

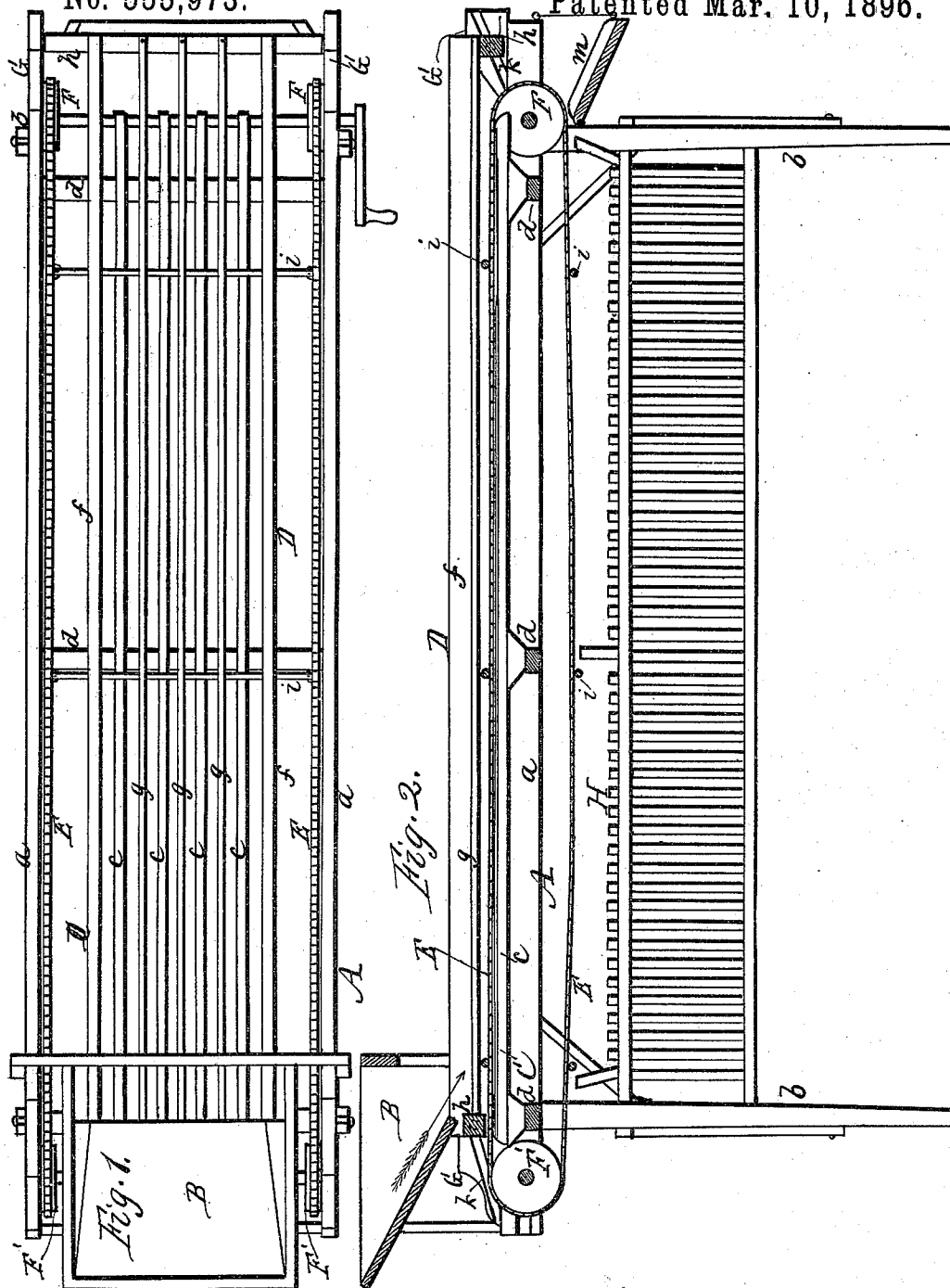
(No Model.)

2 Sheets—Sheet 1.

J. H. RISLEY & C. W. PEASE.
ASSORTING AND GRADING MACHINE.

No. 555,973.

Patented Mar. 10, 1896.



Witnesses:

