

No. 651,840. •

Patented June 19, 1900.

J. FAHRNEY.

THRESHING MACHINE.

(Application filed Mar. 25, 1899.)

(No Model.)

FIG. 1.

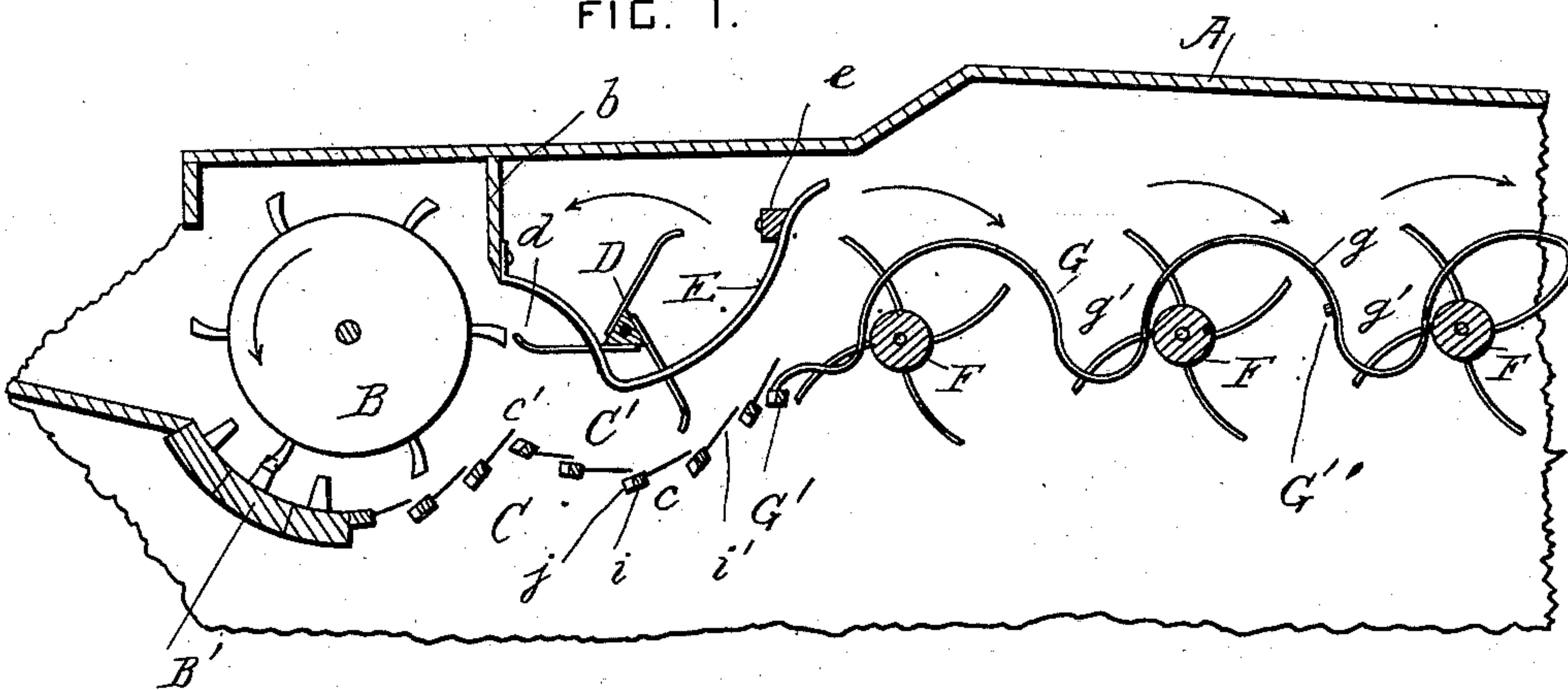


FIG. 2.

