UNITED STATES PATENT OFFICE.

ROBERT WHELAN, OF CHICAGO, ILLINOIS.

FOAM-COLLECTOR FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 260,813, dated July 11, 1882.

Application filed May 5, 1882. (Model.)

To all whom it may concern:

Be it known that I, ROBERT WHELAN, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Foam-Collectors for Steam-Boilers, of which the following is a specification.

My invention consists in a foam or scum collector for steam-boilers, having a body coiled or wrapped in loose or open spiral form, closed at its ends, and provided with a discharge pipe and cock, the spiral coiling affording a circuitous passage through which the foam or scum may enter, but through which it cannot readily return or pass out.

In the accompanying drawings, Figure 1 is a perspective view of my improved device, and Fig. 2 a transverse section of the same.

The object of my invention is to collect and remove the foam, scum, and other foreign matters from the water of steam-boilers, and to provide a device for that purpose which shall be simple, cheap in construction, efficient in action, and susceptible of being readily cleaned at any time. To this end I construct the device as represented in the drawings, in which A indicates the device as a whole, consisting of a spirally wrapped or coiled body or drum, *a*, cap or end pieces, *b*, and a branched outlet-pipe, *c*, which is carried to the outside of the boiler and furnished with a cock, as usual, to permit the contents of the drum to be drawn off or blown out at any time. The drum or body is formed of a sheet of copper or other suitable metal—though copper is preferred—coiled into a cylindrical or approximately cylindrical form, but with a narrow space or passage, *d*, between the coils, as shown. For the purpose of insuring the separation of the coils or convolutions of the drum *a*, strips *e*, of copper or other metal, are coiled up with the sheet of which the body is formed, being preferably first soldered or riveted thereto, so that the coils are necessarily held apart a distance equal to the thickness of the strips. The strips or bridge-pieces *e* also serve to stiffen and strengthen the drum and afford the necessary thickness of metal to permit the branches of the pipe *c* to be tapped or screwed into them for the purpose of connecting with the drum. Each end of the drum is furnished with an internally-threaded annular cap or encircling band, *f*, which serves to keep the ends of the drum in proper shape, and also to receive the threaded caps or end pieces, *b*, by which the ends of the drum are closed.

The coils may be held apart by short studs or other devices; but the plan shown is deemed best, because of its simplicity, strength, and convenience of attaching the outlet-pipes.

The device, being thus constructed, is placed within a steam-boiler, (or in some cases two or more may be used,) with the upper or inlet side nearly on the line of the ordinary water-level. Foam, scum, and matters rising to the surface of the water will then find their way into the passage *d*, and through it into the interior of the drum *a*, where they will be collected and retained, there being no movement or disturbance of the water within the drum to cause it to pass out again. In this way the water is soon purified and the objectionable foaming is stopped.

The ends may be made fast, if desired; but I prefer to make one or both detachable, to afford ready access to the interior for cleaning or repair. Ordinarily, however, the drum may be cleaned by simply opening the cock or pipe *c* and allowing the steam in the boiler to blow out the contents through said pipe. I prefer to form about two complete turns or coils, as shown.

The device constructed as described is found to give excellent results in practical use.

Having thus described my invention, what I claim is—

1. In a foam-collector for steam-boilers, a drum having its body coiled spirally in a circumferential direction, as set forth, whereby a spiral passage is formed from the exterior to the interior of the drum.

2. In combination with the spirally-coiled drum *a*, the strips *e*, applied as shown, whereby the coils are separated and proper thickness of metal is secured to receive the end of the outlet pipe or pipes, as shown.

3. A foam-collector for steam-boilers, constructed substantially as shown and described, and provided with detachable caps, whereby access to its interior is permitted.

4. The herein-described foam-collector, consisting of the coiled body *a*, provided with strips *e*, caps *b*, and outlet-pipe *c*, substantially as shown and described.

ROBERT WHELAN.

