

(No Model.)

2 Sheets—Sheet 1.

W. GRIESSER.

MALT KILN FLOOR.

No. 388,193.

Patented Aug. 21, 1888.

Fig. 1.

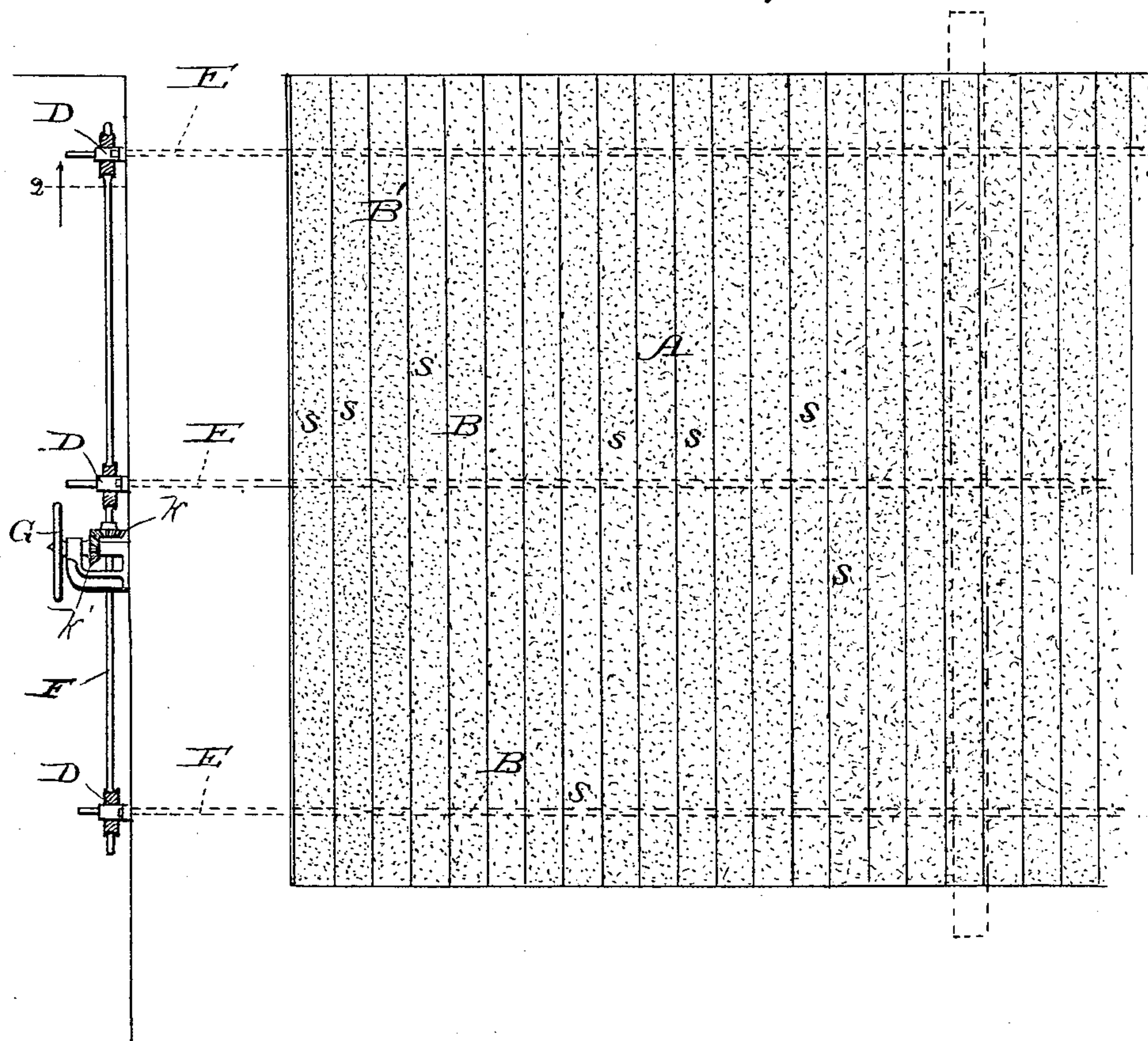
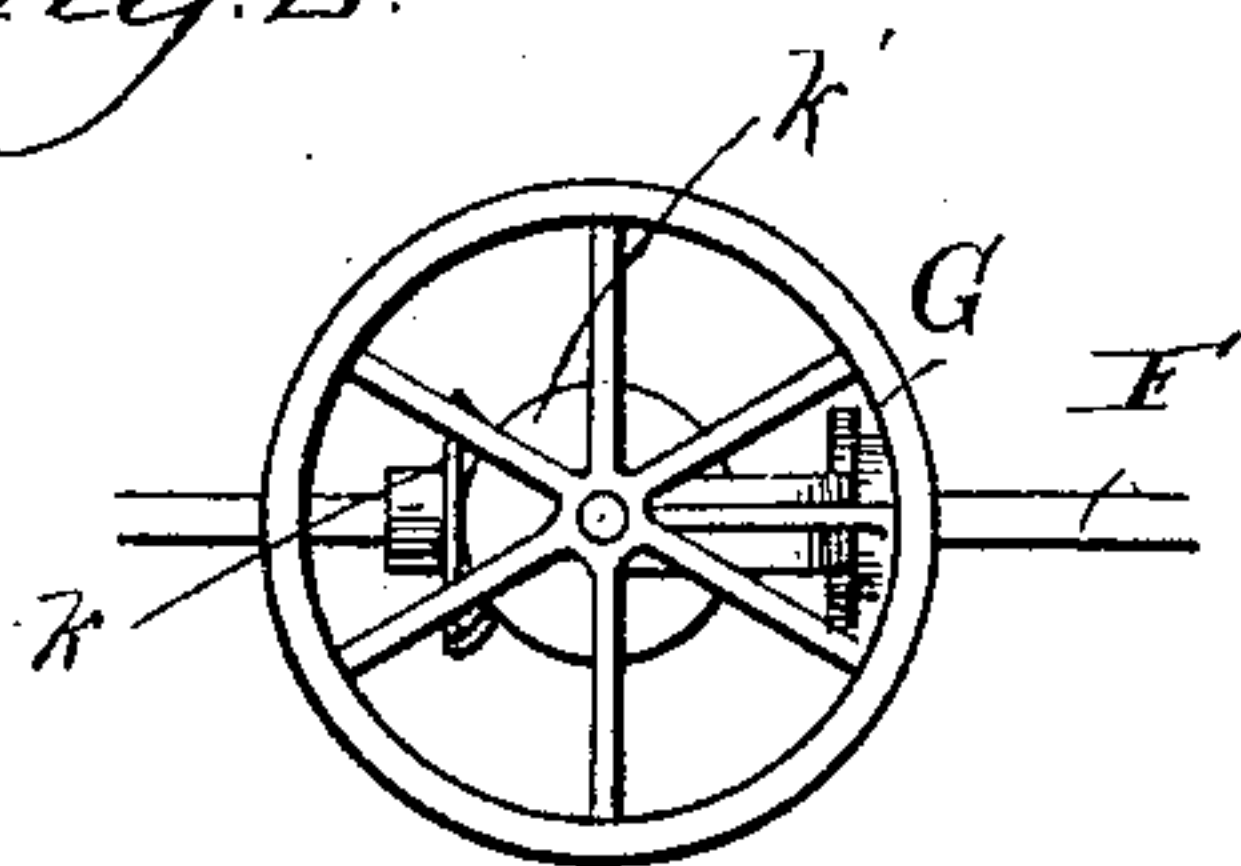


