(No Model.)

2 Sheets—Sheet 1.

J. GREEN.

LOG BOOM.

No. 330,016.

Patented Nov. 10, 1885.

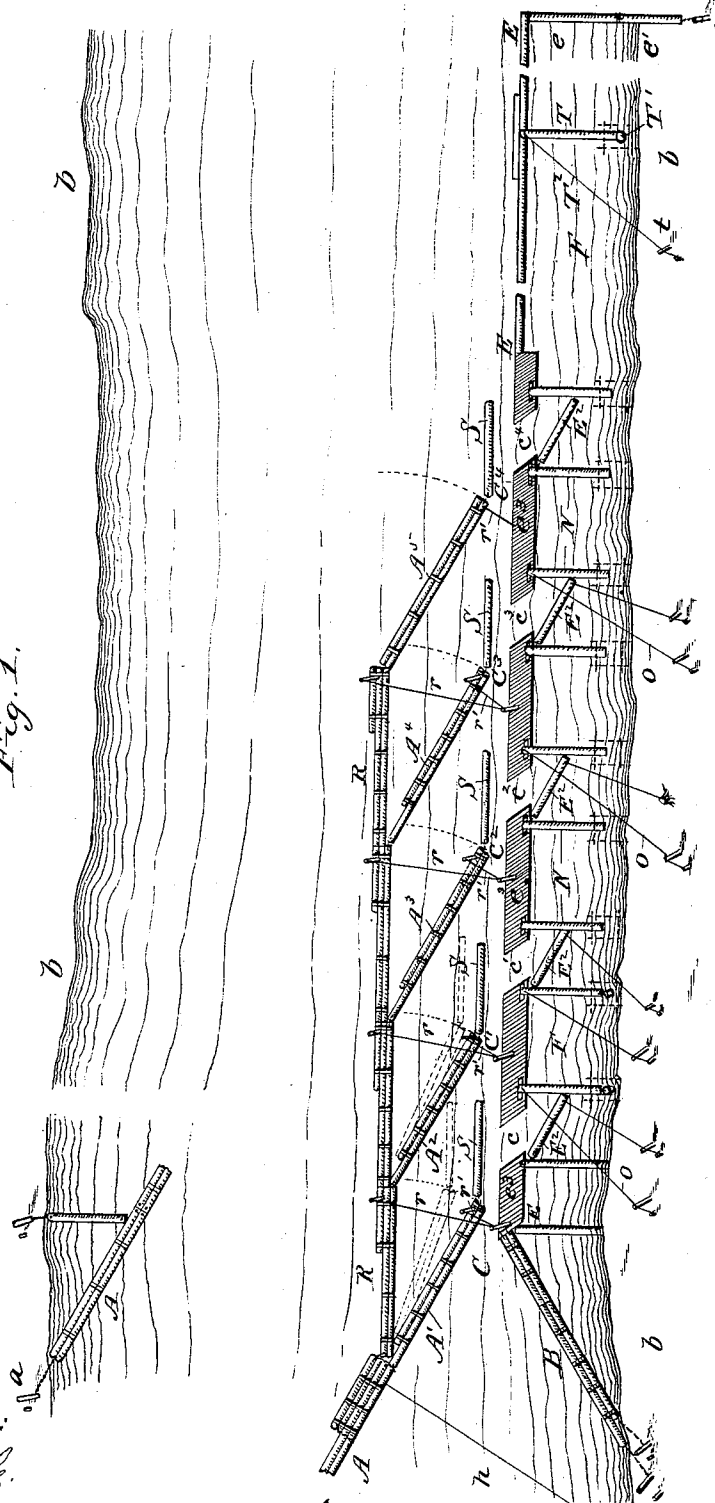


Fig. 1.

Witnesses:
C. E. Doyle.
E. A. Dick

Inventor.
John Green by A. M. Lowe attorney

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

J. GREEN.

LOG BOOM.

No. 330,016. Patented Nov. 10, 1885.

Fig. 2.

