No. 778,453. PATENTED DEC. 27, 1904.

T. HOWARD.

DEVICE FOR STOPPING LOOMS.

APPLICATION FILED FEB. 15, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

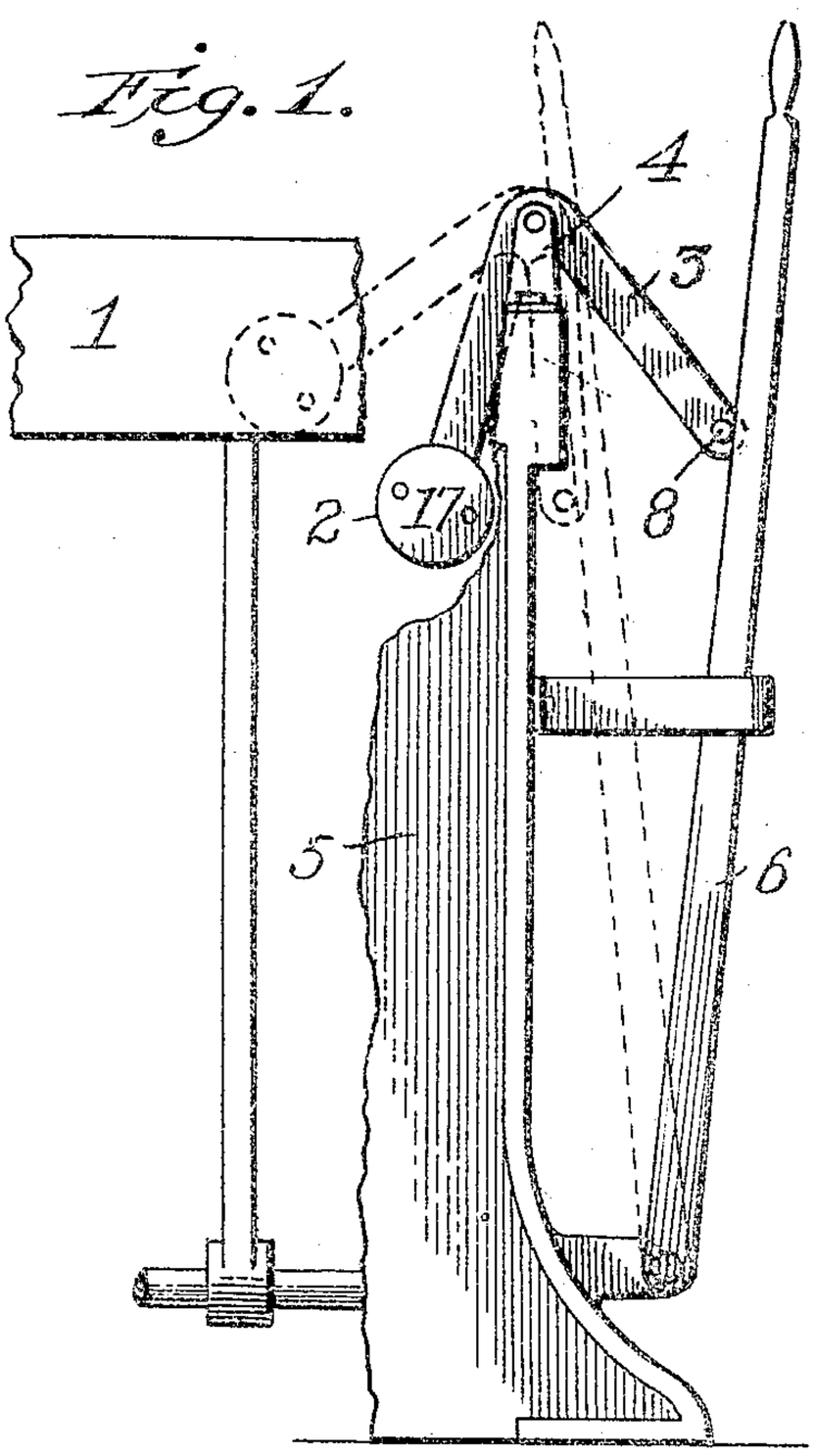
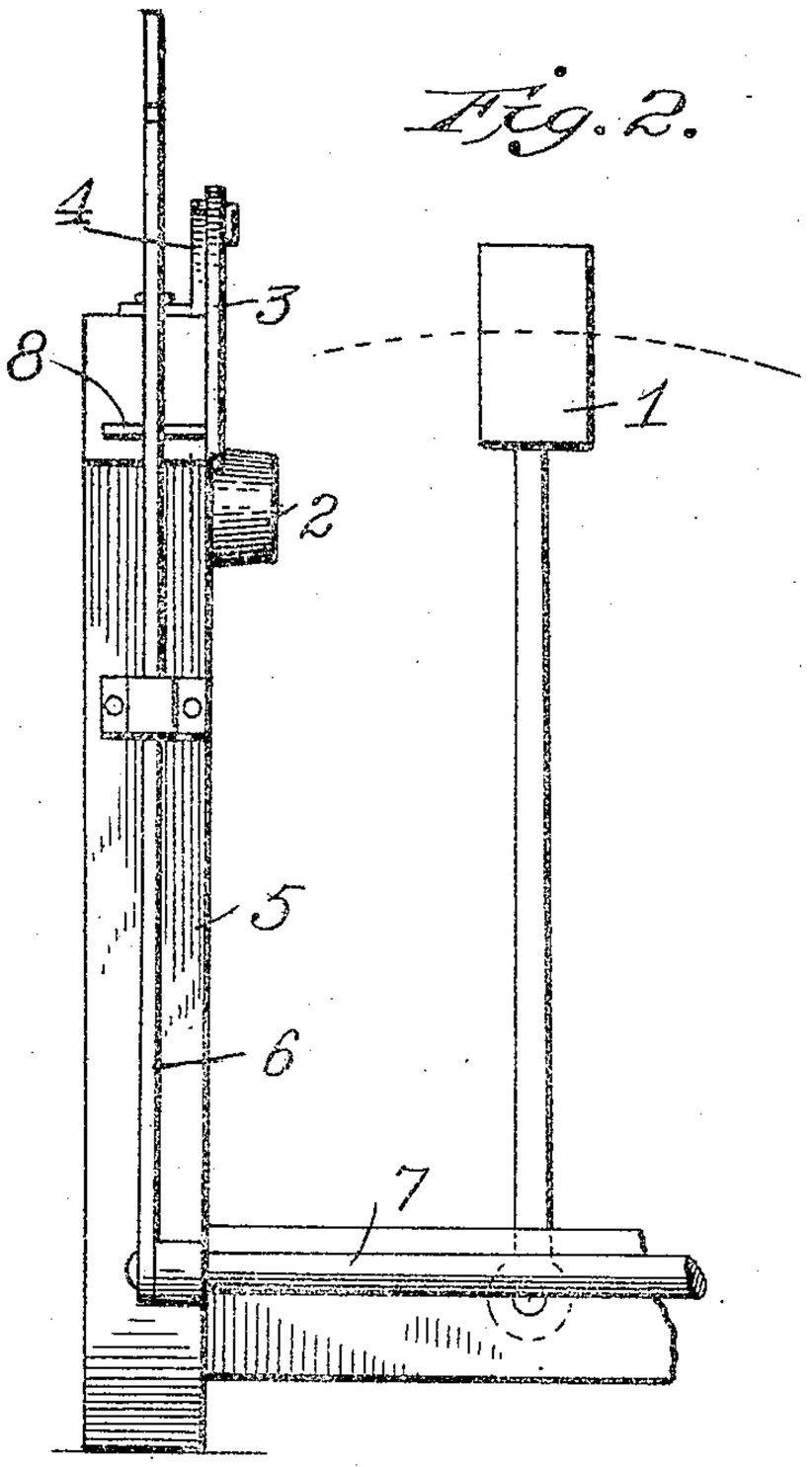


