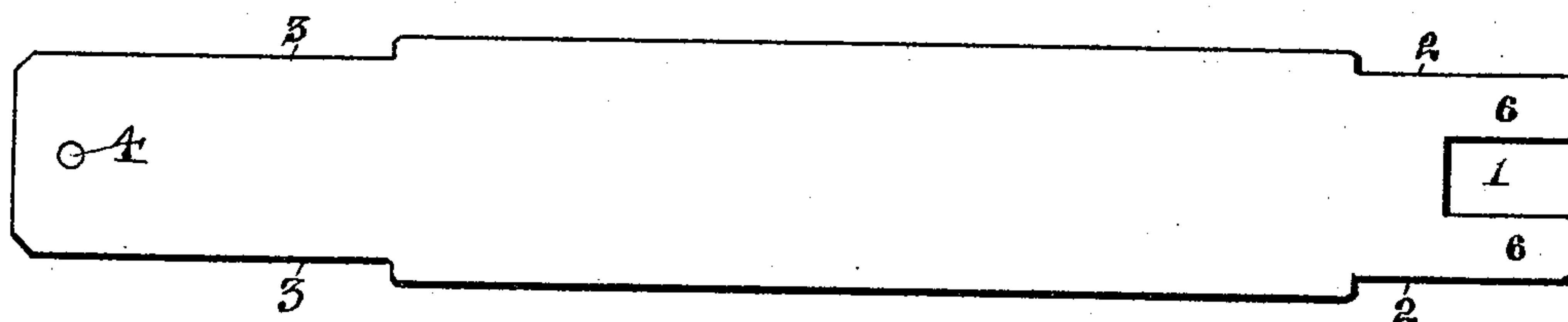
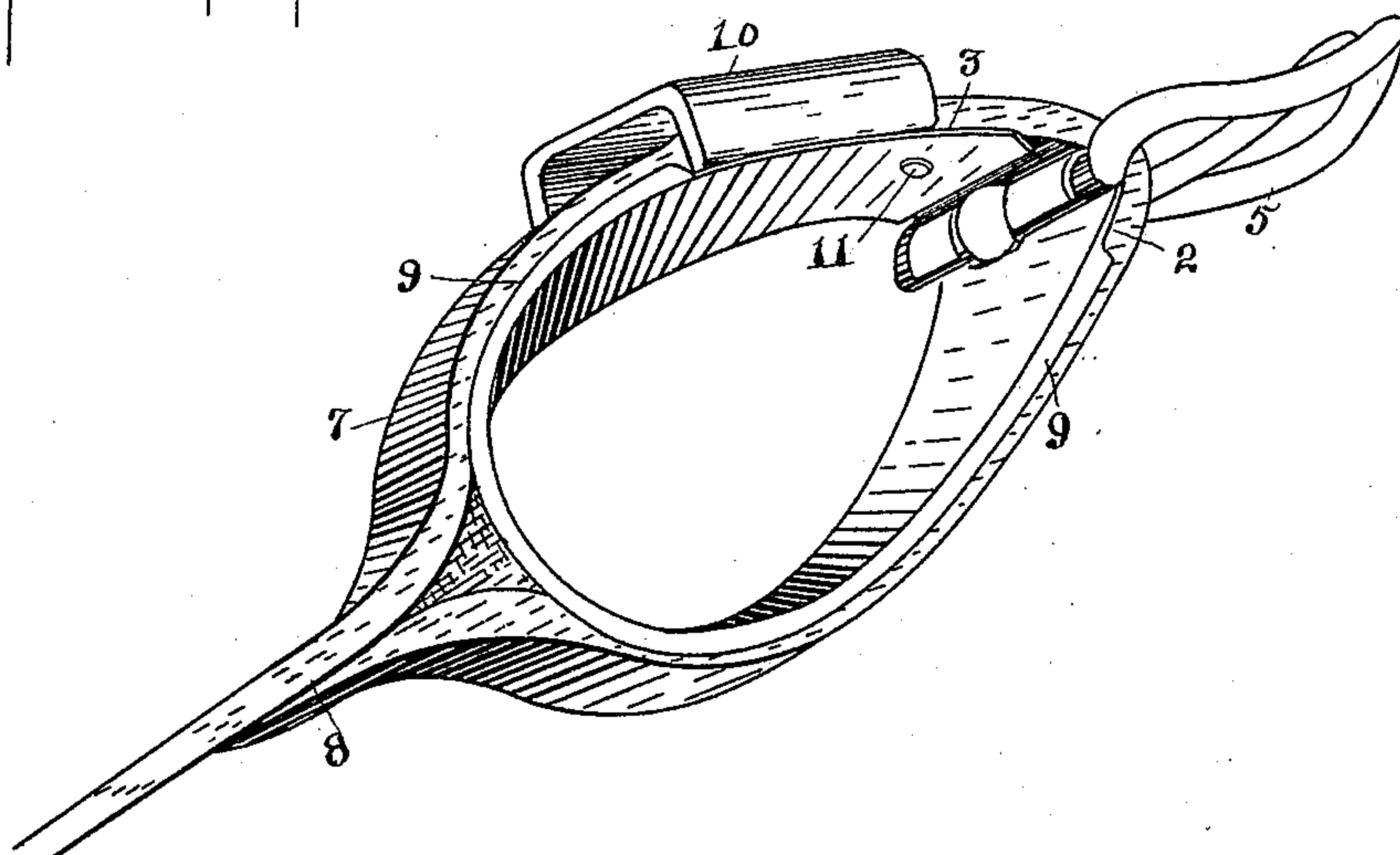
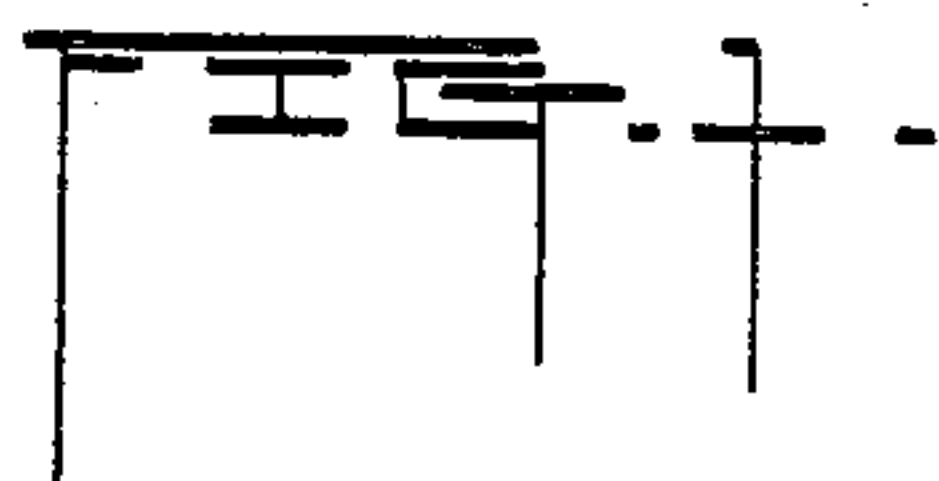