Fig. 2.



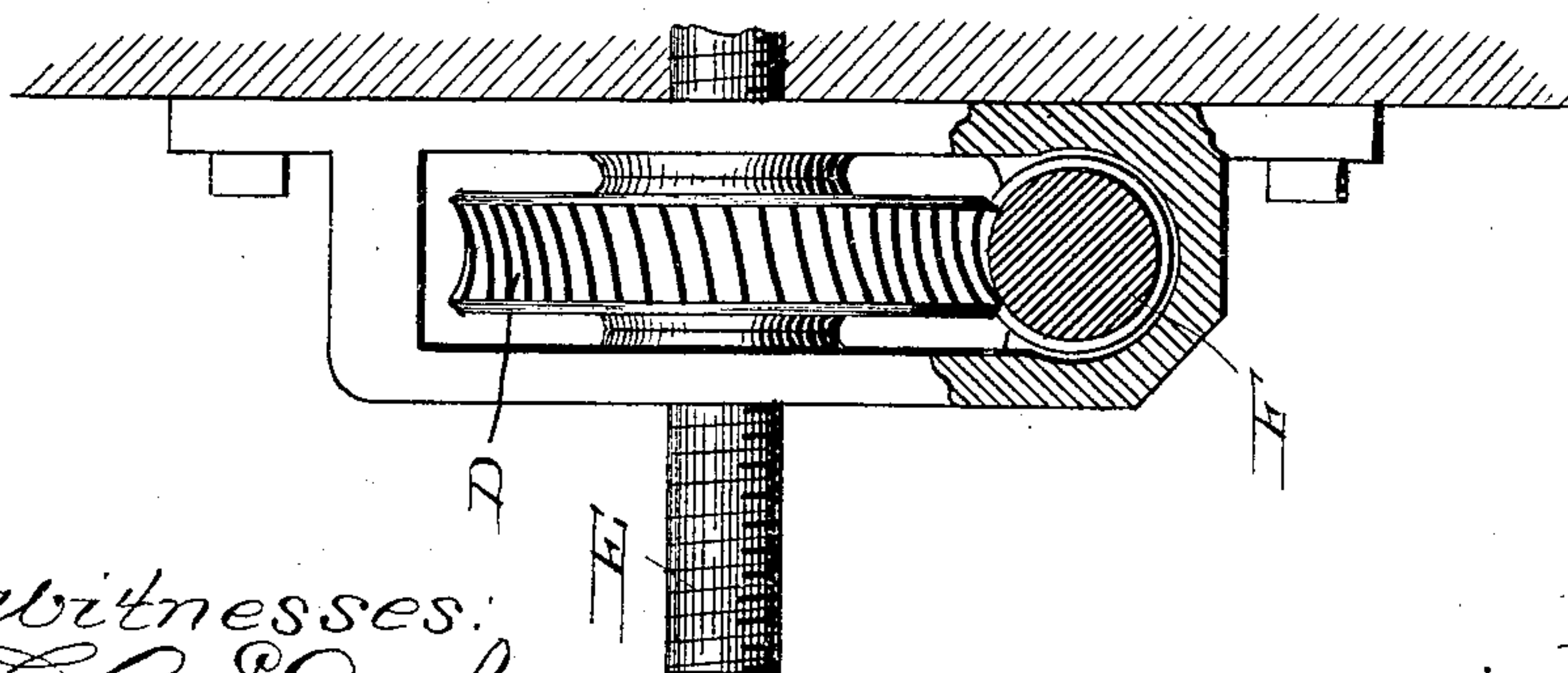
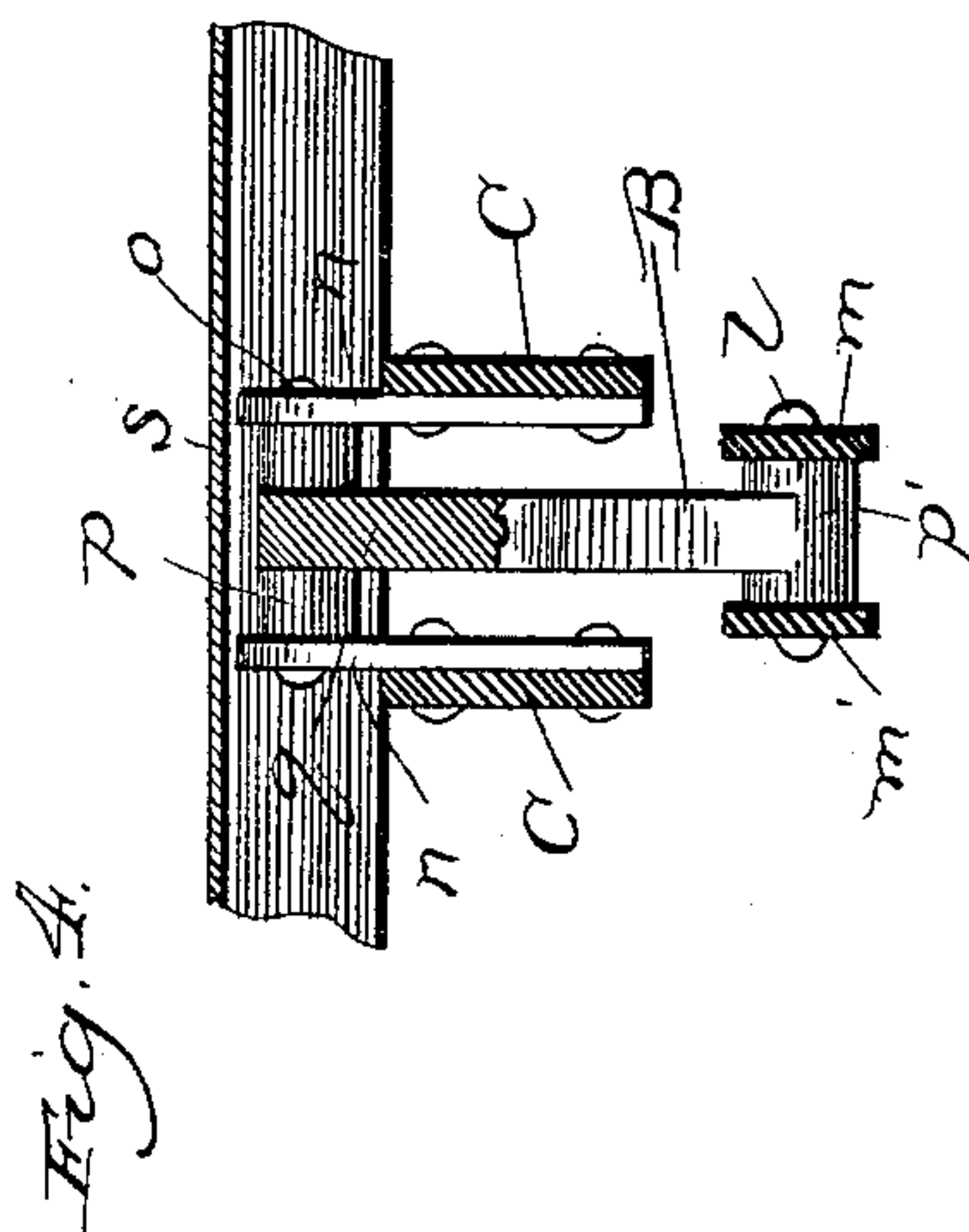
