

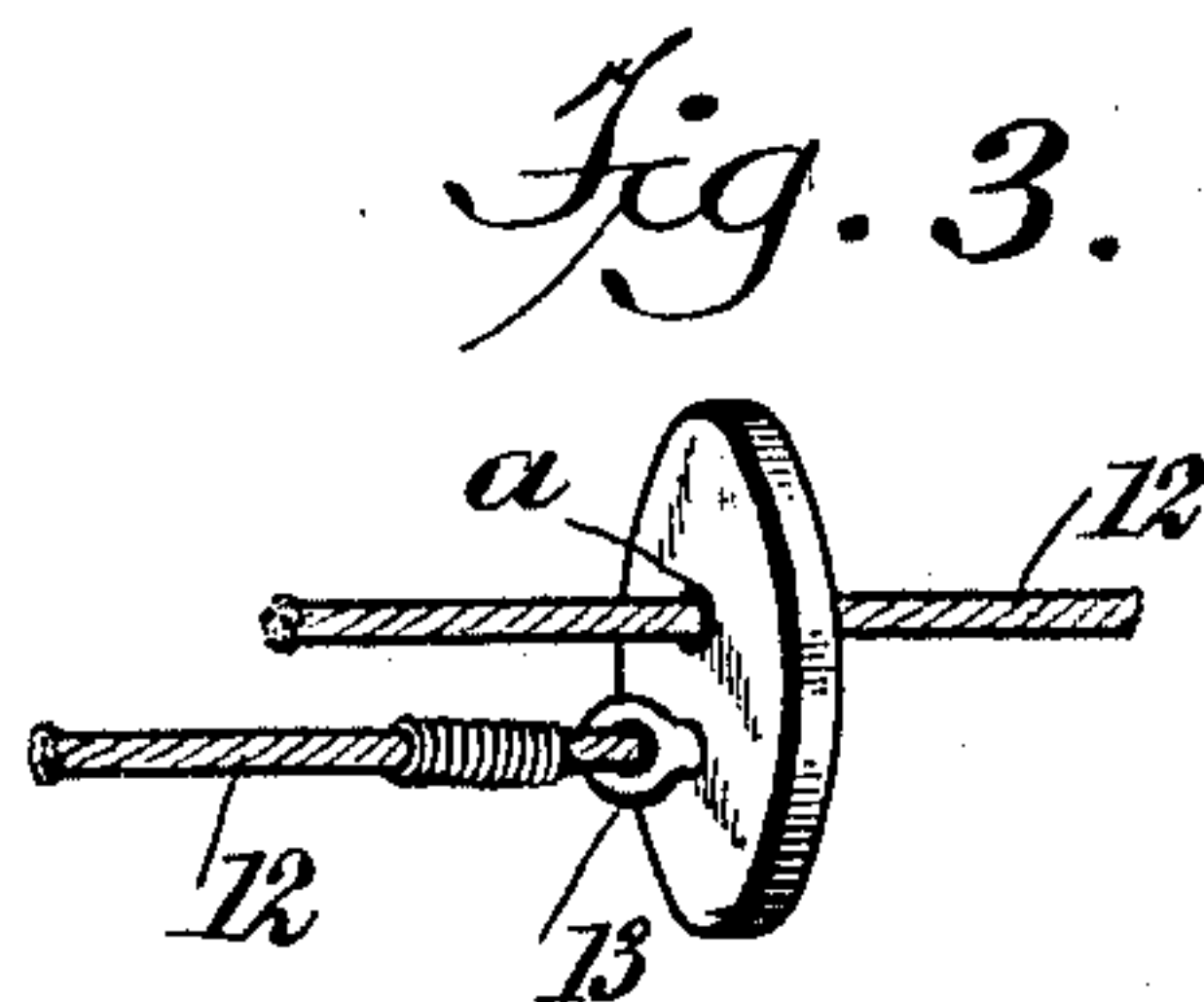
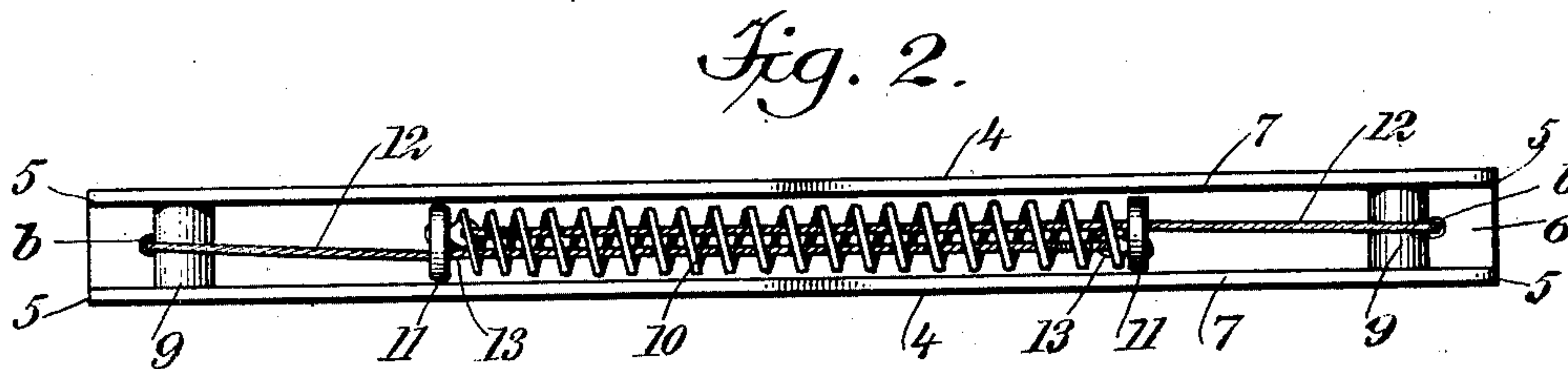
