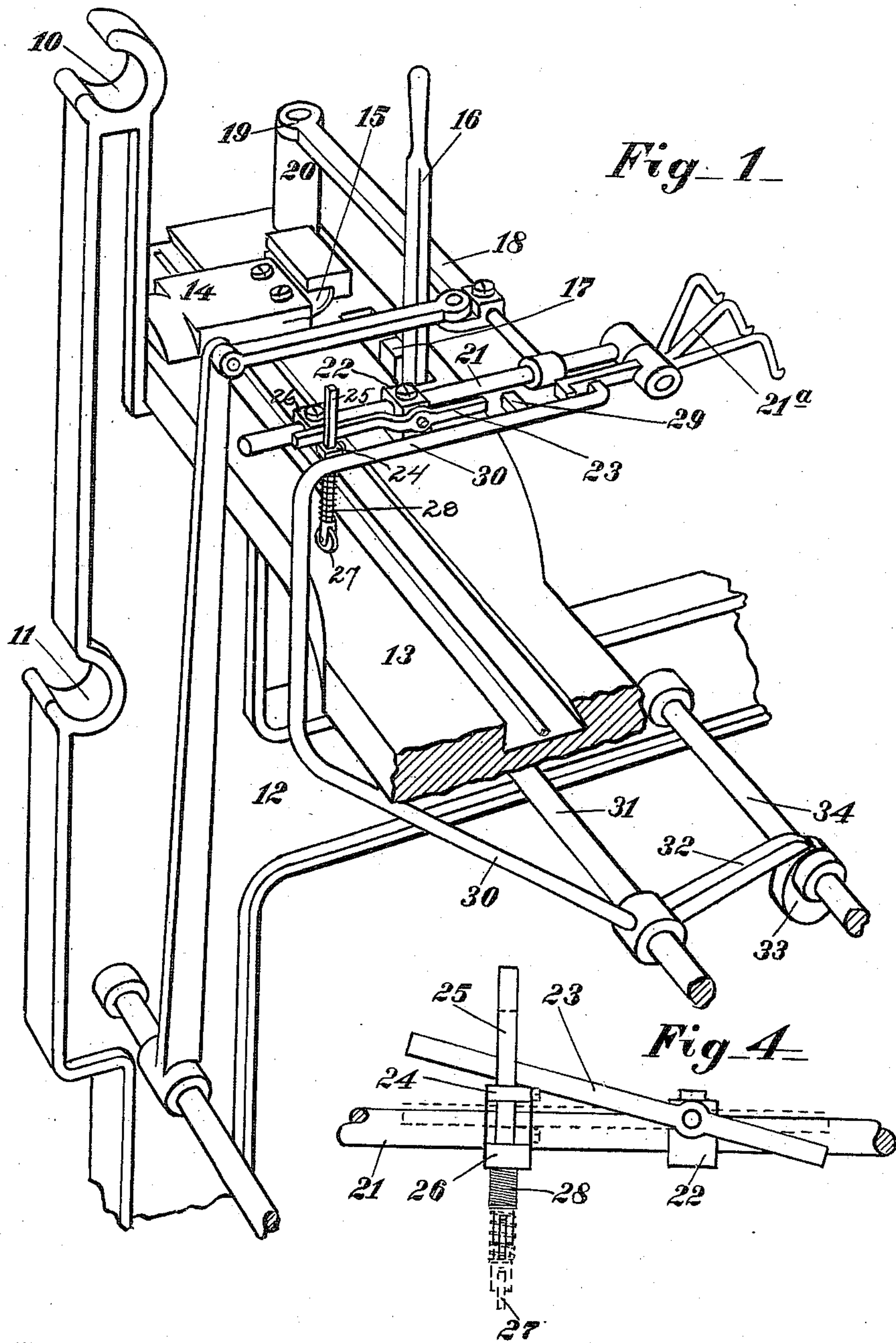


J. B. DERFINAK.
STOP MOTION FOR VELVET LOOMS.
APPLICATION FILED JULY 5, 1910.

983,030.

Patented Jan. 31, 1911.

3 SHEETS—SHEET 1.



WITNESSES:
Frank C. Palmer
Madeline D. Ritchie.

