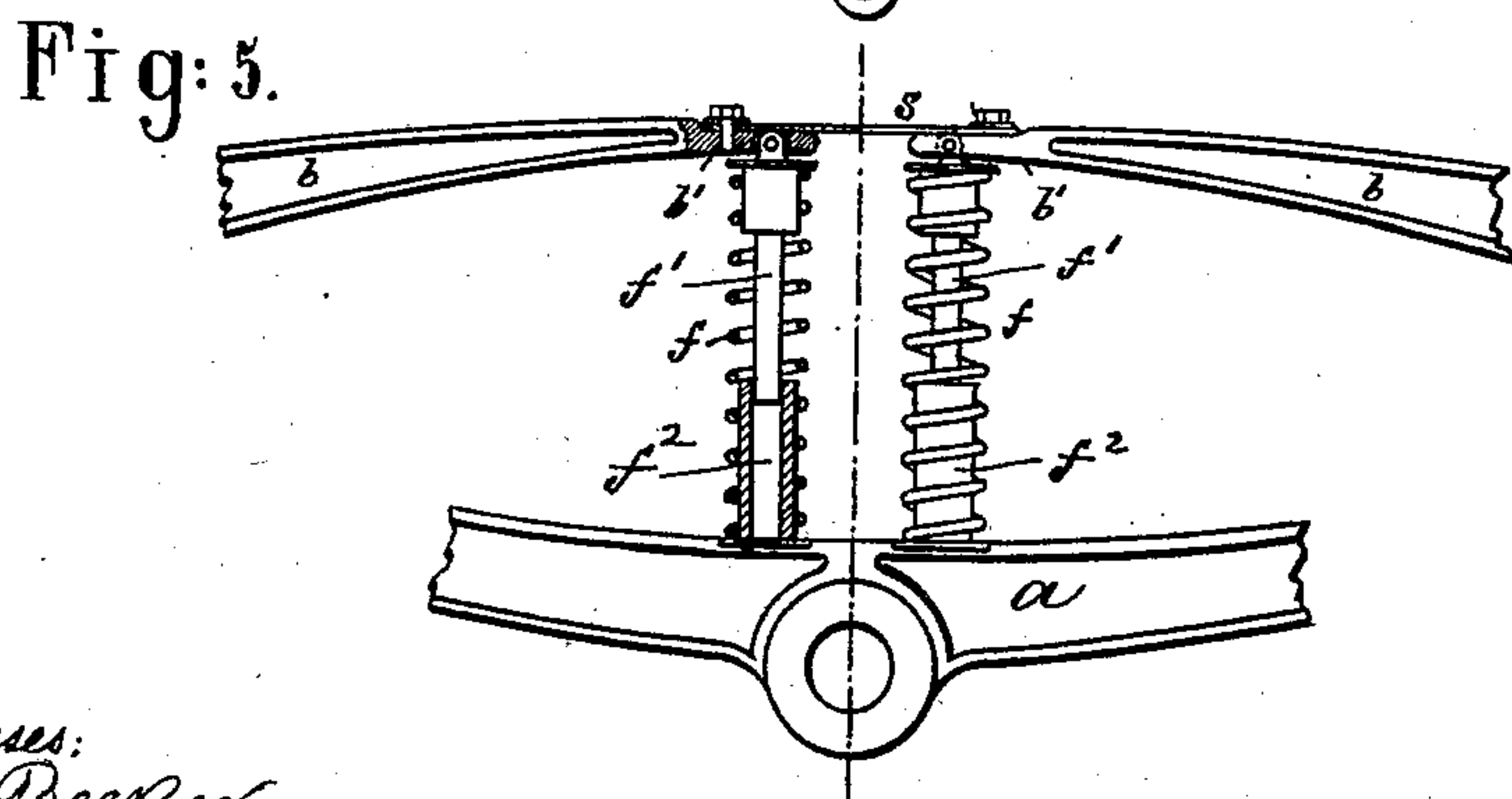
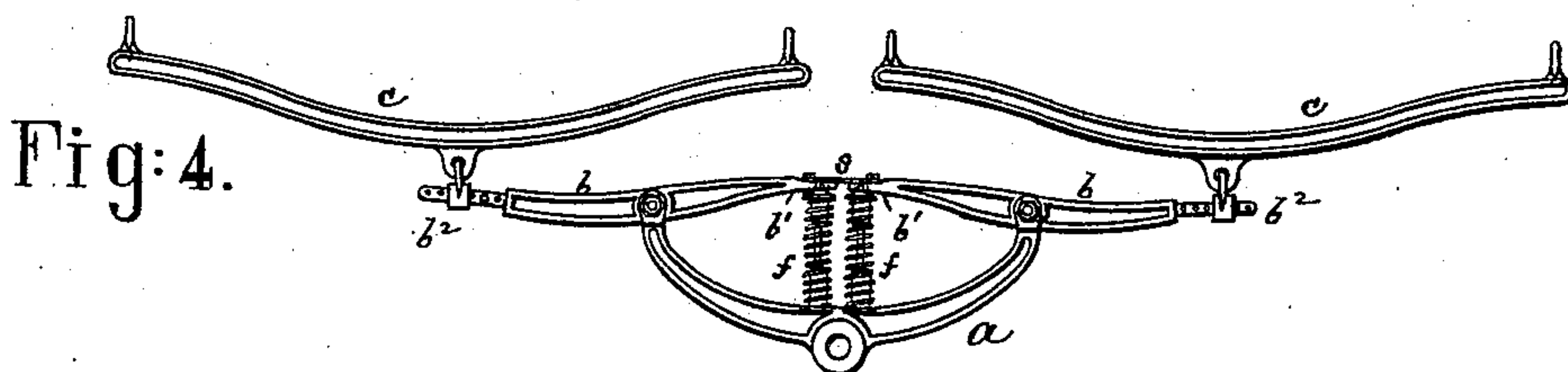
