A. W. ROBINSON.

FLUME.

APPLICATION FILED JAN. 22, 1910.

967,241.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.

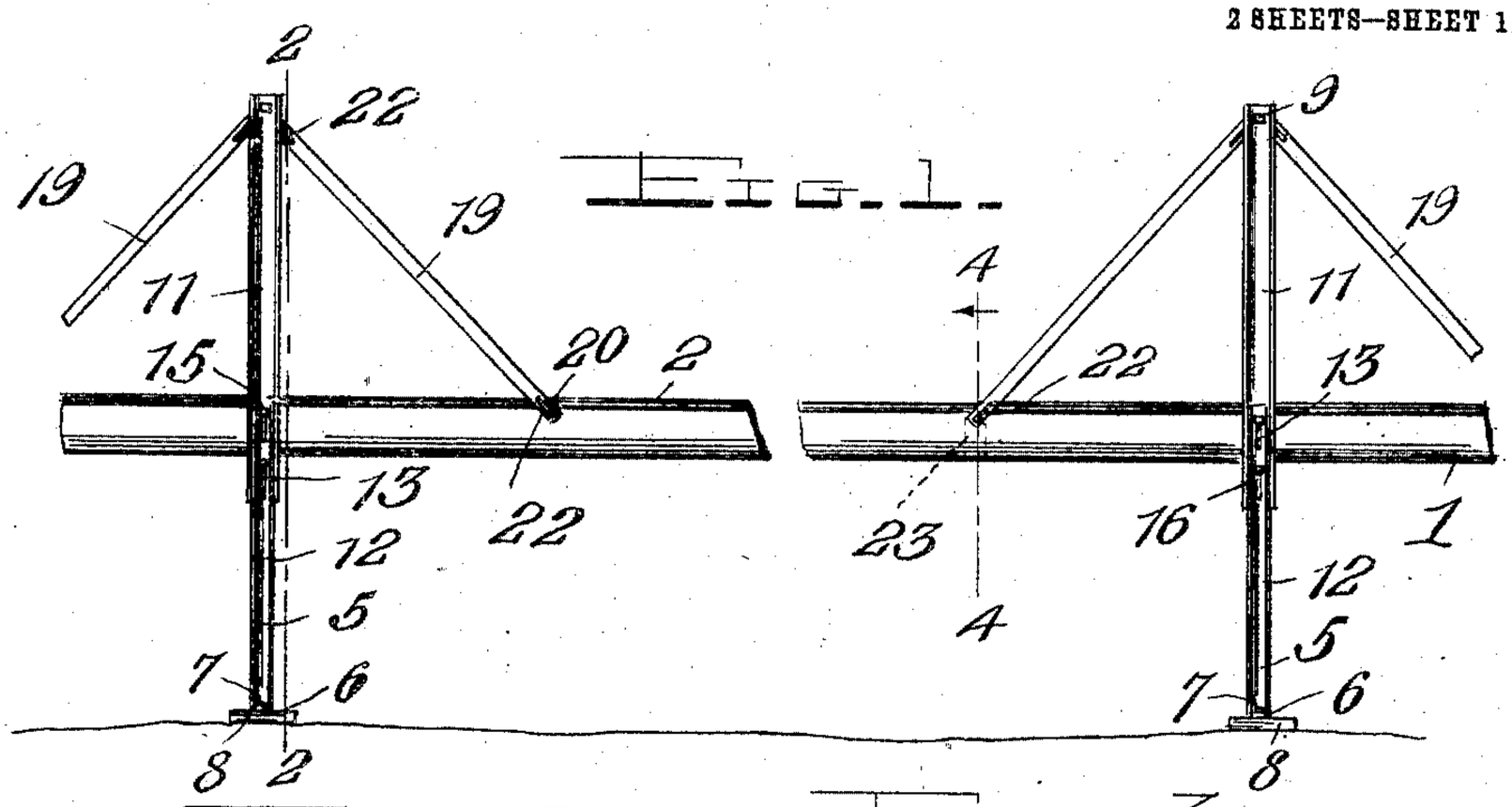


FIG. 1.

FIG. 2.

