J. Cannon,

Oil-Collecting Pump,

No. 42,073. Patented Mar. 29, 1864.

Fig. 1

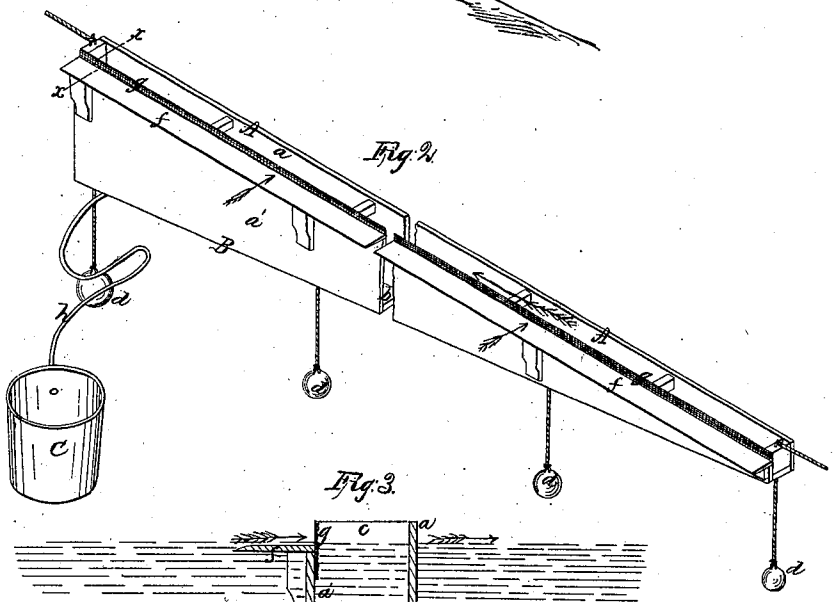
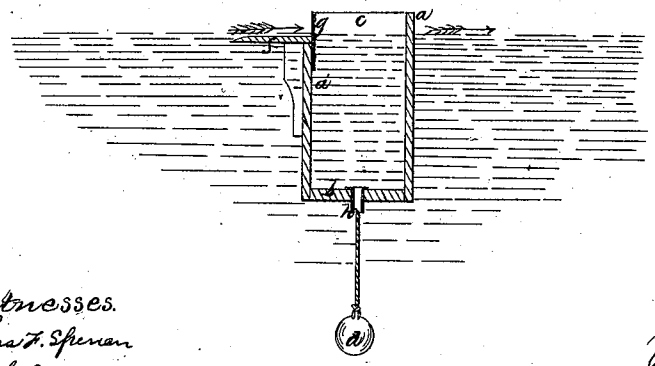


Fig. 2.

Fig. 3.



Witnesses.
Chas. F. Spencer
R. F. Osgood

Inventor.
J. Cannon
by J. Fraser & Co. Att'ys

UNITED STATES PATENT OFFICE.

JOHN CANNON, OF NEW RICHMOND, PENNSYLVANIA.

IMPROVED MODE OF COLLECTING OIL ON SURFACES OF RIVERS.

Specification forming part of Letters Patent No. **42,073**, dated March 29, 1864.

To all whom it may concern:

Be it known that I, JOHN CANNON, of New Richmond, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Booms for Collecting Petroleum on the Surfaces of Rivers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a landscape view showing my improvement applied to the surface of a river; Fig. 2, a perspective view of my improved boom; Fig. 3, a cross section in plane of line *x x* and showing the boom submerged in the water.

Like letters of reference indicate corresponding parts in all the figures.

It is well known that in the petroleum region there is much escape of oil on the surface of the streams, which either rises from the bed or flows in from the wells that have been bored to obtain it.

It is the object of my improvement to collect and save this escaping oil; and my invention consists, essentially, of a boom in the form of a trough extending across, or partly across, a river from bank to bank, which trough collects the oil into the lowermost angle, and from which it may be run or pumped into a suitable tank.

The boom is usually made of sufficient length to reach from bank to bank in an angular position, as indicated in Fig. 1, so that the surface of the current striking it will be deflected into the lowermost or acute angle.

As represented in the drawings, the trough A is composed of two sides, *a a'*, and a bottom, *b*, made water-tight, while the top is open to allow the oil to flow over into the trough. The side *a*, or that which is situated down stream, is made somewhat higher than the opposite side, in order to arrest the current on the surface. I prefer to make this trough inclined, as shown at B, the greatest depth being at the lower or acute angle of the boom, so that the oil that collects therein will gradually flow downward to the point where it is drawn off into the tank; but it is apparent that the boom would be effective even if the trough were plane and of the same depth the whole distance. The lower extremity of the trough is provided with an end, *c*, to prevent the accumulated oil from escaping again. The ends of the boom are provided with suitable guys, by which it is held in position. Its bottom is also provided with anchor-weights *d d*, attached in any suitable manner, and which serve to sink the boom to just the required depth and to keep it steady.

To the top of the side *a'*, up stream, is secured a horizontal or slightly-inclined float-board, *f*, of suitable width, and extending the whole length of the boom. This float-board rests just below the surface of the stream in such a manner that the water which is most thoroughly impregnated with the oil will flow over its top into the trough, and the clear, unadulterated water beneath will be excluded. It also assists to keep the boom steady and in an upright position by presenting a greater floating surface to the water. Inside the float-board is situated a strainer, *g*, (of wire cloth, or equivalent,) extending the whole length of the boom and projecting upward vertically a sufficient distance to reach above the surface of the water. Its purpose is to prevent sticks and other impurities floating on the surface from entering the trough, and to thoroughly strain the oil. The oil may be drawn off from the lower end of the trough in any desirable manner, that represented in the drawings being by means of a pipe, *h*, extending to a tank, C, on shore, situated at a lower level than the trough. Instead of this, a siphon may be employed, or, when the nature of the ground will not render this convenient, an ordinary pump may be used. The advantages of this arrangement are so obvious as hardly to need further description. A mere boom of logs or boards, though it would deflect the oil down into the acute angle, would not collect it in such a manner that it could be drawn from the surface of the water; but the use of a boom having a trough, or its equivalent, so constructed as to allow the water to flow over one side and be arrested on the other, enables me to collect it in a body, so that it is easily drawn off. The float-board serves to separate the oil from the clearer water, while the strainer cleanses it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A boom stretching across a river or a portion thereof, consisting of a trough, A, or equivalent, for the purpose of collecting in a

body the oil that floats on the surface, so constructed that the oil is allowed to flow in on the upper side while it is prevented from flowing over on the lower side, substantially as herein set forth.

2. In combination with the trough A, the float-board *f*, arranged and operating substantially as and for the purpose herein specified.

3. In combination with the trough A, the strainer *g*, substantially as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

J. CANNON.

Witnesses:
HIRAM S. HULL,
EZRA CARPENTER.