No. 618,945. Patented Feb. 7, 1899.

F. MYERS.

REVOLVING CHAIN COVER AND GEAR CASING.

(Application filed July 28, 1898.)

(No Model.)

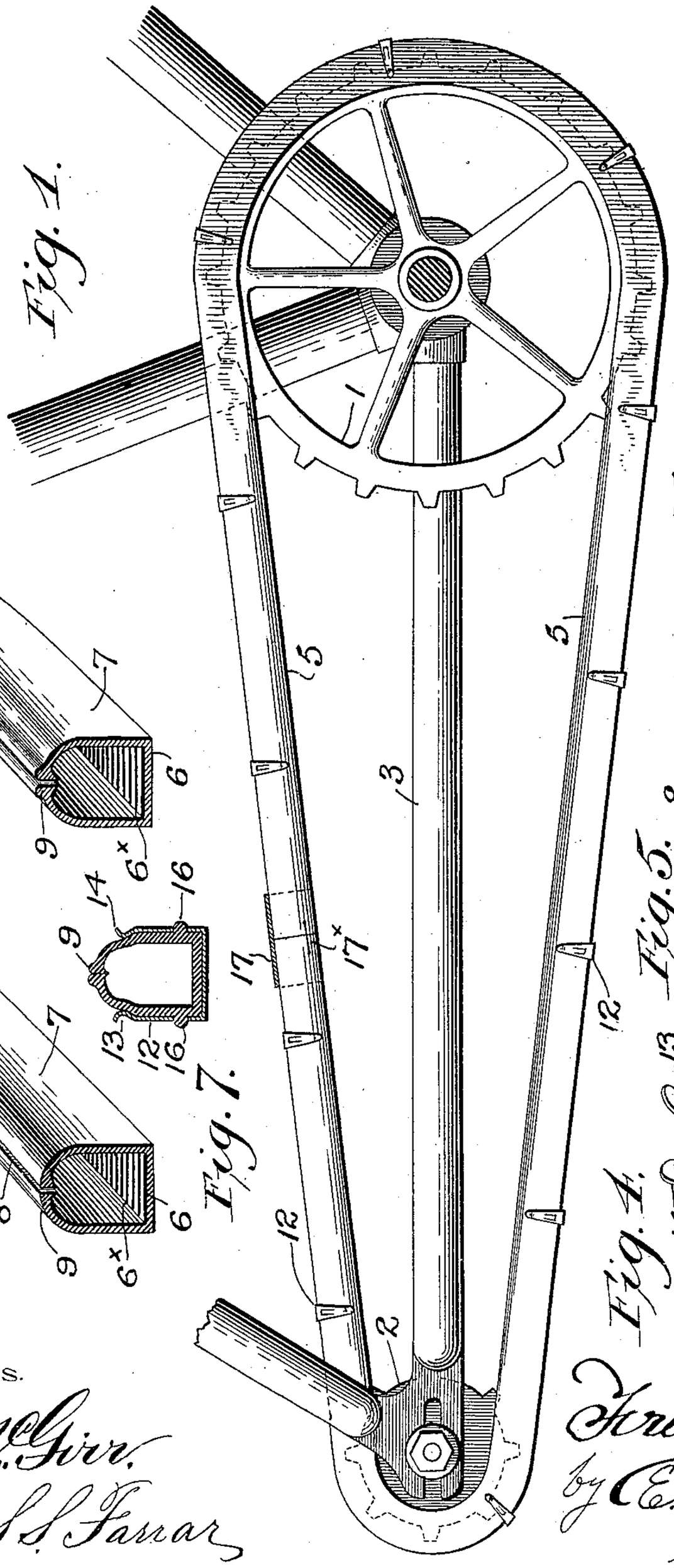

Fig. 1.

Fig. 3.

Fig. 2.

Fig. 7.

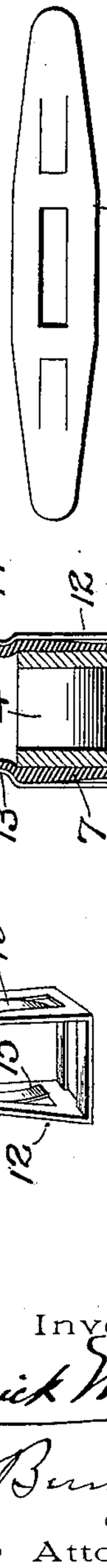

Fig. 6.

Fig. 5.

Fig. 4.

Witnesses.

J. B. McGirr.

John S. Farrar

Inventor.

Frederick Myers

by E. P. Bunyea,

his Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK MYERS, OF NEW YORK, N. Y., ASSIGNOR TO HENRY SMYTHE, OF SAME PLACE.

REVOLVING CHAIN-COVER AND GEAR-CASING.

SPECIFICATION forming part of Letters Patent No. 618,945, dated February 7, 1899.

Application filed July 28, 1898. Serial No. 687,103. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK MYERS, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Revolving Chain-Covers and Gear-Casings, of which the following is a specification.

My invention relates to revolving chain-covers designed to be applied to the drive-chain and sprocket-wheels of a cycle, to travel with the chain around the sprockets, and to envelop and protect the same and to keep mud, dirt, or other injurious and foreign substances from the chain and wheels.

