

(No Model.)

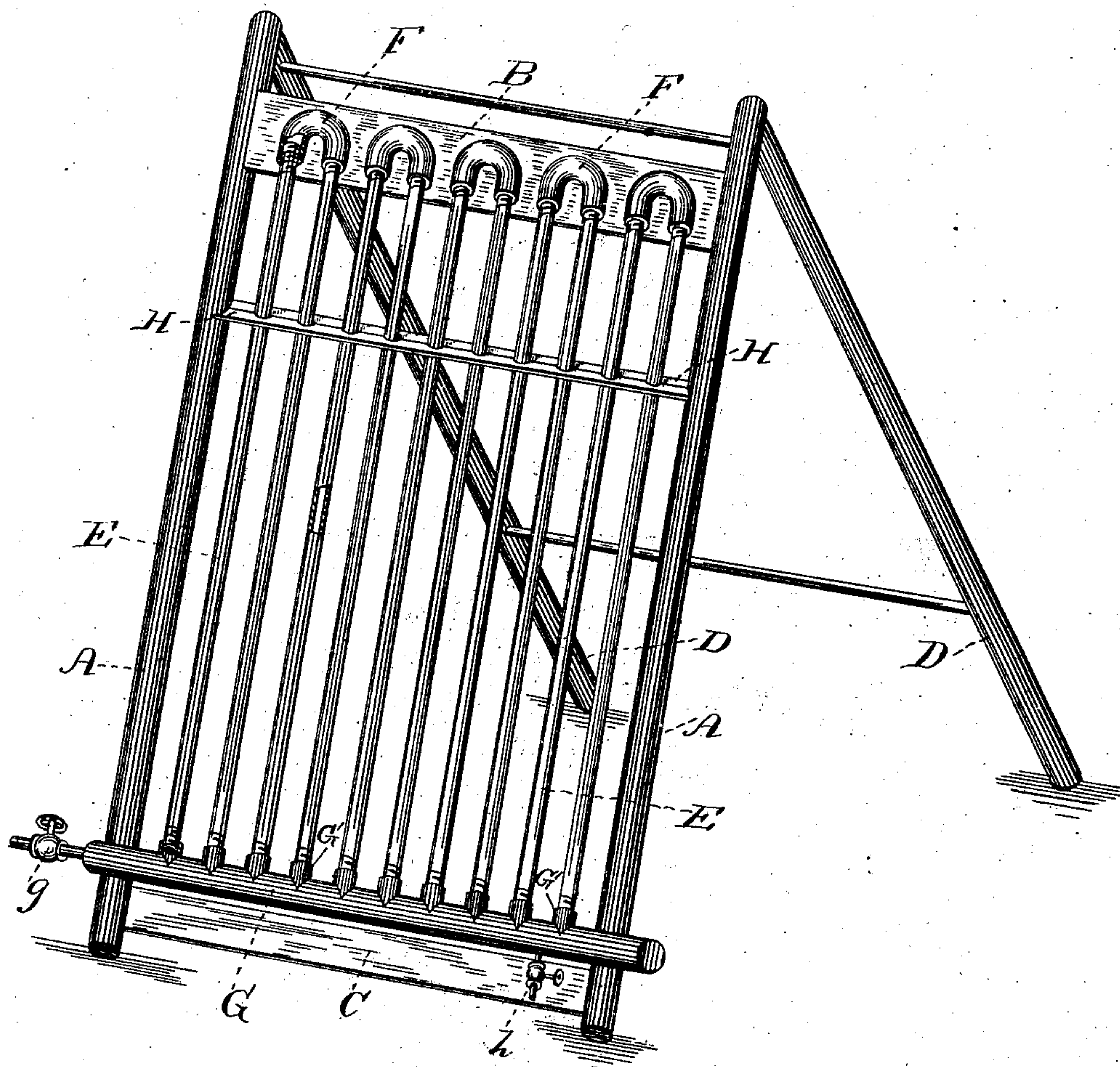
2 Sheets—Sheet 1.

J. JONES.
COAL SCREEN.

No. 292,560.

Patented Jan. 29, 1884.

Fig. 1.



Witnesses
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att'y.