Fig. 2.



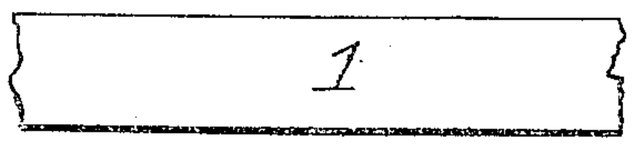
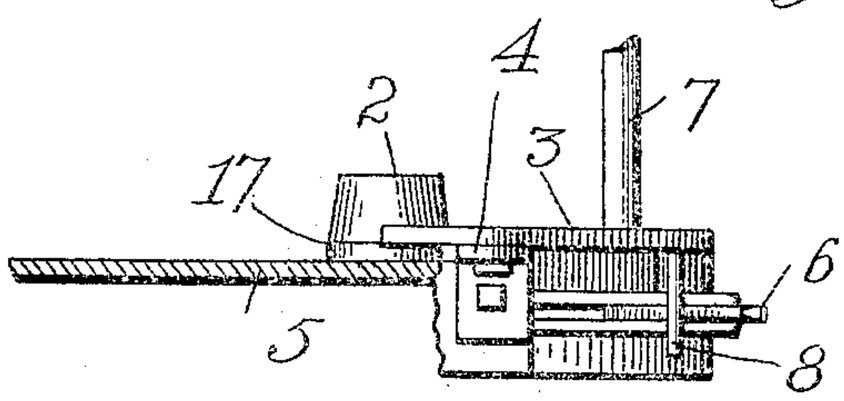


