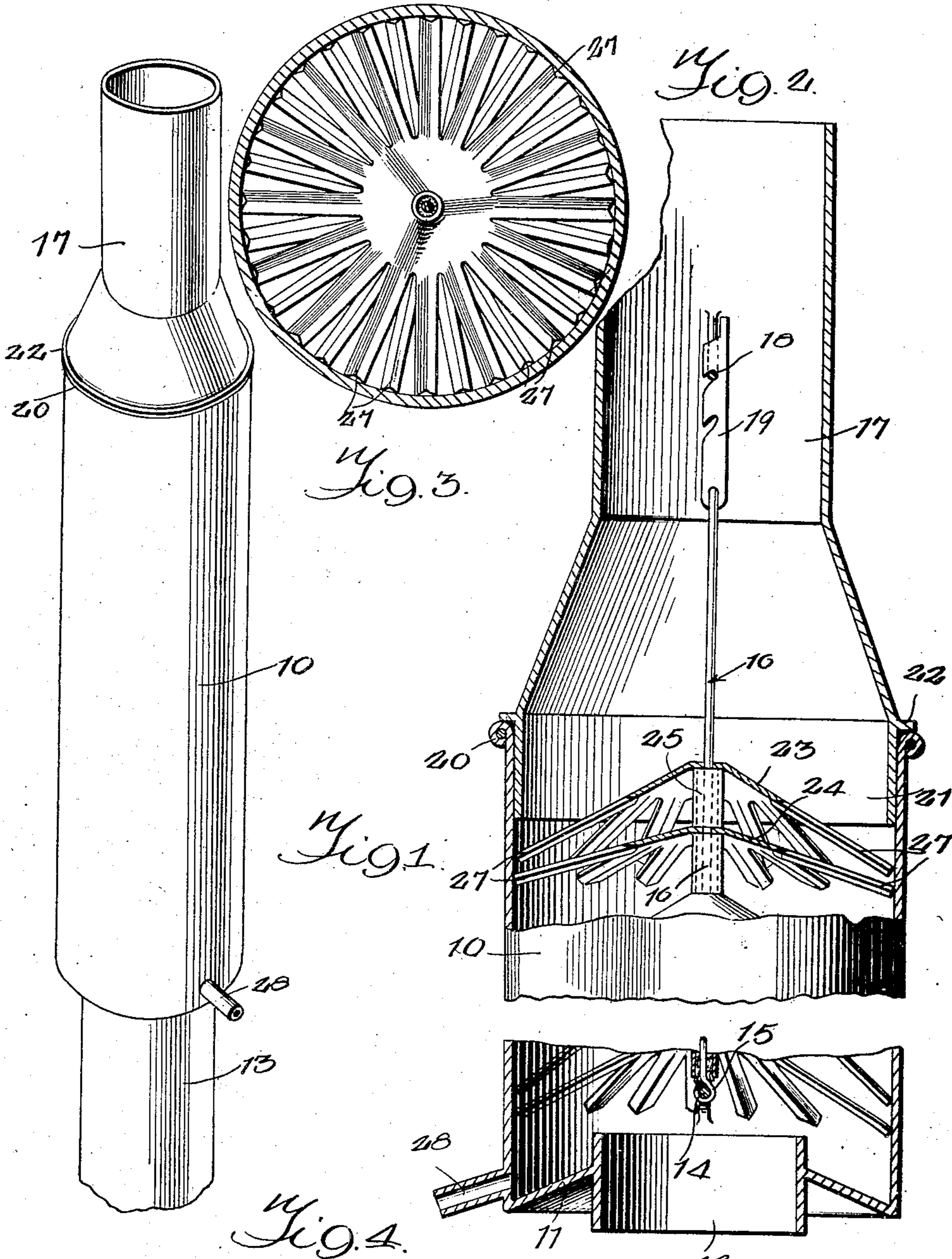
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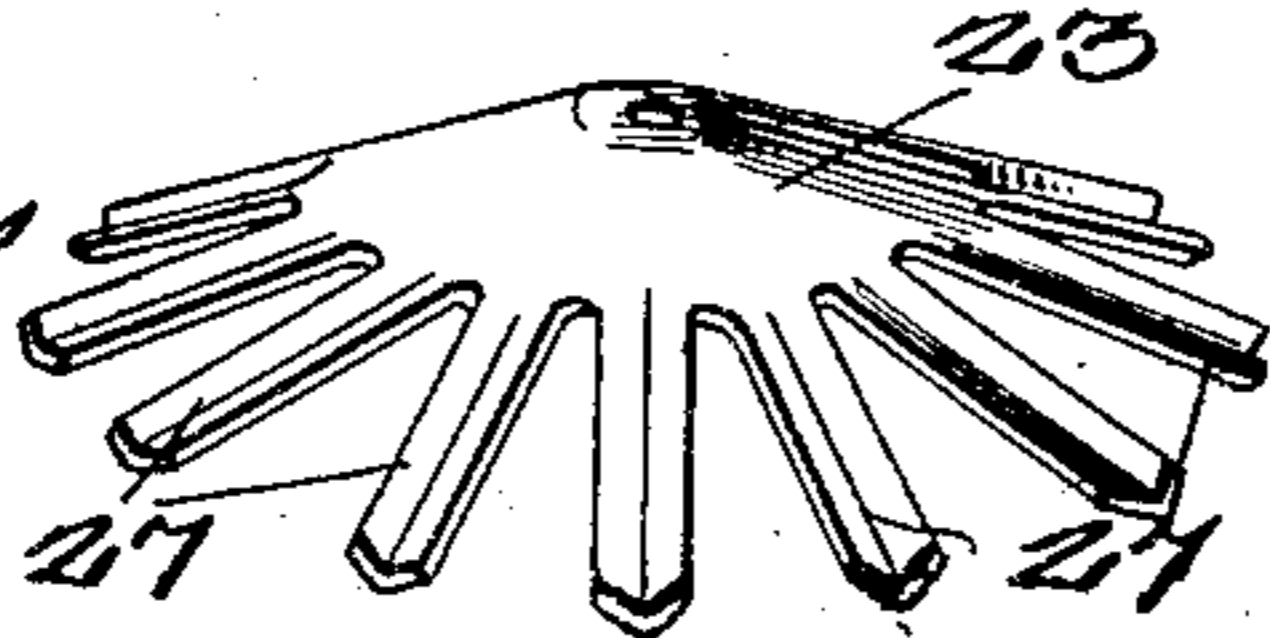
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OIL SAVING STACK FOR GAS FLOWING WELLS

