Oct. 4, 1949. J. C. PARKER 2,483,840

MEANS FOR ILLUMINATING LOOM PARTS

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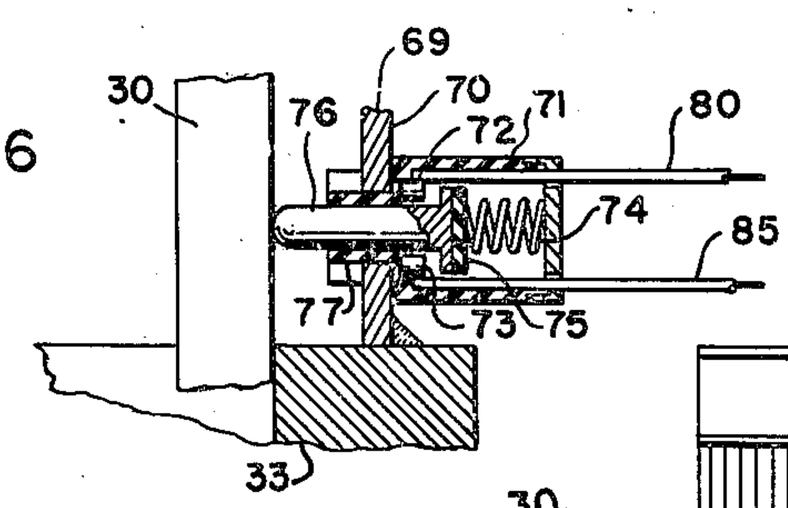
FIG-6



