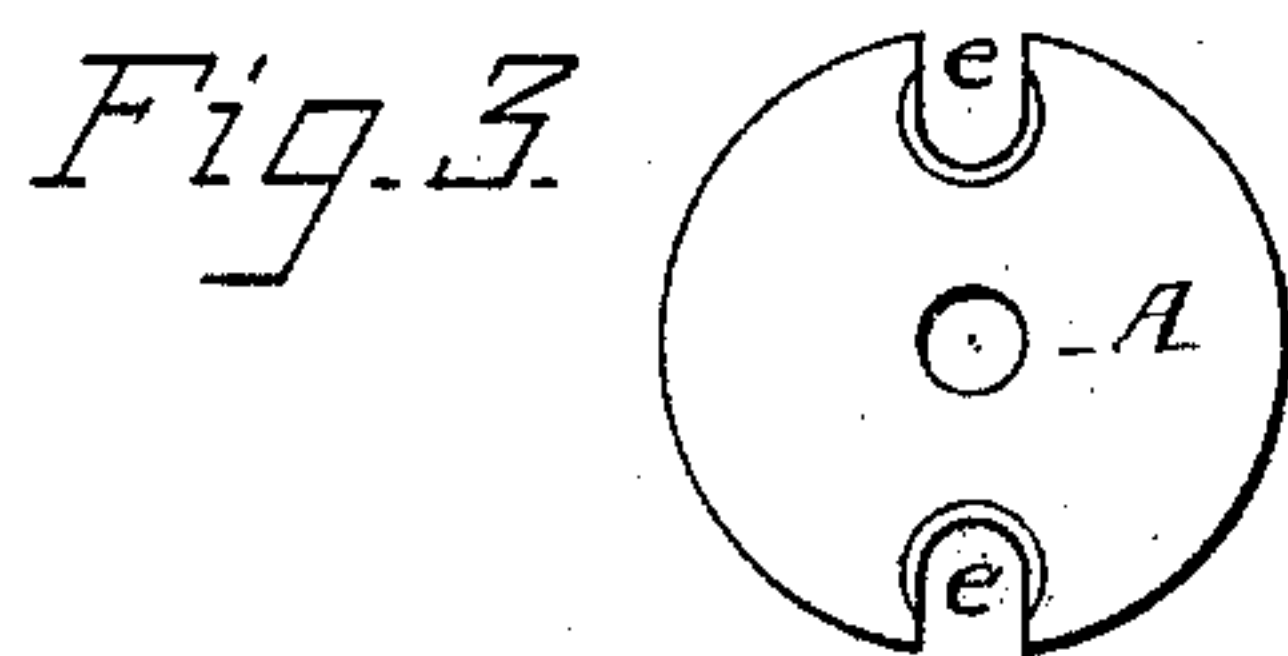
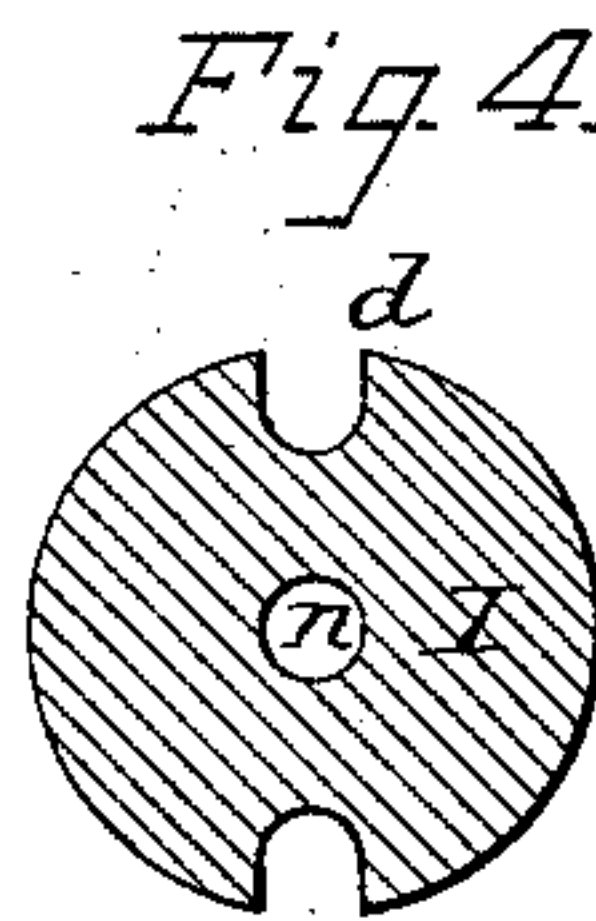
