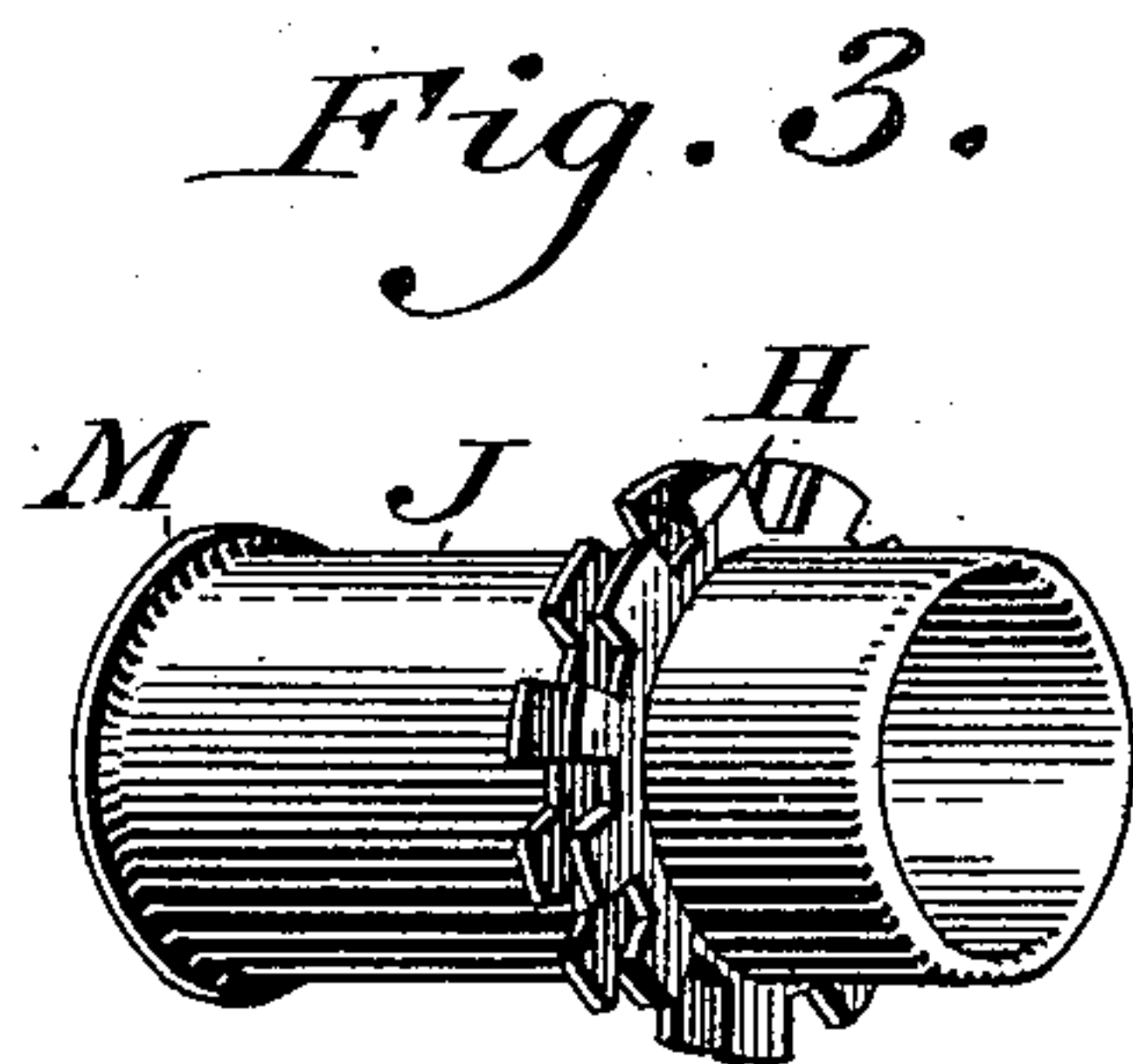