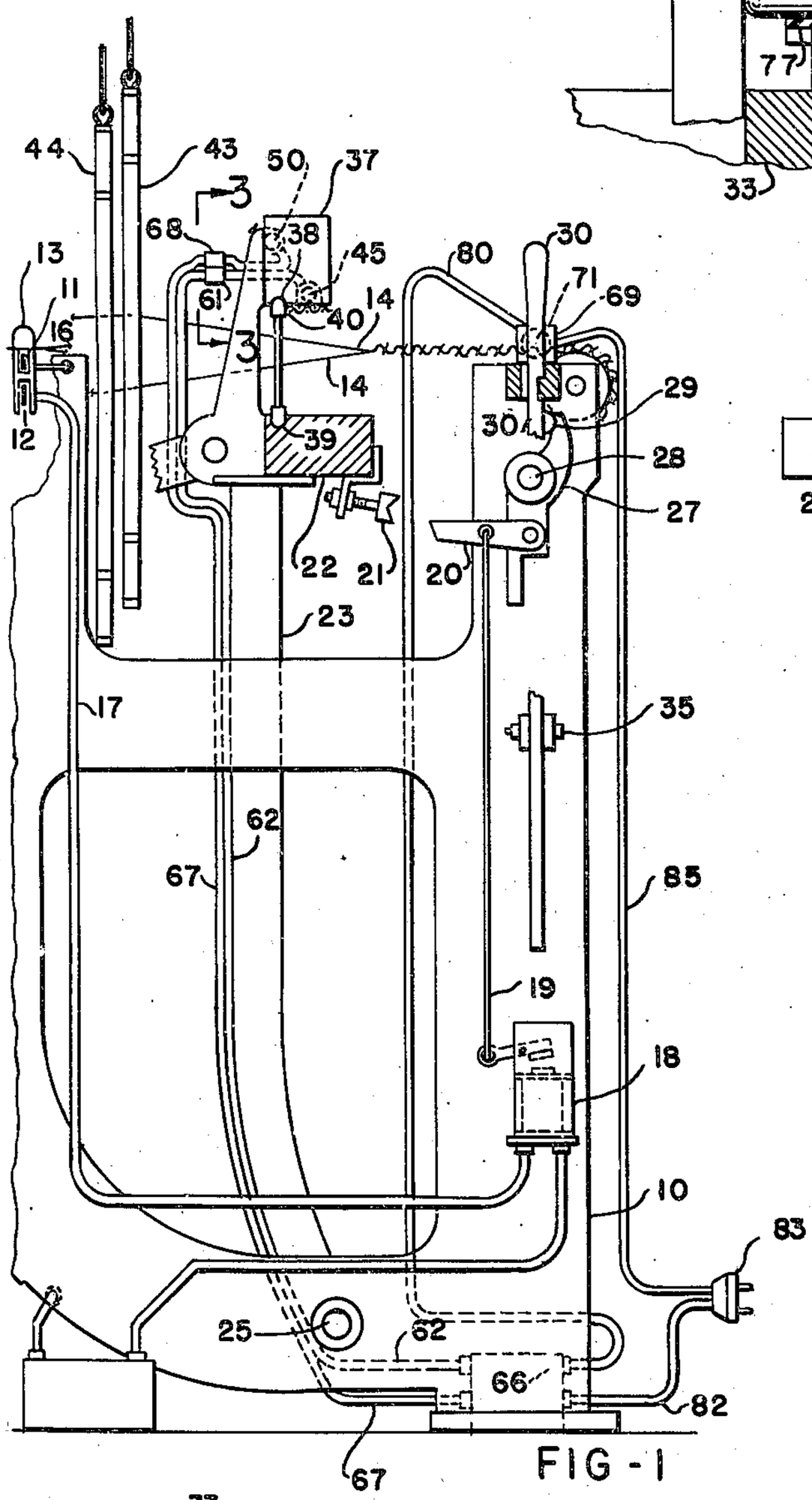


FIG-1

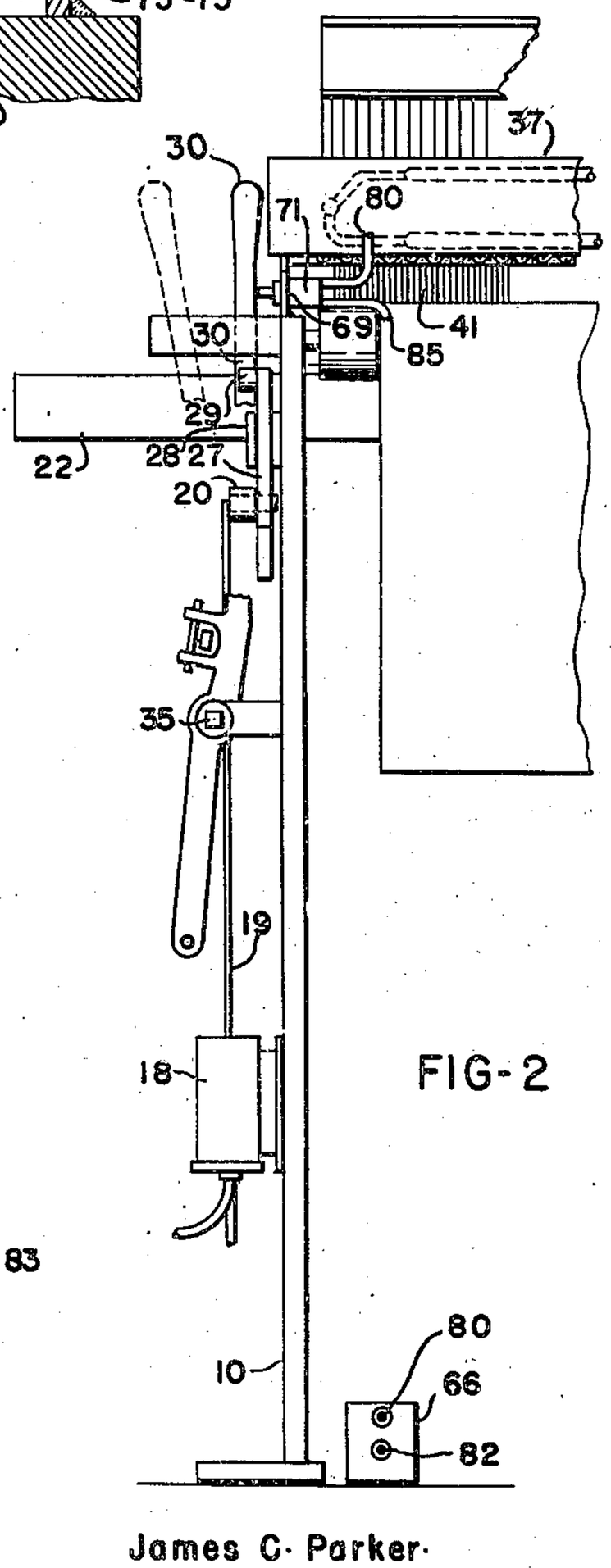


FIG-2

