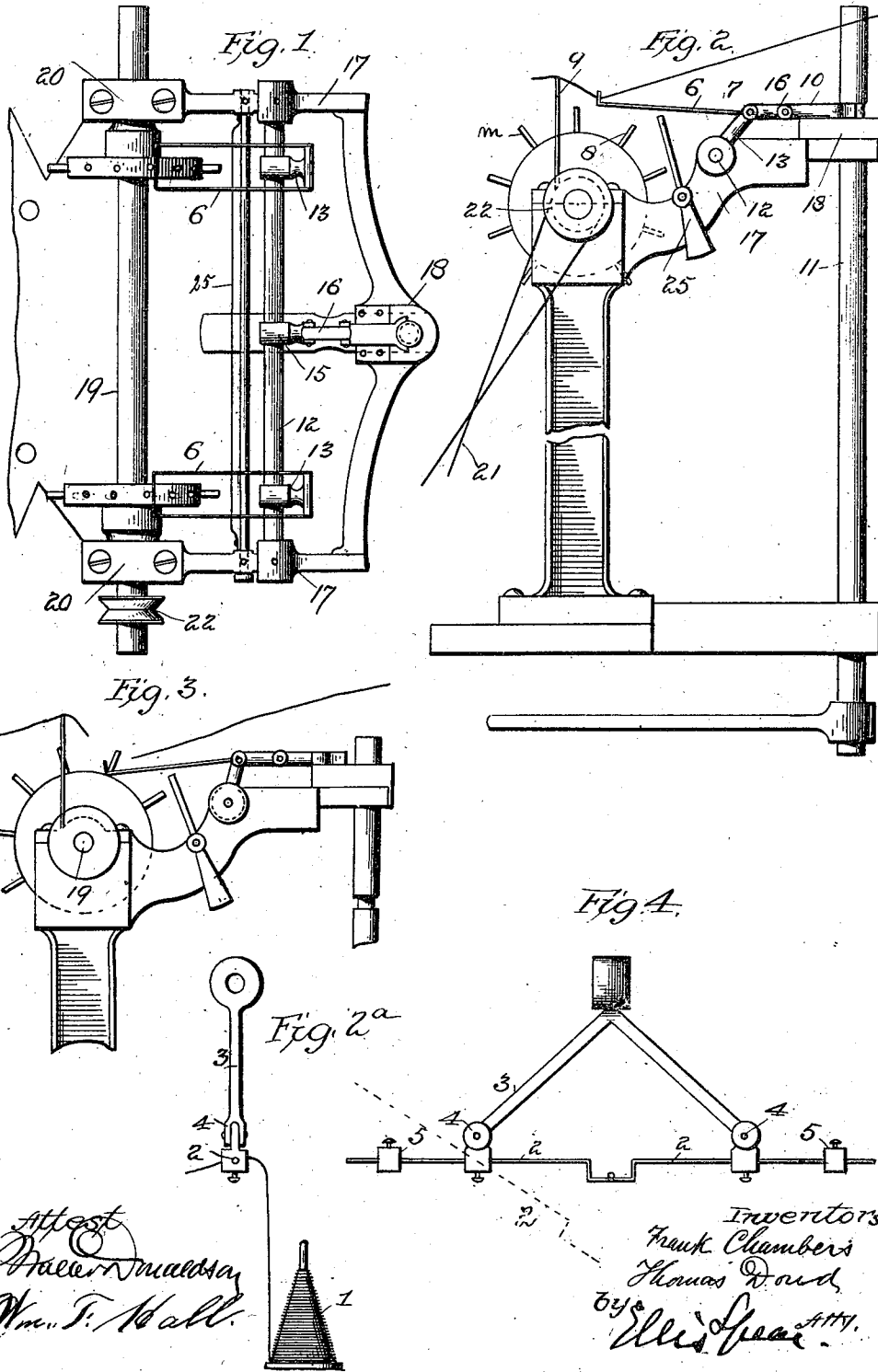


(No Model.)

F. CHAMBERS & T. DOUD.
STOP-OFF MOTION FOR KNITTING MACHINES.

No. 519,690.

Patented May 8, 1894.