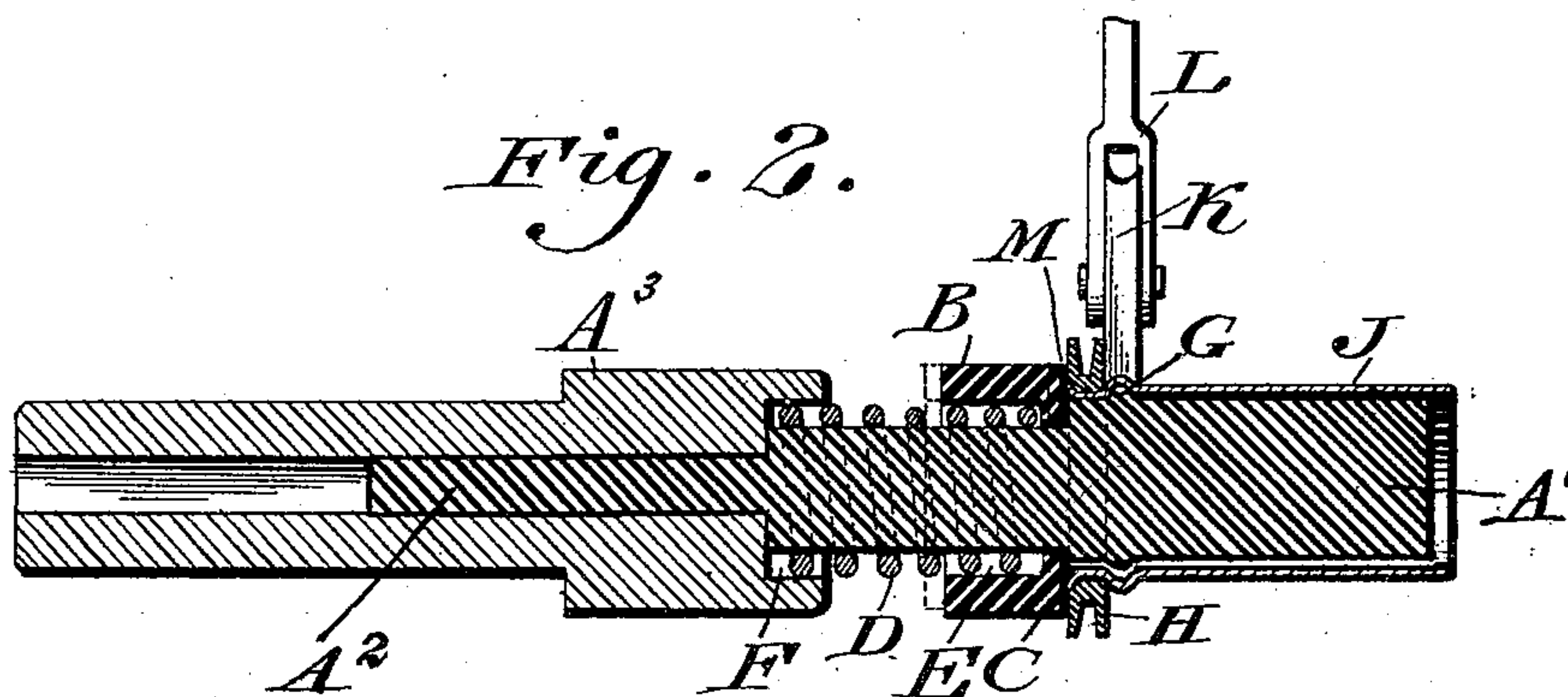
