

1,012,206.

Patented Dec. 19, 1911.

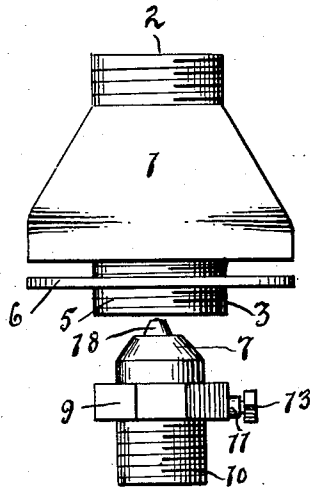


Fig. 1.

Fig. 2.

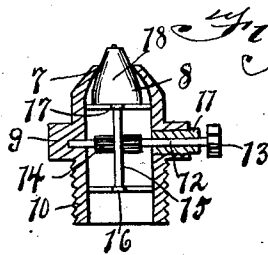
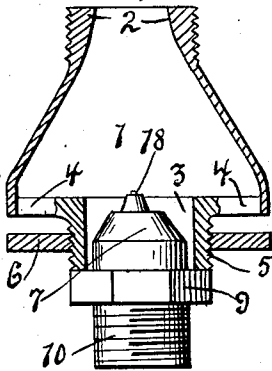


Fig. 3.

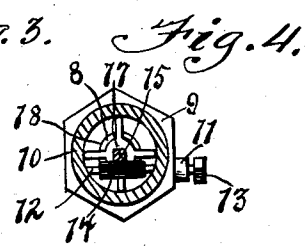


Fig. 4.

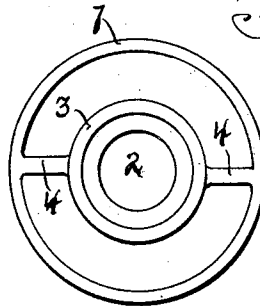


Fig. 5.

WITNESSES

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MIXING DEVICE.

1,012,206.

Specification of Letters Patent.

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Application filed September 28, 1910. Serial No. 584,290.

To all whom it may concern:

Be it known that I, WILLIAM KOLB, JR., a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Mixing Devices, of which the following is a specification.

My invention relates to mixing devices and more specifically to a device adapted to regulate the flow of gas and the amount of air mixed therewith and supplied to a gas stove, gas log or a like burner.

I am aware that devices quite similar to mine have been in use at various times but none of them have proved to be great successes for one reason or another, in most instances the initial cost being prohibitive, in other cases the devices being incapable of easy manufacture, while in still others simplicity and ease of operation have been sacrificed in favor of effectiveness.

It is an object of my invention to provide a mixer which shall overcome all the faults of its predecessors and which shall be simple, easily and cheaply manufactured, but at the same time highly effective and capable of the nicest adjustment.

Another object of the invention is to provide novel means for adjusting the flow of gas and controlling its admission into the mixing chamber.

With the foregoing and other objects in view my invention consists in such details of construction and in the arrangement and combination of parts as will be hereinafter more fully described and specifically pointed out in the appended claim.

In describing my invention in detail reference will be had to the accompanying drawings in which like characters denote like or corresponding parts throughout the several views, and in which,

Figure 1 is a view in elevation of my invention, the gas controlling mechanism being slightly removed from its normal position for purposes of illustration. Fig. 2 is a vertical sectional view of the mixing chamber and the air controlling mechanism, the gas controlling device being shown in elevation in its normal position. Fig. 3 is a vertical section of the gas control means. Fig. 4 is a horizontal section of the same, and Fig. 5 is a bottom plan view of the mixing chamber, the air controlling disk being omitted.

In carrying my invention into practice I provide a bell-shaped drum 1 having an opening 2 at its constricted end, which end is slightly thickened and externally screw-threaded as shown. An annular extension 3 is cast integral with the drum concentric therewith, the two being connected together by means of arms 4. Reference to the drawings discloses the fact that the extension 3 does not extend upward into the drum, but is held only in the mouth thereof, this construction giving ample room within the drum for a large and totally unobstructed mixing chamber which vastly increases the efficiency of the device. Said extension is externally screw-threaded as at 5, thus being adapted to receive a disk 6 which is of approximately the same diameter as the lower portion of the drum. It will be seen that the supply of air to the mixing chamber or drum is easily controlled by regulating the position of this disk upon the extension.

In combination with the above-described mechanism I employ a gas nozzle comprising a nipple 7 the upper end of which gradually tapers into a constricted opening 8. Said nipple is provided with a flange 9 of a diameter approximately equal to that of the extension 5, said flange being formed with angular surfaces so as to afford a purchase for a wrench or similar tool. The lower end of said nipple is threaded for obvious reasons, as illustrated at 10. An aperture is cut in the flange in which a bushing 11 may be fitted after the shaft 12 is in position. Said shaft is fitted at its outer end with a thumb nut 13 in order that it may be easily rotated, the other end being journaled in the opposite wall of the interior bore. The numeral 14 designates a pinion carried by the shaft and adapted to engage a rack 15 operative longitudinally in the nipple. It will be seen that said rack is disposed in the center of the bore, the shaft 12 being located in order to permit this construction to one side of the diameter of the bore, as is fully illustrated in Fig. 4. Guiding means must be provided in order to facilitate the movement of the rack, and I have shown one form of guiding means in the drawings which has proved very satisfactory in actual practice. This comprises two sets of radiating arms 16 and 17, the former being connected to the lower end and the latter to the upper end of the rack bar. Each set comprises a plurality of arms

radiating from the rack and extending outward so as to come into contact with the walls of the bore or the nipple, thus holding the bar in the center of the bore and in contact with the pinion. The end of the rack carries a conical valve 18 which projects into the constricted opening 8 and may be operated by turning the thumb nut 13 as will be readily understood.

10 In order to leave the mixing chamber unobstructed the nipple is made of such size as will carry the valve well within the extension 5 but not into the drum. Thus, it will be seen, that I have provided a very simple mixing device which, because of the few parts, cannot get out of order, and may be cheaply manufactured because of the fact that there are no parts within the drum to be machined, or render it difficult to cast the drum in one piece. It has proved very efficient in actual practice and the rack and pinion adjustment of the gas valve renders nice regulation easy of accomplishment.

15 I desire it to be understood that slight changes in the construction and in the ar-

rangement and combination of parts may be resorted to without departing from the spirit of the invention, provided they fall within the scope of the claim.

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

A mixing device comprising a bell shaped drum having an extension, a disk adjustable on said extension, a nipple adapted to fit in said extension, a rack bar in said nipple, arms extending from the bottom of said bar to engage the sides of said nipple, arms extending from the top of said bar to engage the sides of said nipple, a valve secured to one end of said bar, and means for operating said bar.

In testimony whereof I hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM KOLB, JR.

Witnesses:

W. J. SMYTH,

OLIVER E. SHANNON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."