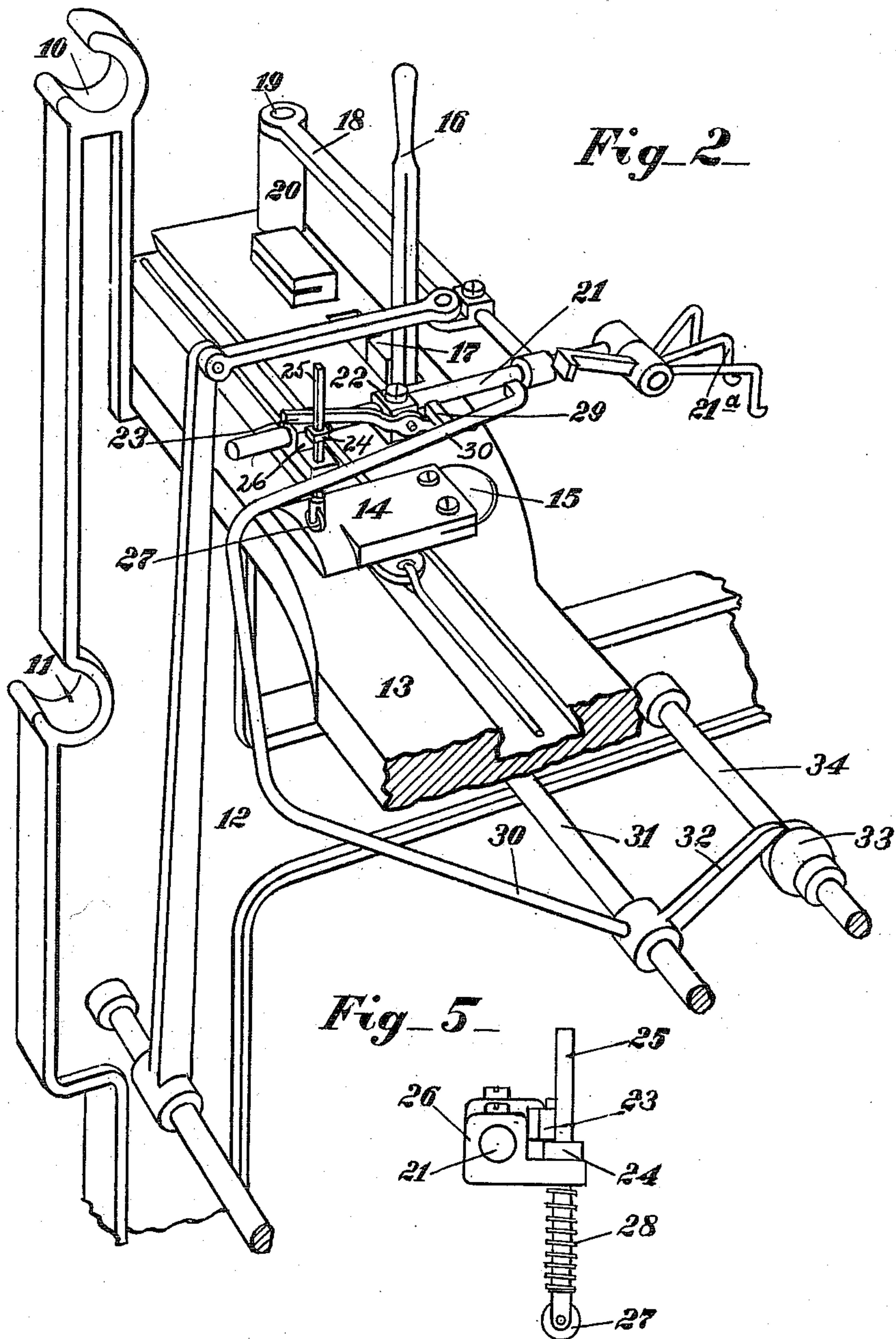
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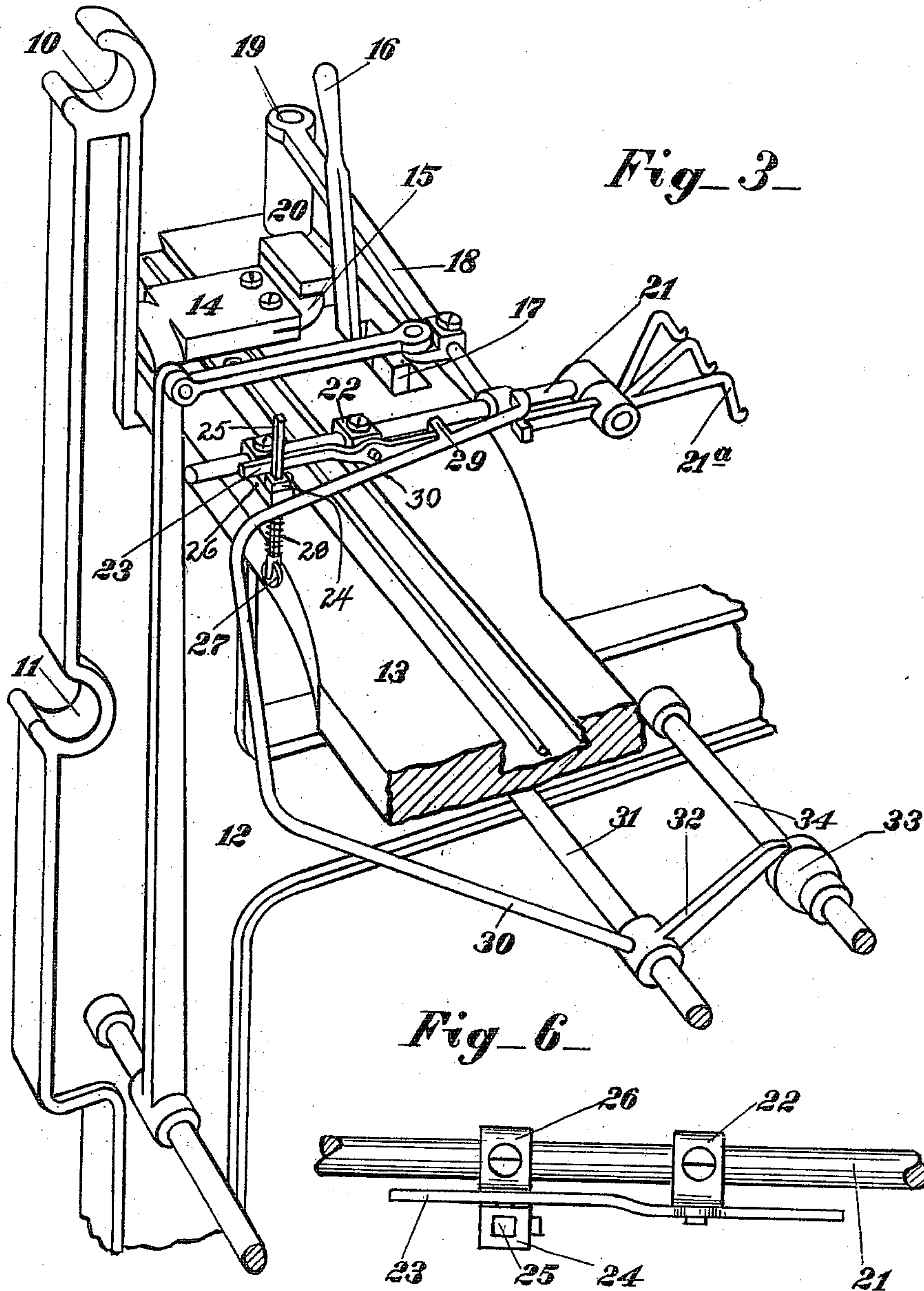
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JOSEPH B. DERFINAK, OF MYSTIC, CONNECTICUT.

