

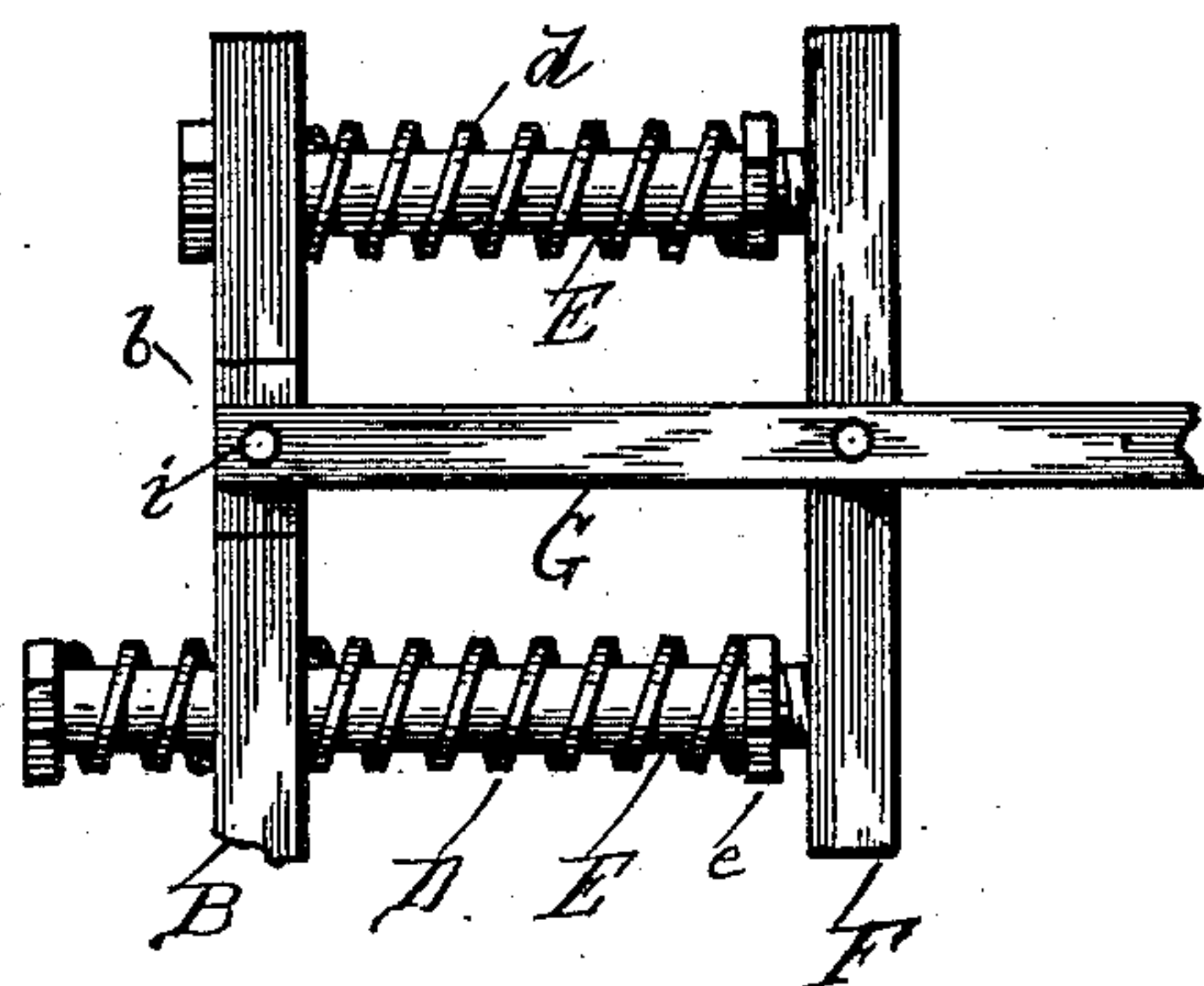
