

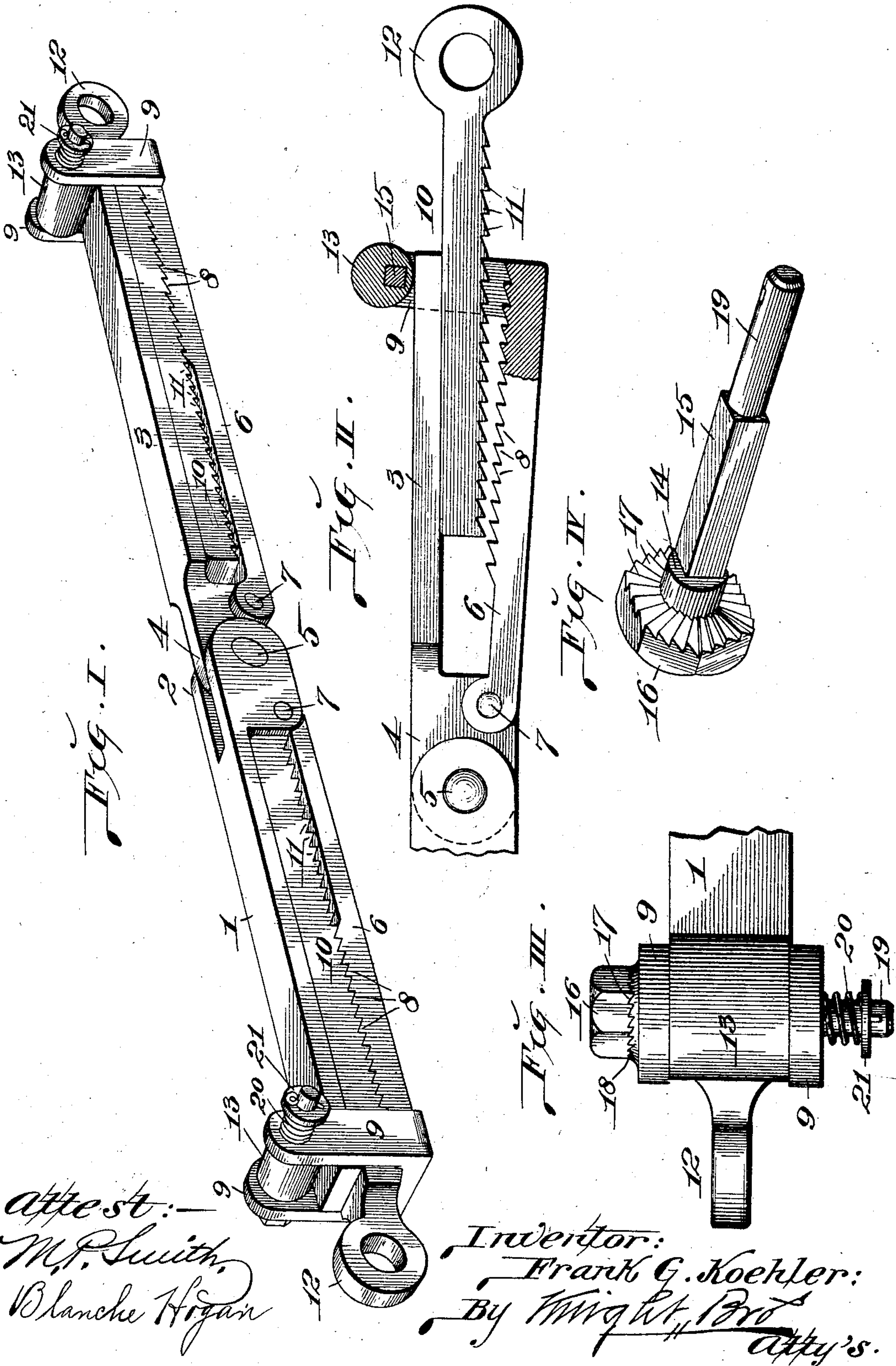
No. 771,312.

PATENTED OCT. 4, 1904.

F. G. KOEHLER.
SLACK ADJUSTER.

APPLICATION FILED DEC. 21, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

FRANK G. KOEHLER, OF ST. LOUIS, MISSOURI.

SLACK-ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 771,312, dated October 4, 1904.

Application filed December 21, 1903. Serial No. 186,012. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. KOEHLER, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Slack-Adjusters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a device for taking up the slack in any members connected together, such as mechanical parts, ropes, cables, or other objects.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view of my slack-adjuster. Fig. II is a view of one of the end portions of the slack-adjuster with the parts shown partly in separated positions and being in side elevation and vertical section. Fig. III is an enlarged top view of one of the clamp-eccentrics and portions of the slack-adjuster adjacent thereto. Fig. IV is a perspective view of one of the eccentric-carrying bolts.

1 designates one of the main sections of my slack-adjuster, which is provided with a bifurcated inner end 2. 3 is a second main section provided with a shank 4, that fits within the bifurcated end of the section 1 and is loosely held thereto by a pivot-pin 5. The sections 1 and 3 are of reduced thickness from the inner end and shank, respectively, of said members to their outer ends, as seen in Figs. I and II.

