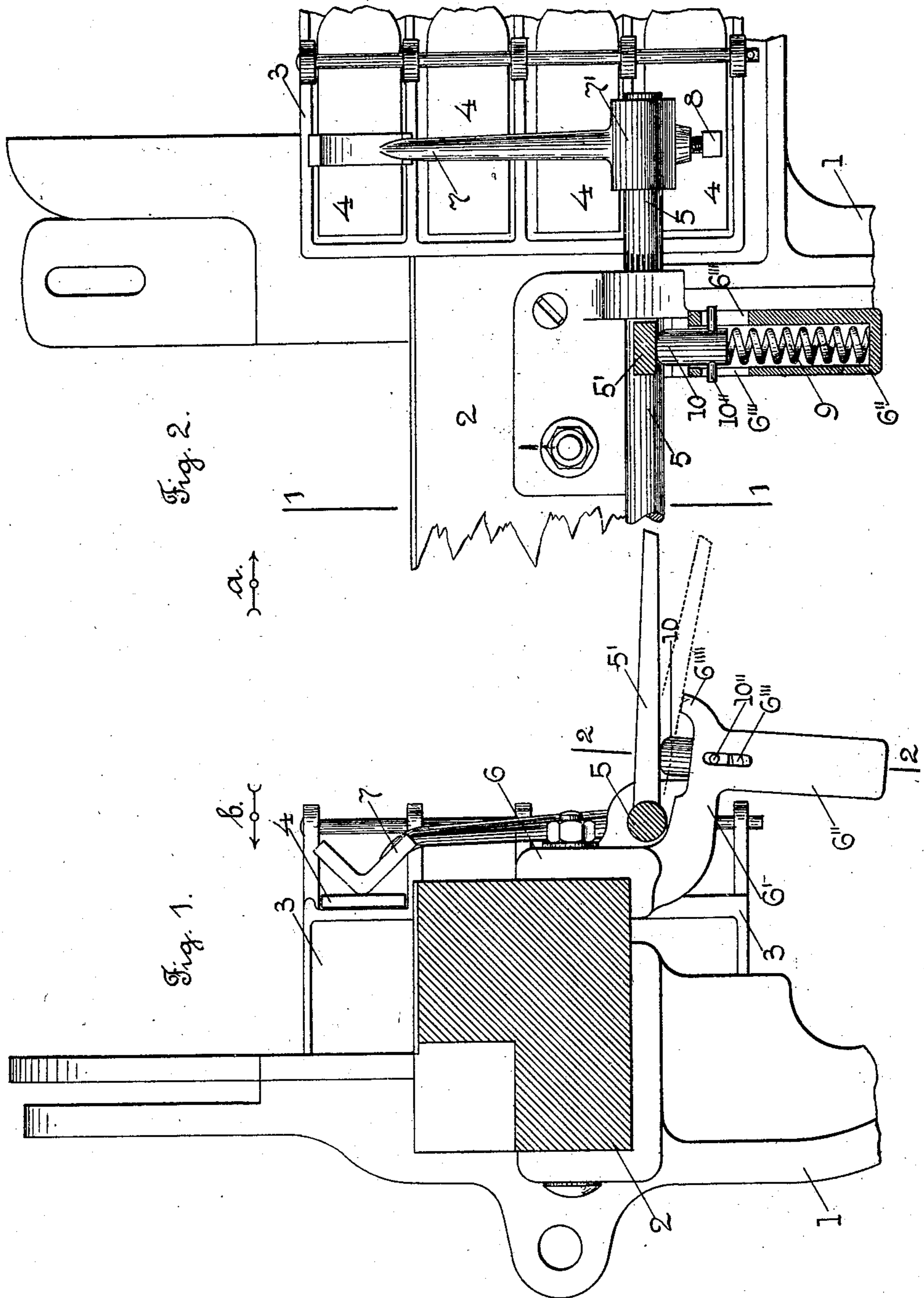


No. 861,642.

PATENTED JULY 30, 1907.

M. DUMONT.
PROTECTOR MECHANISM FOR LOOMS.
APPLICATION FILED FEB. 25, 1905.



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UNITED STATES PATENT OFFICE.

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PROTECTOR MECHANISM FOR LOOMS.

No. 861,642.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed February 25, 1905. Serial No. 247,226.

To all whom it may concern:

Be it known that I, MAURICE DUMONT, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Protector Mechanism for Looms, of which the following is a specification.

My invention relates to improvements in protector mechanism for looms, and more particularly to an improved spring actuating device for moving the protector rod and protector dagger.

The protector rod in a loom is ordinarily located at the front side of the lay, at the lower part thereof, and mounted in suitable bearings to have a rocking motion. On each end of the protector rod is fast a binder finger, adapted to engage the shuttle binder on the shuttle box cell in line with the raceway of the lay. The protector rod also has a protector dagger fast thereon at each end, extending outwardly therefrom in the direction of the breast beam, the free end of which, when the dagger is in its raised position, is adapted to engage the knock-off lever, to automatically stop the loom, as is well understood. In the ordinary construction of the protector rod carrying the binder fingers and the protector daggers, a rocking motion is communicated to said rod, to raise the protector daggers, in case the shuttle fails to box, by a spiral spring encircling said rod, and attached at one end to a stationary part, and at its other end to the rod. This spring is liable to break, necessitating the substitution of a new spring, and is also difficult of access, as it is located directly underneath the warp threads.

