

No. 663,763.

Patented Dec. 11, 1900.

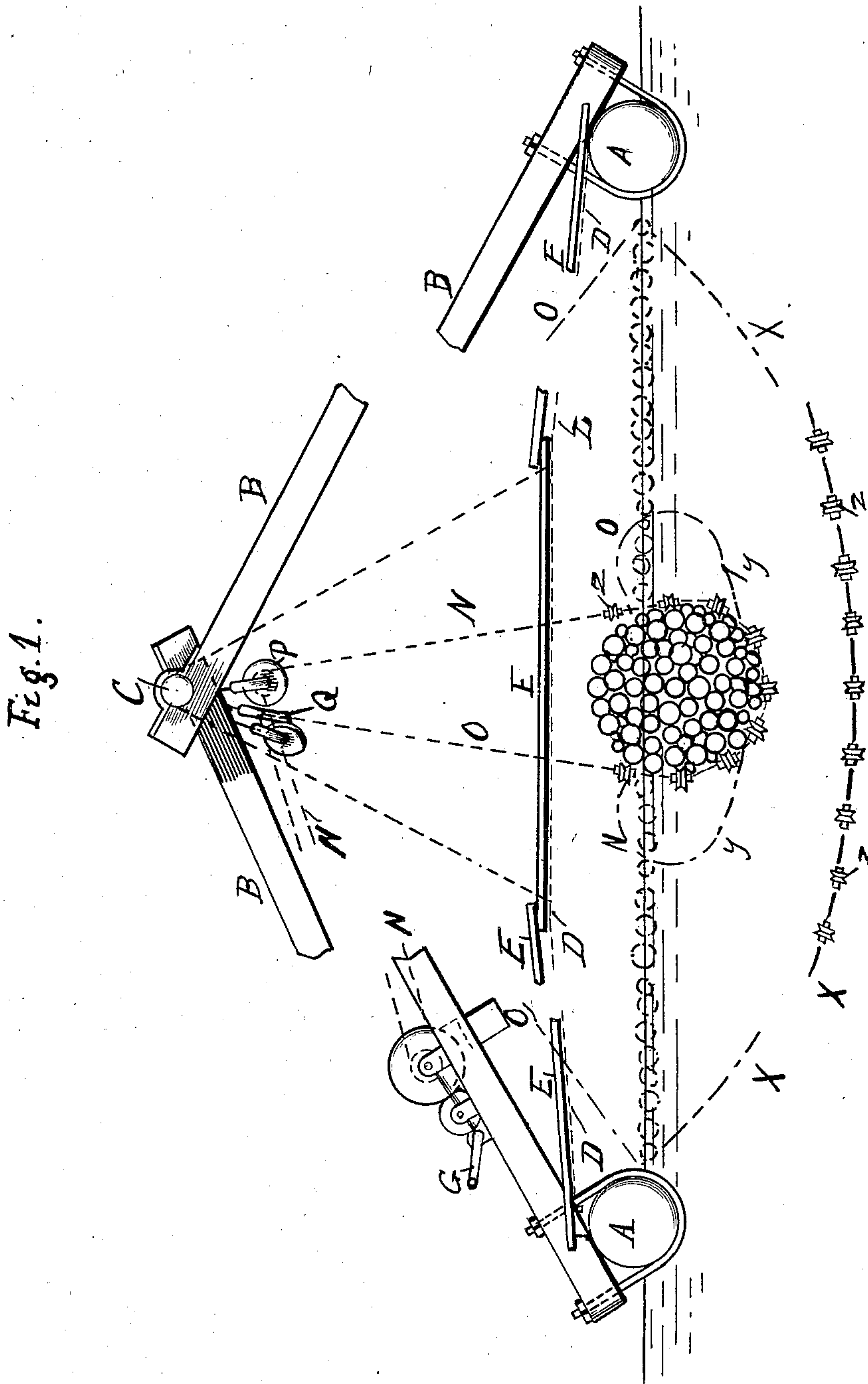
A. KRANK.

APPARATUS FOR MAKING UP TIMBER INTO RAFTS.