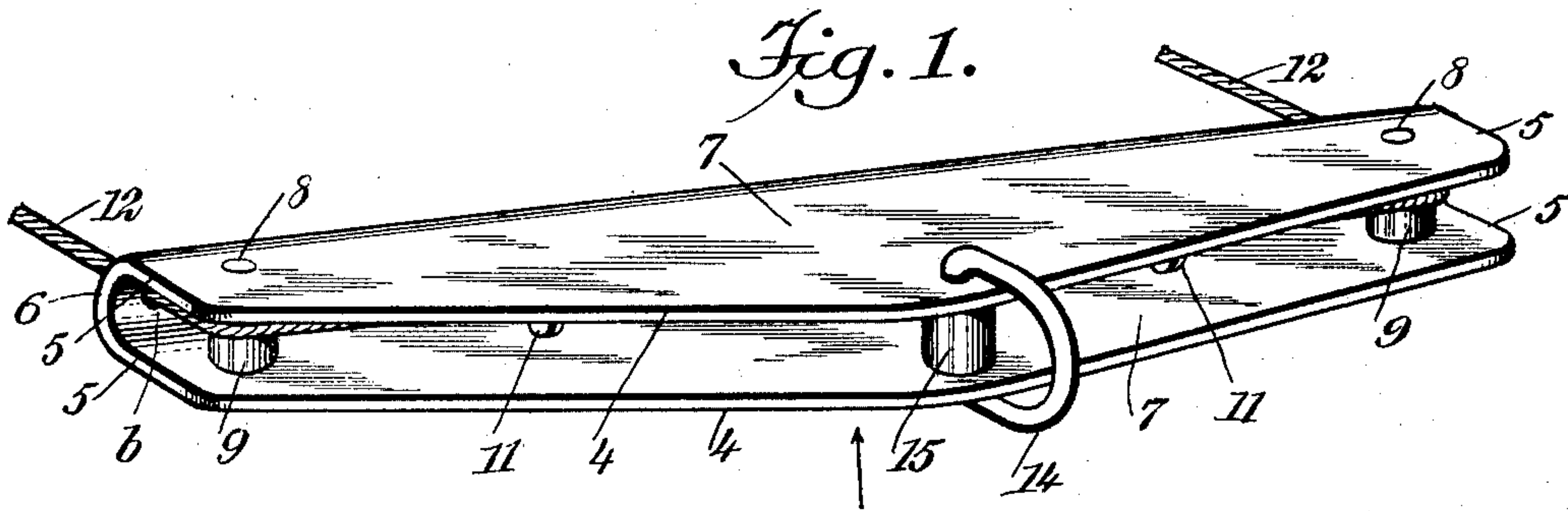
No. 737,420.