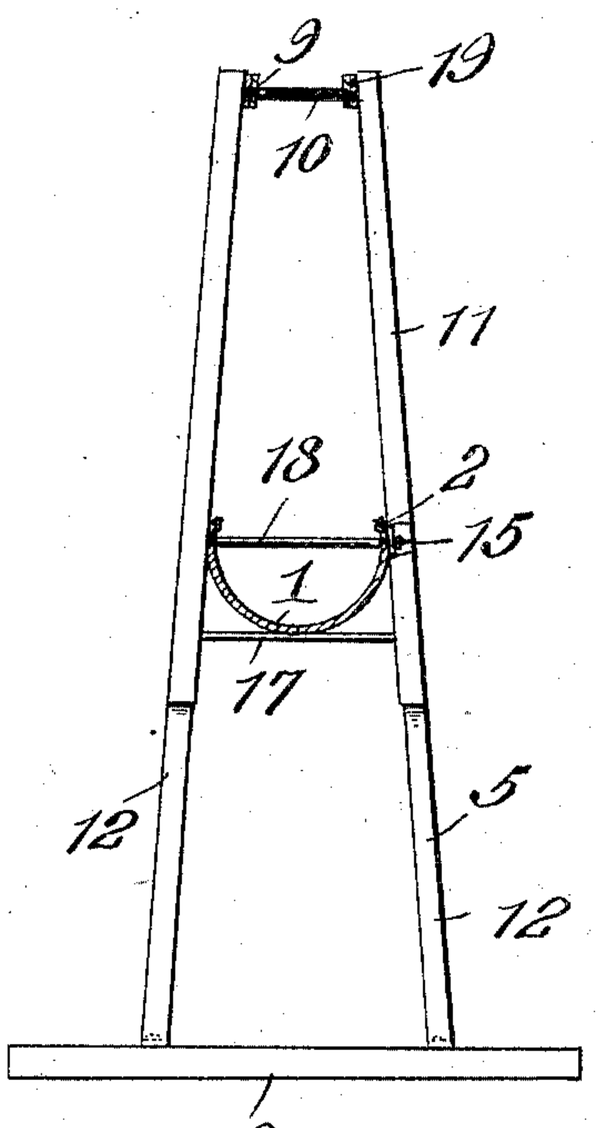


FIG. 3.

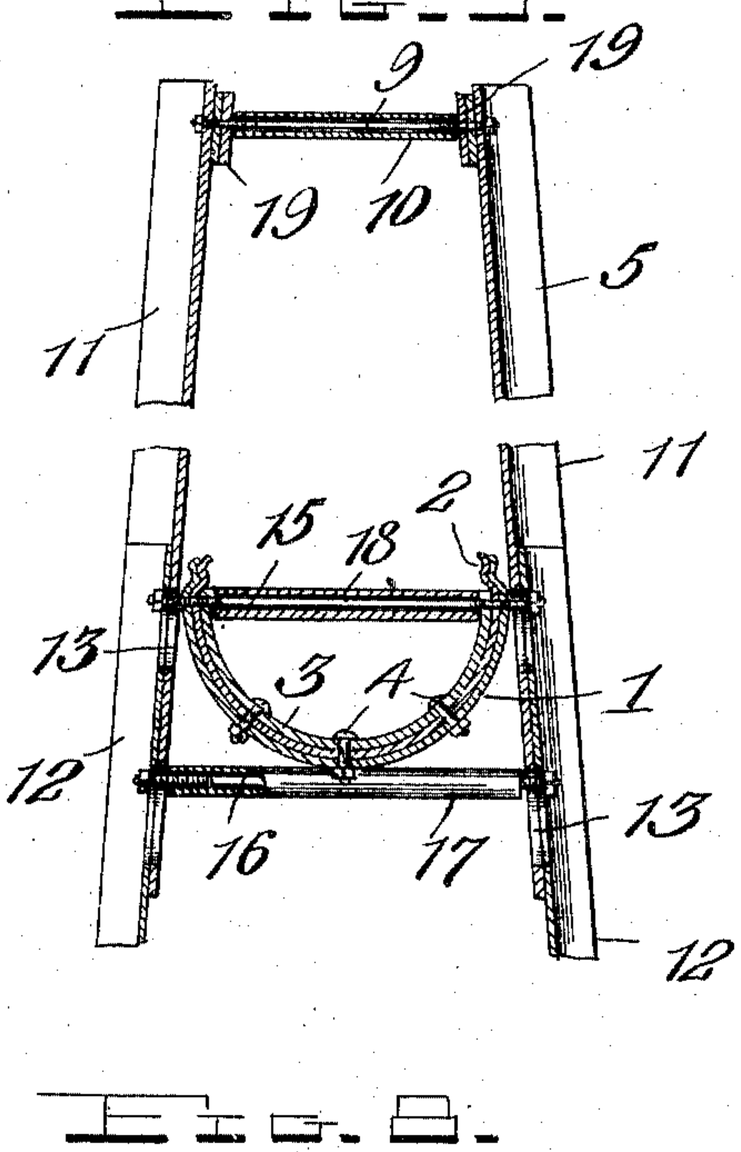
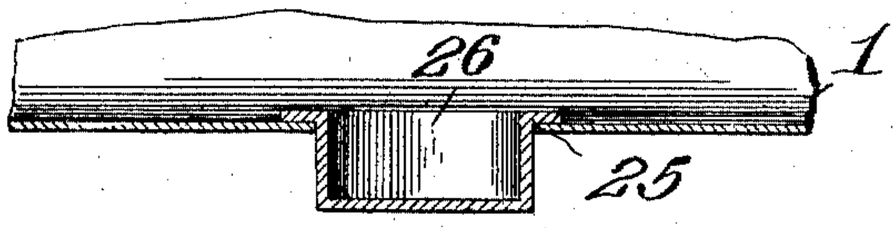