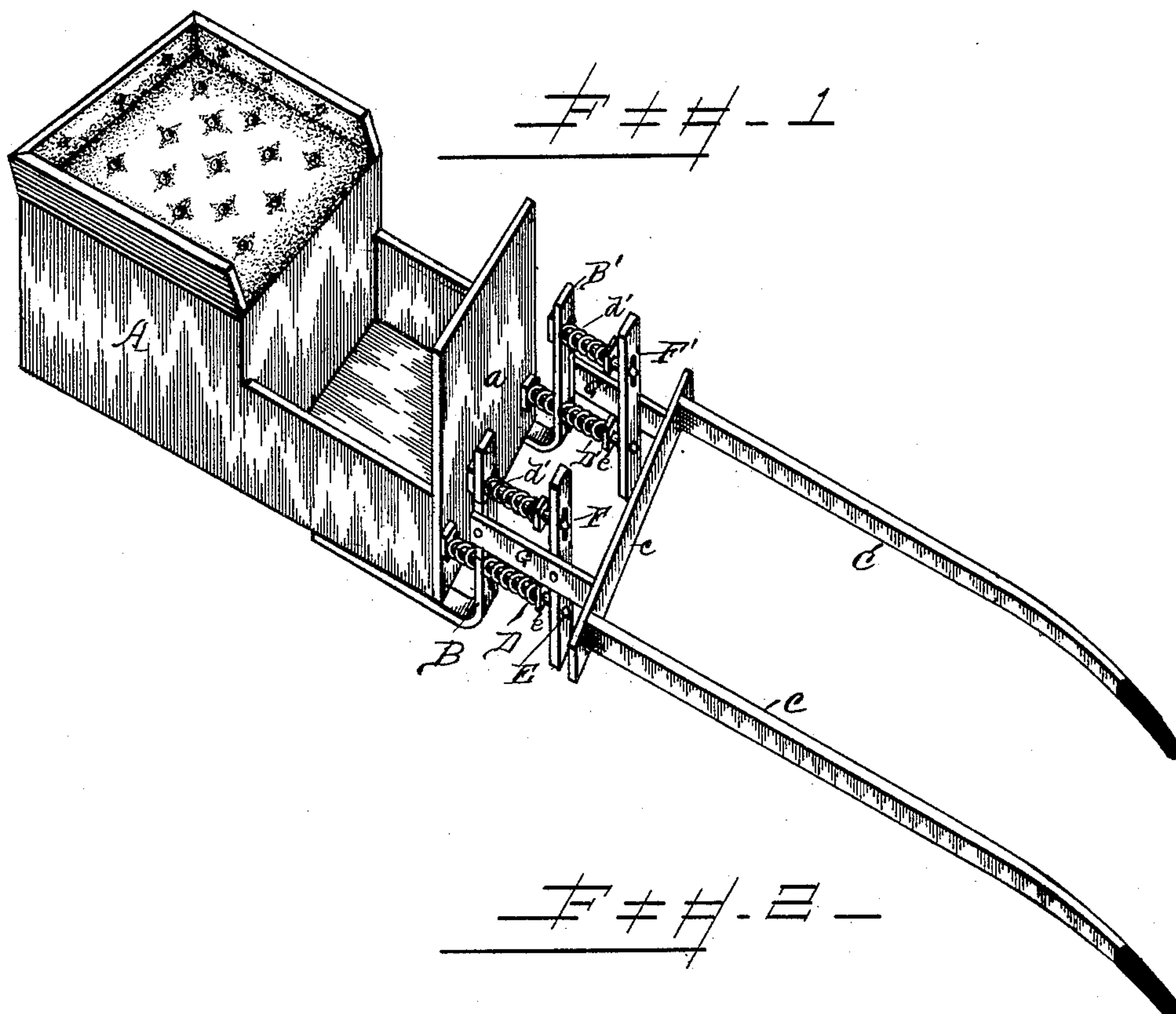
(No Model.)