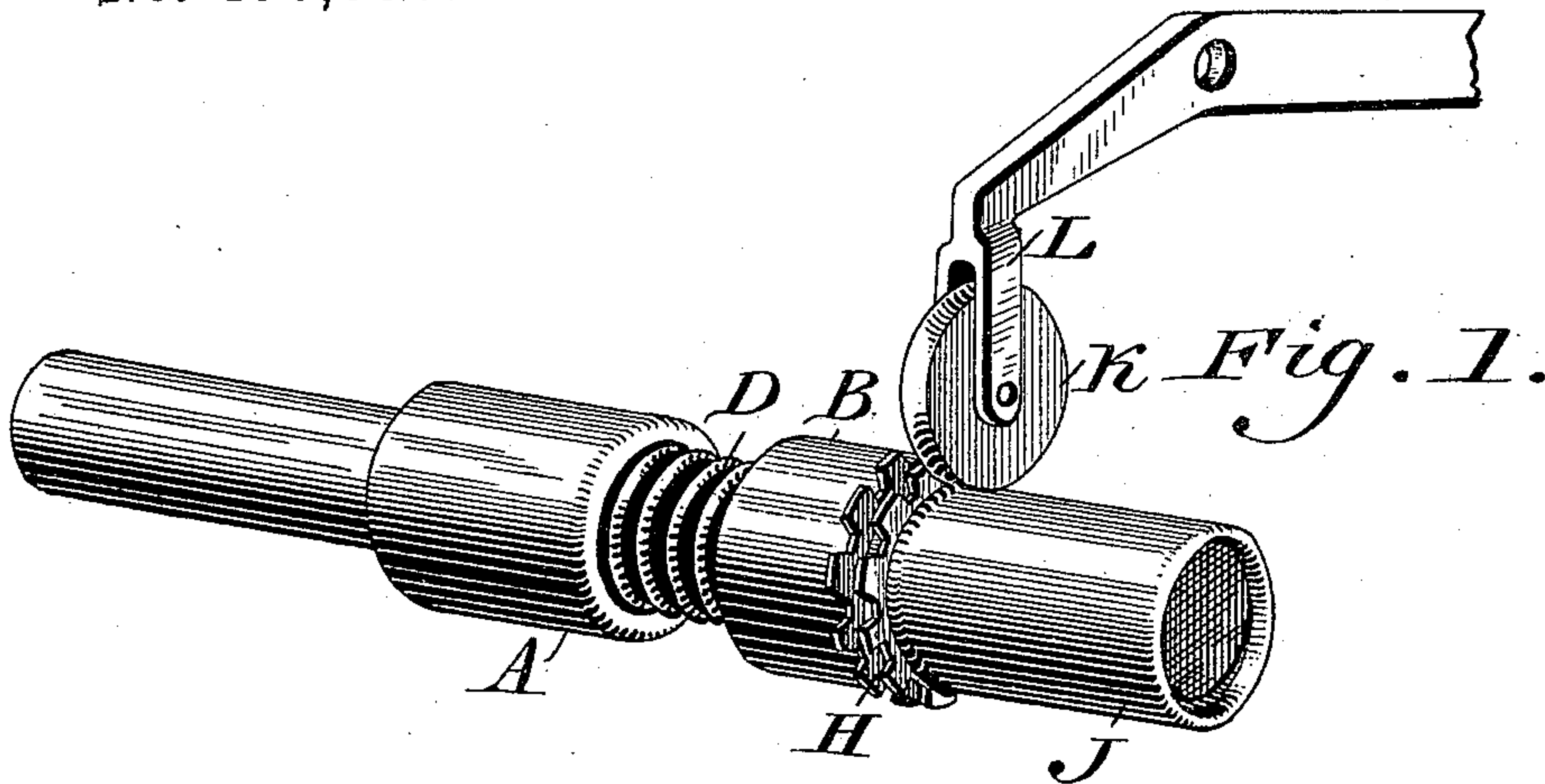