FIG. 4.



Witnesses
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2 SHEETS—SHEET 2.

FIG. 5.

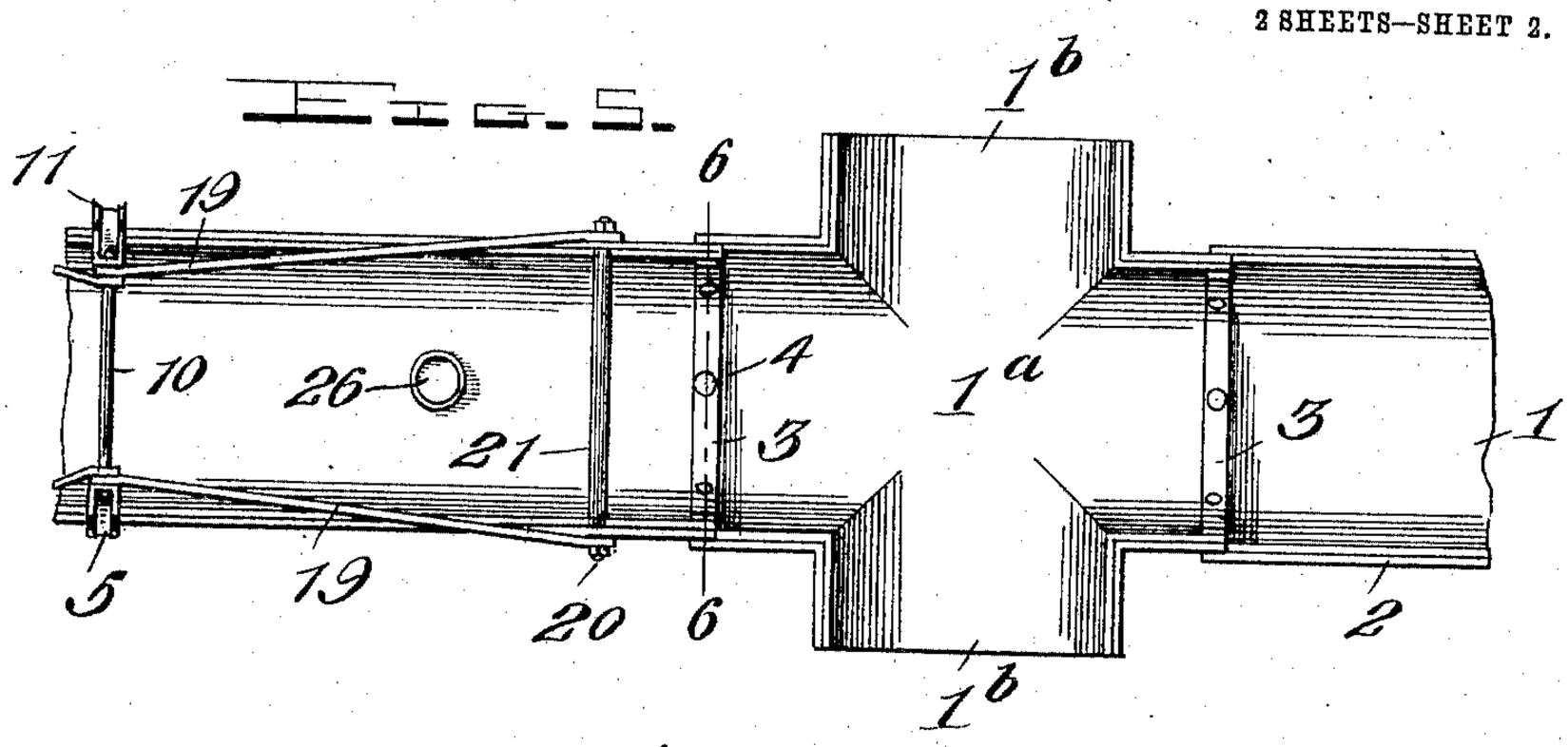