PATENTED AUG. 25, 1903.

P. KRALL.
SINGLE TREE.

APPLICATION FILED JUNE 10, 1903.

NO MODEL.



WITNESSES:

A. Appelman

Wm. Patton

INVENTOR

Philip Krall

BY

Munn

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PHILIP KRALL, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO HERMAN SCHUTTE, OF SAN FRANCISCO, CALIFORNIA.

SWINGLETREE.

SPECIFICATION forming part of Letters Patent No. 737,420, dated August 25, 1903.

Application filed June 10, 1903. Serial No. 160,895. (No model.)

To all whom it may concern:

Be it known that I, PHILIP KRALL, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Swingletree, of which the following is a full, clear, and exact description.

The object of this invention is to provide novel features of construction for a swingletree which absorb the jar and cushion the shock usually communicated to the shoulders of a draft-animal when attempting to start the movement of a heavy load or when moving a loaded vehicle over a rough road. The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improved swingletree. Fig. 2 is an edge view of the same with the clevis removed, seen in direction of the arrow in Fig. 1; and Fig. 3 is a detached and enlarged perspective view of a portion of the novel features employed.

The body of the swingletree consists of a blank of plate metal, preferably steel, sloped a suitable degree on opposite edges 4 4 from the centers thereof to the side edges 5 5, that are parallel with each other.

The flat metal plate which forms the body of the swingletree is bent in curved form transversely at its center of length, as indicated, so as to produce two similar flat members 7, which are spaced apart in parallel planes by the jointing-web 6, afforded by the transverse bend mentioned. The material is preferably thickened where the web 6 is formed, thus affording increased strength thereto for resistance to bending strain that in service is imposed upon the web.

Near each end of the swingletree-body at a suitable distance from the web 6 the body-plates 7 are perforated in alinement to receive a spacing-bolt 8, and upon each of these said bolts a thimble 9 is loosely mounted, occupying the space between the body-plates, said spacing-bolts being secured in place by

riveting their ends upon the body-plates or by other suitable means.

A preferably coiled spring 10 of a proper length and tensional strength has secured at each of its ends a circular guide-block 11, said guide-blocks having a diameter that permits their free introduction between the body-plates 7.

Two similar flexible connections 12 have one end of each secured upon the inner surface of a respective guide-block 11, preferably by means of the similar eyebolts 13, and from said eyebolts the flexible connections, that may be of any suitable material—such, for example, as wire rope—are extended in opposite directions through the coiled spring 10, as is clearly shown in Fig. 2. Each flexible connection 12 passes loosely through a perforation *a* in the guide-block toward which it is extended, as shown in Fig. 3, and from the guide-blocks said flexible connections trend toward the thimbles 9, upon which they have contact, and thence extend at an angle toward the web 6, passing loosely through perforations *b*, formed in said web near the ends of the swingletree-body. The flexible connections 12 may be extended from the swingletree to form traces for connection of a draft-animal to the swingletree or may have any preferred hook or other coupling attached to their ends for a detachable connection of other traces, such as those made of leather or chains for hitching a horse or other draft-animal upon the swingletree, as usual.

A clevis-link 14 is loosely secured upon the body-plates 7 at their longitudinal center and near their free edges, said plates having opposite perforations formed therein for the reception of limbs of the clevis-link that pass into a spacing-thimble 15, which is placed between the plates 7 to afford support thereto when the swingletree is in use.

Assuming that the clevis-link 14 is connected to a load to be drawn and that a draft-animal has been hitched to the flexible connections 12 at their forwardly-extended portions, it will be evident that the draft of the animal will first be exerted to partially contract the spring 10, so that the full draft force of the beast will be gradually applied to the

swingletree for movement of the load, and injurious percussion that results from a sudden jerking pull is avoided, and injury to the shoulders of the draft-animal is prevented.

- 5 The improvement is generally applicable where the draft force of animals is employed for moving loads on vehicles or the like and obviously will cushion all shocks due to ordinary obstructions in the road over which
10 the vehicle is drawn.

Having described my invention, I claim as new and desire to secure by Letters Patent—

1. A swingletree, comprising a hollow body, a coiled spring therein, uprights in the body,
15 and flexible connections fixed by one end of each to opposite ends of the spring, thence extended around the uprights and out through perforations in the body.

2. A swingletree, comprising a metal body
20 having two walls spaced by a transverse web, a coiled spring in the body, two flexible connections fixed to ends of the spring and extended oppositely therethrough, spacing-

bolts, thimbles on said bolts around which the flexible connections trend, and thence extend through perforations in the web. 25

3. A swingletree, comprising a plate-metal body bent to form two parallel walls spaced by a transverse web, a coiled spring, guide-blocks secured on ends of the spring, flexible
30 connections secured by one end of each upon a respective guide-block, and thence extended oppositely through the spring, spacing-bolts near ends of the swingletree fixed in its spaced walls, thimbles on the spacing-bolts, the flexible connections passing around the thimbles
35 and thence through perforations in the web, and a clevis-link connected to the walls of the body near their edges opposite from the web.

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

PHILIP KRALL.

Witnesses:

W. W. ALLEN, Jr.,
HENRY M. MCGILL.