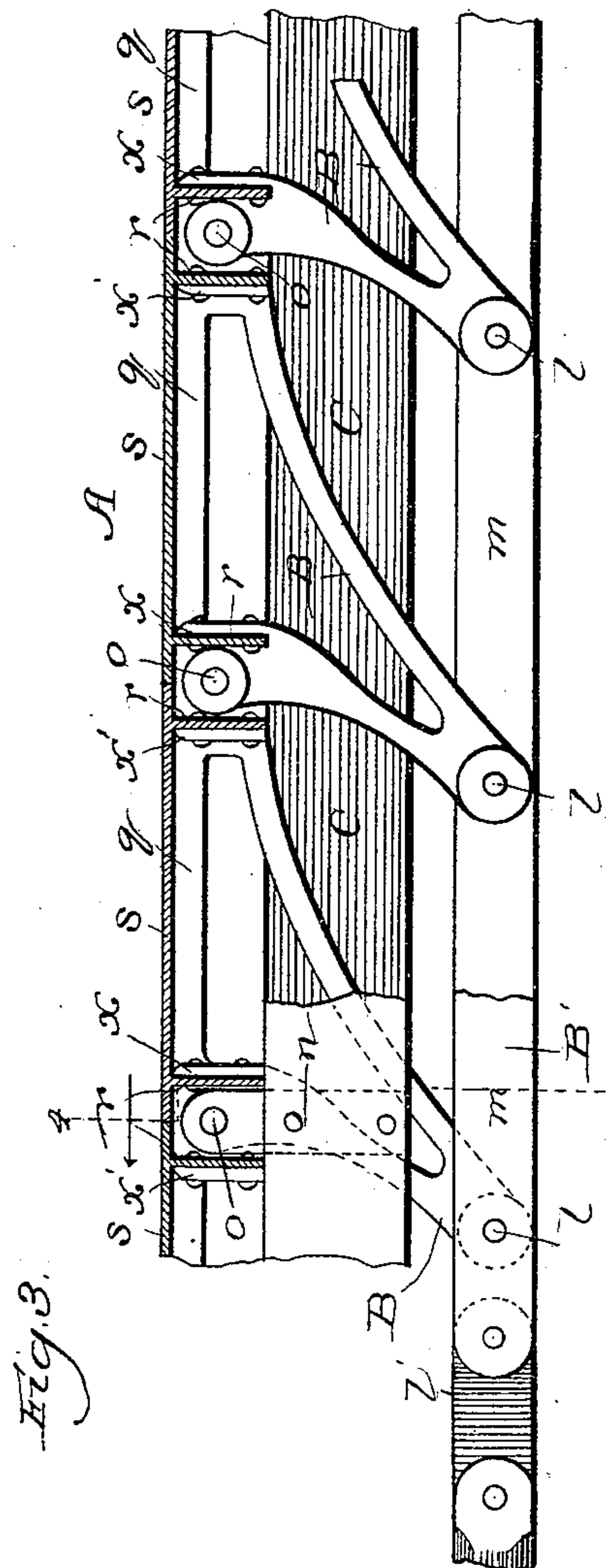
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UNITED STATES PATENT OFFICE.