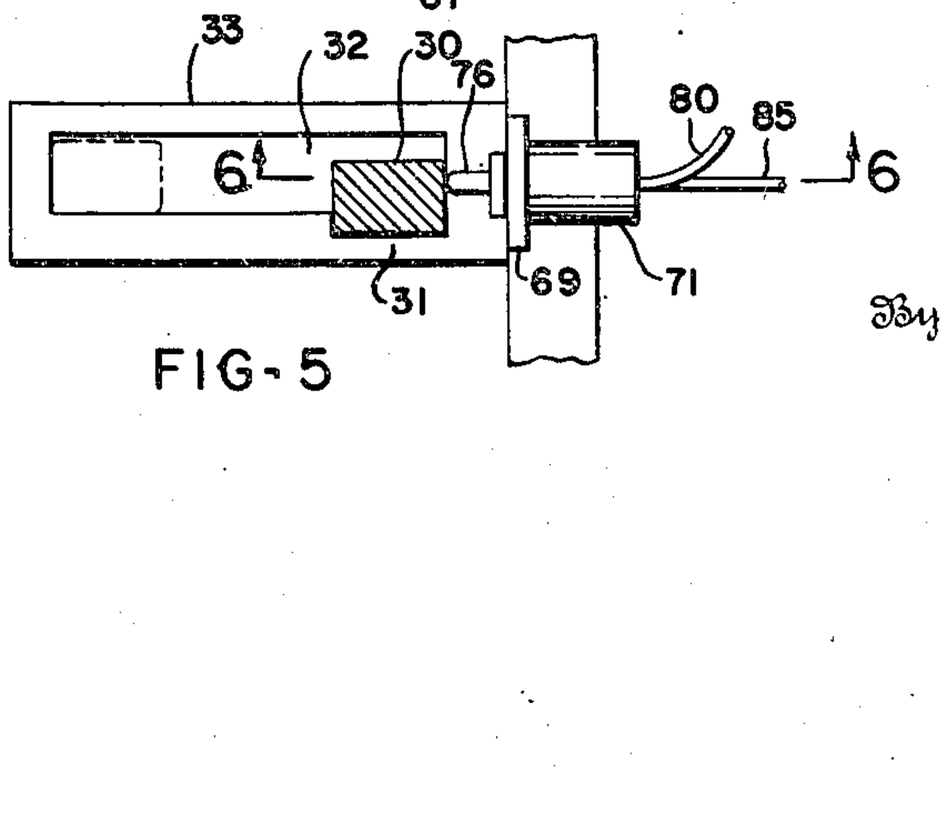


FIG-5

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MEANS FOR ILLUMINATING LOOM PARTS