In order that the free edges of the cover may be brought together so closely as to exclude the mud or dirt from the chain, I have found it desirable, if not absolutely necessary, to apply a series of clips or clasps transversely of the cover at intervals. These clips or clasps may be secured in place on the cover in various ways, either by friction or by positive means, and they serve not only to close the cover between the sprockets, but they also sustain the weight of the sag in the chain at the upper line and hold said chain up into the cover.

I attain the objects and advantages referred to by means of the construction shown in the accompanying drawings, in which—

Figure 1 is a side view of a pair of sprocket-wheels showing my chain-cover applied to the chain passing around said sprockets. Fig. 2 is a perspective view of a short section of my cover. Fig. 3 is a similar view of a slightly-modified form of said cover. Fig. 4 is a perspective view of one form of clip or clasp which I may use. Fig. 5 is a cross-section through the cover adjacent to one of the clips or clasps. Fig. 6 is a plan view of the blank from which my clasp or clip is formed. Fig. 7 is a cross-section through the cover and showing different means for securing the clips thereto.

Like numerals of reference indicate like parts wherever they occur in the various figures of the drawings.

1 is a large sprocket-wheel, 2 is a small sprocket-wheel, and 3 the horizontal tube of the frame connecting them.

4 is the drive-chain, and 5 is my revolving gear-case, which may be of rubber or textile fabric or other material. Any material having sufficient flexibility to conform closely to the contour of the drive-chain and the sprocket-wheels may be used for my purpose. As shown in Figs. 2, 3, and 5, the case comprises a strip of material consisting of a flat top portion 6 and side 7 at right angles thereto. The free edges 8 of these sides are brought together during the course of their manufacture, so as to closely hug and envelop the chain and sprockets. Along the edges of the case a rib 9 extends from end to end, and these ribs, whether made round, or substantially so, as shown, or of other contour, serve to prevent the edges from being carried into the sprocket-teeth, since they offer an opening for the entrance of the teeth and are also sufficiently thick to assume their normal position readily when distorted. The construction shown in Figs. 2 and 3 is particularly adapted to perform this function. The inner surface of the top portion 6 is ribbed, corrugated, or roughened at 6 to form a frictional surface to prevent the case from creeping on the chain. I employ a number of clips or clasps 12, which conform in great part to the sectional contour of the case and fit closely thereon at intervals throughout the length of the case. Any desired number of these clasps may be used. Near the terminal ends of the clasps there is an inwardly-bent shoulder 13, and from this point the terminal ends 14 are bent slightly outward. It may be noticed on reference to Fig. 5 that the shoulder 13 presses the case 5 inwardly around and under the lower surface of the drive-chain. This construction serves several purposes. At the upper line of the chain the sag is held outward within the case by these shoulders, and a similar effect is produced upon the lower line of the chain when back-pedaling. Besides, these shoulders and the outwardly-bent terminals 13 press the two sides of the case together, as shown in Fig. 5, and permit them to separate a sufficient distance to allow the sprocket-teeth to pass between them and close again when the case leaves the sprocket-wheel. I have found the use of the clasps to be very desirable. Said clasps may be pro-

vided with spring-tongues 15, which serve to hold the clasps in place on the cover, or I may form projections or nipples 16, Fig. 7, on the sides of the cover, and these nipples project through apertures in the side legs of the clasps. I deem this a very desirable construction for the purpose of holding the clasps to the cover.

To fasten the ends of the cover, I have provided a thin rubber or fabric lined saddle-piece 17, which I cement to the two abutting ends of the cover. 17× are stitches or staples for holding the edges of the cover. I may adopt other means for attaching the ends of the cover.

I do not wish to have it understood that I am to be limited to the precise details and materials referred to herein, for I am aware that many changes may be made without departing from the spirit and scope of my invention.

What I desire to secure by Letters Patent and claim is—

1. A revolving gear-case consisting of an elastic and flexible cover adapted to be applied to the chain, and to move therewith over and around the sprockets, said case having ribbed or thickened longitudinal free edges, substantially as set forth.

2. A revolving gear-case made of flexible or elastic material having a flat top portion, sides at right angles thereto, the inner surface of the top portion being ribbed or roughened to prevent the chain from creeping therein, substantially as described.

3. A revolving chain-cover made of flexible or elastic material and having a flat top portion, sides at right angles thereto, free converging longitudinal edges, said edges being enlarged, for the purpose described.

4. A revolving gear-case to inclose the chain and travel therewith over the sprocket-wheels, said case having longitudinal enlarged free edges and clasps applied thereto at intervals, for the purpose described.

5. A revolving gear-case consisting of a flexible envelop applied to and traveling with the chain over the sprocket-wheels, said case having enlarged longitudinal free edges, and a series of clasps applied to the envelop, said clasps having inwardly-extending shoulders and flaring ends, substantially as described.

6. A flexible slitted chain-cover designed to envelop and travel with the chain, said cover having its ends secured together by stitches or staples straddling the abutting ends at the edges of the slit, and a saddle-piece cemented over said ends, substantially as described.

Signed at New York city, in the county of New York and State of New York, this 1st day of July, A. D. 1898.

FREDERICK MYERS.

Witnesses:
I. B. WELLCOME,
F. B. ROSE.