FIG. 4.

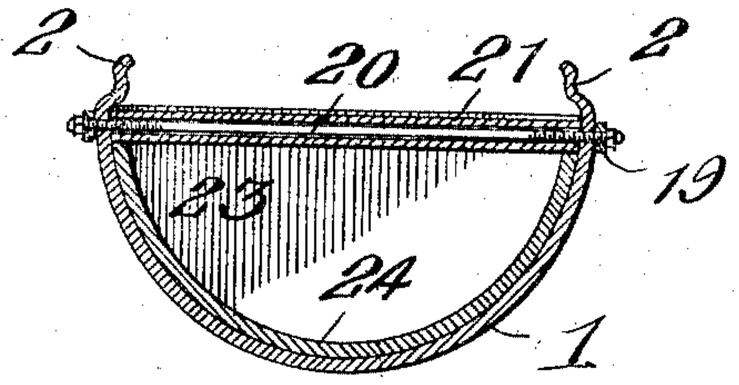


FIG. 6.

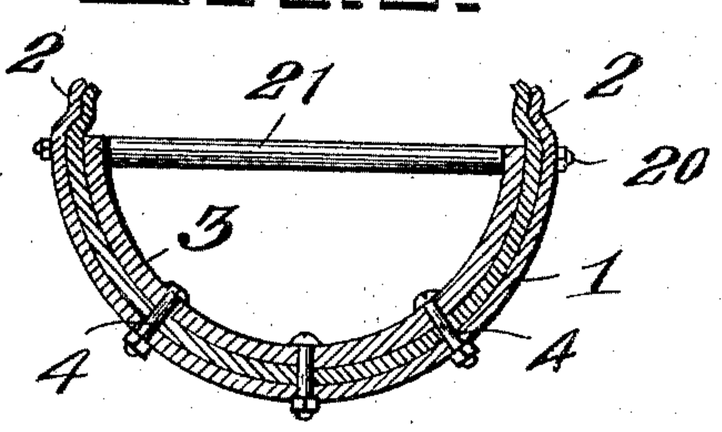
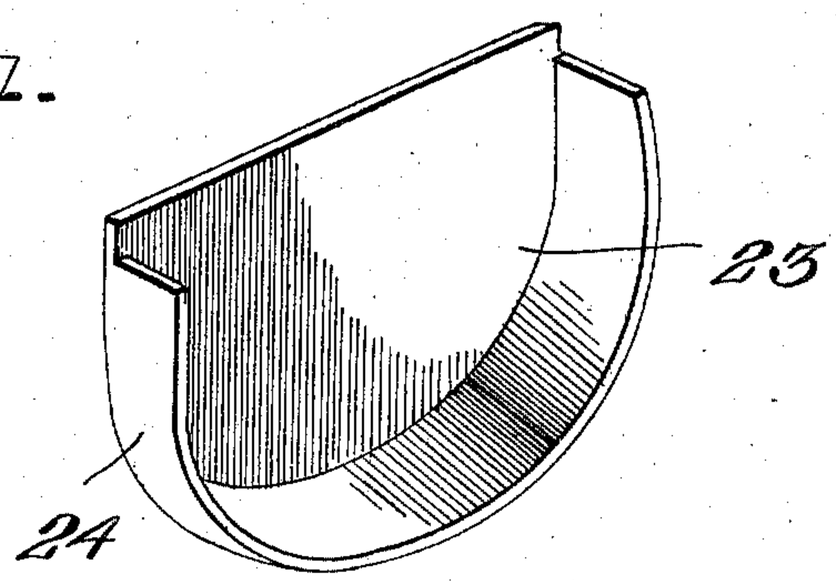