6 designates swinging rack-bars that are pivoted at 7 to the inner end 2 and shank 4 of the sections 1 and 3. These rack-bars are provided at their inner faces with rack-teeth 8, the rack-bars being so disposed as to face the under side of the reduced portions 1 and 3.

9 designates stirrups carried by the rack-bars 6 at their outer ends and embracing the outer ends of the main sections 1 and 3 of the slack-adjuster.

10 designates connection-bars that are furnished with rack-teeth 11 and adjustably positioned between the main sections 1 and 3 and the swinging bars 6, so that said teeth will

mesh with the teeth 8 of said swinging bars. Each connection-bar is furnished at its outer end with an eye 12 to receive the attachment of any member or the members to which the slack-adjuster is applied.

13 designates eccentrics located between the arms of the stirrups 9, so as to be in positions to bear against the outer sides of the main sections 1 and 3. These eccentrics are mounted on the non-circular shanks 15 of bolts 14, which pass through the arms of the stirrups 9. Each of the bolts 14 has a head 16, that is provided at its inner face with serrations or teeth 17. (See Figs. III and IV.) These teeth or serrations mesh with corresponding teeth or serrations 18, projecting from the opposing face of the arm of the stirrup 9, in which the head end of the bolt 14 is seated. The point 19 of each bolt 14 has mounted upon it an expansible spring 20, that is seated between the outer face of the adjacent stirrup-arm and a washer 21, keyed to the bolt. This spring serves to hold the head of the bolt inwardly, so that the teeth or serrations thereon will be held in mesh with the teeth or serrations 18, projecting from the arm of the stirrup 9 adjacent to each bolt-head.

When my slack-adjuster is in use, the parts occupy the positions illustrated in Fig. I, at which time the eccentrics 13 are so adjusted as to position the main portions of their diameters between the axes of the bolts 14 by which they are carried and the opposing outer faces of the main sections 1 and 3. While the eccentrics are so positioned, the stirrups 9 are upheld to maintain the rack-bars 6 in alinement with the main sections 1 and 3, thereby confining the connection-bars 10 firmly between said sections and swinging rack-bars.

When it is desired to adjust the connection-bars to either take up or increase the slack in the members to which the slack-adjuster is applied, the eccentrics 13 are rocked into the position illustrated in Fig. II. On so moving the eccentrics the stirrups 9 are permitted to move, and the swinging rack-bars 6 may be swung away out of alinement with the main sections 1 and 3, thereby permitting movement of the connection-bars 11 either

inwardly or outwardly to secure the desired adjustment, after which the eccentrics are shifted into their former position to confine said connection-bars.

5 When the eccentrics are to be moved, the bolts 14 are shifted endwise to disengage the serrated inner ends of their heads from the serrations 18 of the stirrups, so that the bolts may be rocked to move the eccentrics. This
10 endwise movement of the bolts is permitted by the springs 20, which serve to return the heads of the bolts into their former engagement with the serrations 18 when the bolts are released.

15 I claim as my invention—

1. In a slack-adjuster, the combination of a pair of main sections connected together, a pair of members swingingly united to said main sections, means for holding said mem-
20 bers in alinement with said sections, and slidable connection-bars adjustably positioned between said sections and members, substantially as set forth.

2. In a slack-adjuster, the combination of a
25 pair of main sections connected together, a pair of swinging rack-bars connected to said main sections, means for moving said rack-bars into alinement with said main sections and holding them in such position, and a pair
30 of toothed connection-bars adjustably positioned between said main sections and rack-bars, substantially as set forth.

3. In a slack-adjuster, the combination of a pair of main sections connected together, a
35 pair of swinging members pivoted to said main sections, eccentrics carried by said swinging members for engagement with said main sections to move said swinging members into alinement with said sections, and adjustable
40 connection-bars positioned between said main

sections and swinging members, substantially as set forth.

4. In a slack-adjuster, the combination of a pair of main sections, swinging members piv-
45 oted to said main sections, stirrups carried by said swinging members and embracing said main sections, eccentrics rockingly mounted in the arms of said stirrups to bear against said main sections, and connection-bars ad-
50 justably positioned between said main sections and swinging members, substantially as set forth.

5. In a slack-adjuster, the combination of a pair of main sections, a pair of swinging mem-
55 bers pivoted to said main sections, stirrups carried by said swinging members and embracing said main sections, said stirrups being provided with bolts, eccentrics fixed to said bolts to bear against said main sections, and connection-bars adjustably positioned be-
60 tween said main sections and swinging members, substantially as set forth.

6. In a slack-adjuster, the combination of a pair of main sections, swinging members piv-
65 oted to said main sections, stirrups carried by said swinging members and embracing said main sections, the arms of said stirrups being provided with bolts, connection-bars adjust-
ably positioned between said main sections and swinging members, eccentrics fixed to
70 said bolts to bear against said main sections, and serrated heads carried by said bolts for engagement with said stirrups; said stirrups being provided with serrations to receive the serrations of said bolt-heads, substantially as
75 set forth.

FRANK G. KOEHLER.

In presence of—

E. S. KNIGHT,
M. P. SMITH.