

No. 837,214.

PATENTED NOV. 27, 1906.

J. G. GABE.
WEFT DETECTING LOOM SHUTTLE.
APPLICATION FILED JUNE 23, 1905.

Fig. 1.

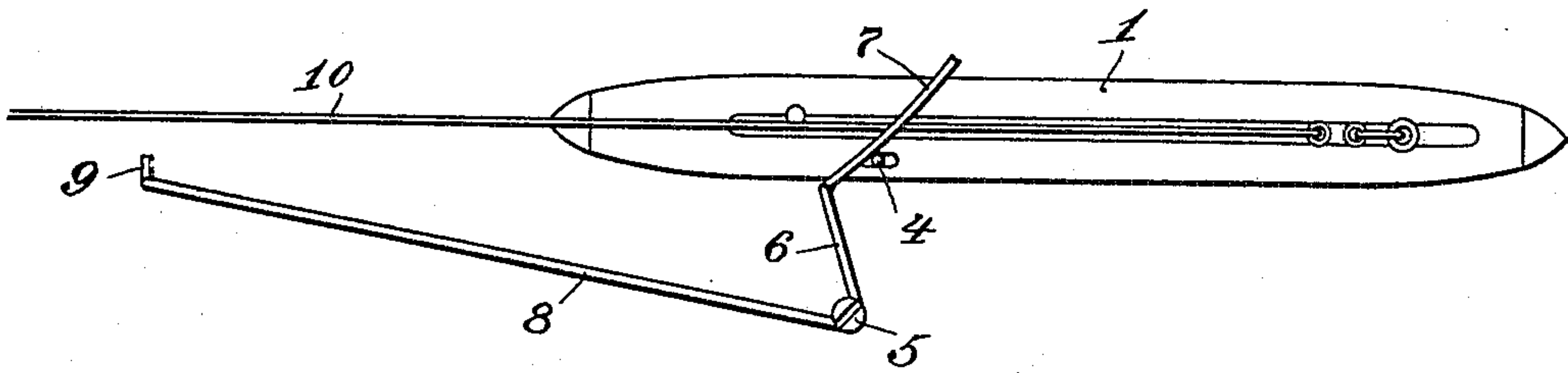


Fig. 2.

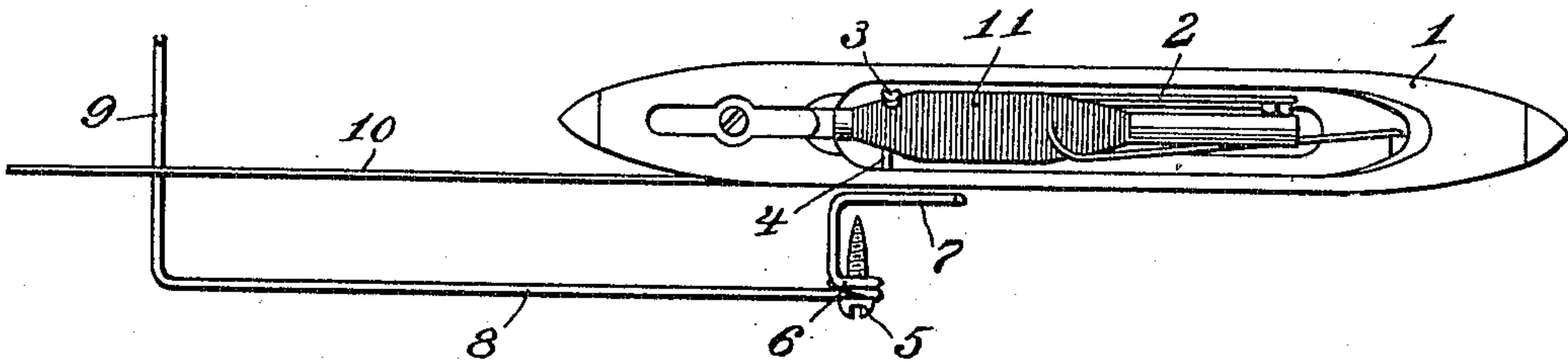


Fig. 3.

