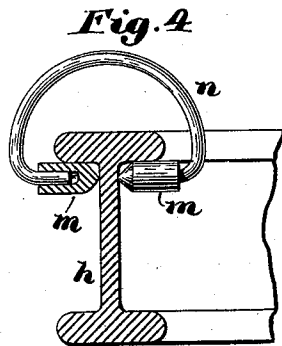
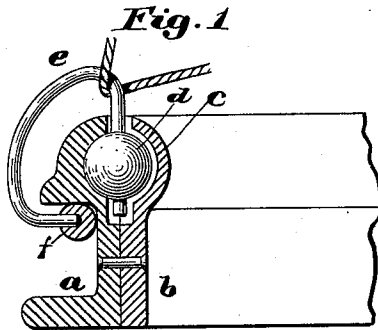
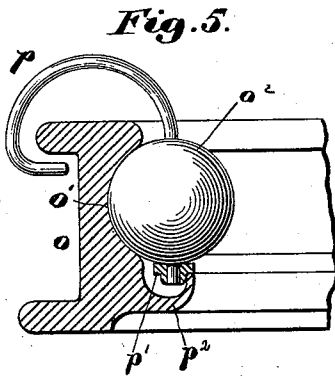
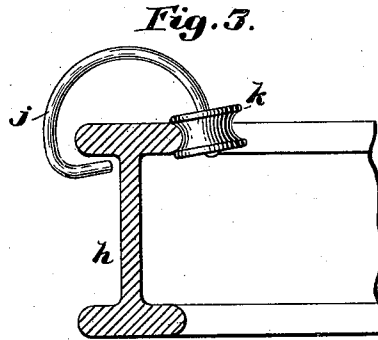
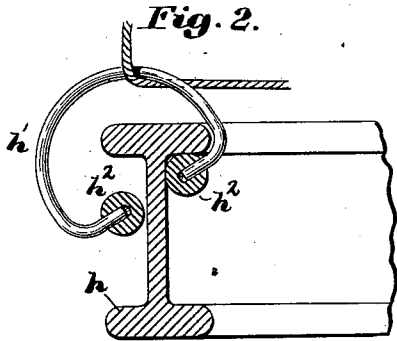


(No Model.)

G. O. DRAPER.
SPINNING RING.

No. 588,817.

Patented Aug. 24, 1897.



Witnesses:
Walter E. Lombard
Thomas Drummond

Inventor:
George O. Draper,
by Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

GEORGE O. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE
DRAPER COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

SPINNING-RING.

SPECIFICATION forming part of Letters Patent No. 588,817, dated August 24, 1897.

Application filed May 7, 1897. Serial No. 635,526. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Spinning-Rings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In spinning with rings and travelers the wear of the traveler is limited for the reason that fine yarn does not have enough strength to drag the traveler about the race when it is of sufficient size to stand wear, and so to lessen the friction and wear of the traveler on the ring-race I have provided the traveler with one or more antifriction-rollers.

Figure 1 represents in section a ring with a traveler thereon; and Figs. 2 to 5 represent modified forms of construction.

The ring shown in Fig. 1 is represented as of two sections *a b*, suitably connected together and shaped to present between them a space, as *c*, in which may roll a ball or wheel *d*, it being mounted on one end of a traveler *e*.

I have herein shown the traveler as of round wire, it being curved so that it may embrace the flange of the ring, but the said traveler may be of other shape than round—as, for instance, oblong, which is the shape of travelers now ordinarily used—the end or ends of the traveler being suitably rounded to receive the rolls, balls, or wheels. The opposite end of the traveler is shown as provided with a second roller *f*, which may at times contact with the ring.

In Fig. 2 I have shown a ring *h*, of usual construction, provided with a traveler *h'*, on which I have mounted two balls *h²*. In Fig. 3 the usual ring *h* is provided with a traveler *j*, having a wheel *k*. In Fig. 4 the usual ring *h* has two rolls *m m* on the traveler *n*, while in Fig. 5 the ring *o* is provided internally with a seat *o'*, on which rests a ball *o²* on the traveler *p*. The inner end of this traveler *p* has a wheel *p'*, which rests on a supplemental race *p²*.

The rolls and wheels constitute antifriction devices.

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

1. A ring combined with a traveler having an attached antifriction device, substantially as described.

2. A ring combined with a traveler provided with a plurality of antifriction devices, substantially as described.

3. A spinning-ring provided with an annular chamber, combined with a traveler surrounding the race of the said ring and provided with an antifriction device rolling in said annular chamber, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE O. DRAPER.

Witnesses:

E. D. BANCROFT,
H. S. MANLEY.