(No Model.)

D. F. GROUT.  
HARNESS TUG.

No. 448,026.

Patented Mar. 10, 1891.



Witnesses  
Arch. M. Catlin.  
Alfred Wood

Inventor  
Daniel F. Grout  
by  
Benj. R. Catlin Attorney

# UNITED STATES PATENT OFFICE.

DANIEL F. GROUT, OF MONTPELIER, VERMONT.

## HARNESS-TUG.

SPECIFICATION forming part of Letters Patent No. 448,026, dated March 10, 1891.

Application filed September 10, 1890. Serial No. 364,516. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL F. GROUT, a resident of Montpelier, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Harness-Tugs; 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 the same.

The object of the invention is to improve the simplicity of construction and the efficiency of metal-lined harness-tugs; and it consists in the matter herein described and pointed out.

In the accompanying drawings, Figure 1 is a perspective view of the improved tug, and Fig. 2 is a plan of a metal blank suitable for lining the same.

The blank shown in Fig. 2 is provided with a slot 1 and with shallow corner notches 2, adjacent to the slotted end, and also with similar notches 3 of greater length at the opposite end.

4 indicates an aperture suitable for a rivet. This blank, being of proper length, is formed in the shape of a tug in any suitable manner. The tongue of a bracket 5 is placed in the above-mentioned slot, and the ends or fingers 6 of the blank are bent about the buckle-frame, as shown in Fig. 1.

7 indicates the leather portion of the tug, which is fitted to the metal lining, and its ends are stitched together at 8 in the usual manner.

The edge 9 of the blank on either side between notches 2 and 3 are turned over upon the leather, so as to embrace it closely. Notches 3 provide for the introduction of the loop 10, which has its ends secured between the metal lining and the leather envelope. If the edge of the metal piece were made straight through its entire length, it could not be neatly and smoothly turned down at the ends of the loop, and it would also be difficult to turn the metal down smoothly upon the leather near the buckle and around its frame were it not for notches 2. The metal lining fitted to the leather tug is securely fastened to the same by a rivet 11, passing through the hole 4, and through the leather and properly clinched. The bending of the lining around the buckle-frame, the tongue of which passes through the slot in the lining and also

through the leather coupled with the turned-down edges 9 of the lining, aids in uniting the parts, and the union is completed and made secure by the rivet 11, the construction being such that this single fastening placed near the end of the lining effectually binds the whole together.

The tug is thoroughly protected against wear and strengthened against strains, and lighter leather can be used than when no lining is employed.

I do not claim to be the inventor of metal-lined tugs having the ends of the metal riveted together, nor tugs in which the edge of the metal is turned down upon the leather. It is characteristic of my improvement that the lining can be secured upon the buckle by simply bending the fingers of the slotted free end thereof about a cross-bar of the buckle, one on each side of the buckle-tongue, the metal lining being extended entirely around the tug, and its other end secured to the leather near the buckle in the other end by a single rivet, constituting the sole means of securing the parts together. Fastenings at the bottom of the tug are subjected to greater strains and require to be more strong and more complex. I make my lining entire at the bottom and secure one end upon the buckle by simply bending it, and I fasten the other end in close proximity thereto by a single rivet, the entire circuit of the tug being lined.

Having thus described my invention, what I desire to secure by Letters Patent is—

A leather tug having a metal lining open at the top and slotted at one of its upper free ends to form fingers 6, and having said fingers bent about the buckle-frame, one on each side of the tongue, the latter projecting through the tug, said lining extending around the tug with its other free end fastened to the leather near the buckle by a rivet passing through its end and through the leather, and having its edges turned down upon the leather, except near the loop and buckle, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

DANIEL F. GROUT.

Witnesses:

CLARENCE C. PIERCE,  
HATTIE L. LADD.