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WITNESSES  
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# UNITED STATES PATENT OFFICE.

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OIL-SAVING STACK FOR GAS-FLOWING WELLS.

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*To all whom it may concern:*

Be it known that I, EARLE RUTHERFORD AUSTIN, a citizen of the United States, and a resident of Breckenridge, in the county of Stephens and State of Texas, have invented certain new and useful Improvements in Oil-Saving Stacks for Gas-Flowing Wells, of which the following is a specification.

My present invention relates generally to oil saving devices, and more particularly to a device for application in connection with the outflowing gas from gas flowing oil wells, whose object is to recover from such gas the minute particles of oil carried in suspension therewith and which ordinarily escape and are lost.

A further object is the provision of a simple compact structure of the above character and for the above purpose, which will be of low cost, may be readily inserted in and removed from effective position over a stand pipe or flow tank, which may be readily removed for cleaning purposes from time to time, and will be strong and durable in operation.

In the accompanying drawing in which I have shown my invention,

Figure 1 is a perspective view showing the practical application of my invention,

Figure 2 is an enlarged vertical section therethrough,

Figure 3 is a horizontal section therethrough, and

Figure 4 is a detail perspective view of one of the baffle members of each pair.

Referring now to these figures my invention proposes an apparatus which for the purpose of economy and greater effectiveness includes a hollow cylindrical body 10 provided with an inclined base 11 around a central collar 12 the latter of which may receive and be suitably secured to a stand pipe 13 or an upright outlet pipe from the flow tank of a gas flow well.