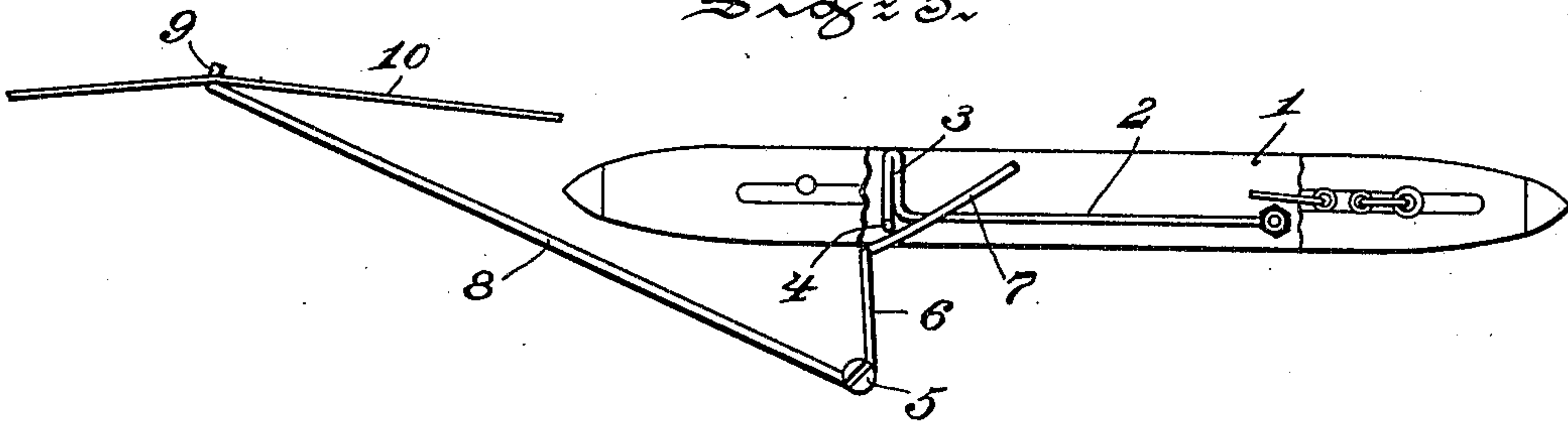
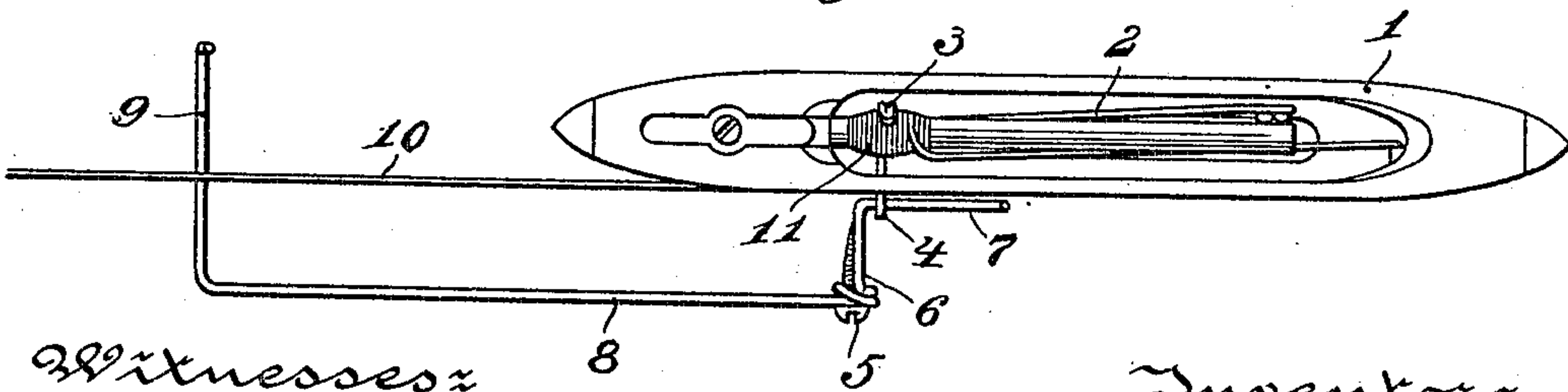


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES G. GABE, OF CLIFTON HEIGHTS, PENNSYLVANIA, ASSIGNOR OF
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WEFT-DETECTING LOOM-SHUTTLE.

No. 837,214.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed June 23, 1905. Serial No. 266,565.

To all whom it may concern:

Be it known that I, JAMES G. GABE, a citizen of the United States, residing at Clifton Heights, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Weft-Detecting Loom-Shuttles, of which the following is a specification.

