

(No Model.)

H. A. CURRIER.
SLEIGH.

No. 395,955.

Patented Jan. 8, 1889.

Fig. 1.

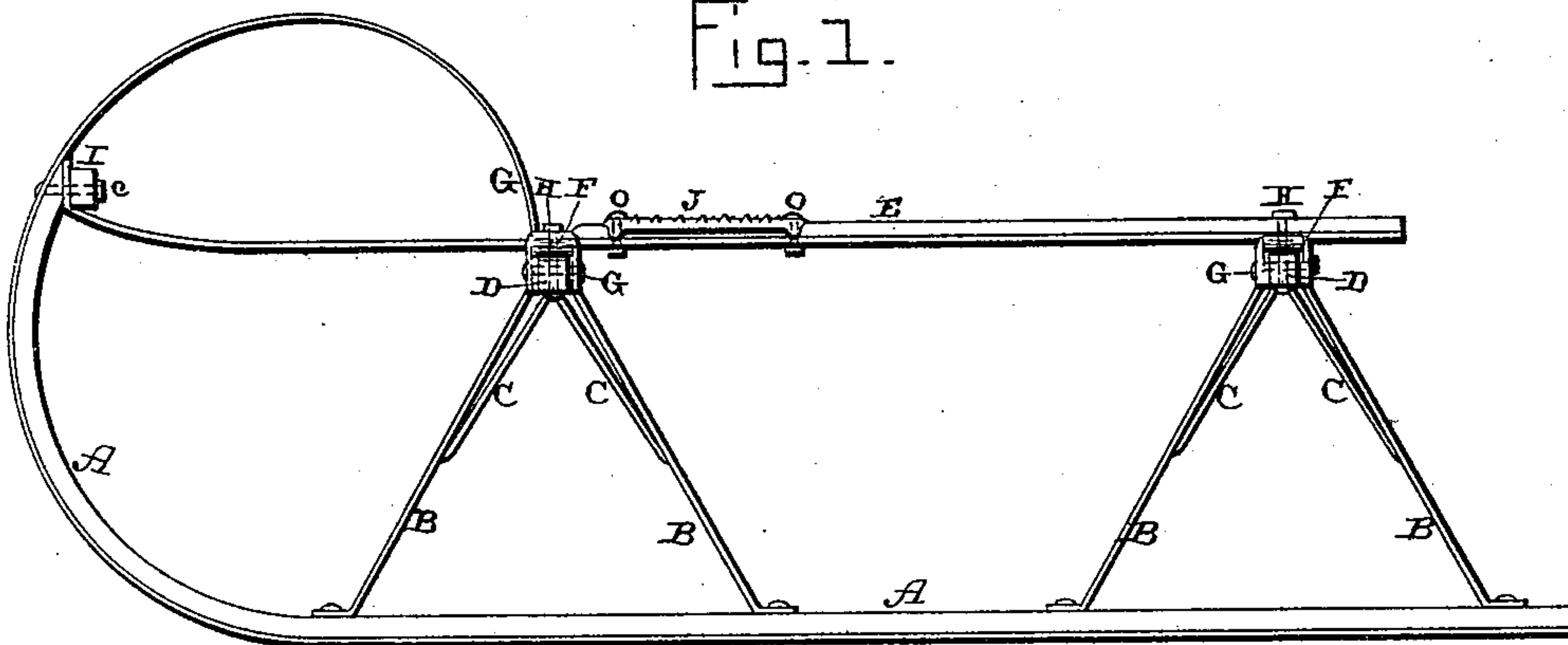


Fig. 2.