STOP-MOTION FOR VELVET-LOOMS.

983,030.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed July 5, 1910. Serial No. 570,294.

To all whom it may concern:

Be it known that I, JOSEPH B. DERFINAK, a citizen of the United States, residing at Mystic, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Stop-Motions for Velvet-Looms, of which the following is a specification.

This invention relates to the class of looms used in weaving velvet, and the like double pile fabrics, in which a reciprocating knife is used to cut the pile and thus separate the two face fabrics; my present purpose being to provide simple but effective mechanism for automatically stopping the loom in the event that the said knife fails to operate with regularity.

In the annexed drawings I have illustrated only those portions of a loom that are immediately connected with newly invented stop-motion, Figures 1, 2 and 3 being perspective views of that end portion of a velvet loom adjacent to the belt-shipper rod and including also the "filling" stop-motion. Figs. 4, 5, and 6 show, (detached) side, end and top views of the special mechanism which I have provided for coöperation with the knife and belt-shipping devices.

Referring to these drawings the numeral 10 indicates a bearing for one end of the upper take-up roll on which one web of the slit fabric is wound and the reference numeral 11 indicates the bearing for one end of the lower take-up roll upon which the other web of the split fabric is to be wound.

12 denotes a portion of one of the end frames of the loom and 13 the bed (connecting the end frames), in which is mounted to travel forth and back, across the loom, a carriage 14 bearing a knife 15 whose edge is so located that it cuts the pile or filling that connects the two face fabrics, as fast as the fabric is woven, and fed forward to the said knife, thus separating the compound fabric into two independent webs.