The object of my invention is to improve upon the ordinary construction of the spring for rocking the protector rod and raising the protector daggers, above described.

In my improvements, I do away with the spiral spring ordinarily used for rocking the protector rod, and raising the protector daggers, as above stated, and substitute therefor, a spring actuated plug, located directly below each protector dagger, and adapted to engage with its upper end the underside of said dagger, and to raise the same into operative position, when the failure of the shuttle to properly box, allows the binder finger to move inwardly.

I have only shown in the drawing a detached portion of one end of a lay, and a protector rod, with a binder finger and a protector dagger thereon, and my improvements combined therewith, sufficient to enable those skilled in the art to understand the construction thereof.

Referring to the drawing:—Figure 1 is a sectional elevation of one end of the lay, taken at a point indicated by line 1, 1, Fig. 2, looking in the direction of arrow a, same figure. Fig. 2 is a sectional front view of

the parts shown in Fig. 1, taken at a point indicated by line 2, 2, same figure, looking in the direction of arrow b.

In the accompanying drawing, 1 is the upper part of the lay sword, 2 is the lay beam, 3 are the movable shuttle boxes. in this instance four in number, and 4 the shuttle box binders. 5 is the protector rod, journaled in a suitable bearing on a bracket 6 secured to the front of the lay beam. 7 is a binder finger, having a hub 7' secured on the end of the protector rod 5 by a set screw 8. 5' is a protector dagger, secured at its inner end on, or made integral with the protector rod 5. All of the above mentioned parts may be of the ordinary and well known construction.

I will now describe my improvements.

The bracket 6 has in this instance a downwardly extending projection 6' thereon, which, in this instance is made integral therewith, and has the vertically extending projection 6'', having a solid lower end and an open upper end, and two vertically extending openings 6''' therein at its upper part, and also an upward extension 6'''' at its upper end, to engage and limit the downward movement of the dagger 5', (see broken lines, Fig. 1.) Extending within the projection 6'' is a coiled expansion spring 9, the lower end of which bears against the inner end of the projection 6'' and the upper end against the lower end of a plug 10. The plug 10 has in this instance oppositely extending pins 10'' thereon, which extend through the openings 6''' in the part 6'', and form stops to limit the upward and downward motion of the plug 10. The upper end of the plug 10 extends under and is adapted to engage the lower surface of the protector dagger 5', near its attached end.

In the operation of the loom, when a shuttle is properly boxed in the cell in line with the race-way, it forces out the binder 4 and the binder finger 7, and rocks the protector rod 5, and moves downwardly the protector dagger 5', against the action of the spring 9, into the position shown by broken lines in Fig. 1, so that it will be out of the path of the knock-off lever on the forward beat of the lay. When a shuttle is not properly boxed, and the binder 4 is not forced out to move outwardly the binder finger 7 and rock the protector rod 5, the spring 9 acts to move up the plug 10, and raise the protector dagger 5', and rock the shaft 5, and move inwardly the binder finger 7. The free end of the protector dagger 5', in its raised position, will engage the knock-off lever, not shown, on the forward movement of the lay, to stop the loom in the ordinary way.

The advantages of my improvements will be readily appreciated by those skilled in the art. I provide a spring device to act directly on the protector daggers to raise the same, instead of acting on the protector rod as is customary. Said spring device is readily accessi-

ble, and may be readily repaired or replaced, when desired.

It will be understood that the details of construction of my improvements may be varied if desired.

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

1. In a protector mechanism of a loom, the combination
with the protector rod, suitably supported and adapted to
have a rocking motion, and having a binder finger thereon,
10 and a protector dagger thereon, of a stationary bracket
having a vertically extending projection below said dagger,
an expansion spring contained within the lower end of said
projection, and a vertically moving plug within the upper
end of said projection, extending under said dagger, and
15 actuated by said spring to raise said dagger.

2. In a protector mechanism of a loom, the combination
with the protector rod, suitably supported and adapted to
have a rocking motion, and having a binder finger thereon,
and a protector dagger thereon, of a stationary bracket

having a vertically extending projection below said dag- 20
ger, an expansion spring contained within the lower end
of said projection, and a vertically moving plug within the
upper end of said projection, and means for retaining said
plug in said projection.

3. In a protector mechanism of a loom, the combination 25
with the protector rod, suitably supported and adapted to
have a rocking motion, and having a binding finger, and a
protector or dagger thereon, of a stationary bracket, hav-
ing a vertically extending projection below said dagger,
with an upward extension thereon to engage and limit the 30
downward movement of said dagger, and an expansion
spring contained within the lower end of said projection,
and a vertically moving plug in the upper end of said pro-
jection.

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Witnesses:

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