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

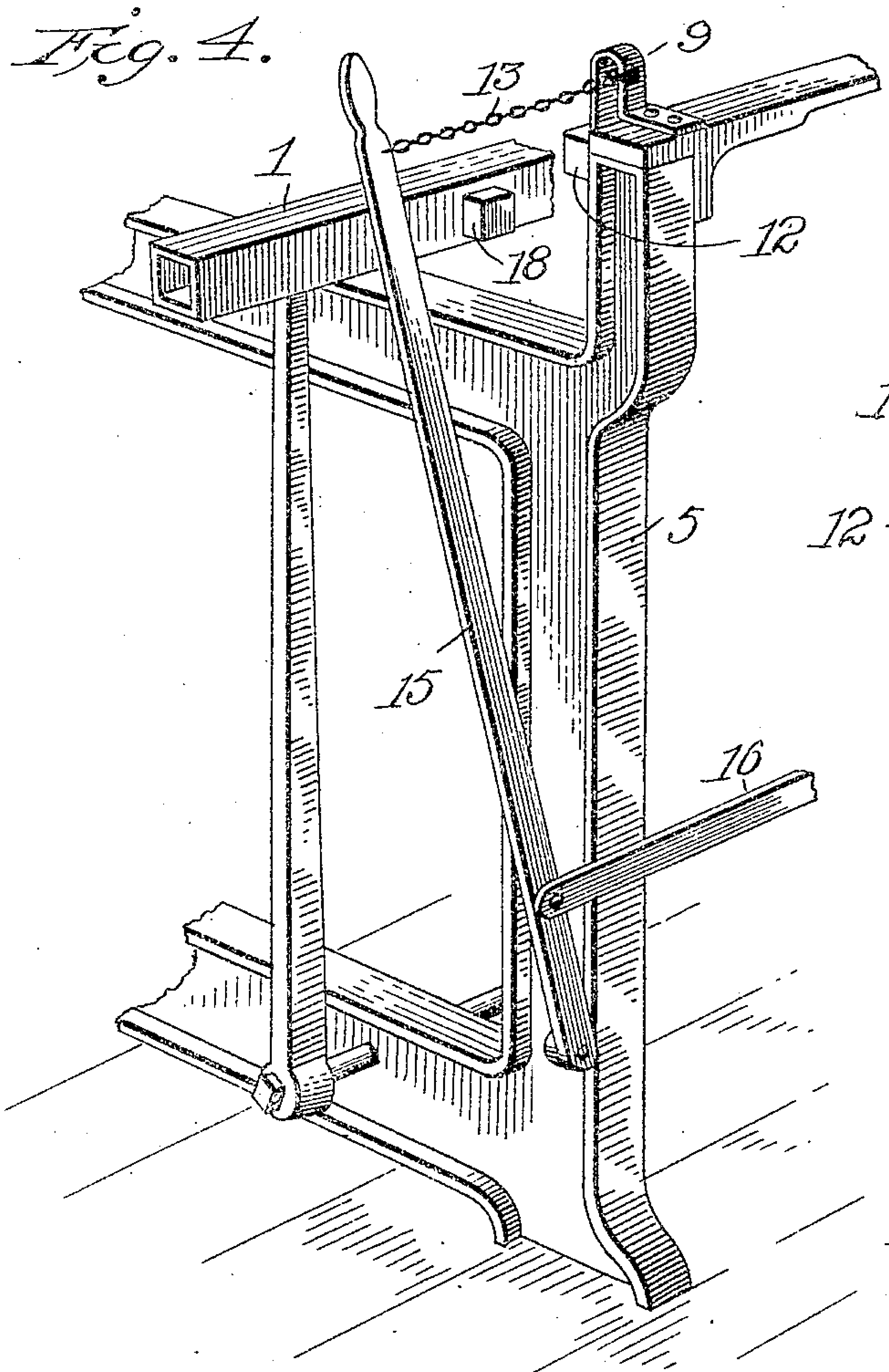
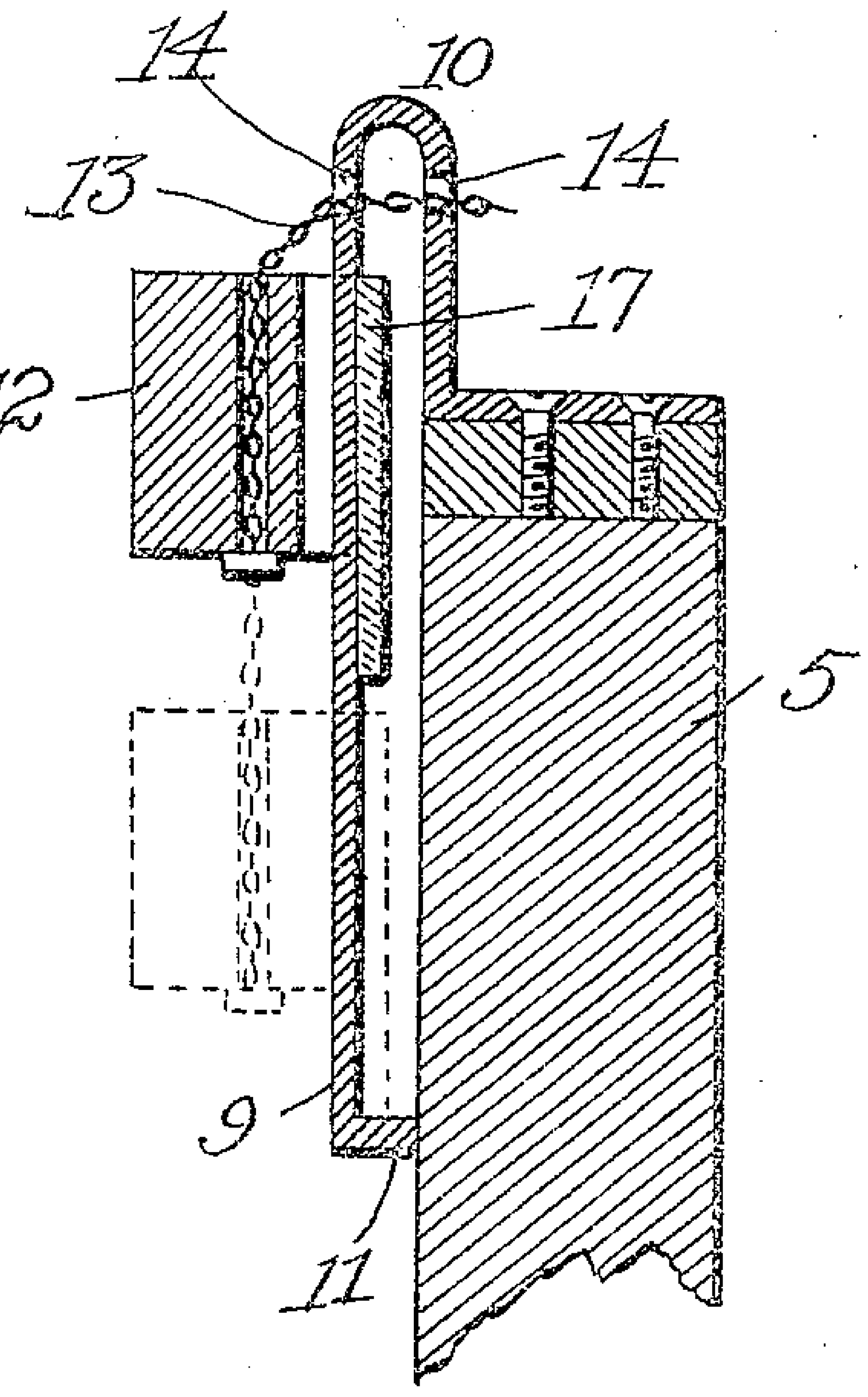


Fig. 5.