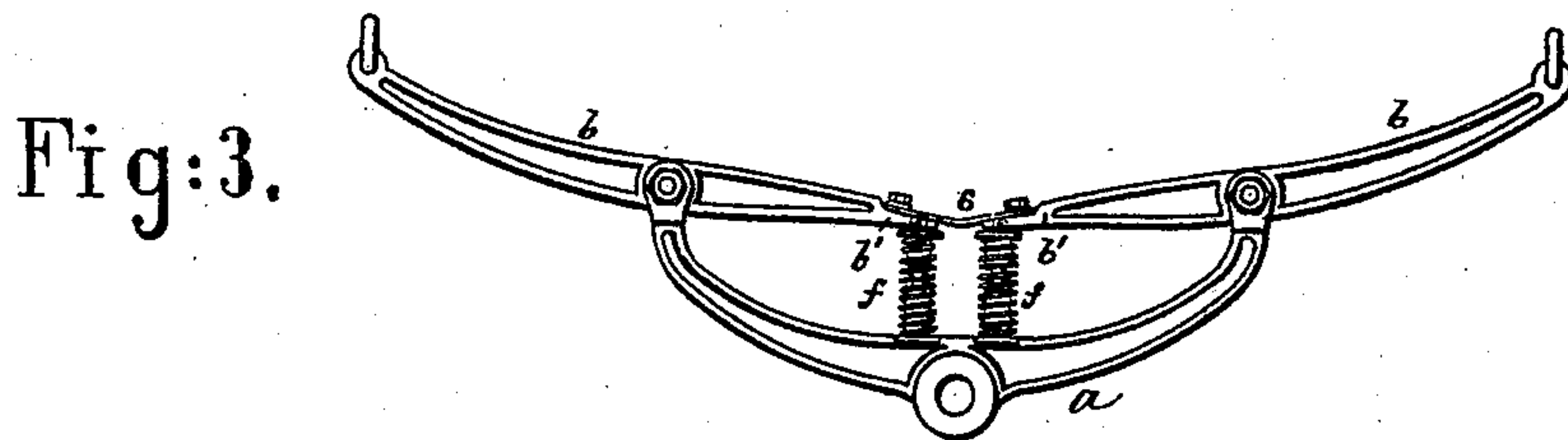
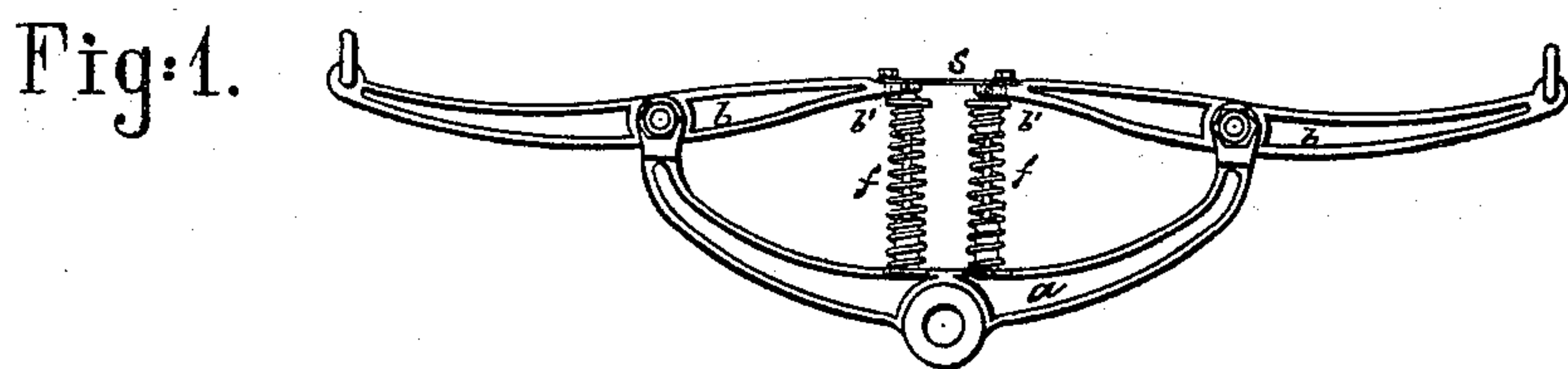


