No. 719,085. PATENTED JAN. 27, 1903.

A. D. CHANDLER.

SEPARATOR FOR SPINNING MACHINES.

APPLICATION FILED MAR. 12, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

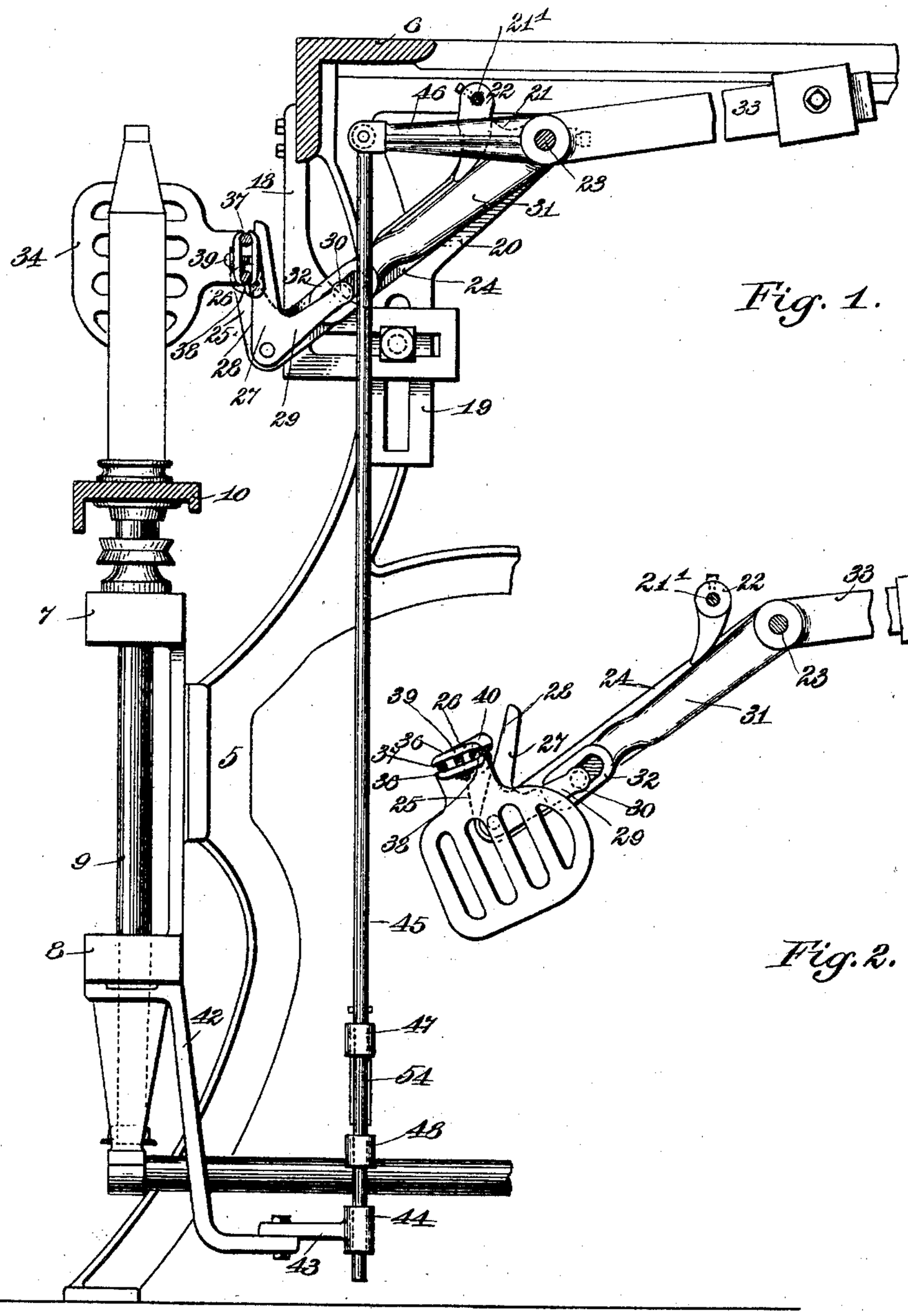

Fig. 1.

Fig. 2.

Witnesses:

Wm. H. Varnum.

C. S. Miller.

Inventor:

