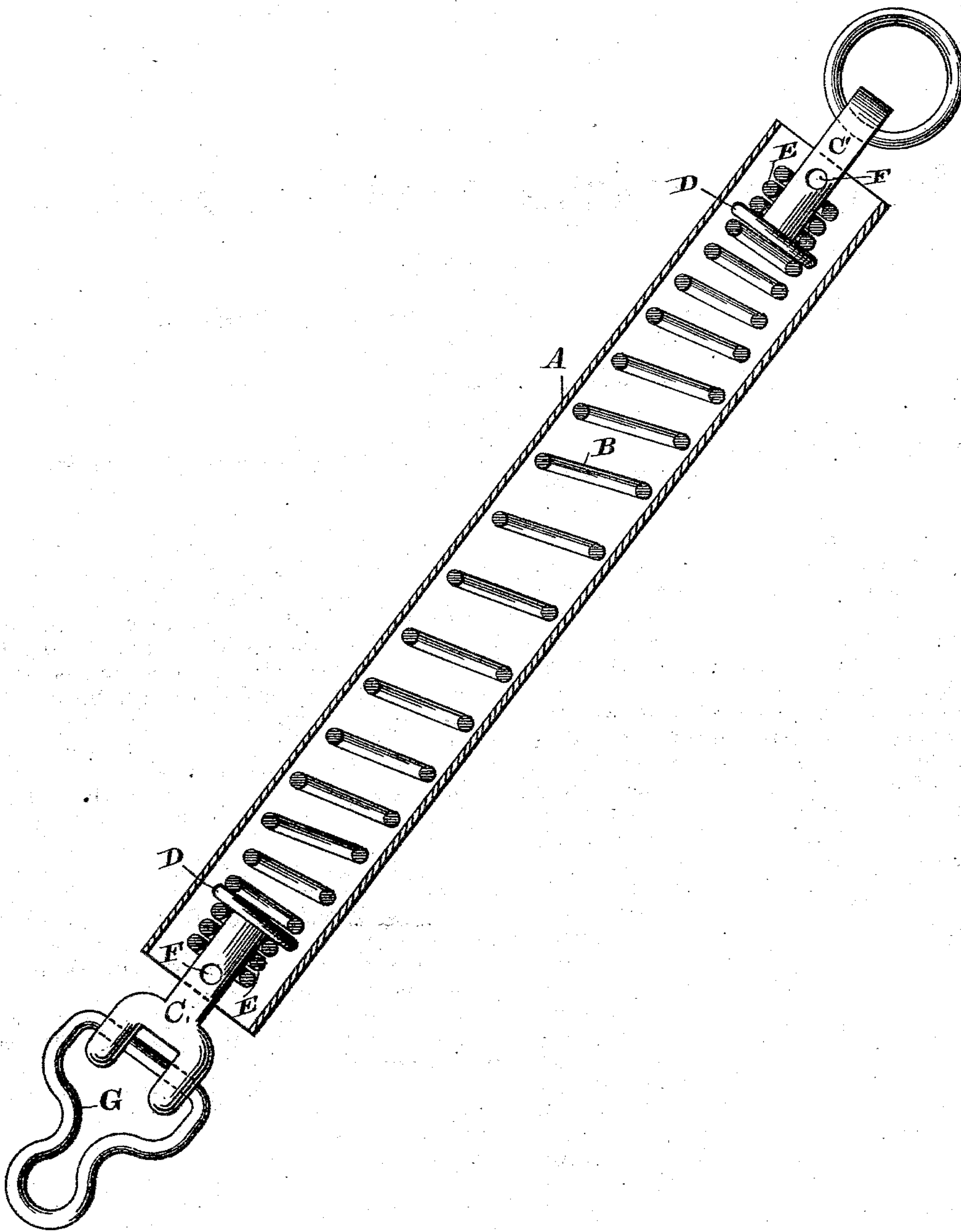


(No Model.)

O. BRUNCK.
SPRING DRAFT TUG.

No. 281,236.

Patented July 17, 1883.



WITNESSES.
Willard Bradford
E. Patten

INVENTOR.
Otto Brunck
by C. N. M. Smith
Attorney

UNITED STATES PATENT OFFICE.

OTTO BRUNCK, OF SAN FRANCISCO, CALIFORNIA.

SPRING DRAFT-TUG.

SPECIFICATION forming part of Letters Patent No. 281, 36, dated July 17, 1882.

Application filed December 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, OTTO BRUNCK, a subject of the Emperor of Germany, and residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Spring Draft-Tug, of which the following is a specification.

The object of my invention is to provide a means whereby the resistance of a loaded vehicle at the initial or starting point is relieved. I accomplish this object by the device illustrated in the accompanying drawing, in which is represented a longitudinal section of my invention with the coils expanded.

A represents a case or containing-cylinder in which is placed the spiral draft-spring B. The coils of the spring are gradually enlarged from the ends thereof to the center, as shown. The inner ends of the tug-irons C C' are constructed identically in the same manner, and are provided with collars D D, which are so arranged in the spring as to take up several of the end coils, E, and these end coils are held between the outer faces of the collars and pins F, which latter pass through the draft-irons. By this means a firm hold is had upon

the ends of the coiled spring, and the tug-irons cannot be easily withdrawn therefrom, the collars of said tug-irons being securely held within the take-up of the coils. The tug-iron C is provided with a curved loop, G, which is pivoted to the arms of the iron so as to loosely play up or down, while the iron C', at the opposite end, is provided with a ring, as shown, by which connection is made with the tug or trace of the harness.

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

In a spring draft-tug, the combination of the case A, tapered spiral spring B, and tug-irons C C', having collars D D and pins F F, the end coils, E E, of said spring being confined between said pins and the collars, as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 13th day of November, 1882.

OTTO BRUNCK. [L. S.]

Witnesses:

C. W. M. SMITH,
CHAS. E. KELLY.