Heretofore it has been necessary for the weaver to carefully watch the amount of yarn in each shuttle to prevent miss-picks, caused by the yarn all running out of the shuttle, and it has also been necessary to insert a new bobbin in the shuttle while a considerable quantity of yarn still remained upon the old bobbin, as otherwise the risk of making miss-picks was very great.

To obviate this difficulty, my invention consists in providing mechanism for moving the weft out of its normal position before the yarn is completely exhausted from the shuttle, so that the weft stop-motion of the loom will be operated to stop the loom while a small quantity of weft still remains in the shuttle, said mechanism being controlled by the amount of yarn in the shuttle to thereby reduce the waste of yarn to a minimum as well as preventing miss-picks caused by all of the yarn running out of the shuttle.

Most looms as at present in use are provided with a device commonly called a "weft stop-motion," which has for its object the stopping of the loom when for any cause the weft is broken or missing. It will be readily understood, then, that if the weft be raised above its normal position the loom will be immediately brought to a stop, and, as hereinbefore explained, the purpose of my invention is to raise the filling above its normal position before the yarn is completely exhausted from the shuttle to thereby cause the weft stop-motion to stop the loom.

My invention will be more readily understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevational view of a shuttle with the device of my invention shown in connection therewith, the same being shown in its inoperative position—that is to say, where a considerable quantity of yarn still remains in the shuttle. Fig. 2 is a top or plan view of Fig. 1. Fig. 3 is a view

similar to Fig. 1, but with the device of my invention shown in the position it would occupy when the yarn is almost but not completely exhausted from the shuttle, certain portions of the shuttle and bobbin being broken away to show that part of the device which is carried within the shuttle. Fig. 4 is a top or plan view of Fig. 3.

Referring to the drawings, the mechanism comprising my invention consists, essentially, of two parts, one of which is carried within the shuttle 1 and the other of which is pivoted to any preferred part of the loom. That portion of the device which is carried within the shuttle 1 comprises a spring 2, having its free end bent upward at 3 (see Fig. 3) and also carrying at its free end a projection 4. This projection 4 is maintained entirely within the shuttle by means of the bent portion 3 bearing against the bobbin 11, so long as a considerable quantity of yarn remains upon the bobbin. When, however, the yarn is almost, but not completely, exhausted from the shuttle, as shown in Fig. 4 of the drawings, the projection 4 will extend beyond the face of the shuttle and will operate the other portion of the device, which comprises a lever, pivoted, as at 5, to any suitable part of the loom—for example, the shuttle-box. (Not shown.) The short arm 6 of this lever carries at its end an extension 7, arranged adjacent to the face of the shuttle so as to contact with and be operated by the projection 4, when, as hereinbefore explained, said projection extends beyond the face of the shuttle. The long arm 8 of the lever is bent around, as at 9, so as to engage and raise the weft 10 when the extension 7 is operated by the projection 4, as clearly illustrated in Fig. 3 of the drawings.

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

1. Means controlled by the amount of yarn in the shuttle for moving the weft out of its normal position when the yarn is almost but not completely exhausted from the shuttle.

2. Means controlled by the amount of yarn in the shuttle for raising the weft above its normal position when the yarn is almost but not completely exhausted from the shuttle.

3. The combination of a lever normally

inoperative with means carried by the shuttle for causing said lever to raise the weft above its normal position when the yarn is almost but not completely exhausted from the shuttle.

4. The combination of a projection normally within the shuttle, means for causing the projection to extend beyond the face of the shuttle when the yarn is almost but not completely exhausted from the shuttle, and means, adapted to be actuated by the projection when the same extends beyond the face of the shuttle, for raising the weft above its normal position.

5. In a device of the character described, a spring carried by the shuttle having its free end formed so as to bear against the bobbin, and carrying a projection at its free end arranged to lie normally within the shuttle but to extend beyond the face of the shuttle

when the yarn is almost but not completely exhausted from the shuttle.

6. In a device of the character described, a spring carried by the shuttle carrying a projection arranged to lie normally within the shuttle but adapted to extend beyond the face of the shuttle when the yarn is almost but not completely exhausted from the shuttle, in combination with a lever arranged to be operated by the projection when the same extends beyond the face of the shuttle, said lever being adapted to raise the weft above its normal position.

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

JAMES G. GABE.

Witnesses:

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