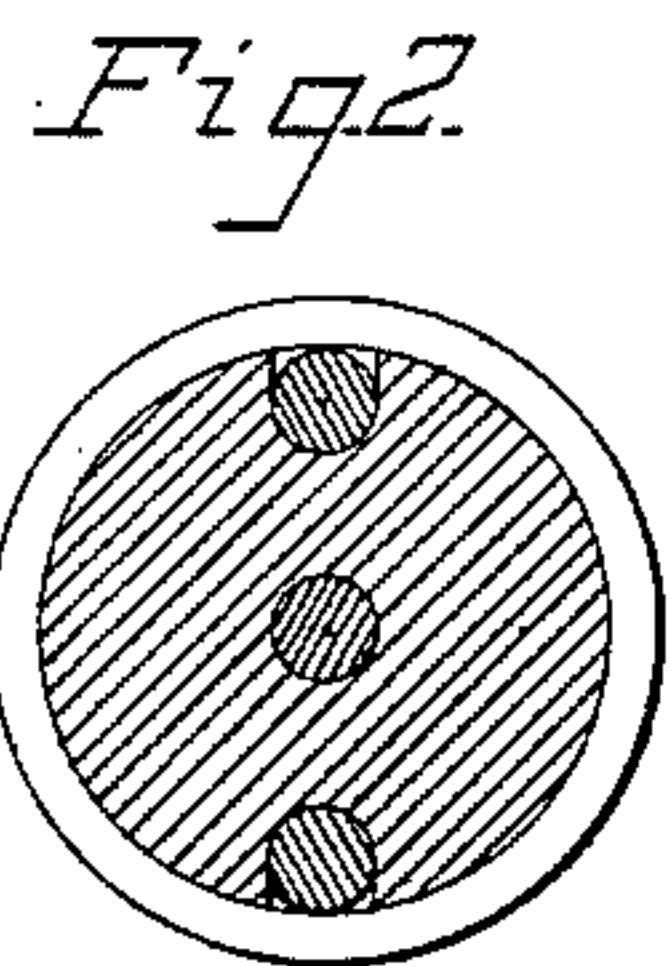
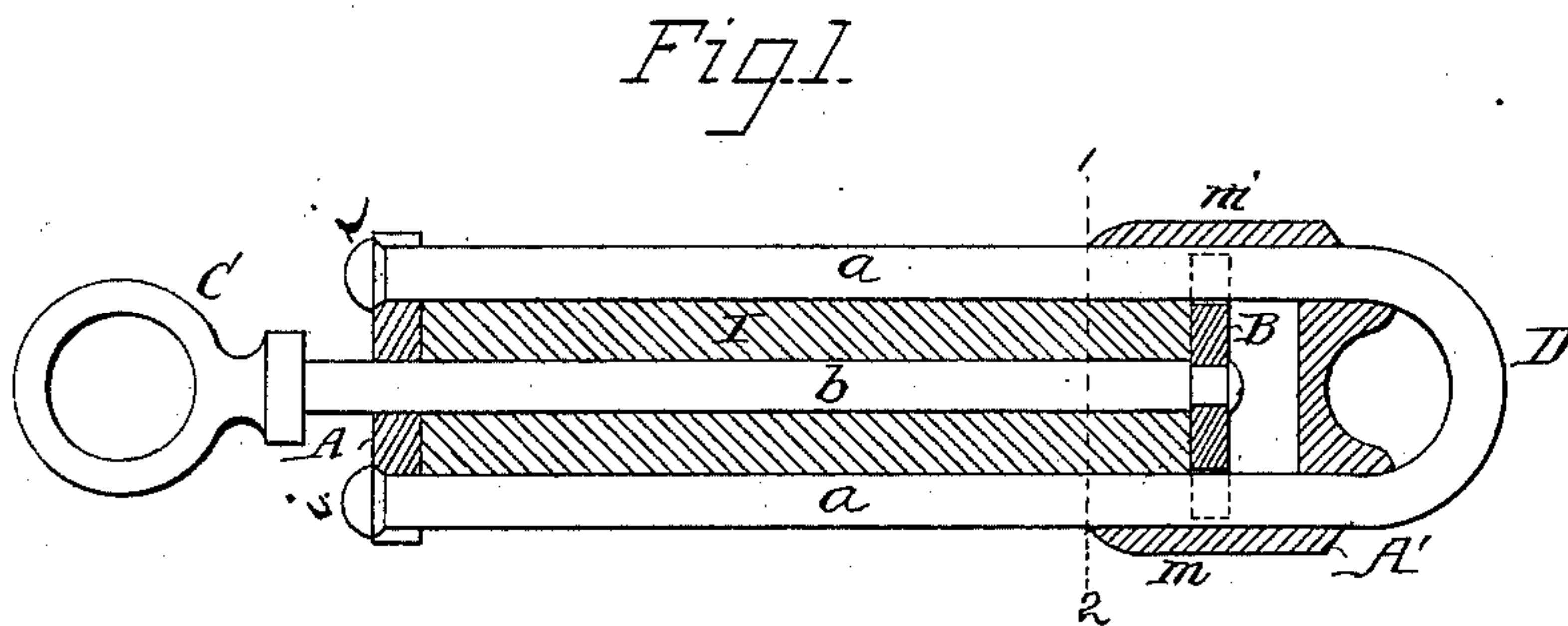