Alfred D. Chandler

By Henry J. Miller atty

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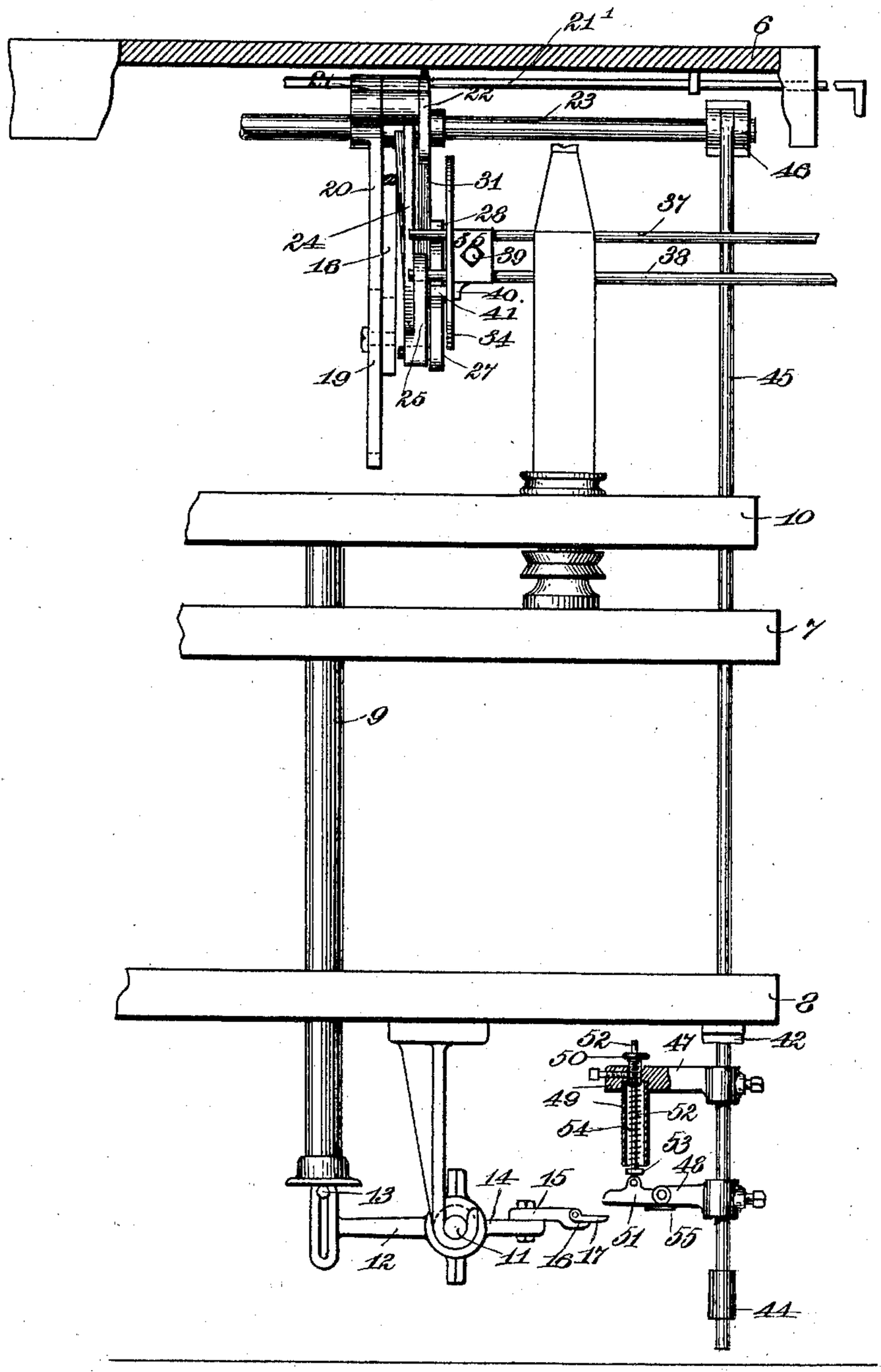
NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED D. CHANDLER, OF READING, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

SEPARATOR FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 719,085, dated January 27, 1903.

Application filed March 12, 1901. Serial No. 50,825. (No model.)

To all whom it may concern:

Be it known that I, ALFRED D. CHANDLER, a citizen of the United States, residing at Reading, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Separators for Spinning-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in separators for spinning-machines, and particularly to that class of separators which are so mounted as to be removable from between the spindles at times.

One object of the invention is to so construct and mount separators for spinning-machines that they can be automatically removed from between the spindles at times.

Another object of the invention is to so construct and mount separators for spinning-machines that their sustaining mechanism can be automatically released at a predetermined point in the operation of the machine.

Another object is to provide automatic tripping means for the sustaining mechanism of separators.

The invention consists in a separator-blade, releasable means for sustaining the same in an operative position, and means for releasing the sustaining means.

The invention also consists in a separator-blade, sustaining mechanism therefor, and tripping mechanism for the sustaining mechanism.

The invention also consists in a separator-blade, sustaining means therefor, including a movable sustaining member, and a tripper for releasing said members through connected mechanism.

The invention also consists in the tripper mechanism, in combination with the builder-motion.

The invention also consists in such other novel features of construction and combination of parts as shall hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents a vertical sectional view of portions of a spinning-machine, illustrating the separator, its sustaining mechanism, and the tripper therefor. Fig. 2 represents a side elevation of the separator and its sustaining mechanism removed from the machine, the sustaining mechanism being in the tripped or released position and the separator turned under out of the operative position. Fig. 3 represents a front elevation of a spinning-machine provided with the improvement partially broken away, showing the relation of the tripper to the ring-rail lifter-lever and the construction of the tripper, also showing the separator in relation to its sustaining mechanism.

Similar numbers of reference designate corresponding parts throughout.