FIG. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

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FLUME.

967,241. Specification of Letters Patent. **Patented Aug. 16, 1910.**

Application filed January 22, 1910. Serial No. 539,532.

To all whom it may concern:

Be it known that I, ALEXANDER W. ROBINSON, a citizen of the United States, residing at Pendleton, in the county of Umatilla and State of Oregon, have invented certain new and useful Improvements in Flumes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in flumes and more particularly one especially designed for use in irrigating, but which may be employed for mining and other purposes.

One object of the invention is to provide a simple and practical irrigating flume which will be constructed of metal so that it will be strong and durable.

Another object of the invention is to provide a flume of this character which has improved means for supporting the body of the flume from an overhead or elevated structure.

With the above and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, hereinafter fully described and claimed and illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of a portion of a flume constructed in accordance with my invention; Fig. 2 is a vertical cross section taken on the plane indicated by the line 2—2 in Fig. 1; Fig. 3 is an enlarged cross sectional view through the body of the flume and a portion of the supporting structure; Fig. 4 is a detail section taken on the plane indicated by the line 4—4 in Fig. 1; Fig. 5 is a detail plan view of a portion of the body of the flume and showing a section having branch flume connections; Fig. 6 is a detail cross sectional view taken on the plane indicated by the line 6—6 in Fig. 5; Fig. 7 is a perspective view of one of the stop gates; Fig. 8 is a detail longitudinal section through the body of the flume showing an outlet opening closed by a metallic stop.

Referring more particularly to the drawing 1 denotes the body of a flume or conduit which is preferably, but not necessarily, made of sheet metal, and which as illustrated is of semicylindrical shape in cross section. When made of sheet metal its upper side edges are crimped or corrugated longitudinally as shown at 2 to reinforce and strengthen the sections composing the flume or trough. The said sections may be of any suitable length and their ends may be jointed in any suitable manner but I preferably unite them by overlapping their adjacent ends and providing a semicircular reinforcing bar 3 at their overlapped ends, the several parts at the joint being firmly united by a plurality of bolts 4, as clearly shown in the drawings. If desired, similar reinforcing bars may be provided at points intermediate the ends of the flume sections, and particularly at the points where they are connected to the suspending means.

The supporting structure or suspending means for the flume consists of a plurality of upright transversely disposed frames, each consisting of a pair of upwardly and inwardly inclined members 5 constructed preferably of channel metal bars as shown. The channel faces of the upright members 5 are turned outwardly and their lower ends are formed with attaching feet 6 which are secured by fastenings 7 to transverse base bars 8. The converging upper ends of the upright members 5 are united by a transverse bolt 9, a spacing sleeve 10 being arranged on the intermediate portion of the bolt to hold the upper extremities of the upright members 5 in spaced relation.

The upright members or bars 5 are preferably made of two sections which are slidably or telescopically engaged to permit the height of the frames to be varied and to permit the flume to be suspended at different elevations, as presently explained. When said members or bars 5 are thus constructed the upper and lower sections 11, 12, have their ends overlapping and the lower section 12, which slides within the upper section 11, is formed with longitudinal slots 13 for transverse bolts or rods 15, 16, which latter pass through openings in the upper section 11. The lower bolt 16 carries a spacing sleeve 17 and it is preferably so positioned as to support the bottom of the flume body 1. The upper bolt 15 is likewise adapted to support the flume body and this is preferably effected by passing said bolt through openings in the side portions of the flume body, as shown in Fig. 3. A spac-

ing sleeve 18 is provided on the intermediate portion of the bolt 15 and is arranged within the flume so as to strengthen the same.

