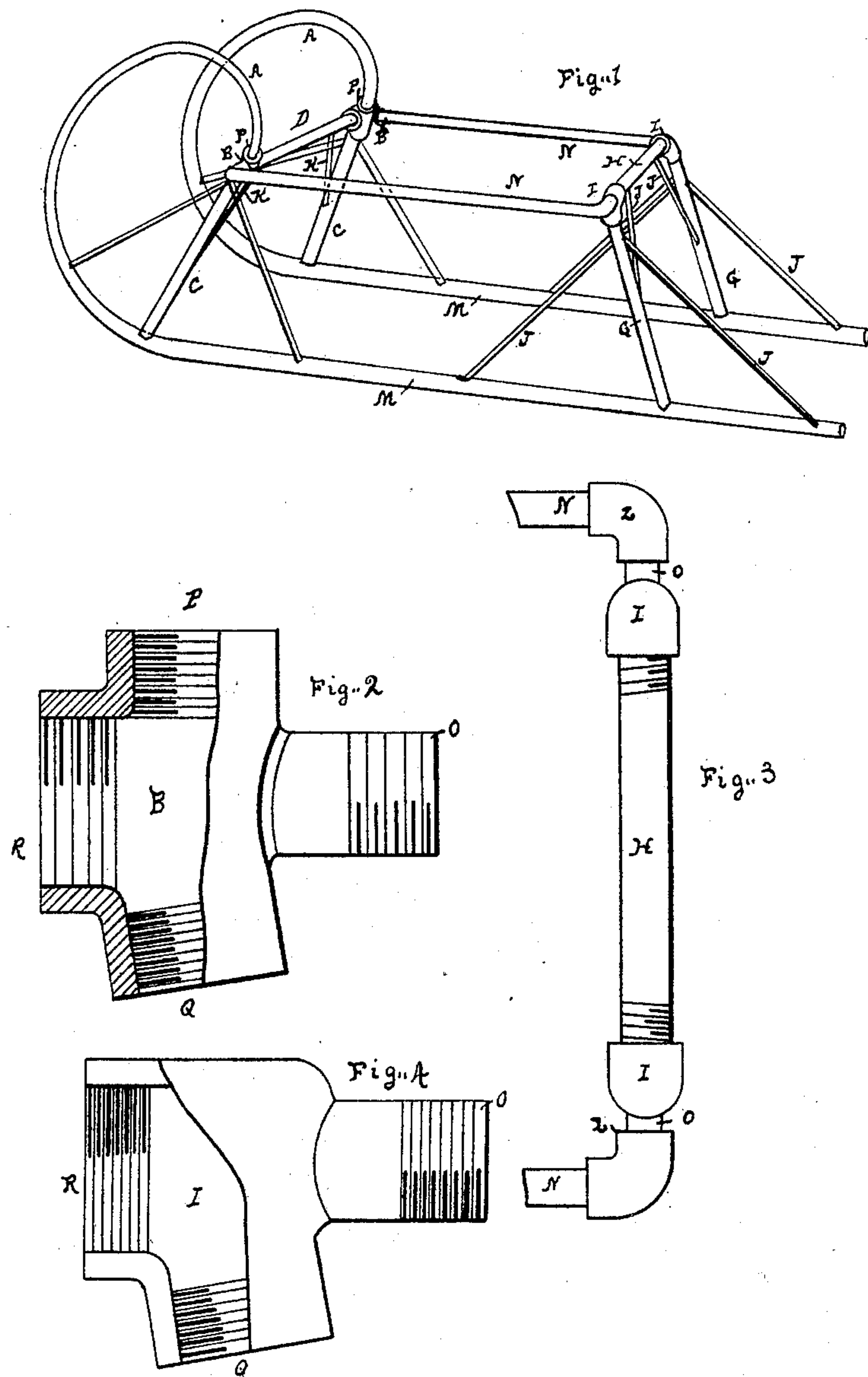


(No Model.)

R. E. LEE.
SLEIGH.

No. 390,488.

Patented Oct. 2, 1888.



Witness.

Geo. J. Carroll.
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Inventor

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UNITED STATES PATENT OFFICE.

ROBERT E. LEE, OF ALMONT, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO
JAMES S. JOHNSON, OF SAME PLACE.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 390,488, dated October 2, 1888.

Application filed June 21, 1888. Serial No. 277,706. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. LEE, of Almont, in the county of Lapeer and State of Michigan, have invented a new and useful Improvement in Sleighs, of which the following is a specification.

My invention consists in an improvement on the construction of sleighs described and claimed in my patent, No. 365,392, dated June 28, 1887, hereinafter fully described and claimed.