WILLIAM GRIESSER, OF CHICAGO, ILLINOIS.

MALT-KILN FLOOR.

SPECIFICATION forming part of Letters Patent No. 388,193, dated August 21, 1888.

Application filed May 19, 1887. Serial No. 238,754. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRIESSER, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Malt-Kiln Floors; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in the class of malt-kiln floors wherein the floor is formed in sections having perforated or open surfaces, and provided with means for upsetting the sections to dump the malt imposed upon them to be dried. My object is to provide a construction of malt-kiln floor which will permit the sections forming it to be supported without overlapping one another in their relatively horizontal positions firmly and rigidly by resting near their lateral edges upon the supporting-beams, in contradistinction to a form hitherto used consisting of a series of plates each on a center pin working like a Venetian blind. The form of malt-kiln floor last referred to, and upon which especially my invention is designed to afford an improvement, is liable to become twisted and warped with use, owing to the location of the support of each section at its center, thereby preventing accurate fit of the sections to produce the desired evenness of surface throughout the floor, which evenness, however, is only approximate with the floor in normal condition, owing to the overlapping at one side of one section upon the other.

My invention consists in the general construction of my improved malt-kiln floor; and it also consists in details of construction and combinations of parts.

In the drawings, Figure 1 is a plan view of a malt-kiln floor or portion thereof of my improved construction; Fig. 2, a broken view in side elevation of the means for actuating the dumping mechanism; Fig. 3, a broken section taken through a floor transversely to the sections forming it, showing the dumping mechanism in side elevation; and Fig. 4 a section taken on the line 4 of Fig. 3 and viewed in the direction of the arrow.

A is a malt-kiln floor composed of sections *s*, formed of perforated metal plate or of any desired material, having vertical flanges *r* ex-

tending from their lower sides near the lateral edges, at which the sections rest upon transverse supporting beams *C*, arranged in parallel pairs, as indicated in Fig. 4, at desired intervals throughout the floor.

B B are brackets of metal, of the form shown, which is substantially triangular to afford the horizontal portions *q* to fit between the flanges *r* against the under surfaces of the sections *s*, across which they extend transversely, and each bracket is flanged, as shown at *x* and *x'*, and provided with a perforated head, *p*, at an upper corner and a similar head, *p'*, at its lower extremity. Each section is provided at intervals between the supporting beams *C*, forming each pair, with a bracket, *B*, which is hinged at the upper corner provided with the head *p* by means of a pin, *o*, passed through the latter and supported at its opposite extremities in straps *n*, bolted in proper position to the inner sides of the beams *C*, forming a pair, and the flanges *x* and *x'* are bolted, respectively, as shown, to the inner faces of the flanges *r*, near opposite lateral edges of the sections *s*, against which flanges *r* the flanges *x* and *x'* extend. The intervals along the lower sides of adjacent sections *s*, at which brackets *B* are provided, coincide; hence each floor is provided with several transverse lines of brackets, and each line contains as many brackets as there are sections. Below each transverse line of brackets *B* is a reciprocating bar, *B'*, formed of two parallel bars, *m* and *m'*, between which the heads *p'* extend, and to which the brackets are pivotally connected by means of pins *l*.