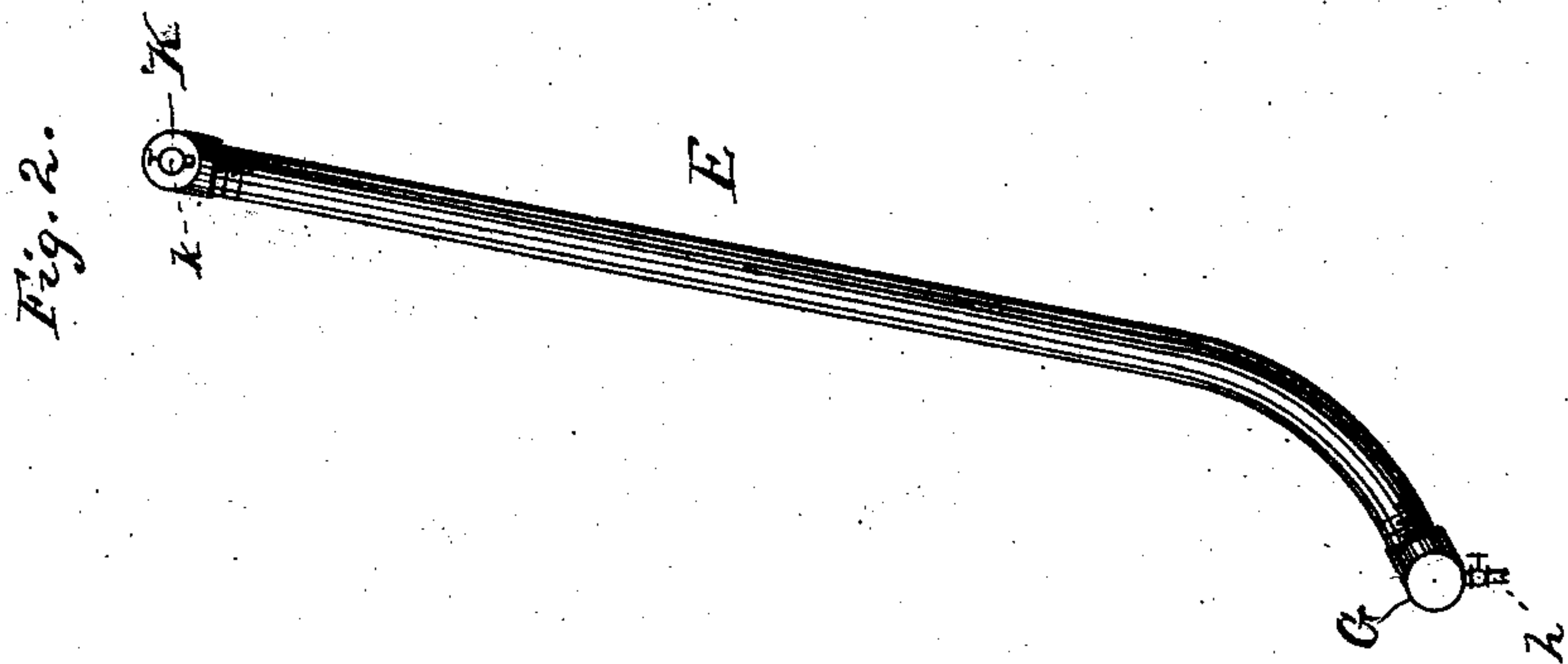
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UNITED STATES PATENT OFFICE.

JOHN JONES, OF PORTSMOUTH, OHIO.

COAL-SCREEN.

SPECIFICATION forming part of Letters Patent No. 292,560, dated January 29, 1884.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN JONES, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have
5 invented certain new and useful Improvements in Coal-Screens, of which the following is a specification, reference being had therein to the accompanying drawings.

Great difficulty and annoyance is frequently
10 experienced in screening coal in coal-yards during cold weather, owing to the fact that ice accumulates upon the bars or wires of which the screen is composed, and clogs up the meshes or places between them to such an extent as
15 to seriously interfere with the passage of the coal-dust and other refuse through the screen, particularly when, from any cause, the coal is wet, in which case it frequently happens that while the mass of coal has sufficient
20 warmth to hold the water and coal-dust in solution the wires and bars of the screen are so cold that such water and dust will freeze and thus adhere to them.