(Application filed Mar. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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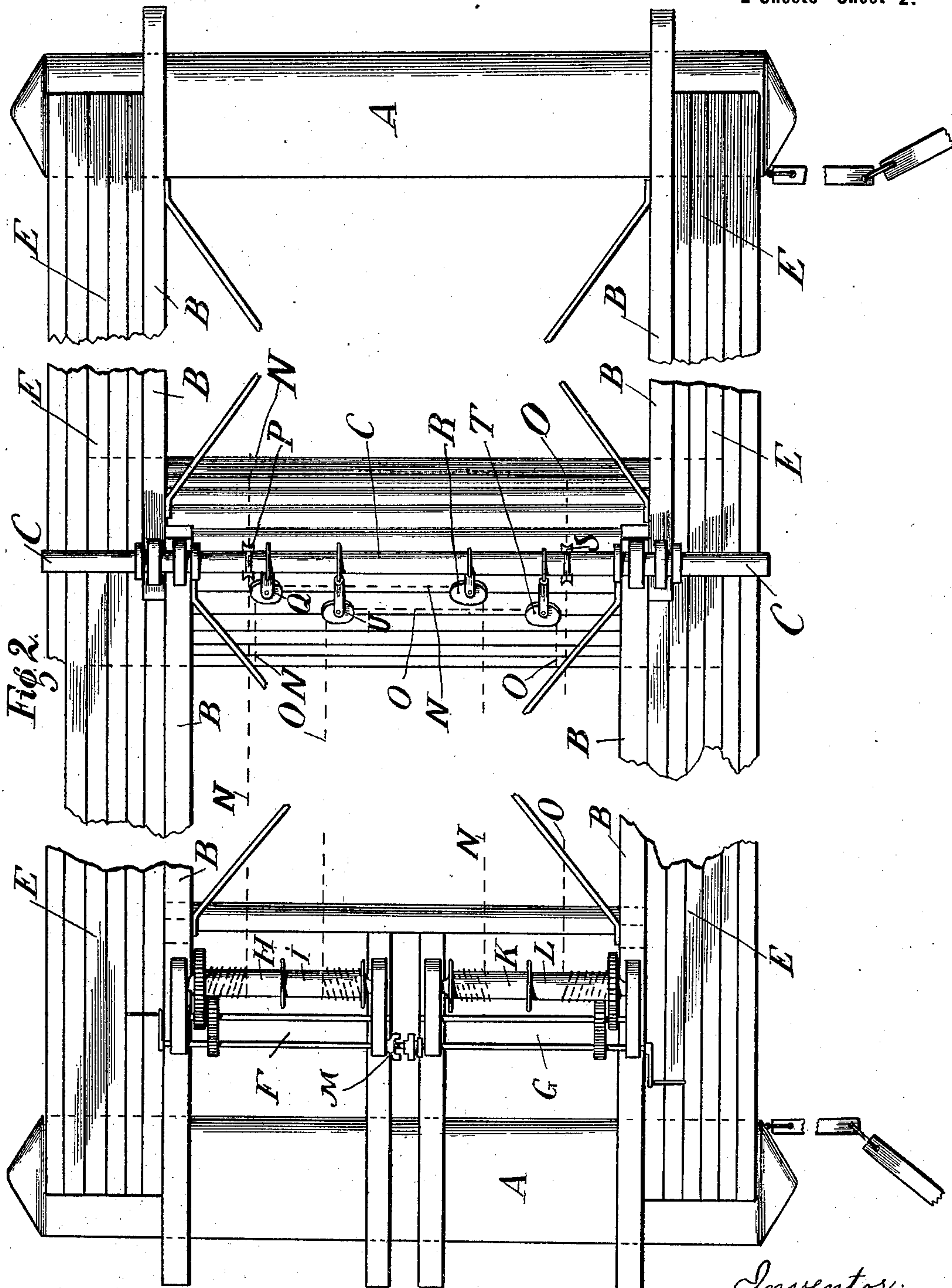
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

ALBERT KRANK, OF WARKAUS, RUSSIA.

APPARATUS FOR MAKING UP TIMBER INTO RAFTS.

SPECIFICATION forming part of Letters Patent No. 663,763, dated December 11, 1900.

Application filed March 5, 1900. Serial No. 7,283. (No model.)

To all whom it may concern:

Be it known that I, ALBERT KRANK, engineer, of Warkaus, Finland, Russia, have invented certain new and useful Improvements in Apparatus for Making Up Timber into Bundles, of which the following is a specification.

My invention relates to improvements in apparatus for making up timber into bundles by means of hand-power.

The apparatus is illustrated in the accompanying drawings, in which—

Figure 1 is a front view, and Fig. 2 a top view, of the apparatus.

Similar letters refer to similar parts in both views.

The apparatus consists of cross spars or beams B, resting with their lower ends on and fastened to pontoons A and that are fastened at their upper ends to a ridge-spar C in such a manner as to allow the distance between the two pontoons A to be altered according to circumstances and to facilitate the moving of the apparatus from one place to another. The two pontoons A, which may be made of sheet-iron, have a suitable displacement and may at the same time as supporting the other parts of the apparatus serve as a depository for the chains intended for binding together the timber bundles. The bracing-chains D, coupling the pontoons together at the distance desired, serve at the same time as a support for the footing-bridges E, arranged between the ends of the pontoons. These footing-bridges are also supported by means of chains suspended from the ends of the ridge-spar. At one side of the cross-spars B are arranged two suitably-gearred hand-winches F and G, each provided with a chain-drum. The chain-drum belonging to the winch F is divided into two parts H and I and the chain-drum belonging to the winch G into two parts K and L.