Figure 1 is a perspective of the running-gear of the sleigh. Fig. 2 is a front elevation, partly in section, of one of the front couplings; and Fig. 4 is a similar elevation of one of the rear couplings. Fig. 3 is a plan view of the rear bench and its couplings with a part of the side rods.

M M represent the runners of a sleigh, formed of gas-pipe, the forward ends of which may be bent over, as shown at A, and connected with the coupling which joins the forward knees and bench together.

B B' represent the forward couplings, each of which is constructed with a screw-threaded opening, P, at the top, to receive the end A of the runners; a screw-threaded opening at the side R, to receive the bench D; a screw-threaded opening at the bottom Q, at an angle with the body of the coupling, to receive the end of the front knee, C, and a screw-threaded nipple, O, to attach the side rod, N, to. The rear coupling, I, is similar to the front coupling, B, except that the upper screw-threaded hole, P, is omitted.

D represents the front bench, and H the rear bench, of the sleigh. The ends of these benches are provided with screw-threads, one being right hand and the other left hand, and the openings R in the front and rear couplings are also provided with right or left hand screws, to match the screw-thread on the ends of the benches.

K K represent the forward brace rods from the runners to the knees C and from the knees C to the bench D; and J J represent the brace-rods, these rods being substantially like the similar ones shown in my said patent.

L, Fig. 3, represents an elbow screwed onto the nipple O of rear coupling, I; and N rep-

resents a side rod, one end of which screws into the elbow L, the other end of which screws into a similar elbow secured to the nipple O of the front coupling, B, on the same side, whereby the front and rear benches are rigidly connected and the sleigh is materially stiffened. It will be observed that by the use of these peculiar couplings the knees are spread at their lower ends to get the requisite width of tread to the sleigh, while the benches remain horizontal; also, that they permit the front and rear benches to be rigidly fastened together by the side rods, N, and that they permit the sleigh to be knocked down for shipment by unfastening from the benches the brace-rods K and J, which run from the knees to the benches, and unscrewing the benches with any suitable wrench, and that the sleigh, when knocked down, may be readily set up by screwing in the benches and refastening the brace-rods.

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

1. The combination, with the runner having the rearward and downward bend A, the bench D, the knee C, and the side bar, N, of the coupling B, having the screw-sockets P, R, and Q, connecting the bench and knee to the lower end of the runner-bend, and provided with the outwardly-projecting screw-nipple O, secured to the side bar, substantially as described.

2. The combination, with the sleigh-runner having the rearward and downward bend A, the bench D, the front knee, C, and the side bar or rod, N, of the coupling B, having the vertical screw-socket P, receiving the lower end of the runner, the horizontal screw-socket R, receiving the end of the bench, the downwardly-extending screw-socket Q, arranged at an obtuse angle to the horizontal socket, receiving the knee and spreading the latter outward at its lower end, and the laterally-projecting screw-nipple O, secured to the forward end of the side bar or rod, substantially as described.

3. The combination, with a sleigh-runner having the rearward and downward bend A, of the knee C, secured at its lower end to the runner, the side bar or rod, N, the bench D, and the coupling B, having the horizontal

screw-socket R, vertical screw-socket P, downward screw-socket Q, and lateral screw-nipple O, and connecting the upper end of the knee to the bench, the side bar or rod, and the bent end of the runner, substantially as described.

4. The combination, with the runner, the rear knee, G, the rear bench, H, having right and left screw-threaded ends, and the side bar or rod, of the couplings I, each having the screw-nipple O, receiving the side bar or rod, the horizontal screw-socket receiving the bench, and the downward screw-socket arranged at an obtuse angle to the horizontal screw-socket and receiving the knee and spreading the latter outward at its lower end, substantially as described.

5. The combination, with the runner having the rearward and downward bend A, the front and rear knees, C G, the front and rear benches, D H, and the side bar or rod, N, of the coupling B, having the vertical screw-socket P, receiving the lower extremity of the downward bend of the runner, the horizontal screw-socket R, receiving the front bench, the downward screw-socket Q, arranged at an obtuse

angle to the horizontal socket, receiving the knee and spreading its lower end outward, and the lateral screw-nipple O, the coupling I, having the horizontal screw-socket receiving the rear bench, the downward screw-socket arranged at an obtuse angle to the horizontal screw socket and receiving the rear knee and the lateral screw-nipple, and the elbows L, connecting the ends of the side bar or rod with the said screw-nipples, substantially as described.

6. The combination, with the runners having the rearward and downward bends A, the knees C G, the benches D H, and the screw-socketed couplings B I, directly connecting the adjoining ends of said parts, and each provided with an outwardly-projecting nipple, O, externally screw-threaded, of the side bar, N, and the elbows L, connecting the ends of the side bar to said outwardly-projecting externally-threaded nipples, substantially as described.

ROBERT E. LEE.

Witnesses:

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