To the end of each bar *B'* a threaded extension, *E*, Fig. 3, is pivotally secured by a pivotal link, *l'*, between the parallel bars *m* and *m'*, and carries a gear-wheel, *D*, threaded internally to correspond with the threads on the extension *E* and move the latter back and forth by turning the gear-wheel in opposite directions, the wheel being confined laterally, as shown in Fig. 3.

A shaft, *F*, extends transversely across all the extensions *E* below and coincident with the gear-wheels *D* thereon, and is provided with worm-threads where it coincides with the gear-wheels to engage the latter. At a convenient point the shaft *F* is provided with a beveled

gear-wheel, *k*, Figs. 1 and 2, engaged by a similar gear-wheel, *k'*, on the supported stem of a hand-wheel, *G*. By turning the hand-wheel in one direction the worms on the shaft *F* turn the gear-wheels *D* to force the bars *B'* simultaneously in the direction which causes the brackets *B* to turn on their pivotal supports *o*, forming hinges, and tilt the sections *s* on their edges adjacent to the hinges, thereby dumping the malt imposed upon the floor, and by turning the hand-wheel in the opposite direction the sections are obviously returned to their normal relative positions, wherein they form the malt-kiln floor without overlapping each other, to rest solidly by being supported practically throughout their entire extent.

What I claim as new, and desire to secure by Letters Patent, is—

1. A malt-kiln floor formed in sections *s*, each having flanges *r* extending from its lower side near opposite edges, beams *C*, upon which the sections are supported at the flanges *r*, brackets *B*, hinged to the supports *C* near corresponding edges of the sections and extending across and secured to the lower sides of the said sections, and means, substantially as described, for actuating the brackets, substantially as and for the purpose set forth.

2. A malt-kiln floor formed in sections *s*, each having flanges *r* extending from its lower side near opposite edges, beams *C*, upon which the sections are supported at the flanges *r*, brackets *B*, hinged to the supports *C* near corresponding edges of the sections and extending across and secured to the lower sides of the said sections, a reciprocating bar, *B'*, transverse to the sections and to which the brackets are pivotally connected near their lower ends, and means, substantially as described, for reciprocating the bar *B'*, substantially as and for the purpose set forth.

3. In a malt-kiln floor, a section, *s*, having flanges *r* extending from its lower side near opposite edges, at which flanges the section is supported, a bracket, *B*, hinged near one cor-

ner to the said support below the said section and toward a lateral edge thereof and extending across the said section, to which it is rigidly secured, a transverse reciprocating bar, *B'*, to which the bracket is pivotally connected at its lower end, and means, substantially as described, for reciprocating the bar *B'*, substantially as and for the purpose set forth.

4. In a malt-kiln floor, the combination of sections *s*, each having flanges *r* extending from its lower side near opposite edges, supporting-beams *C*, upon which the sections rest directly at their flanges *r*, brackets *B*, rigidly secured to the under sides of the sections and hinged near the edges thereof; at which the sections are tilted for dumping, to the supporting-beams, reciprocating bars *B'*, pivotally connected with the brackets near their lower ends, threaded extensions *E* upon the reciprocating bars, internally-threaded confined gear-wheels *D* upon the threaded extensions, a shaft, *F*, having worm-threads engaging with the gear-wheels *D*, and means for turning the shaft *F*, substantially as and for the purpose set forth.

5. A malt-kiln floor comprising, in combination, sections *s*, having vertical flanges *r*, supporting-beams *C*, upon which the sections rest directly at their flanges, brackets *B*, rigidly secured in transverse rows to the under surfaces of the sections between the flanges *r* and hinged to the supporting-beams near the edges of the sections upon which they are tilted for dumping, transverse reciprocating bars *B'*, one for each transverse row of brackets, to which they are pivotally connected, and all connected from their adjacent extremities to be operated simultaneously, and means, substantially as described, for reciprocating the bars *B'*, substantially as and for the purpose set forth.

WILLIAM GRIESSER.

In presence of—

ROBERT J. LEY,
J. W. DYRENFORTH.