In order that both winches might be worked separately or jointly, according to circumstances, the spindles carrying the crank-lever may, if necessary, be coupled by means of a coupling M. The chains N and O for making up bundles are arranged in such a manner that the chain N runs from the upper side of the chain-drum H through the pulley-block P down to the water, around the timber, and

again upward through the pulley-block Q. From this block the chain N runs over the pulley-block R and down to the lower side of the chain-drum K. Thus if it be desired to draw in both ends of the chain N the winches F and G must be turned in opposite directions. If, on the other hand, the two winches are coupled together so as to turn in the same direction, H will give out exactly as much length of chain as K will draw in, or vice versa. In the same manner the chain O runs from the lower side of L through the pulley-block S down to the water and up again through the pulley-blocks T and U down to the upper side of I.

The working is performed in the following manner: The apparatus having been duly moored or anchored at a suitable place, the beam of the timber-raft is opened and the ends of the beam are fastened to the pontoons. It is advisable to anchor the first beam on each side in a line with the inner sides of the pontoons, so as to allow a suitable portion of timber to be gathered ready between these beams while the previous portion is being made up into a bundle and the ready bundle having been removed through the opposite end of the apparatus to draw in the next portion at once. Before the timber is drawn in between the pontoons a sufficient length of chain is given out by the winches and the sides of the chains are temporarily attached to the pontoons by means of crooks, so as to allow the whole portion of timber to float between the chains. The chains are then occupying a position as shown by the line *x* in Fig. 1. By now turning the winches in opposite directions the chains are pulled up and the timber will gradually gather into a bundle of the shape shown by the curve *y* in Fig. 1. After the chains have been strained as much as the winches will allow of the winches are coupled together by means of the coupling M and turned both in the same direction. The result of this will be that a rotary motion is imparted to the timber bundle, causing this to assume a nearly-round section. In order to prevent the chain from sliding during the last-mentioned operation, the middle part of the chain is supplied with knots or bosses *z*. The bundle-chains are now put on the bun-

dle, the winch-chains are slackened by disengaging the coupling M, and the ready-made bundle is taken away.

The advantages of the above-described apparatus and mode of working are evident. The apparatus is comparatively cheap to make, and the working expenses are small, because the work can be performed by two men only and without the use of steam-power, there being no necessity of lifting the timber out of the water, as the bundles are being formed while the timber is almost totally supported by its own displacement.

Having now particularly described and ascertained the nature of this said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination of pontoons A, A, cross-beams B whose lower ends are fastened to the pontoons, a ridge-spar C to which the upper ends of beams B are fastened, pulleys supported from the cross-beam, bundle-making chains N, O, passing over said pulleys down below the water-level thence passing up and over other pulleys, winding-drums to which said chains are connected, and means for turning said drums for winding or unwinding said chains.

2. The combination of pontoons A, A, cross-beams B whose lower ends are fastened to the pontoons, a ridge-spar C to which the upper ends of beams B are fastened, pulleys supported from the cross-beam, bundle-making chains N, O, drums H, K for chain N, drums I, L for chain O, and means for turning the drums.

3. The combination of pontoons A, A, cross-beams B whose lower ends are fastened to the pontoons, a ridge-spar C to which the upper ends of beams B are fastened, pulleys supported from the cross-beam, bundle-making chains N, O, drums H, K for chain N, drums I, L for chain O, winch F connected with drums H, I, for turning them, winch G connected with drums K, L, for turning them, and a clutch for connecting and disconnecting the winches when desired.

4. The combination of pontoons, spar C, beams supported by the pontoons and supporting spar C, pulleys supported thereby, drums H, I, K, L, chain N wound in one direction on drum H thence over one of said pulleys and down below the water-line, thence up and over other pulleys to drum K on which it is wound oppositely to the winding on drum H, chain O similarly wound on drums I, L, and means for turning all the drums simultaneously in one direction or for turning drums H, I in one direction and drums K, L, in the opposite direction.

5. The combination of pontoons A, A, cross-beams B whose lower ends are fastened to the pontoons, a ridge-spar C to which the upper ends of beams B are fastened, bracing-chains D securing the pontoons together, foot-bridges E between the ends of the pontoons, and means for supporting the bridges.

6. The combination of pontoons A, A, cross-beams B whose lower ends are fastened to the pontoons, a ridge-spar C to which the upper ends of beams B are fastened, bracing-chains D securing the pontoons together, foot-bridges E between the ends of the pontoons, chains D also supporting said foot-bridges.

Signed at Helsingfors, Finland, Russia, this 24th day of January, 1900.

ALBERT KRANK.

Witnesses:

JOHN SECOR GUNJ,
FREDRIK VON SUGESTRÖM.