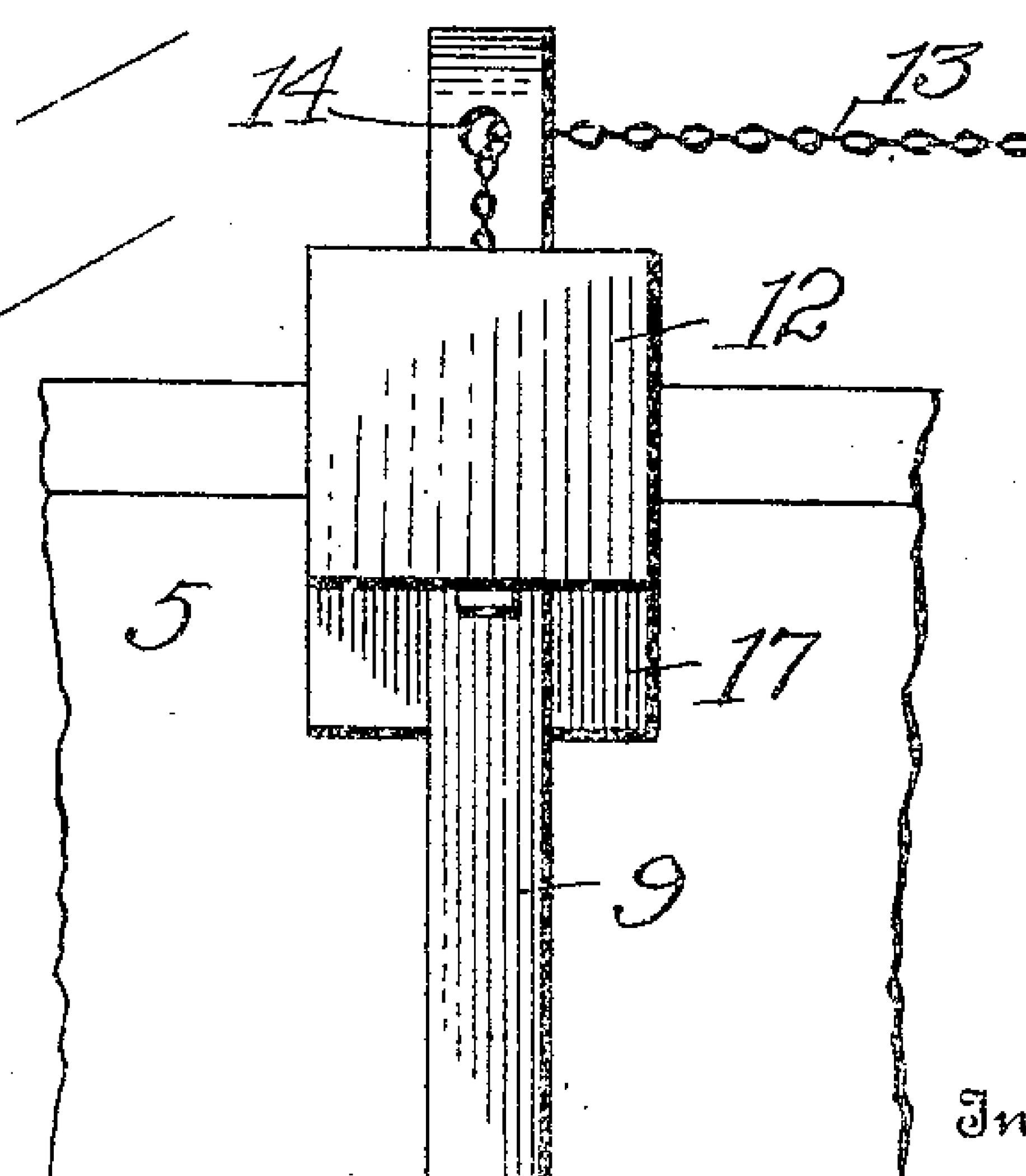


Fig. 6.

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No. 778,453. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

THOMAS HOWARD, OF FALL RIVER, MASSACHUSETTS.

DEVICE FOR STOPPING LOOMS.

SPECIFICATION forming part of Letters Patent No. 778,453, dated December 27, 1904.

Application filed February 15, 1904. Serial No. 193,608.

To all whom it may concern:

Be it known that I, THOMAS HOWARD, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Devices for Stopping Looms, of which the following is a specification.

This invention relates to looms; and its object is to provide means for instantly arresting the movement of the lathe in case a thread breaks. With the stop-motions customarily used the loom tends to operate for a revolution or two by its own momentum after the power is shut off, so that two or three additional picks are made, and it is these additional picks that are destructive to the fabric. Moreover, the shuttle is often left at the end of the lathe opposite to the starting-lever or else somewhere midway the ends of the lathe in a position to injure the weft-forks.

My invention aims to stop the lathe instantly when the power is shut off, either by hand or by the automatic stop-motion, and thereby prevent any injury to the fabric. Furthermore, it stops the loom with the shuttle in the box next to the starting-handle, which is just where the weaver wants it when he starts the loom.