Witnesses:
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J. M. CORNELL.

(No Model.) 2 Sheets—Sheet 1.

E. E. WHIPPLE.

COMBINED SEEDER AND CULTIVATOR.

No. 260,814. Patented July 11, 1882.

Fig. 1.

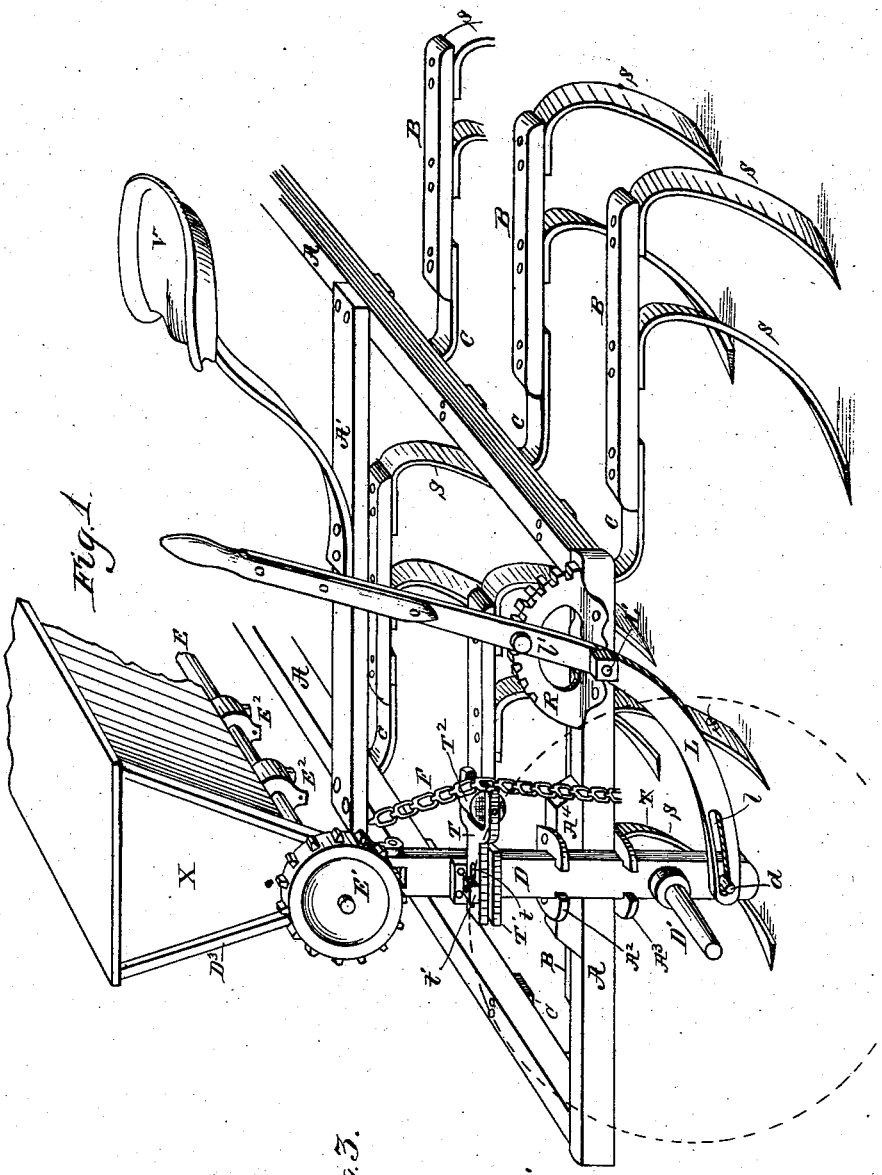
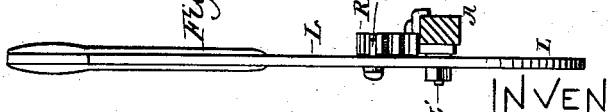


Fig. 3.



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