(No Model.)

J. SCHIFFER.
DRAFT EQUALIZER.

No. 539,087.

Patented May 14, 1895.



Witnesses:
John Becker
Theodore Becker.

Inventor:
Johann Schiffer
by his attorneys
Roeder & Piesen

UNITED STATES PATENT OFFICE.

JOHANN SCHIFFER, OF DUSSELDORF, GERMANY.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 539,087, dated May 14, 1895.

Application filed November 9, 1894. Serial No. 528,301. (No model.)

To all whom it may concern:

Be it known that I, JOHANN SCHIFFER, a subject of the German Emperor, residing at Dusseldorf, Germany, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a specification.

This invention relates to an equalizer which facilitates the starting of the load and checks the transmission of concussions from the load to the draft animals and the harness.

In the accompanying drawings, Figure 1 is an elevation of my improved equalizer, showing the springs expanded. Fig. 2 is a front view thereof; Fig. 3, an elevation thereof, showing the springs compressed; Fig. 4, an elevation of a modification, and Fig. 5 a sectional detail of the springs.

The letter *a*, represents a curved whiffletree or evener, to the ends of which the two-armed levers or single bars *b*, are pivoted in such a way that the inner lever arms project over the evener bar, while the outer lever arms project laterally beyond such bar. The inner ends *b'*, of the bars *b*, bear upon the forward ends of coiled springs *f*, the rear ends of which are seated upon the whiffletree *a*. The springs *f*, surround preferably plungers *f'*, secured to the single bars *b*, and reciprocate within cylinders *f''*, secured to the whiffletree *a*, (Fig. 5) and which serve to stiffen the springs. The two inner ends *b'*, of the two bars *b*, are connected by a flexible band *s*, of leather or similar material, which prevents the springs from catching into the harness.

It is evident that the invention may be applied to single bars and double bars. In Fig. 4, the double bars *c*, are secured to the laterally extended ends *b''*, of the levers *b*. The double bars are in this modification shown to be laterally adjustable, in order to regulate the power of the springs. It will be seen, that by my invention a pull on the traces will compress the springs and facilitate the starting of the load. Moreover the springs will act as cushions that are interposed between the load and the draft animals, to check the transmission of bumps to the latter.

What I claim is—

1. The combination of a curved whiffletree with a pair of levers pivoted to its ends, and a pair of coiled springs extending from the inner ends of the levers to the whiffletree, substantially as specified.

2. The combination of a curved whiffletree with a pair of levers pivoted to its ends, interposed coiled springs, pistons secured to the inner ends of the levers within the springs, and cylinders secured to the whiffletree and adapted to receive said pistons, substantially as specified.

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

JOHANN SCHIFFER.

Witnesses:

WM. ESSENWEIN,
E. ANDRÉ.