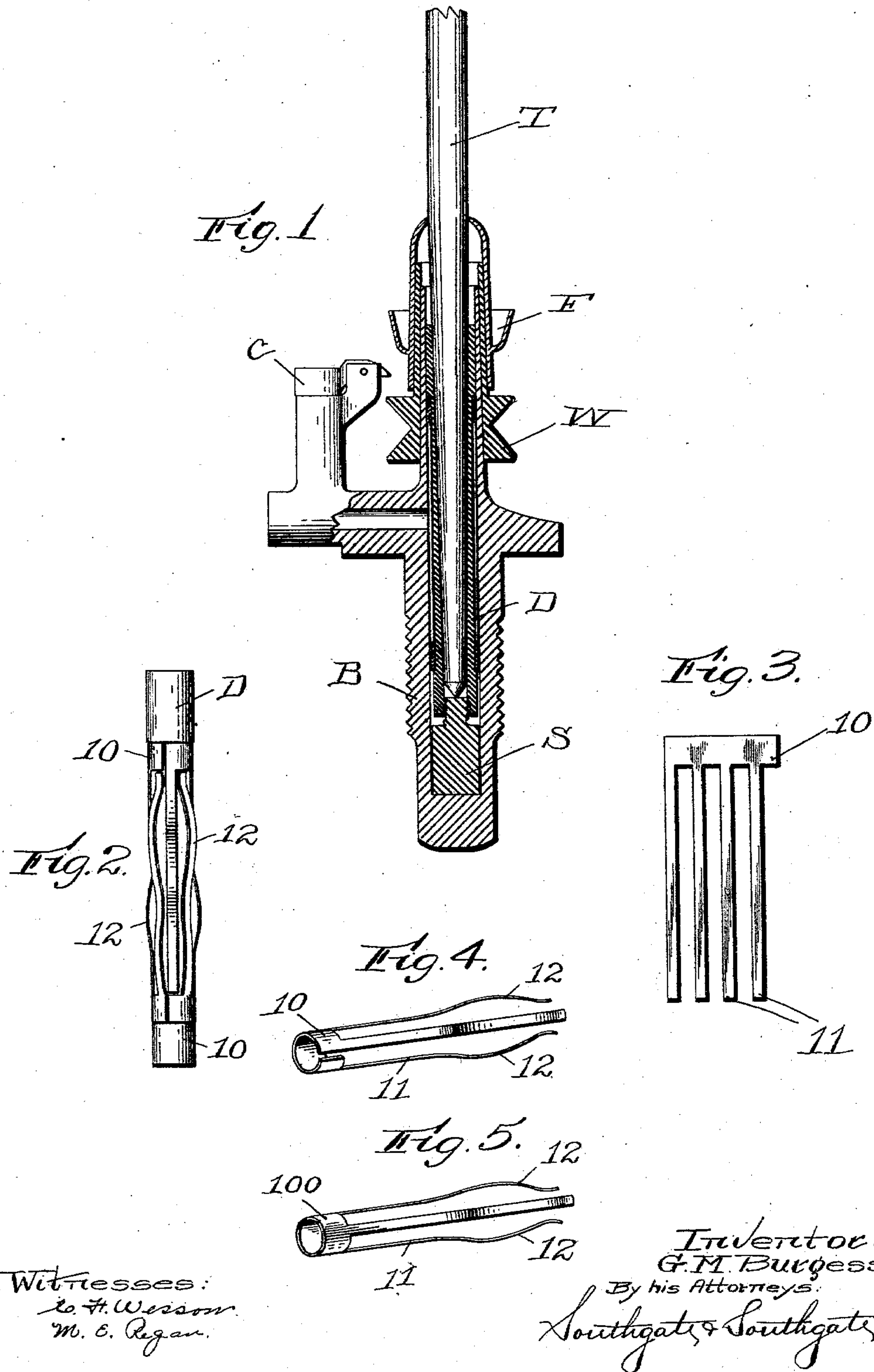


No. 744,040.

PATENTED NOV. 17, 1903.

G. M. BURGESS.
SPRING PACKING FOR SPINDLE BOLSTERS.
APPLICATION FILED NOV. 17, 1902.

NO MODEL.



UNITED STATES PATENT OFFICE.

GEORGE M. BURGESS, OF HOPEDALE, MASSACHUSETTS.

SPRING-PACKING FOR SPINDLE-BOLSTERS.

SPECIFICATION forming part of Letters Patent No. 744,040, dated November 17, 1903.

Application filed November 17, 1902. Serial No. 131,750. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. BURGESS, a citizen of the United States, residing at Hopedale, in the county of Worcester and State of Massachusetts, have invented a new and useful Spring-Packing for Spindle-Bolsters, of which the following is a specification.

This invention relates to an improved construction for flexibly supporting a spinning or twisting spindle.