D. D. HARE.

SHAFT ATTACHMENT FOR VEHICLES.

No. 399,525.

Patented Mar. 12, 1889.



WITNESSES—  
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# UNITED STATES PATENT OFFICE.

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## SHAFT ATTACHMENT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 399,525, dated March 12, 1889.

Application filed July 18, 1888. Serial No. 280,289. (No model.)

*To all whom it may concern:*

Be it known that I, DUNCAN DALLAS HARE, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Shaft Attachments for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective view of a two-wheeled vehicle with my improvement attached, and Fig. 2 a detail view.

This invention has relation to shaft attachments for vehicles, and is particularly adapted for vehicles having two wheels—such as road-carts, dog-carts, cabs, gigs, and other vehicles of that type.

This invention has for its object to provide a two-wheeled vehicle with certain attachments, whereby the “horse motion” is entirely obviated.

This invention has for its further object to provide means whereby the shafts are rendered adjustable vertically.

This invention has for its still further object to provide means whereby the shafts may be widened or set farther apart.

This invention consists in an upright or standard bolted to the bottom of the vehicle-body and rising in the front thereof, said standard being constructed and designed to receive my improved shaft attachment.

This invention still further consists in a pair of spiral springs working in opposite directions and attached to the upright standard and the shafts.

This invention still further consists in the novel construction, combination, and arrangement of parts, more fully described hereinafter, and specifically pointed out in the claims.

A represents the body of the vehicle; *a*, the dash-board; B B, the standards or uprights, having a recess, *b b'*, on both sides for the reception of the eye-lugs *i i'* of the braces G G'.

C C' represent the shafts; *c*, the cross-bar of same; D D', the springs; *d*, the supplementary spring; E E', the bolts passing through the springs and having screw-threaded ends for the reception of the nuts *e e'*.

F F' represent the blocks giving bearing to the bolts E E', and located above and below the braces G G'. The braces G G' are provided with eye-lugs *i i'*, for the passage of the bolts through the standards. The recesses *b b'* are large enough to allow free movement of the braces.

In riding in two-wheeled vehicles there is a constant dipping or up-and-down movement, which is very disagreeable to the occupants. This movement is caused by the motion of the horse, and is imparted to the vehicle through the shafts. My device overcomes this in the following manner: The braces which constitute part of the shafts are pivotally attached to the standards and are allowed free movement, the springs retaining the shafts in their proper position and taking up the dipping motion, being assisted by the supplementary springs situated on the other side of the standard, these springs taking up the sudden reaction. Thus the vehicle will travel smoothly, the horse motion being entirely overcome. In the downward motion the lower spring is compressed and the upper expanded, and vice versa.

I call particular attention to the nuts on the bolts impinging against the springs, as they not only limit the movement of the springs, but also serve as means for regulating the shafts. For instance, when desiring to lower the shafts to suit the harness, the nut of the lower spring is turned against the spring, thus tightening the lower spring and at the same time lowering the shafts. When it is found necessary to raise the shafts, the nut on the upper bolt is tightened and the lower one loosened. The result is that the shafts are raised. By this means the shafts are adjustable to any desired angle or degree.

In vehicles of this type it is desirable to construct the shafts wider than the body of the vehicle. I accomplish this by attaching the braces to the cross-bar of the shafts, as shown in Fig. 1 of the drawings.

Having described my invention, I do not wish to limit myself to this specific construction, for the device may be reversed and the same result be obtained.

I am aware that prior to my invention two-wheeled vehicles have been manufactured



with shaft attachments for the purpose set forth. I therefore do not claim such a combination, broadly; but

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

1. In a shaft attachment, the combination, with the vehicle and shafts, of spiral springs placed longitudinally one above and the other below the shafts, substantially as described, and for the purpose set forth.

2. The combination, in a shaft attachment for two-wheeled vehicles, of a main spring and a supplementary spring set longitudinally one above and the other below the shafts, substantially as shown and described.

3. In a two-wheeled vehicle having pivotally-attached shafts and cross-bar, said bar being wider than the vehicle-body, the combination of the braces  $G\ G'$ , with blocks  $F\ F'$ , located above and below said braces and giving bearing to the bolts  $E\ E'$ , said bolts passing through the standards  $B\ B'$  and support-

ing the main springs  $D\ D'$ , and supplementary spring  $d\ d'$ , all arranged substantially as described.

4. In a two-wheeled vehicle having pivotally-attached shafts, the combination, with the standards  $B\ B'$ , having recesses  $b\ b'$  for the eye-lugs  $h\ h'$ , of the braces  $G\ G'$ , bolts  $E\ E'$ , passing longitudinally through the standards  $B\ B'$  and bearing against blocks  $F\ F'$ , springs  $D\ D'$ , surrounding the bolts or rods  $E\ E'$  of the supplementary springs  $d\ d'$ , and nuts  $e\ e'$ , impinging against said springs, substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of July, 1888.

DUNCAN DALLAS HARE.

Witnesses:

H. C. EVERT,

LOUIS MOESER.