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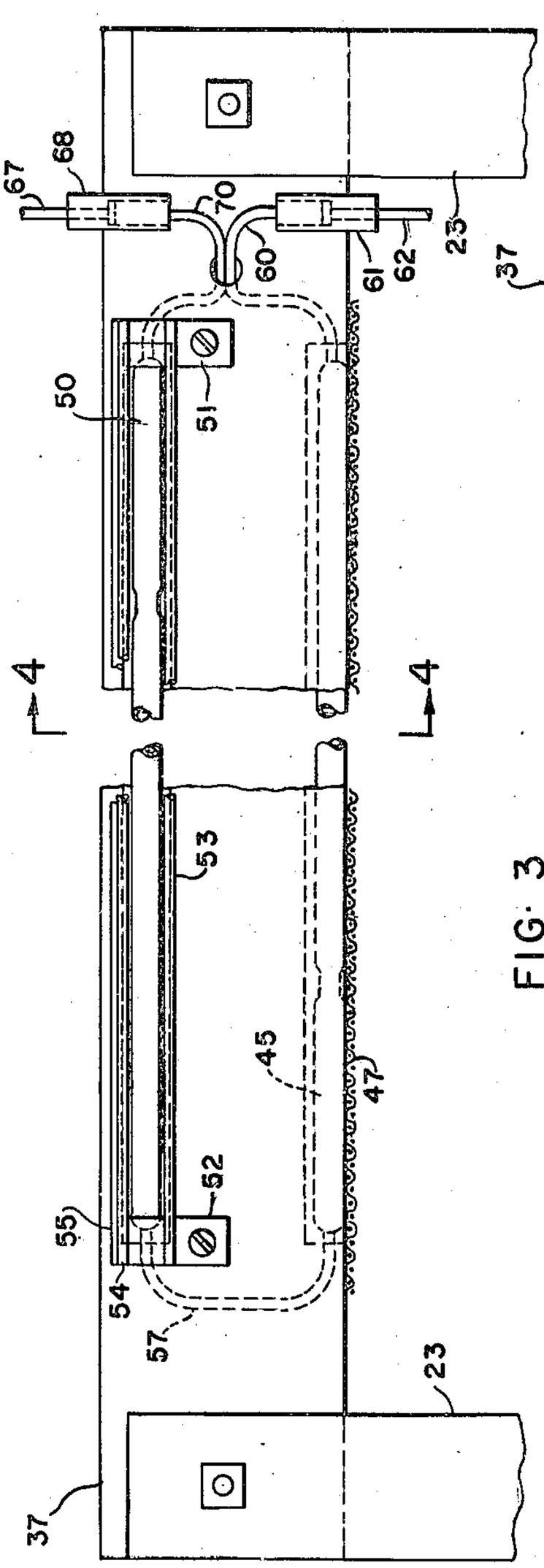