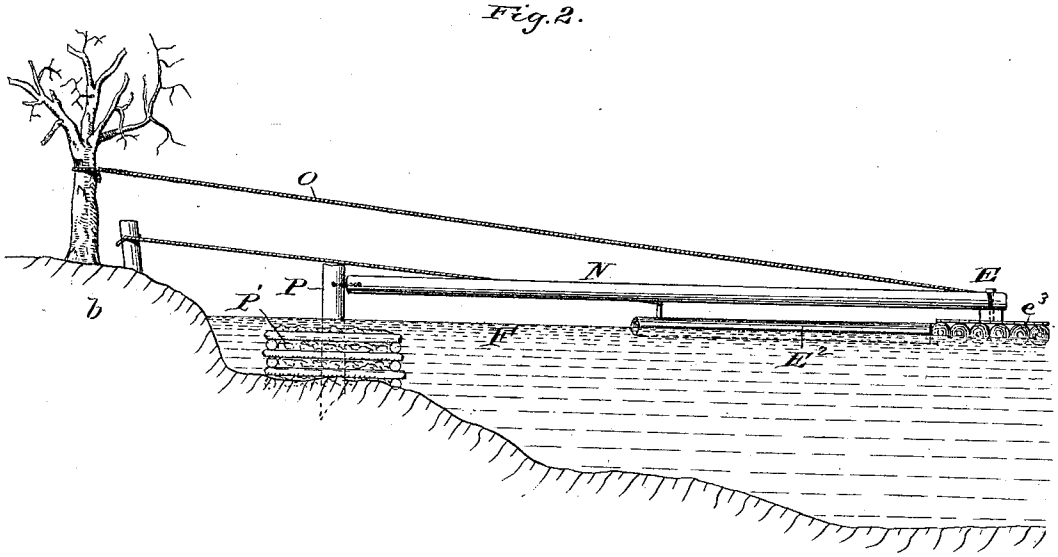
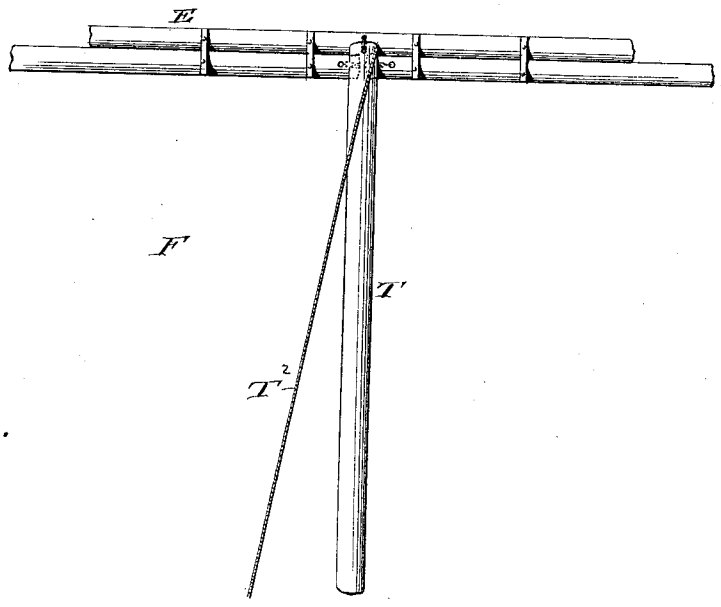


Fig. 3.



Witnesses:
A. A. Pennell Jr.
C. E. Doyle.

Inventor:
John Green,
by A. N. Low
Attorney

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN GREEN, OF WILLIAMSBURG, KENTUCKY.

LOG-BOOM.

SPECIFICATION forming part of Letters Patent No. 330,016, dated November 10, 1885.

Application filed August 22, 1885. Serial No. 175,083. (No model.)

To all whom it may concern:

Be it known that I, JOHN GREEN, a citizen of the United States, residing at Williamsburg, in the county of Whitley and State of Kentucky, have invented certain new and useful Improvements in Log-Booms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a means for rapidly and conveniently catching and directing large numbers of logs into a single retaining-pocket. A boom having such capabilities is practically useful in rivers of rapid current, where jams are to be avoided only by quickly handling and disposing of the logs as they are brought down.