Diametrically through the lower portion of the cylindrical body 10 of my improved oil trap is a supporting rod 14 adapted to be engaged by the lower hook 15 of an axial upright stem 16 extending through the body 10 and upwardly into an upper reduced outlet 17 the latter of which has a diametrical supporting rod 18 with which a notched engaging member 19 carried by the upper end of the rod 16 is adapted to connect in a readily detachable manner.

The upper end of the body 10 preferably has a rolled flange 20 and within this upper end the lower portion 21 of the reduced tubular outlet 17 is adapted to telescope, the latter having an annular flange 22 to rest upon the upper rolled flange of the body so that by disconnecting the detachable connecting member 19, the tubular outlet 17 may be removed from the body for cleaning the latter.

On the stem 16 within the body 10 are fixed a plurality of clusters of baffle members, each cluster including a pair of baffle plates 23 and 24 vertically spaced on the stem by a sleeve or thimble 25 therebetween which is disposed around the stem, the several pairs or clusters of baffle members being separated by similar sleeves or thimbles 26.

The baffle plates 23 and 24 of each pair or cluster are of inverted conical form, the upper plate 23 of each pair preferably being more acutely conical as will be seen by reference to Figure 2.

As will be seen by reference to Figure 3 the several pairs of baffle plates have radial outstanding arms 27 of trough-like form in staggered relation vertically throughout the body 10, whose outer ends are in contact with the inner surface of the cylindrical body so as to gain support by virtue of such contact against the pressure of upward flow of gas through the body, in order to avoid forcing the plates out of shape.

In addition to the sleeves or thimbles between the pairs or clusters of baffle members as well as between the baffle plates of each pair or cluster, the baffle plates may be additionally secured to the stem 16 by soldering or otherwise in order to prevent rotative displacement and assure maintenance of the desired staggered relation of the inclined trough-like arms 27 throughout the vertical series of baffle plates within the body 10.

The body 10 is also provided adjacent to its lower end with an oil outlet nipple 28 whose inner end opens within the body immediately above the inclined base 11 around the attaching collar 12 and whose outer end may be connected by a suitable pipe or tube to an oil storage tank and the like.

In operation with the device mounted on and attached to a gas flow tank or gas outlet pipe 13, gas flows upwardly through the body 10 and through the series of baffle members in their staggered relation, causing tortuous circulation of the gas in its upward

outflow during which impingement of the small particles of oil held in suspension within this gas strike and adhere to the radial arms 27 of the baffle members and roll downwardly and outwardly to the inner surface of the body 10 and from thence downwardly on this inner surface of the body to its base 11 from which the oil outflows through the outlet nipple 28.

By the means described I propose to entrap and recover a considerable percentage of the oil ordinarily lost through its escape with gas in which the particles of oil are held in suspension, this being a particularly important matter when it is considered that such oil which is normally lost, is usually of high lubricating quality.

I claim:

1. An oil trap of the character described comprising a two-part casing having a lower intake and an upper outlet and having a base forming an oil trough therein around its lower inlet, an oil outlet nipple leading from the casing above its base, an axial supporting rod within the casing, said casing parts having internal means detachably engaged by the ends of said supporting rod to normally

prevent disengagement of the said parts, and a vertical series of baffle members within the casing having outwardly and downwardly inclined arms, removably mounted on the said supporting rod with their said arms in staggered relation vertically throughout the casing.

2. An oil trap of the character described comprising a casing having a lower intake and an upper outlet and having a base forming an oil trough therein around its lower inlet, an oil outlet nipple leading from the casing above its base, an axial support within the casing, and a vertical series of baffle members within the casing having outwardly and downwardly inclined arms, carried by the said support with their said arms in staggered relation vertically throughout the casing, said support being in the form of a stem and said casing having upper and lower detachably associated sections provided with diametrical supporting rods with which the opposite ends of the stem are connected whereby to normally prevent disengagement of said sections.

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