FIG. 3

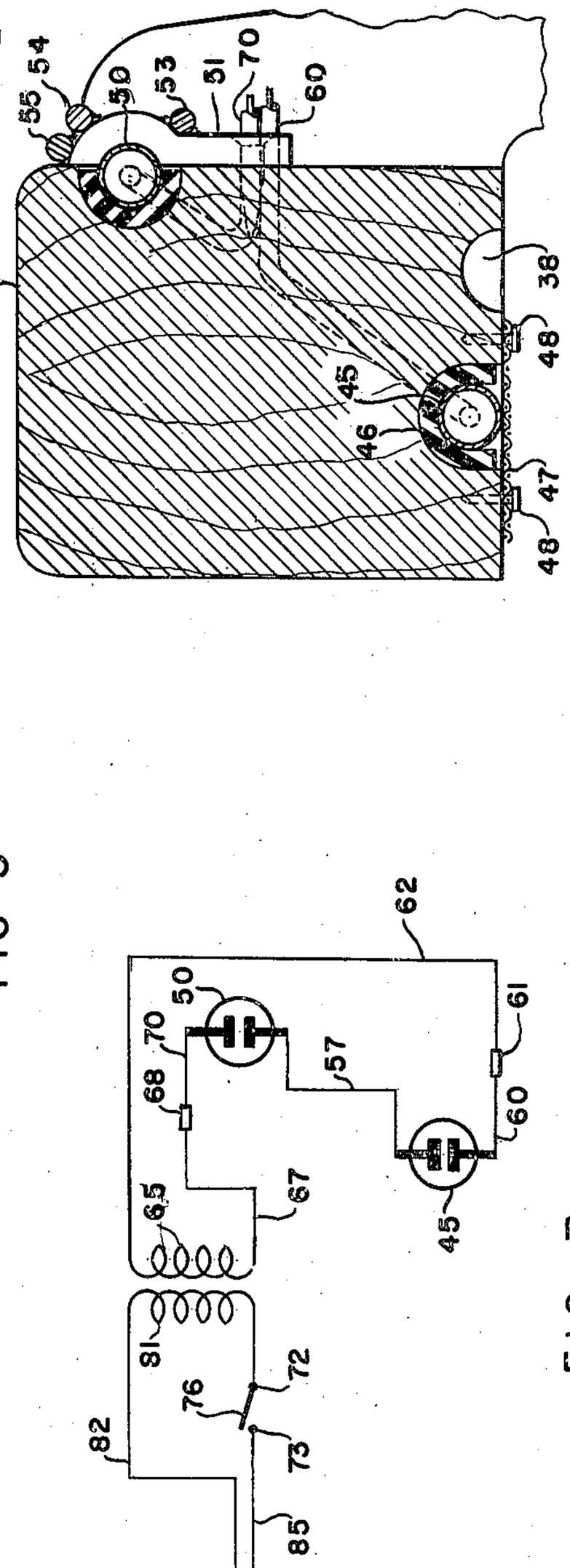

FIG. 4

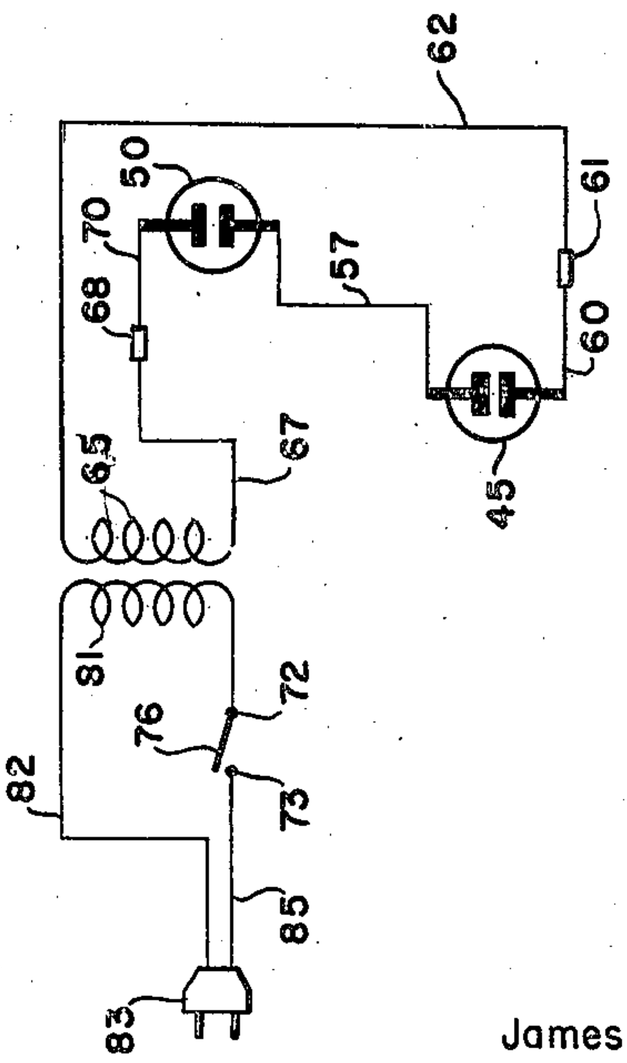

FIG. 7

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MEANS FOR ILLUMINATING LOOM PARTS

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9 Claims. (Cl. 139—1)

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This invention relates to a loom and more especially to means for illuminating the reed in a loom and also the harness frames containing the heddles, when the loom stops.