With these ends in view I have provided a single retaining-pocket with several openings at different points, through which logs may be directed into it by as many gangs of men, thus enabling the whole force of hands, which may be greater than can work at a single opening, to be employed to collect all of the logs into a single body. I have also so shaped the floats through which the openings are made and combined with them such log-directing devices as to materially facilitate the handling of the logs.

The invention further consists in certain details of construction and arrangement hereinafter to be described.

The invention can best be understood by reference to the accompanying drawings, in which I have shown means for carrying it into effect.

In said drawings, Figure 1 is a bird's-eye view of a log-boom constructed in accordance with my invention. Fig. 2 is an elevation showing the fastenings of one of the platforms. Fig. 3 is a plan view of a pocket-fastening.

Referring to the drawings, *b b* indicate the river-banks, between which are arranged the sheers A and B, to form the converging head of the boom, a gap, C, being left at their lower ends for the passage of the logs. These sheers may be constructed and secured in any suitable manner. For instance, the main sheer A may be anchored at its upper end, as shown at *a*, and held across the stream by cables *h;* or it may be made in sections, supported at the middle of the stream by a pier, and adapted to be swung into line with the current, as shown in my application for a patent for a log-boom filed June 10, 1885, Serial No. 168,250. Below the counter-sheer B is situated the log receiving and retaining inclosure or pocket F, composed of a boom-section, E, parallel with the stream, and a cross-section, *e e'*, at the lower end.

The upper portion of the boom-section E is composed of floats or platforms e^3, planked over or otherwise adapted to give foot hold to the lumbermen, and arranged to leave openings $c\ c'\ c^2\ c^3\ c^4$ into the pocket F, through which floating logs may be directed. These openings are made preferably at an acute angle to the general course of the logs, as by beveling off the ends of the platforms e^3, as shown, to enable logs to be more easily diverted from the channel into the pocket. If found desirable, the platforms e^3 may be placed slightly out of line with each other for the same purpose, each platform having its upper end nearer the log-channel than the lower end of the next platform above.

To distribute the strain upon the retaining-boom and hold it stiffly in position, and especially to leave the openings $c\ c'\ c^2\ c^3\ c^4$ perfectly open and unobstructed by a bridge, which latter interferes with the free use of the poles by which the logs are directed, I support the parts of said boom—viz., the sections e^3—independently of each other and by fastenings such as will permit the logs to float between the platforms and down into the lower part of the pocket. The fastenings which I have devised and shown as applied to the platforms consist of brace-logs N N, secured at their outer ends to the platform at a suitable distance above the water, and anchored at their inner ends to suitable objects upon or near the bank. In default of natural objects, I prefer to use piles P, held in pens P' filled with stone. (See Fig. 2.) The braces N N hold the platform at the proper distance from the bank. To maintain it against the current, a tie or cable, O, secured to the platform, passes diagonally to the bank above the platform, and is attached to a suitable fastening.

With the boom-section E, having the open-

ings $c\ c'\ c^2\ c^3\ c^4$, I have combined a series of adjustable sheer-sections, by which the course of the logs relative to said openings may be conveniently regulated.

I am aware that heretofore there have been combined with a retaining-boom having a series of openings adjustable logs or sheer-sections for directing the logs relative thereto, and I do not claim such construction, broadly; but as heretofore made said adjustable sheers have been attached to the retaining-boom, with the result that in contracting the gaps in the log-channel by said sheers the logs were deflected away from the openings which lead into the retaining-boom. It is my object, however, to minimize the labor required to direct the logs into the retaining-boom by causing the body of said logs, though successively reduced in numbers, to nevertheless pass down close to the retaining-boom. This I accomplish by contracting the successive gaps by adjustable sheers attached to the boom which is upon the opposite side of the log-channel. The first, A', of said sheer-sections constitutes the lower portion of the main sheer and regulates the width of the gap C. The succeeding sections, $A^2\ A^3\ A^4$, form gaps $C'\ C^2\ C^3\ C^4$, each a short distance above one of the openings $c'\ c^2\ c^3\ c^4$, respectively.