The object of this invention is to provide simple, durable, efficient, and inexpensive means for supporting the bolster of a spindle-bearing within its base-piece.

To these ends this invention consists of a spring-bolster packing and of the combinations of parts therewith, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a side view, partially broken away, of sufficient parts of a spindle and its bearing to illustrate the application of my invention thereto. Fig. 2 is a detached view of a spindle-bolster with spring-packing constructed according to my invention applied thereto. Fig. 3 is a plan view of the sheet-metal blank or stamping which I preferably employ to form one of the sets of spring-arms. Fig. 4 is a perspective view of one set of the spring-arms formed from the blank or stamping illustrated in Fig. 3. Fig. 5 is a similar view illustrating a slightly-modified form of construction in which the spring-arms are formed by cutting away a sheet-metal tube.

In operating the modern high-speed spinning or twisting spindles it has been found necessary to provide a considerable flexibility of bearing. In the ordinary spindle constructions which are now most extensively employed a socket or base-piece is fastened in place in the spindle-rail, and fitting loosely into the base-piece is the bolster or tube which forms the bearing of the shaft of the spindle. The flexibility of the spindle-bearing is provided by the compressible packing which is interposed between the bolster and the base into which the bolster fits. In nearly all spindle constructions which are now employed a packing of cloth or felt is employed for supporting each bolster.

The especial object of my present inven-

tion is to improve spindle bearings or supports by dispensing with the use of cloth, felt, or similar material as a packing for spindle-bolsters and to provide a metallic packing, which will support bolsters in a more efficient and flexible manner than the ordinary felt or cloth packings and which will be practically indestructible, so that it will not require frequent renewals or replacement.

To these ends a packing for spindle-bolsters constructed according to my invention consists, essentially, of vertical spring-arms. Two sets of these spring-arms are employed, each set having a ring or connecting section. Near their ends or at other points in their length the spring-arms are bent or bowed, so that they will tend to spring outwardly. In practice two sets are employed, which intermesh with each other and which are arranged so that the bent or bowed section of each set of arms does not come opposite the bowed section of the other set of spring-arms, so that the bolster will have two separate points of support.

Referring to the accompanying drawings for a detail description of a construction embodying my invention, as shown in Fig. 1, B designates a base-piece or socket, which may be secured in the spindle-rail of an ordinary spinning or twisting frame. The spindle-bearing within the base-piece B may be supplied with oil through the ordinary oil-channel, which is closed by the oil-cover C. Fitting loosely into the base-piece B is a tubular bolster D. Threaded into the lower end of the bolster D is the step or bottom screw S. The shaft of the spindle T is journaled in the bolster D, and carried by the spindle T is the ordinary whirl W and bobbin-cup F. These parts as herein illustrated are of one well-known form of manufacture. It is to be understood, however, that the parts as thus far described may be of any ordinary or approved construction and need not be of the form which I have herein illustrated.

The central part of the bolster D, as illustrated most clearly in Fig. 2, is turned down to a smaller diameter, so as to leave retaining-shoulders near its opposite end, and fitting onto the bolster D is my improved bolster-packing, comprising vertical spring-arms for

flexibly supporting the bolster D within the base-piece B. Two sets of these spring-arms are employed. In the preferred way of making these spring-arms I employ a sheet-metal blank or stamping having an end section 10, with fingers 11 extending therefrom. This blank or sheet-metal stamping is then preferably shaped over a mandrel to bend the end section 10 substantially in the form of a ring, as shown in Fig. 4, and each of the arms 11 is provided with a bowed-out or spring section 12 near its end. By associating two sets of spring-arms as thus constructed so that the arms intermesh with each other, as illustrated in Fig. 2, a spindle-packing will be provided, by means of which the bolster will have two separate points of support within its base, insuring perfect alinement of the bolster, while at the same time leaving it sufficiently flexible to adapt it to the highest speeds at which spinning or twisting spindles can be run.

In Fig. 5 I have illustrated a modified form of construction, in which the spring-arms 11 are formed by cutting away a tube 100.

It is obvious that the spring-arms may be stamped out or formed in other ways than those herein illustrated. I do not wish, there-

fore, to be limited to the constructions I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a spindle-bearing, the combination of the base, a bolster, and a packing for flexibly supporting the bolster within the base, comprising a set of spring-arms, a connecting piece or ring, and a second set of spring-arms intermeshing with the first set of spring-arms and a second connecting piece or ring.

2. In a spindle-bearing, the combination of the base, a bolster, and a packing for flexibly supporting the bolster within the base, comprising a set of spring-arms and a connecting piece or ring, and a second set of spring-arms intermeshing with the first set and a second connecting piece or ring, said spring-arms having bent-out sections for supporting the bolster at separated points along its length.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE M. BURGESS.

Witnesses:

JOHN F. CROWELL,

PHILIP W. SOUTHGATE.