

(No Model.)

C. F. SMITH.
SWIVEL.

No. 537,862.

Patented Apr. 23, 1895.

Fig. 1.

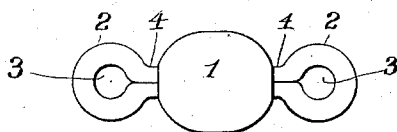


Fig. 2.

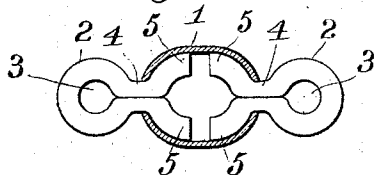


Fig. 3.

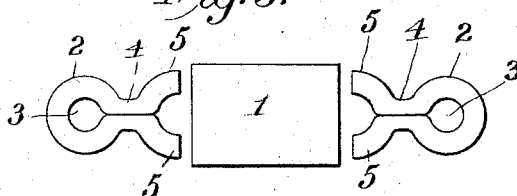
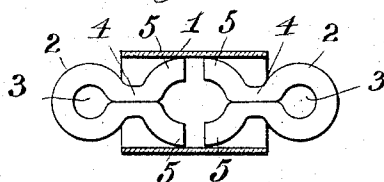


Fig. 4.



WITNESSES:

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SWIVEL.

SPECIFICATION forming part of Letters Patent No. 537,862, dated April 23, 1895.

Application filed September 29, 1894. Serial No. 524,518. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SMITH, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Swivels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in swivels, and has for its object to provide a device of this description which shall be simple and economical and exceedingly durable.

In the accompanying drawings, Figure 1 is a side elevation of a swivel constructed in accordance with my improvement; Fig. 2, a sectional elevation; Fig. 3, an elevation showing the parts of my improvement prior to their assembly, and Fig. 4 a sectional elevation showing the parts of my improvement properly assembled prior to the operation of spinning.

Similar numbers of reference denote like parts in the several figures of the drawings.

In carrying out my improvement I utilize a short section 1 of tubing, as shown at Figs. 3 and 4, and two swivel ends 2, the latter being preferably formed from wires bent around so as to form eyes 3 at their outer ends, contracted necks 4 at about their middles, and circular segments 5 at their inner ends; that is, the ends 5, 5 of the wire form an arch, with the convex side outward. The ends of the tube can be spun down to fit neatly on this arched portion. As the arches formed by the ends 5 are as wide as the greatest diameter of the tube, the wire links cannot lop over sideways, because the inner ends 5 are supported against the inner concave faces of the tubular piece 1.

The parts are assembled as is shown in Fig. 4, and the ends of the tubing are then contracted inwardly upon the necks 4 by any

well known mechanical operation such as spinning. This spinning operation causes the tubing to adapt itself to the external curvatures of the segments 5, so that it will be readily understood that there can be no lateral play or wobbling of the swivel ends 2 within the tubing, while at the same time said ends will be free to turn around.

Instead of utilizing a complete tube the latter may of course be split lengthwise at one side, but in both instances the finished article is substantially the same, the only difference being that the split tube can of course be formed by rolling or striking up in dies.

I prefer to form the inner ends of the parts 2 into circular segments in order to afford a smooth and easy movement of the swiveled elements, but said ends may of course be disposed differently as long as they afford shoulders to prevent the parts 2 from pulling out.

By making a perfect bearing between the swivel ends and the tubing it will be clear that there can be no cramping of said ends and the free movements of the swivel ends will therefore be unimpeded.

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

A swivel consisting of a central tubular section having its ends contracted inwardly, and being round in cross section and eye sections of bent wire with the eye outward, the contracted middle portions, and the ends arched as described, so that the indrawn ends of the tube surround and conform closely to the arches of the ends of the wire sections, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. SMITH.

Witnesses:

F. W. SMITH, Jr.,
M. T. LONGDEN.