The invention consists of the combination, with a loom and the starting-lever thereof, of a buffer arranged to move in unison with every actuation of the said starting-lever and to be thereby interposed between the lathe and some portion of the loom-frame when the lever is moved to stop the loom.

In the accompanying drawings, Figure 1 is a front elevation of one end of a loom partly broken away and equipped with my invention. Fig. 2 is an end view of the same. Fig. 3 is a top plan view of the same. Fig. 4 is a perspective view of one corner of a loom, showing a modification of my invention. Fig. 5 is a cross-section of the buffer on a larger scale. Fig. 6 is a rear view of the same.

The drawings do not attempt to show the parts in their actual proportions, but merely indicate in a diagrammatic way their relative positions and mode of operation. The movement of the lathe 1 is in the direction of the curved dotted line in Fig. 2. The buffer 2 is a block of suitable material, such as wood. In Figs. 1, 2, and 3 it is shown as supported by a bent lever 3, suitably fulcrumed on the loom, preferably on a standard 4, rising from the frame 5 of the loom. The weight of the buffer is sufficient to keep it normally dropped below the path of the lathe. The starting-lever 6, which is connected by a shaft 7 or otherwise with the usual belt-shifting mechanism of the loom, is arranged to strike a pin 8 on the lever 3 when it is moved to the dotted-line position in Fig. 1 to throw off the belt and stop the loom. In moving to this position it carries with it the lever 3, and thus throws up the buffer into the path of the lathe, as clearly indicated by the dotted lines in Fig. 1.

In the modification shown in Figs. 4, 5, and 6 the buffer is mounted to slide vertically on a stationary rod or bar 9, fastened at its upper end to the frame of the loom and standing at a little distance therefrom, being spaced parallel thereto by its upper curved portion 10 and the projection 11 at its lower end, which abuts against the frame. The buffer 12 has a hole through which the bar passes, said hole being considerably larger than the bar, as shown. The buffer is held in its raised position out of the path of the lathe by a flexible connection, such as a chain 13, secured to the buffer and passing through one or more eyes 14 in the upper portion of the bar. The other end of the chain is fastened to the starting-lever 15, which connects by a link 16 with the belt-shifting mechanism or other power-controlling mechanism. When the lever is thrown over to start the loom, the buffer is raised to the position in which it is shown in full lines; but when the lever is moved inwardly toward the frame of the loom and the power is thereby shut off the buffer is dropped to the dotted-line position into the path of the lathe.

The large hole in the buffer prevents the shock from being sustained by the bar 9, since it permits the buffer to be forced against the frame of the loom when the lathe strikes it.

The buffer is preferably provided in both modifications with a facing 17, of leather or the like, and the lathe is preferably provided

with a cushion 18, of rubber or the like. It is evident that the buffer may be made of rubber or otherwise made resilient, so that the cushion 18 may be dispensed with. This cushioning effect, however produced, is desirable for the purpose of easing the blow and relieving the machine from the shock of too sudden a stoppage.

The operation of my invention is evident from what has been said above, but it may be briefly repeated as follows: Whenever the starting-lever is so moved as to throw off the power either by hand or by the operation of the automatic stop-motion with which looms are usually equipped, the buffer is interposed between the lathe and some portion of the loom-frame. The result is to arrest the movement of the lathe, but with a cushioned effect, so as to avoid breakage. As the lathe is stopped on its first forward movement after the power goes off, the danger of injuring the fabric is reduced to a minimum and the loom is stopped with the shuttle in the box nearest to the weaver.

Having thus described my invention, what I claim is—

1. The combination with a loom and the starting-lever thereof, of a buffer, arranged to move in unison with every actuation of the starting-lever, and to be thereby interposed between the lathe and some portion of the loom-frame when the lever is moved to stop the loom.

2. The combination with a loom, of a lever fulcrumed on the frame thereof, a buffer carried by said lever and adapted to be interposed between the lathe and the loom-frame and a starting-lever engaging directly with the buffer-carrying lever to actuate the same.

3. The combination with a loom, of a bent lever fulcrumed thereon, a buffer carried by said lever and normally out of the path of the lathe, and a starting-lever for the loom, arranged to engage with the bent lever and carry the buffer into the path of the lathe when said starting-lever is moved to stop the loom.

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

THOMAS HOWARD.

Witnesses:
ARBA N. LINCOLN,
EDMUND DOMINGUE.