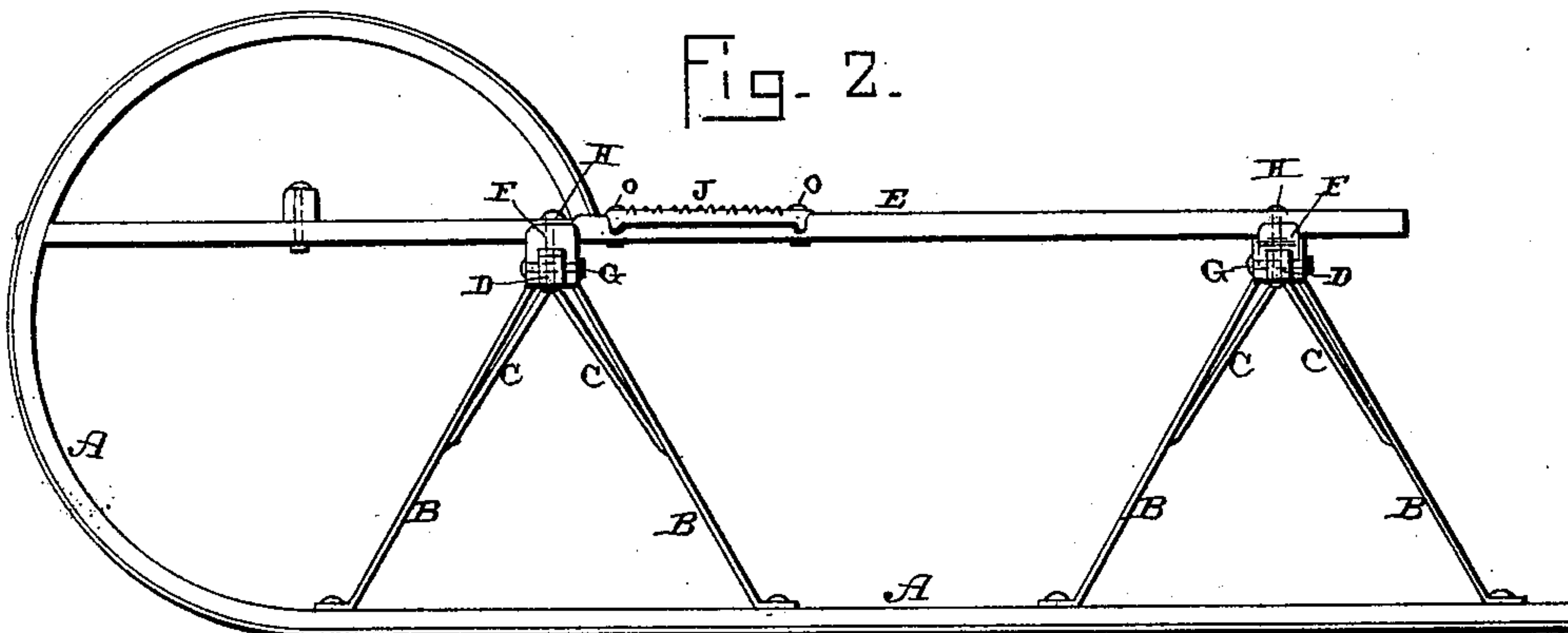
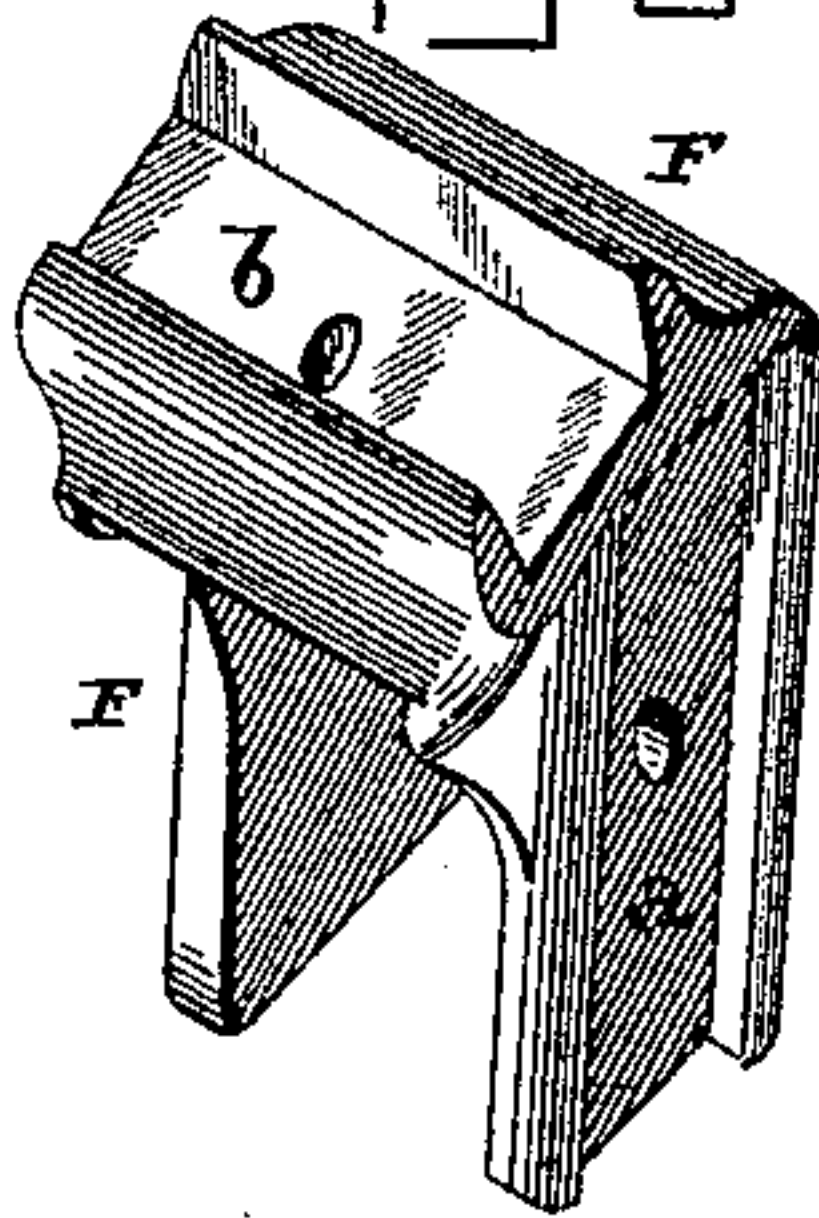


Fig. 3.