It is a well known fact in weaving mills that, although there might be what is considered a good system of lighting, usually the source of illumination is so far away from the loom reeds and the lay cap in addition casts its shadow over the reed that it is difficult to rethread the reed by passing open warp ends through the dents in the loom reed. In the weaving of very fine quality of cloth, the splits in the loom reed which form the dents or spaces therebetween are very fine and only a few thousandths of an inch thick, and the space between the splits which is called the dents is only a few thousandths of an inch wide. It is quite a strain upon the eyes and requires very good eyesight to pass the warp threads through the reed on account of a lack of sufficient illumination. With my invention the reed is automatically illuminated when the loom stops also, if desired, the harness frames are automatically illuminated so that the heddle eyes also are plainly visible to an operator in passing broken warp ends through the heddle eyes and also through the loom reeds.

It is, therefore, an object of this invention to provide a source of illumination for illuminating the loom reed and also the harness frames, if desired, upon stoppage of the loom so that the warp threads can be easily rethreaded through the reed or through the heddles in the harness winds.

It is another object of this invention to provide a source of illumination for a loom reed and means automatically operable upon stoppage of the loom for energizing the source of illumination to illuminate the loom reed and also the harness frame adjacent to the reed.

Some of the objects of this invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings in which:

Figure 1 is an elevation of a portion of one end of the loom, showing parts in section and parts broken away;

Figure 2 is an elevation looking from the right hand side of Figure 1;

Figure 3 is an elevation of one side of the lay of the loom taken along the line 3—3 in Figure 1 with the center portion thereof broken away and showing my invention applied thereto;

Figure 4 is a transverse sectional view taken along the line 4—4 in Figure 3;

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Figure 5 is a top plan view, with the shipper lever in section, of the guide for the shipper lever;

Figure 6 is a vertical sectional view taken along the line 6—6 in Figure 5;

Figure 7 is the wiring diagram of the illuminating means.

Referring more specifically to the drawings, the numeral 10 indicates one of the side frame members of a loom, said loom having a warp stop mechanism comprising a top conducting bar 11 and a bottom conducting bar 12 with a plurality of drop members 13 thereon through which the warp threads 14 of the warp passes. This warp stop motion has its upper bar 11 grounded to the loom frame as at 16 and its bottom bar 12 is connected by a wire 17 to a solenoid 18 which, when energized, raises a link 19 to raise a dagger 20 up to where it will be engaged by a bunter 21 disposed on a lay 22 of the loom.

The lay 22 of the loom is mounted on suitable swords 23 which oscillate on a rocker shaft 25 mounted in the side frames of the loom. The dagger 20 is pivotally mounted on a lever 27 pivoted as at 28 and has a projection 29 adapted to engage the upper end of the shipper lever 30 to knock it out of the holding notch 31 to allow it to slide along a slot 32 in a bracket 33 to the dotted line position in Figure 5 when the bunter 21 engages the dagger 20. This shipper lever 30 is of various forms but in the drawings it is shown as being pivoted as at 35.

The lay cap 37 is secured on the upper ends of the swords 23 and this lay cap has a cavity 38 in its lower face and the lay 22 has a cavity 39 in its upper face which is adapted to receive an elongated loom reed 40 having a plurality of splits 41 therein forming dents between which the warp threads 14 pass. These warp threads also pass through suitable heddles, not shown, in harness frames 43 and 44, manipulated in a conventional manner by the loom mechanism. This mechanism thus far is conventional and it is in association with this mechanism that my invention is adapted to operate.

In the lower surface of the lay cap 37, I mount a luminescent tube 45 in any suitable manner, such as by placing first a rubber sheet 46 therein and then mount the luminescent tube 45 therein, and I provide a piece of screen wire 47 covering the same, and secured in position by any suitable means such as screws 48, for protecting the same.

In one side of the lay next to the harness frames 43 and 44 are also mounted a luminescent

tube 50 in any suitable manner such as by means of brackets 51 and 52. These brackets have welded thereto suitable rods 53, 54 and 55 for protecting the tube against blows and for shading eyes of the operator in manipulating the loom and in rethreading the reed 40 at the harness frames 43 and 44. One end of the tubes 50 and 45 are connected by a suitable wire 57. From the end of tube 45 there leads a wire 60 through a suitable connecter 61 and from the connecter 61 I lead a wire 62 downwardly and properly supported by one of the swords 23 to one side of a coil 65 in a transformer 66. From the other side of coil 65 I lead a wire 67 to another connecter 68 and from connecter 68 a wire 70 is led to the other end of tube 50 to complete the circuit.