The belt-shipper lever is identified by the numeral 16 and is located in an opening in the bed 13, said lever being blocked, and retained in its operative position, by a projection 17. When the lever 16 is moved from the position shown in Fig. 1 to the position shown in Fig. 3, the belt is shifted from the fast (or driving) pulley to the loose pulley, by means of mechanism common to this class of looms, and the loom stops. Immediately at the rear of the lever

16 is an arm 18 that is hinged at 19 to a post 20, said arm being adapted to move in a horizontal plane sufficiently to move the lever 16 out of its position behind the projection 17. Secured to the otherwise free end of arm 18 is a horizontal rod 21 to which is fulcrumed the fork 21^a which co-operates with the filling threads and forms an important element of the filling stop-motion. This fork forms no necessary part of my present improvement but I have however utilized the front end portion of the rod 21 as a support for my said improvement, as I will now describe. Secured to said rod 21 is a block 22 to which is fulcrumed a lever 23 whose front end portion rests upon a shoulder 24 formed on, or rigidly secured to, a stem or rod 25 that is mounted to slide vertically in a block 26 secured to the rod 21. The rod 25 has an idle roll 27 pivoted in its lower end and said rod is retained, yieldingly, in its lowest position by a spiral spring 28, as will perhaps be best understood by reference to Figs. 4 and 5 of the drawings. The roll 27, when in its lowest position, lies in the path of the knife carriage 14 and so that each passage of the said carriage across the loom will operate to push the rod 25 upward and to correspondingly rock the lever 23 (see Fig. 2), thus moving the rear end portion of said lever 23 out of the path of a projection or block 29 which is carried by a constantly reciprocating arm 30. Arm 30 is secured to a rocker shaft 31 which has an arm 32 bearing upon a cam 33 on shaft 34, the described construction being such that each revolution of cam 33 will impart a rocking movement to shaft 31 and will move the free end portion of arm 30 with a forward and backward reciprocating movement.

Under normal conditions, that is to say, when the knife carriage performs its designed function, the rod 25 will be raised by said carriage and the lever 23 will be moved out of operative relation to the reciprocating block 29 and the loom will continue to run without hindrance but, in the event that the knife carriage fails to make its intended, and complete, movement across the loom, the roll 27 and rod 25 will remain, in their lowermost positions, and the lever 23 will be left in the path of the block 29, which latter will then abut the end of said lever and move it, and the connected parts 21 and 18 sufficiently to push the shipper lever 16 out from

behind the projection 17, thus allowing the belt to be shifted to stop the loom.

It will thus be seen that, by the use of the few, simple and inexpensive elements which I have described, consisting essentially of the vertically movable rod 25, lever-arm 23 and block 29, I am able to provide means for automatically stopping looms of this class whenever the knife fails to perform its intended function.

Having thus described my invention I claim as new and wish to secure by Letters Patent:—

1. The combination with a belt-shipper rod, a reciprocating knife-carriage, a horizontal, movable arm hinged at one end and adapted to be brought into contact with said shipper-rod to release the same, a horizontal rod secured to the other end of said arm, a lever operatively associated and movable with said horizontal rod, a reciprocating member carrying a projection, one end of said lever being in the path of movement of said projection, and mechanism carried by said horizontal rod and operatively associated with said lever and engaged by said carriage at the end of its normal travel to move said lever out of the path of movement of said projection; said lever, upon incomplete travel of said carriage, being engaged by said projection to move said horizontal rod and connected arm and release said shipper-rod.

2. The combination with a belt-shipper rod, a reciprocating knife-carriage, a horizontal, movable arm hinged at one end and adapted to be brought into contact with said shipper-rod to release the same, a horizontal rod secured to the other end of said arm, a lever operatively associated and movable with said horizontal rod, said lever being in the path of movement of said projection,

and mechanism carried by said horizontal rod and operatively associated with said lever and engaged by said carriage at the end of its normal travel to move said lever out of the path of movement of said projection, said mechanism including a vertical, reciprocatory stem disposed in the path of movement of and engageable by said carriage; said lever, upon incomplete travel of said carriage, being engaged by said projection to move said horizontal rod and connected arm and release said shipper-rod.

3. The combination with a belt-shipper rod, a reciprocating knife-carriage, a horizontal, movable arm hinged at one end and adapted to be brought into contact with said shipper-rod to release the same, a horizontal rod secured to the other end of said arm, a lever operatively associated and movable with said horizontal rod, a reciprocating member carrying a projection, one end of said lever being in the path of movement of said projection, and mechanism carried by said horizontal rod and operatively associated with said lever and engaged by said carriage at the end of its normal travel to move said lever out of the path of movement of said projection, said mechanism including a vertical, reciprocatory stem disposed in the path of movement of and engageable by said carriage, and a coiled spring operatively associated with said stem for maintaining the same in its lowermost position; said lever, upon incomplete travel of said carriage, being engaged by said projection to move said horizontal rod and connected arm and release said shipper-rod.

JOSEPH B. DERFINAK.

Witnesses:

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