The object of this invention is to obviate
25 the above-recited difficulty; and it consists, essentially, in forming the screening-surface of hollow bars, and providing it with stop-cocks, valves, or other suitable connections, whereby
30 steam can be introduced into the hollow portions, and thus keep the temperature of the screen so high that ice will not form upon the bars, so as to interfere with the screening operations.

Having thus explained the nature of my invention, I will proceed to described devices
35 which I propose to employ in carrying it into effect.

Figure 1 is a perspective view of a screen built in accordance with my invention, parts
40 being broken away to show its construction. Fig. 2 is a side view, showing a modification.

Referring to Fig. 1, A A are the side rails; B, the top girt, and C a cross-board at the bottom, these parts constituting a supporting-
45 frame, which may be maintained at any desired angle by means of legs D D, hinged or otherwise attached to the under sides of the parts A A.

EE represent the vertical longitudinal bars, which, in this instance, are formed of small
50 pipes, either round, square, or flat, placed at suitable distances apart, according to the size

of the coal which is to be screened. The bars are screw-threaded at their upper ends, where each pair are tied together by means of inter-
55 nally-threaded U-shaped couplings F F. The lower ends of the bars are also screw-threaded, and are connected to a common transverse pipe, G, which by preference is made of wrought or cast iron, and provided with a se-
60 ries of internally-threaded projections or short pipes, G', the threads of the pipes being right-handed at their upper ends and left-handed at their lower ends, to facilitate putting the
65 parts together. One end of the transverse pipe G is closed by a block or is cast solid, and to the other end is attached a stop-cock, g, by means of which connection may be made with a boiler or other steam-supply; and, as
70 will be obvious, by the use of a small amount of steam, the pipes or hollow bars may be kept above the freezing-point at very slight cost.

h is a waste cock or drip, through which to draw off condensed steam.

I do not propose to be limited to the exact construction of pipes and connections here shown, as many other equivalent connections and arrangements will readily suggest them-
80 selves to those who are familiar with manipulating gas-pipes and elbow-joints; but I have described that which seems now to be the best adapted for the carrying out of my invention.

H H are transverse spacing and supporting bars, each provided with a series of holes to
85 receive the pipes or hollow bars E E.

In Fig. 2 the pipes E E are shown as being curved at their lower ends, and each connected to a transverse pipe, G, by any of the well-known coupling devices used by plumbers or
90 gas-fitters.

K is a transverse pipe, into which the upper end of each pipe E is screwed. One end of the pipe K is closed, and the other end is provided with a stop-cock, k, or other similar de-
95 vice through which steam may be introduced. One end of pipe G is also closed, its opposite end being provided with a drip-cock, h, through which the condensed steam may be discharged. Of course a suitable supporting
100 frame-work should be constructed upon which to mount these pipes, and, when preferred, transverse supporting-bars may be used, their ends being supported in the frame-work.

Each supporting-bar may be made in a single continuous piece with holes at suitable intervals for the reception of the pipes E E; or each bar may be made in two parts having notches or semicircular recesses upon their adjacent edges to receive the pipes; or, when preferred, the recesses may be made sufficiently deep in one of the bars to receive the pipes and hold them with steadiness, in which case the other bar of the pair may be straight upon both edges, or might be entirely dispensed with.

Having thus described my invention, what I claim is—

1. In combination with a screen having chambers or passage-ways formed in its screening-surface, a pipe adapted to convey steam or hot air to said chambers, and means for withdrawing the steam or hot air after it has performed its work, whereby the screening-surface may be kept warm and free from an accumulation of frozen material, substantially as set forth.

2. A screen having its frame provided with

interior chambers or passage-ways for the reception of steam or hot air, and having, also, interior chambers or passage-ways in its screening-surface connected with the interior chambers of the frame, substantially as set forth.

3. A screen having its screening-surface formed of hollow bars or pipes, in combination with a hollow supporting frame-piece, and screw-threaded connections between the frame-piece and the longitudinal bars, substantially as set forth.

4. A screen having its screening-surface formed of the hollow bars or pipes E, in combination with a transverse steam-pipe, G, to which the pipes E are at one end connected, and the U-shaped couplings F, connecting the opposite ends of adjacent pipes E, substantially as set forth.

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

JOHN JONES.

Witnesses:

JAMES W. ELLIS,

WILLIAM ELLIS.