On top of the frame of the loom I weld a bracket 69 which supports a suitable switch housing 71 having fixed contacts 72 and 73 therein. This housing has a compression spring 74 pressing against an insulating block 75 on the end of a plunger 76 which penetrates an insulation sleeve 77 which, in turn, penetrates bracket 70. The outer end of plunger 76 is adapted to be engaged by the shipper lever 30 to hold the head of plunger 76 away from the contacts 72 and 73. From the contact 72 I lead a wire 80 out to one side of the primary coil 81 in the transformer 66 and from the other side of the primary coil 81 I lead a wire 82 to a suitable plug-in socket 83 which is adapted to be plugged into a source of ordinary 110 volt alternating current. From the other side of the plug 83 I lead a wire 85 to the contact 73 in the switch housing 71 to thus complete the circuit. The two luminescent tubes may be of any suitable type of glow discharge tube, such as neon, fluorescent, or filament type.

In the drawings and specification there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. In a loom having a lay and a reed cap carried thereby for holding a reed and having a plurality of harness frames through which the warp passes after passing through the reed, said loom having a shipper lever held in one position when the loom is in operation and having stop motion means controlling the same for moving the shipper lever to off position to stop the loom, a source of illumination carried by the reed cap of the loom for illuminating the reed, a circuit leading to the source of illumination, a switch in said circuit disposed in close proximity to the shipper lever, the shipper lever in operating position holding the switch in open position, moving of the shipper lever by the stop motion means to stop the loom serving to disengage the shipper lever from the switch to close the circuit to the source of illumination to thereby illuminate the loom reed when the loom is stopped.

2. In a loom having a lay and a reed cap carried thereby for holding a reed and having a plurality of harness frames through which the warp passes after passing through the reed, said loom having a shipper lever held in one position when the loom is in operation and having stop motion means controlling the same for moving the shipper lever to off position to stop the loom, a source of illumination carried by the reed cap of the loom for illuminating the reed, a circuit leading to the source of illumination, a switch in said

circuit disposed in close proximity to the shipper lever, the shipper lever in operating position holding the switch in open position, moving of the shipper lever by stop motion means to stop the loom serving to disengage the shipper lever from the switch to close the circuit to the source of illumination to thereby illuminate the loom reed when the loom is stopped, and a second source of illumination mounted on the lay and adapted to cast its rays of light onto the harness frames, said second source of illumination being connected in series in said circuit with the first source of illumination so that upon stoppage of the loom both sources of illumination will be illuminated thereby illuminating both the reed cap and the harness frame of the loom.

3. In a loom having a lay and a reed, a source of illumination carried by the lay and disposed at a higher elevation than the reed for illuminating the reed in the loom, an electrical circuit connected to the source of illumination, a switch in said circuit normally held in open position by an operative part of the loom when the loom is running, means for closing the switch when there is a stoppage of the loom by movement of said operative part, and means for shielding the source of illumination to prevent upward travel of the light rays therefrom.

4. In a loom having a warp stop motion and a lay and a shipper lever and means for holding the shipper lever in operative position to maintain the loom in running condition, said loom having a swingable lever for disloding the shipper lever from operative to inoperative position and having a bunter carried by the lay and a solenoid operated by the stop motion mechanism for placing a dagger in front of the bunter to dislodge the shipper lever, said lay having a reed cap carrying a loom reed, a switch mounted in association with the shipper lever and adapted to be engaged thereby when the shipper lever is in operative position for holding the switch in open position, a luminescent tube mounted in the reed cap for illuminating the reed, a transformer having one side connected to the luminescent tube and having one end of the other portion of the transformer connected to a source of current, the other end of the transformer being connected to one side of said switch and a connection leading from the other side of said switch to the source of current, whereby when the shipper lever is moved by the stop motion mechanism to inoperative position it releases said switch and allows it to close, to establish a circuit through the transformer and through the luminescent tube to illuminate the reed in the loom while the shipper lever remains in inoperative position.