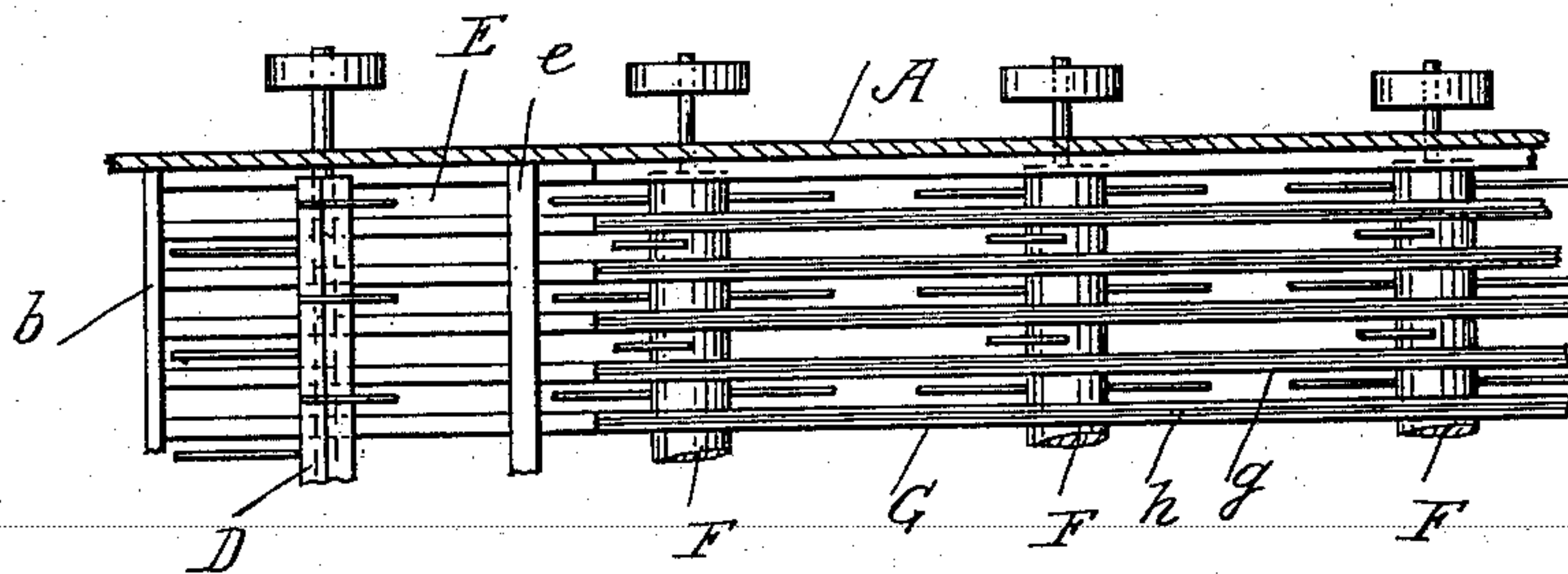


FIG. 3

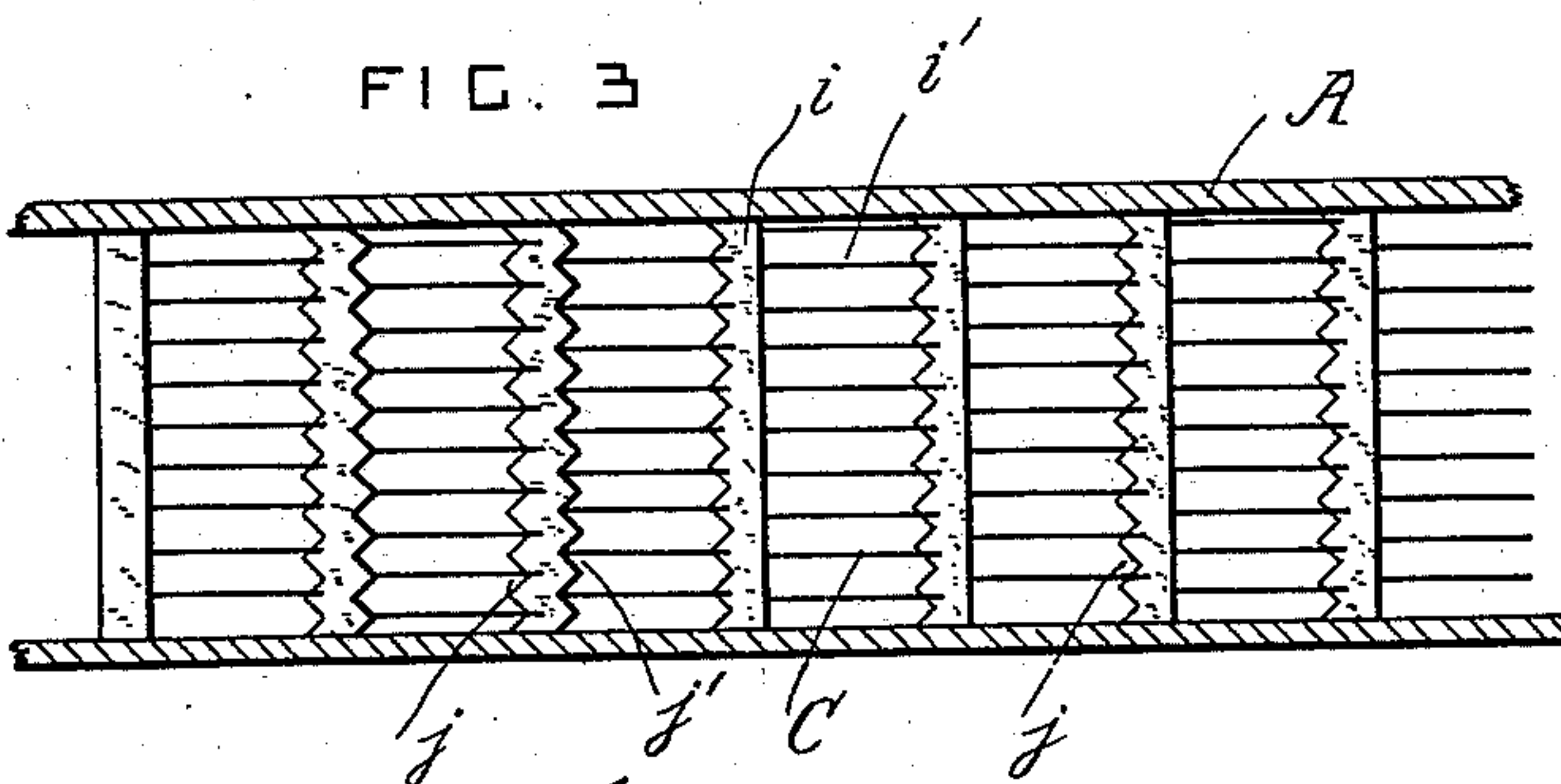
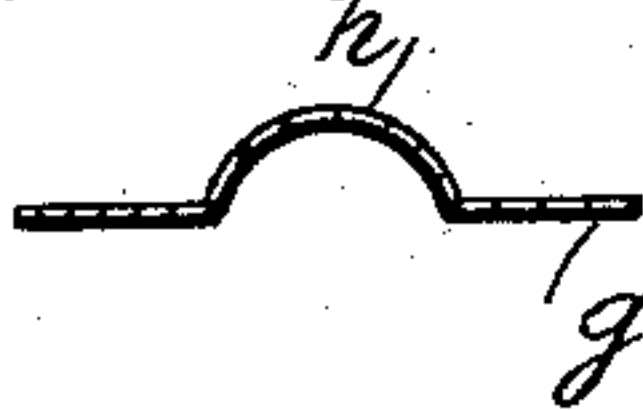


FIG. 4.



WITNESSES

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THRESHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 651,840, dated June 19, 1900.

Application filed March 25, 1899. Serial No. 710,448. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH FAHRNEY, a citizen of the United States, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Threshing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to threshing-machines; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through parts of a threshing-machine constructed according to this invention. Fig. 2 is a partial plan view of the picker and straw-rack. Fig. 3 is a plan view of the grate under the picker. Fig. 4 is a cross-section through one of the bars of the straw-rack, drawn to a larger scale.