Owing to the construction just described it will be seen that the flume may be readily adjusted vertically so as to position it at any desired inclination, and when thus positioned and the nuts on the bolts 15, 16, are tightened the flume will be effectively supported and the upright frames will be rendered exceedingly strong and rigid.

19 denote pairs of braces which extend from the upper portions of the upright frames to the intermediate portions of the flume body to assist in supporting the latter and maintaining the frames in upright position. These braces 19 are in the form of metal straps and have their upper ends overlapping and apertured to receive the connecting bolts 9, said overlapped ends of the braces being arranged between the upright members or bars 5 and the ends of the spacing sleeves 10, as clearly shown in the drawings. The lower ends of the braces 19 are united by transverse bolts 20 to the side portions of the flume body, spacing sleeves 21 being provided on the intermediate portions of the bolts to strengthen the flume body as will be understood on reference to Fig. 4. To permit of the adjustment of the flume body the upper and lower ends of the braces 19 are formed with slots 22 for the reception of the bolts 9, 20.

At points where it is desired to have the flume branch so as to conduct the water to different places, I may provide a cross shaped or T-shaped branch section such as indicated at 1^a in Fig. 5. This flume section is cross shaped and has two branches which connect two sections of the body 1, and also two branches 1^b for the attachment of branch flumes.

I may also provide at suitable points in the flume body or trough stop gates such as indicated at 23. This gate is in the form of a semicircular plate formed around its curved edge with a right angularly projecting flange 24 adapted to be clamped in position in the flume body by one of the bolts 15, 20.

At intervals throughout the flume I may provide in its bottom outlet openings 25 adapted to be closed by stoppers 26, said openings being preferably made of circular shape and the stoppers 26 being stamped from metal and wedged into said openings as illustrated.

From the foregoing it will be seen that the invention provides an exceedingly simple flume of the character set forth which may be produced at a comparatively small cost, will be exceedingly strong and durable in use, and may be readily set up and taken down and packed for transportation.

While the preferred embodiment of the invention has been shown and described in detail, it will be understood that I do not wish to be limited to the precise construction set forth, since various changes in the form, proportion and arrangement of parts, and in the details of construction, may be resorted to within the spirit and scope of the invention.

Having thus described the invention what is claimed is:

1. A device of the character described comprising a flume body, a plurality of upright frames, suspending means in the frames and connected to the flume body, and braces connecting the upper portions of said frames to the flume body.

2. A device of the character described comprising a flume body, a plurality of upright frames, and oppositely and downwardly inclined braces between the upper portions of said frames and said flume body for suspending the latter within said frames.

3. A device of the character described comprising a flume body, a plurality of upright frames, each of the latter consisting of a transverse base bar, upright members rising from the latter and connected at their upper ends, flume suspending means between the upright members, and braces between the united upper portions of the upright members and the portions of the flume body between adjacent frames.

4. A device of the character described comprising a flume body, a plurality of upright frames, each of the latter consisting of longitudinally extensible upright members, means uniting the upper and lower ends of said members, and means connecting the flume body to said members.

5. A device of the character described comprising a flume body, a plurality of upright frames, each of the latter consisting of upright members composed of slidably engaged channel metal bars, connecting bars adjustably uniting the slidably engaged portions of said bars and suspending the flume body between said bars, and means uniting the upper ends of said upright members.

6. A device of the character described comprising a flume body, a plurality of upright frames, each of the latter consisting of upright members composed of slidably engaged channel metal bars, connecting bars adjustably uniting the slidably engaged portions of said bars and suspending the flume body between said bars, transverse rods uniting the upper ends of said upright members, and braces between the last mentioned rods and the portions of the flume body between adjacent frames.

7. In a device of the character described, the combination of a supporting structure including upright members, a metal flume

body between said members, a transverse rod passed through the flume body and said members, and a spacing sleeve on said rod and arranged within the flume body.

8. In a device of the character described, the combination of a flume body, a transverse bolt therein, a spacing sleeve on the intermediate portion of said bolt, and a removable stop gate arranged transversely in the flume body and having a flange clamped between the ends of said sleeve, and the side portions of the flume body.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ALEXANDER W. ROBINSON.

Witnesses:

EARNEST SCHRECKLER,

CHASE NELSON.