As the logs come down into the head of the boom a larger number will pass through the gap C than will be handled at the opening c, only those logs which pass close to the boom E being diverted into said opening. At the next gap and opening the operation is similar, the nearest logs being turned into the opening while the rest pass on down the channel, a decreasing number of logs passing through each successive gap. These gaps should each be wide enough to permit the free passage of all of the logs which come into it and narrow enough to force a proper number of said logs within convenient reach of the workman at the opening next below. With the arrangement of adjustable sheers shown it will be readily seen that the first gap, C, may be made large enough to accommodate a large body of logs without causing a jam, while the last gap, C^4, may be made small enough to bring the comparatively small number of logs which pass through it within easy reach of the workman at the opening c^3. When the river is not bringing down a large number of logs, all of the gaps may be of the size of the lower one, as shown in the drawings, the dotted lines indicating the arcs of adjustment of the sheers.

Logs S are loosely attached to the lower ends of the adjustable sheers opposite to the openings $c\ c'\ c^2\ c^3\ c^4$ to keep the descending logs within reach of the latter.

For securing the adjustable sheers in place, I extend downstream from the main sheer a boom, R, to which the sheers $A^2\ A^3\ A^4$ are loosely connected. Stays r serve to hold the boom R in place against the current, and stays r', secured to the adjustable sheers, maintain their lower ends at proper distances from the boom E. By letting out stays r (which might be replaced by a single stay of proper strength) the width of all the gaps $C\ C'\ C^2\ C^3\ C^4$ may be increased at once.

As the pocket F becomes filled up to the openings $c^4\ c^3\ c^2\ c'\ c$ successively I have arranged that they shall be closed by floating gates E^2. The upper and receiving portion, as well as the lower portion, of said pocket may thus be utilized as a retaining-boom.

The means which I have devised for holding the lower portion of the pocket in place consists of a brace, T, secured to the boom E so as to be above the water and passing to a pile, T', or other fixed object, and a tie, T^2, connected with the boom E or brace T, and passing diagonally upstream to a point of attachment, t. As many sets of these devices may be used as the length of the pocket renders necessary.

The use and operation of my invention has been sufficiently pointed out in the description of its construction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a log-boom, the combination, with the boom-head, of a single retaining-pocket, and devices for directing the descending logs along said pocket, the pocket being provided with a series of boom-sections and working-platforms arranged to leave a plurality of openings along the course of the logs, said sections and working-platforms being held in place independently of each other, by which the openings are left free and the passage of the logs into a single pocket permitted, substantially as hereinbefore set forth.

2. In a log-boom, the series of working-platforms e^3, beveled at their ends, and supported independently of each other by bridge-logs or braces N and ties or braces O, to form a single pocket, substantially as and for the purpose described.

3. In a log-boom, the combination, with the boom-head and retaining-boom E, having a series of openings, of a series of sheers arranged upon the opposite side of the log-channel from and with reference to said openings, substantially as hereinbefore described.

4. In a log-boom, the combination, with the boom-head, and retaining-boom E, having a series of openings, of the opposing boom R, carrying a series of sheers arranged with reference to said openings, substantially as hereinbefore set forth.

5. In a log-boom, the combination, with a platform, e^3, and a pile, P, of the brace-logs N N, arranged between said platforms and pile, and above the water, and the tie O, connected with the platform and passing diagonally upstream to a point of attachment, whereby the platform is held at proper distance from the bank and against the force of the current, substantially as hereinbefore set forth.

6. In a log-boom, the combination, with the log collecting and directing devices, of the boom E forming a retaining-pocket and having a series of openings, and gates E^2 for closing said openings as the pocket becomes filled, substantially as hereinbefore set forth.

7. In a log-boom, the combination, with the retaining-boom E, of the brace T, secured at its outer end to the boom above the water and at its inner end to a fixed object also above the water, and the tie T^2, connected with the boom or outer end of the brace and passing upstream to a point of attachment, substantially as hereinbefore set forth.

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

JOHN GREEN.

Witnesses:
WILLIAM BAKER,
W. S. CULRYHANE.