UNITED STATES PATENT OFFICE.

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STOP-OFF MOTION FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 519,690, dated May 8, 1894.

Application filed June 8, 1893. Serial No. 477,002. (No model.)

To all whom it may concern:

Be it known that we, FRANK CHAMBERS and THOMAS DOUD, citizens of the United States of America, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Stop-Off Motions for Knitting-Machines, of which the following is a specification.

Our invention is designed to provide a stop off motion adapted for use particularly with circular machines and to receive any number of threads which it may be desired to feed to the machine.

In the drawings:—Figure 1, is a plan view of the device; Fig. 2, a side view. Fig. 2^a is a detached view, of the thread guide levers; Fig. 3, a similar view showing the position of the parts when the thread breaks, and Fig. 4, a detail view of part of the device.

The thread from the bobbin 1 or bobbins passes up and over the overlapping ends of the levers 2, 2, pivoted to the frame 3, at 4, 4, and having counter-balancing weights 5, 5 at their outer ends to balance the pull of the thread on the inner ends of the levers as the thread passes over the same. From these levers the thread passes through the latch or guide 6 pivotally supported at 7 and arranged to fall when released to engage the pins *m* on the revolving pin wheel 8. The latch is held normally up by the thread which passes from the latch through the post or standard 9 but when the thread breaks or is slackened at the latch by its fall or passage between the two overlapping levers the latch falls and engages the pins so that the revolution of the wheel will draw the latch forward and thus withdraw the slide 10 from the notch of vertical rod 11, so that said rod will be released to fall and operate the clutch through any suitable connections. The connection between the latch or guide and the slide consists of the rock shaft 12, having the arm 13 to which the latch is pivoted and the arm 15 at the central part of the rock shaft to which the slide is connected by the link 16. The rock shaft is journaled in a rear extension 17, of the frame and the slide and vertically movable shipper rod are supported by the bracket 18, of the frame. The pin wheel shaft 19, is journaled

in bearings 20 and this shaft is of sufficient length to receive any number of pin wheels according to the number of threads to be fed to the machine and the rock shaft may carry a corresponding number of latches.

We have shown only two pin wheels and latches but it will be understood that any number may be arranged on the shaft. The pin wheel shaft is driven constantly from the machine or from any other source of power through the band 21 and the pulley 22.

Fig. 2, shows the parts in normal working position, the pull of the thread holding up the latch, the thread at this time passing smoothly over the overlapping levers, 2, 2.

Fig. 3, shows the loop as having fallen by reason of breakage of the thread and the slide as having been withdrawn by reason of the engagement of the latch with the pin wheel. The fall of the latch or guide to engage the pin wheel may result also from separation of the levers 2 and the passage or fall of the thread between the overlapping ends of the said levers as shown in dotted lines Fig. 4 and this will take place if there is any obstruction to the thread running off of the bobbin by reason of knots or entanglement, or it may result from the contact of a knot or other obstruction with the levers 2, which as before stated are weighted to just counter-balance the normal pull of the thread. The stop off device may of course be operated by simply pressing with the hand upon the bobbin or restraining in any way the free movement of the thread over the lapped ends of the levers 2. The passage of the thread between said levers creates sufficient slackness at the latch to allow it to fall and engage the pin wheel. A releasing lever 25, is pivoted to the frame for freeing the latches from engagement with the pin wheel.

We claim—

1. In combination, the shaft 19, the series of pin wheels thereon, the rock shaft 12—the series of pivoted latches carried thereby, the shipper rod, the slide for holding the same up, the connection between said slide and the rock shaft, and the releasing lever 25—arranged to engage the pivoted latches, substantially as described.

2. In combination, the pin wheels, the series of pivoted latches, the releasing slide connected therewith to be operated when the thread fails, and the two weighted levers pivotally supported and extending toward each other with their free ends together, said levers acting to guide the series of threads, substantially as described.

3. In combination, the shipper connections, the guide for the thread with means for con-

trolling said connections and the weighted overlapping levers over which the thread passes to the guide, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK CHAMBERS.
THOMAS DOUD.

Witnesses:

GEORGE THREGALL,
HIBBARD HOWELL.