(No Model.)

W. H. GASKILL.
DEVICE FOR FASTENING UMBRELLA RUNNERS.

No. 470,890.

Patented Mar. 15, 1892.



WITNESSES:

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WILLIAM H. GASKILL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
SAMUEL W. EVANS, JR., OF SAME PLACE.

DEVICE FOR FASTENING UMBRELLA-RUNNERS.

SPECIFICATION forming part of Letters Patent No. 470,890, dated March 15, 1892.

Application filed January 6, 1891. Serial No. 376,861. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GASKILL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Devices for Fastening the Parts of Umbrella-Runners, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in devices for fastening the parts of umbrella-runners together; and it consists, first, of mechanism for forming a knurl on an umbrella-runner, as hereinafter described.

It further consists of the combination of parts hereinafter described.

It further consists of the method of connecting umbrella-runners and their rings, as hereinafter described.

Figure 1 represents a perspective view of mechanism for forming a knurl on an umbrella-runner embodying my invention. Fig. 2 represents a longitudinal section of the said mechanism. Fig. 3 represents a perspective view of a runner with a notched collar thereon before the parts are in position to be secured together.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a mandrel adapted to be secured to a rotating portion of a lathe or other revolving mechanism, so as to be rotated therewith. On the said mandrel is freely mounted a head B, which is normally forced into contact with a shoulder C on said mandrel by a spring D, which encircles a reduced portion of said mandrel and has its ends inserted in the recesses E and F, formed, respectively, in one end of said head and in said mandrel. The free end of the mandrel is formed with a circumferential bead G at a distance from the shoulder C of the usual thickness of a notched collar H, which is to be secured on a runner J.

K designates an ordinary knurling tool or wheel having suitable journal-bearings, as L, and provided with a grooved periphery, which is adapted to coincide with the bead G on the said mandrel.

In constructing and assembling the parts the procedure is as follows: A portion A' of the mandrel is formed with a reduced end A², on which is fitted a second portion A³ of the mandrel, the inner end of the latter being provided with the recess F. Before said portion A³ is mounted in position the head B is inserted over the reduced end A² and the spring is adjusted to place and then said portion A³ secured by suitable means on the said reduced end A², thereby securely sustaining the parts in their assembled positions.

The manner of operating the device is as follows: The runner having a flange M formed on one of its ends is placed on the mandrel A so that the said flange is in contact with the head B. A notched collar H is then placed on the runner against the flange M and the head B and the knurling-tool K brought into contact with the runner directly over the bead G, thus holding the collar in place. The mandrel is then rotated, bringing each part of the runner which is in contact with the said head directly under the wheel K, thereby forming a knurled ring on the runner, said knurled portion, with the flange M, binding the collar to the runner and preventing its removal therefrom. It is readily seen that owing to the spring-bearing of the head B a notched collar H of a larger thickness than usual may be inserted between the bead and the said head. By the method herein described the flange at the end of the runner is first formed and the notched collar then placed on the said runner, the knurled ring being formed after the collar is in place instead of before, as is the present manner of operating.

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

1. The combination of a mandrel having a circular bead thereon, a head loosely mounted on said mandrel, and a knurling-tool adapted to coincide, substantially as described, with said bead, substantially as and for the purpose set forth.

2. A rotary mandrel having a circular bead thereon, a spring-controlled head on said mandrel, and a knurling-tool having the periphery

of its wheel coinciding with said bead, said parts being combined substantially as described.

3. A mandrel having a shoulder and a circular bead thereon, a spring-controlled head normally bearing against said shoulder, and a knurling-tool with its wheel adapted to coincide with said bead, said parts being combined substantially as described.

10 4. A mandrel having a shoulder thereon and a recess, a head freely mounted on said shoulder, a spring having one end in said recess and the other end bearing against said head, and a knurling-tool with its wheel

adapted to coincide with a circular bead on said mandrel, said parts being combined substantially as described.

5. The herein-described method of connecting a runner and its notched collar, consisting in first forming a flange on one end of the runner, then placing the notched collar on the runner and against the said flange, and then forming a knurled ring on the runner against the notched collar, substantially as described.

WILLIAM H. GASKILL.

Witnesses:

WM. H. SHALLCROSS,
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