A is the casing of the threshing-machine. B is the threshing-cylinder, B' is the concave, and b is the guard-board behind the cylinder. These parts are of any approved construction.

C is a grate behind the concave, which will be more fully described hereinafter.

D is a picker comprising a reel provided with arms and journaled in the casing behind the guard-board b.

E is a guard-grate having its front end secured to the lower part of the guard-board and its rear end carried by a cross-bar e. The guard-grate E is formed of longitudinal bars, and the arms of the picker project between the said bars. The front part of the guard-grate E is concave on its lower side, and its rear part is convex upon its lower side. The front part of the grate C is concave on its upper side, and its rear part c is concave on its upper side and substantially concentric with the picker. The middle part c' of the grate C projects upward and is arranged under the concave front part of the guard-grate E. The guard-grate E and the grate C form a gradually-converging channel C', provided with a concave flaring entrance d. This entrance comes next to the cylinder and permits the straw to enter freely and guides it into the narrower part of the channel, where it is col-

lected and condensed. The picker feeds the straw from the channel C' to the straw-rack in a constant and even stream.

F represents reels provided with arms and arranged one behind the other from the picker to the rear end of the machine. Any number of reels may be used; but from two to five are ordinarily used.

G is the straw-rack, which extends over the reels and is supported by cross-bars G' at intervals. The straw-rack is formed of bars g, of thin sheet metal, which are preferably waved or corrugated longitudinally, so as to form a series of receptacles g'. The arms of the reels project between the bars g and move the straw longitudinally from one receptacle to another. Each bar g is provided with substantially-horizontal side portions and a hollow projection h, extending longitudinally along the middle portion of its upper side. This projection is preferably concavo-convex in cross-section, so that it strengthens and stiffens the thin sheet-metal bar and sheds the grains laterally off its surface. When the bars g are made of thin sheet metal, the weight of the straw-rack is greatly reduced, and the presence of the rib h stiffens the bars, so that very thin sheet metal can be used. When the rib h is concavo-convex in cross-section, it permits the bars to be bent so as to form a series of projections and receptacles without the said rib being distorted or flattened.

The cylinder, picker, and reels are driven in the direction of the arrows by any approved driving mechanism.

The grate C preferably consists of a series of cross-bars i, provided with longitudinal bars i', projecting from their rear parts and arranged with their free ends a little above the level of the front edge of the cross-bar i next behind them, so as to prevent the straw from being retarded by contact with the cross-bars. Each cross-bar i has angular serrations j in its front edge. The grains driven off by the cylinder strike these angular serrations and rebound laterally and fall through the grate instead of rebounding backward or upward into the straw. The rear edges of the cross-bars may have serrations j', if desired. When the cross-bars are of metal, the serrations j' are preferably added; but when

formed of wood they may be omitted. The serrations *j'* make the bars lighter and also reduce the area of the surfaces which might cause some of the flying grains to rebound upward into the straw, which is held down on the grate C and moved along it by the picker.

What I claim is—

1. The combination, with a guard-grate having a concave front part and a convex rear part, and a picker provided with arms which project through the guard-grate; of a concave grate arranged under the guard-grate and comprising a series of cross-bars each provided with rearwardly-projecting bars the free ends of which overlap the next adjacent cross-bar, a converging passage having a concave flaring entrance being formed between the two said grates, substantially as set forth.

2. The combination, with a guard-grate having a concave front part and a convex rear part, and a picker provided with arms which project through the guard-grate; of a concave grate arranged under the guard-grate and comprising a series of cross-bars provided with serrations which deflect the grains laterally, each said cross-bar having rearwardly-projecting bars the free ends of which overlap the next adjacent cross-bar, a converging passage having a concave flaring entrance being formed between the two said grates, substantially as set forth.

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

JOSIAH FAHRNEY.

Witnesses:

E. B. FAHRNEY,

I. F. DELAPLAINE.