Witnesses:
E. P. Ellis,
L. L. Burkett.

Inventor:
H. A. Currier,
per J. A. Lehmann,
att'y

UNITED STATES PATENT OFFICE.

HENRY A. CURRIER, OF ALMONT, MICHIGAN.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 395,955, dated January 8, 1889.

Application filed October 26, 1888. Serial No. 289,229. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. CURRIER, of Almont, in the county of Lapeer and State of Michigan, have invented certain new and useful Improvements in Sleighs; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in sleighs; and it consists in, first, the combination of the runners, the knees, the raves, the cross-bars, and the castings which are applied to the ends of the cross-bars, and which are provided with sockets for receiving the ends of the knees and the raves, and second, the arrangement and combination of parts, which will be more fully described hereinafter.

The objects of my invention are to provide a gear for sleighs or cutters in which the two parts of the knees, the raves, and the turned-back end of the runner are secured to one end of the front cross-bars by means of a single casting and two clamping-bolts, to secure the draft-bar and the front end of the rave directly to the front end of the wooden portion of the runner by means of a single bolt, and to provide the rave with a step-casting, which has points or projections formed upon it so as to prevent the foot from slipping.

Figure 1 represents a side elevation of a sleigh or cutter gear which embodies my invention, shown partly in section. Fig. 2 shows a modification. Fig. 3 is a perspective of the casting.

A represents the runners; B, the knees, which are formed in two separate parts and provided with the braces C, which are secured to the under side of the cross-bars D at their upper ends, and E the raves, which may be formed either of wood or iron, or partly of both, as may be preferred. Secured to the end of each of the cross-bars D is a casting, F, which straddles down over the top of the end of the cross-bar D, and which is provided with a recess, *a*, in each of its vertical sides, so as to receive the upper ends of the two parts of the knees, and which ends are se-

cured to the casting by a single clamping-bolt, which extends horizontally through the ends of the knees, casting, and the cross-piece, as shown.

In the top of the casting is formed a recess or pocket, *b*, through which passes the rave E, and in which pocket fits the end of the turned-back iron portion G of the runner A. Passing down through the turned-back end of the runner, the rave, the casting, and the end of the cross-bar is a single bolt, H. These two bolts serve to secure to the end of the cross-bar not only the casting, but the turned-back end of the runner, the rave, and the two ends of the knee, as shown, thus producing a very cheap, light, and strong gear for sleighs or cutters.

Where the rave is formed of both iron and wood, as here shown, the wooden portion will extend only slightly past the rear edge of the front casting, F, so as to abut against the turned-back end G of the runner, and the metallic portion of the rave will then extend forward and have its end turned upward, so as to fit snugly against the beveled wooden portion of the runner. Applied to the turned-up ends of the rave, where they fit against the wooden portion of the runner, is the draft-bar I, which is secured in position at each end by a single clamping-bolt, *c*, which passes through the draft-bar, the end of the rave, and the wooden and iron portions of the runner, as shown.

In case the runner has the wooden portion to extend backward with the iron portion, and the raves are made of wood and extend forward so as to make connection with the turned-up portions of the runners, the draft-bar will be secured directly to the tops of the raves.

Secured to the top of one or both of the raves is a metallic step, J, which snugly fits the top of the wooden portion of the rave, and which is secured in position by bolts O, which pass through each of its ends. This step is provided with points or projections, so as to prevent the feet from slipping whether covered with ice and snow or not. A gear constructed as here shown and described can be made of very light material, having all of the

strength that is necessary, and be made at a much less cost than has heretofore been done. As will be seen, the parts are secured together by fewer bolts than has ever been done heretofore.

5 In case the raves are made entirely of wood, as shown in Fig. 2, the recess in the top of the casting will be just sufficient to receive the lower edge of the rave, and the turned-back portion of the runner will be secured to the rear side of the cross-bar without any reference to the casting, as shown in Fig. 2.

Having thus described my invention, I claim—

15 1. The combination of the runners having turned-back ends, the knees, the raves, and the cross-bars, with the castings applied to the ends of the cross-bars, and to which the ends of the knees, the raves, and the ends of the runners are secured, and the two clamping-bolts by which the parts are held in position, substantially as shown.

2. The combination of the runners having the ends of the wooden portions beveled, as shown, the raves having their ends turned upward and applied to the wooden portions, the draft-bar, which is applied to the ends of the raves, and the clamping-bolts, substantially as described.

3. The combination of the runners, the knees, the raves, cross-bars, clamping-bolts, and the castings applied to the ends of the bars, the castings being provided with recesses to receive the ends of the knees and the raves, substantially as set forth.

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

HENRY A. CURRIER.

Witnesses:

C. R. FERGUSON.

F. P. ANDRUS.