W. WARWICK.  
Spring Attachment for Harness.

No. 223,085.

Patented Dec. 30, 1879.



*Attest:*  
*Courtney A. Cooper.*  
*William Paston.*

*Inventor:*  
*William Warwick*  
*By his attorney*  
*Charles E. Foster*

# UNITED STATES PATENT OFFICE.

WILLIAM WARWICK, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN SPRING ATTACHMENTS FOR HARNESS.

Specification forming part of Letters Patent No. **223,085**, dated December 30, 1879; application filed July 2, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM WARWICK, of Pittsburg, Allegheny county, Pennsylvania, have invented an Improved Attachment for Harness, &c., of which the following is a specification.

The object of my invention is a spring attachment for harness, &c., constructed as fully described hereinafter, to obtain increased strength and durability, prevent the spring from becoming clogged and from pinching the animal, and to avoid the necessity of incasing it in a cover.

In the drawings forming part of this specification, Figure 1 is a longitudinal section of the device; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, a detached view of one of the heads, and Fig. 4 a section of the gum cylinder.

A and A' are the heads of the device, connected by rods *a a*, on which slides a plate, B, having a central rod, *b*, that extends through a central opening of the head A and terminates in a loop, C.

The rods *a* may be riveted to the head A', but are, preferably, in one piece, bent to form a loop, D, so that the draft is transferred to the head A, and the latter may have recesses *e*, Fig. 3, contracted at the sides to receive the rods *a* laterally, but retaining them when the rods are drawn longitudinally, to bring their heads *i* into the enlarged portions of said recesses.

The space between the head A and plate B is occupied by a gum cylinder, I, having a central opening, *n*, to receive the rod *b*, and

at the outside longitudinal grooves *d*, to receive the rods *a*. The device operates in the usual manner when connected by its loops to the straps of the harness.

As the rubber block I fits closely to the rods *a*, no interstices are left for the entrance of dirt to clog the same, thus avoiding the necessity of employing the usual cover, and affording room for a larger mass of rubber than could be employed without enlarging the disks or heads.

In order to prevent the entrance of dirt, ice, or snow between the plate B and head A', the latter is provided with a flange, *m*, of such depth that the plate B, when the spring is compressed, will not be outside or beyond it.

It will be seen that the block or body of rubber protects and strengthens the rods *a*, so that they cannot be struck laterally. The device is thus rendered stronger and more durable.

I claim—

1. The combination of the heads A A', plate B, rods *a a b*, and a rubber spring-block, I, having a central opening, *n*, and side grooves, *d*, as and for the purpose set forth.

2. The combination of the flanged head A', rods *a a*, head A, plate B, rod *b*, and block I, substantially as set forth.

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

WILLIAM WARWICK.

Witnesses:

B. McKENNA,  
R. J. KOEHLER.