5. In a loom having a lay and a reed cap for holding a reed in position, a source of illumination mounted in the reed cap, said loom also having stop motion means for stopping the loom, means operable by stopping of the loom for illuminating the luminescent tube to thereby illuminate the reed when the loom is stopped, and means for shielding the source of illumination to prevent upward travel of the light rays therefrom.

6. In a loom having a warp controlled stop motion and having a shipper lever and means controlled by the stop motion for moving the shipper lever from operative to inoperative position to stop the loom, said loom also having a lay and a reed cap for holding a reed therein, a luminescent tube mounted in the reed cap, an electrical circuit leading from the luminescent

tube to a source of electrical energy, a switch in said circuit engageable by the shipper lever when in operative position for holding the switch in open position, spring means for closing the switch when the shipper lever is moved to inoperative position to thereby establish a circuit to the luminescent tube to illuminate the reed cap.

7. In a loom having a shipper lever and a lay and a plurality of harness frames, and said lay carrying a reed cap for supporting the upper side of a reed and through which the warp threads are passed, a bracket associated with said shipper lever and having an elongated slot therein in which the shipper lever is adapted to move, one of the side walls of said slot having a cavity therein into which the shipper lever is adapted to fit when in operative position to cause the loom to operate, said loom also having a stop motion mechanism and means controlled by the stop motion mechanism for moving the shipper lever out of its cavity and allowing it to move along said slot to stop the loom, a switch mounted in association with said bracket and having a portion extended to a point where it will be engaged by the shipper lever when in said cavity to hold the switch in open position, a source of illumination mounted in the reed cap, a transformer having primary and secondary coils, a circuit leading from the secondary coil to the source of illumination, a second circuit leading from the primary of said transformer to a source of electrical energy, one side of said circuit leading through said switch, whereby when the switch is moved to closed position by the shipper lever being moved out of its cavity, electrical energy will be passed through said transformer and to said source of illumination in the reed cap to illuminate the reed.

8. In a loom having a shipper lever and a lay and a plurality of harness frames, and said lay carrying a reed cap for supporting the upper end of a reed and through which the warp threads are passed, a bracket associated with said shipper lever and having an elongated slot therein in which the shipper lever is adapted to move, one of the side walls of said slot having a cavity therein into which the shipper lever is adapted to fit when in operative position to cause the loom to operate, said loom also having a stop motion mechanism and means controlled by the stop motion mechanism for moving the shipper lever out of its cavity and allowing it to move along said slot to stop the loom, a switch mounted in association with said bracket and having a portion extending to a point where it will be engaged by the shipper lever when in said cavity to hold the switch in open position, a source of illumination mounted in the reed cap, a transformer having primary and secondary coils, a circuit leading from the secondary coil to the source of illumination, a second circuit leading from the primary of said transformer to a source of electrical energy, one side of said circuit leading through said switch, whereby when the switch is moved to closed position by the shipper lever being moved out of its cavity, electrical energy will be passed through said transformer and to said source of illumination in the reed cap to illuminate the reed, said loom also having a plurality of harness frames and a second source of illumination mounted on the reed cap and connected in series with the first source of illumination whereby when the shipper lever is moved to inoperative position both sources of illumination will be energized.

9. In a loom having a lay and a reed carried by the lay, a source of illumination carried by the lay at a higher elevation than the reed for illuminating the reed, means operable by stopping of the loom for establishing a circuit through said source of illumination, and means for shielding the source of illumination to prevent upward travel of the light rays therefrom.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,188,803	Marcante	June 27, 1916
2,279,759	Moore	Apr. 14, 1942

FOREIGN PATENTS

Number	Country	Date
194,665	Great Britain	Sept. 6, 1923
458,937	Great Britain	Dec. 30, 1936