The ballooning of yarn passing from the guides of the thread-board to the ring-travelers being caused mainly by the length of yarn unsupported between these points and the centrifugal force imparted to the yarn by the rotation of the spindle requires for its limitation the interposition of separators between the spindles while the ring-rail is moving in the lower limits of its building traverse. When the ring-rail is working in its intermediate and upper copping traverse, the separators are of no utility and can be dispensed with, while during the operation of doffing it is necessary that the separators be removed to permit of free access to the spindles for the removal of the cops. So, also, in piecing it is necessary that the separators be removed from between the spindles. Separators have heretofore been variously mounted for removal by hand from between the spindles for the doffing operation. The main object of this invention is to accomplish this removal automatically at some predetermined point in the operation of the machine, at which point the distance between the thread-board guide and the ring-traveler has been so decreased that the ballooning of the yarn is not sufficient to cause interference with the yarn passing to the adjacent spindles.

In the drawings, 5 indicates one of the samsons of a spinning-machine carrying the roller-beam 6 and the bolster-rail 7 and lower rail 8, in which the lifter-rods, as 9, are vertically reciprocal. On the lifter-rods, as 9, is mounted the ring-rail 10, carrying the usual spinning-rings, the bolster-rail 7 being sup-

ring-rail and when said rail is in position where the blades will readily swing by the rail.

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

1. In a separator for spinning-machines, the combination with a blade-support, sustaining means in which the support is movably mounted, means for holding the support in position with the blades extending above the ring-rail, the ring-rail, and mechanism in operative relation to the ring-rail to effect the automatic release of the holding means at a predetermined downward movement of the ring-rail, whereby the blades may swing by said rail.

2. A separator comprising levers, a blade-support movably mounted on the levers, means carried by said levers for locking the support, and means for releasing the locking means on the downward movement of the ring-rail.

3. A separator comprising levers, a blade-support mounted thereon, and capable of movement, means in locking relation to the blade-support, and mechanism actuatable on the downward movement of the ring-rail for swinging the levers.

4. A separator comprising a lever mounted to swing, a blade-support movably mounted in the lever, a jaw pivoted to said lever in holding relation to the support and adapted to move on its pivot when the lever is swung, and means for swinging the lever, said means comprising a lever and an actuator therefor, extending to a point below the lower traverse of the ring-rail and connected with a movable part of the machine.

5. A separator comprising a shaft journaled in bearings, a lever fixed on said shaft, a blade-support movably mounted on the lever, a jaw pivoted on said lever, means for holding said jaw in the locked position, and means for rocking the shaft to swing the lever, said means comprising a lever and an actuator for said lever extending below the ring-rail support and adapted to be operated by a movable part of the machine.

6. A separator comprising a shaft journaled in bearings, a lever fixed thereon, a blade-support pivotally mounted in the lever, a jaw pivoted on the lever in holding relation to the support, an arm pivotally mounted on the shaft and in engagement with the jaw, means for positioning said arm, and means actuatable on the downward traverse of the ring-rail for rocking the shaft.

7. A separator comprising a sustaining member and a locking member, a blade-support mounted therein, and means adapted to be actuated through connection with a moving part of the spinning-machine for changing the relative positions of such members at a predetermined point in the downward traverse of the ring-rail.

8. A separator comprising a shaft journaled in bearings, a lever fixed on the shaft, a blade-support movably mounted on the lever, a holding-jaw pivoted on the lever, means for moving said jaw on its pivot when the lever is swung, the builder motion, and connections between the builder-motion rock-shaft, and means in operative relation to said rock-shaft and connected to the lever of the separator-shaft, whereby said latter shaft may be partially rotated at times.

9. The combination with the builder motion, and a tripping mechanism adapted to be actuated thereby on the downward movement of the ring-rail, of a blade-separator releasably supported and connections intermediate the releasable support and the tripping mechanism.

10. The lever-shaft journaled in bearings, the lever fixed thereon, the jaw pivoted to the lever, the tripper-arm loose on the shaft in engagement with the pivoted jaw, means for preventing the upward movement of the tripper-arm, the tripper mechanism connected with the lever-shaft, and the means for actuating the tripper mechanism.

11. The combination with the builder-motion rock-shaft, the extension thereon, the pawl pivoted to the extension, the tripper-rod mounted for vertical movement, the spring-pressed pawl, and the means for mounting the same on the tripper-rod, of lever-shaft journaled in bearings and provided with the arm to which the tripper-rod is pivoted, a separator-lever fixed to said shaft, and a separator-support mounted in said lever and releasable locking means for the separator-support.

12. The lever-shaft journaled in bearings, the levers fixed thereon, the jaws pivoted to the levers, and the tripper-arms loose on the shaft, of the dog-shaft journaled in bearings, and the dogs thereon for preventing the upward movement of the tripper-arm, whereby said dog-shaft may be rotated to swing the dogs out of engagement with the tripper-arms.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED D. CHANDLER.

Witnesses:
A. E. DENISON,
HENRY J. MILLER.