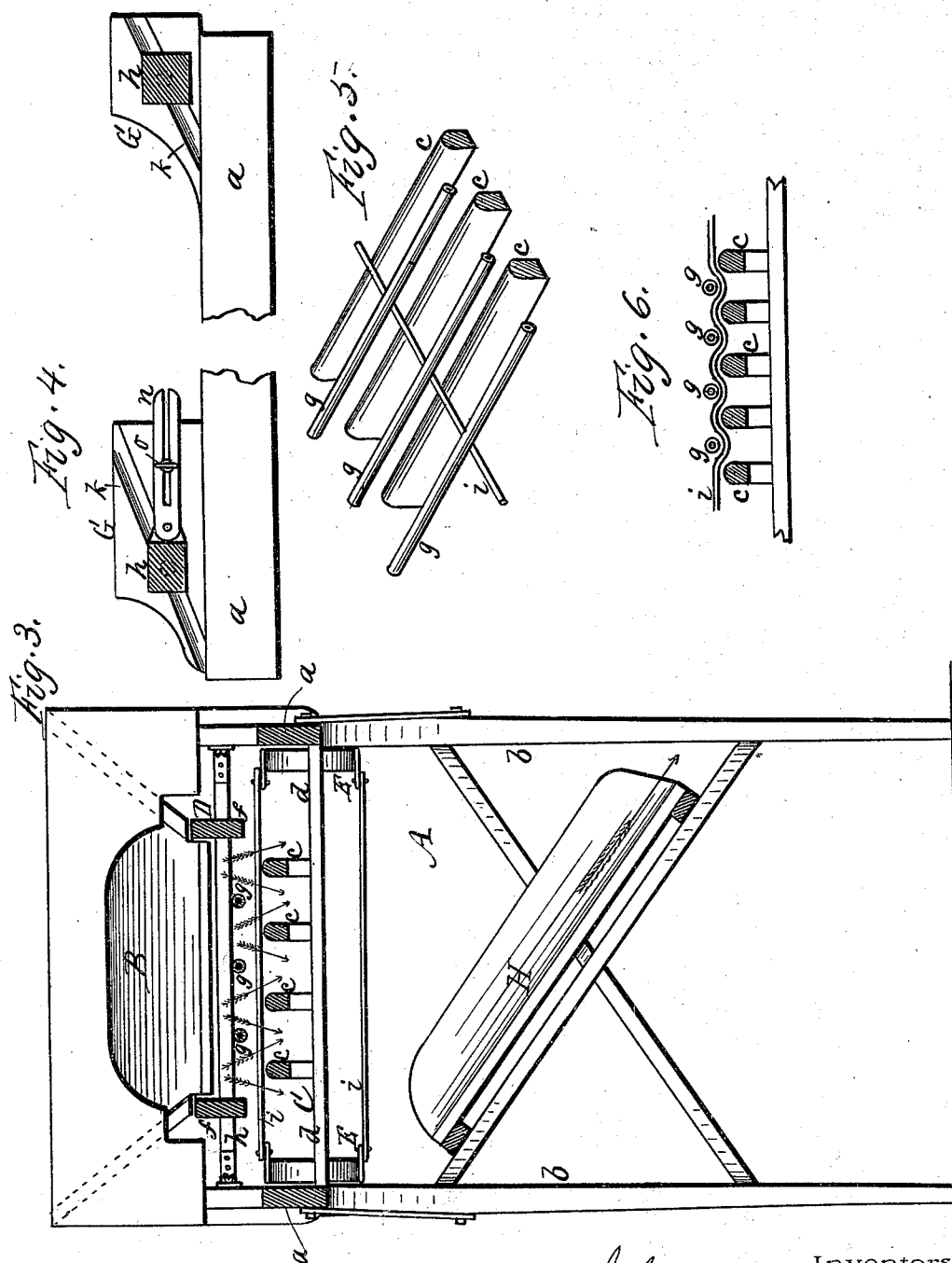
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UNITED STATES PATENT OFFICE.

JOHN H. RISLEY AND CHARLES W. PEASE, OF ROCHESTER, NEW YORK.

ASSORTING AND GRADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 555,973, dated March 10, 1896.

Application filed January 23, 1895. Serial No. 535,902. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. RISLEY and CHARLES W. PEASE, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Assorting and Grading Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

Our improvement relates to a machine for assorting and grading coarse materials into different sizes; and it consists in the construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal vertical section. Fig. 3 is a vertical cross-section. Fig. 4 is a sectional side elevation of the devices for adjusting the machine to change the grade. Fig. 5 is a perspective view of a portion of the bed. Fig. 6 is a cross-section of a portion of the bed, showing a modification.

This machine is designed for assorting and grading into different sizes all kinds of coarse materials—such as fruits, vegetables, coal, &c.

A indicates the supporting-frame, consisting of side pieces *a a* supported by legs *b b*.

B is a hopper at one end through which the material is fed to the machine beneath.

C is a fixed bed attached to the main frame, and consisting of longitudinal bars *c c c*, situated at determinate distances apart and supported by cross-bars *d d* attached to the main frame. The articles to be assorted fall from the hopper onto the bars and are swept forward by devices hereinafter described.

D is a trough located above the bed C, said trough consisting of side rails *f f* and a series of tubes or rods *g g* extending longitudinally above the bed, and attached to cross-pins *h h* forming a part of the trough. The tubes *g g* rest half-way between the bars *c c*, but at some distance above them, as shown in the cross-section, Fig. 3.

E E are endless drive-chains on opposite sides of the machine, passing at one end around sprocket-wheels F F, by which they receive motion, and at the other around rollers F' F'.

i i are cross-rods attached to the chains at

intervals and extending across the machine, passing between the bars *c c* and tubes *g g*.

The ends of each cross-bar *h* rest in inclined slots *k k* of bearings G G, as shown in Fig. 4, by which means as the trough is moved forward it is elevated so that the tubes *g g* stand at a greater height above the bars *d d*, thereby increasing the size of the spaces between them. The slots at the front end have greater inclination than those next to the hopper, as shown at the right in Fig. 4, by which means when the trough is moved forward it is elevated more at the front than the rear, and the spaces between the bars and the tubes are correspondingly increased at that point.

H is a slotted rack beneath the bed for catching and discharging such of the articles as drop through, and sifting them clean of dirt.

The operation is as follows: The articles to be assorted drop from the hopper to the bed and are moved gradually forward by the cross-rods *i i*, as described. The smaller sizes pass through the spaces between the bars *c* and tubes *g* in an angular direction, as indicated by the arrows in Fig. 3, while those of the largest size pass forward and are discharged over the end of the machine onto a chute *m*. The articles which pass through the bed are graded in different sizes by reason of the greater elevation of the outer end of the trough, as before described. As many different grades may be made as desired by moving the trough forward or back. The capacity is greater than in ordinary machines of the kind, as the grading is accomplished by continuous action, no intermission being required. The machine is simple and not liable to get out of order. The trough is held at any adjustment by any suitable means, that shown in the drawings consisting of a slotted arm *n*, Fig. 4, attached to one of the cross-pieces and secured in place by a set-screw *o*, which enters the bearing.

This machine is capable, with suitable modifications, of grading articles of various kinds, large and small, such as fruits, vegetables, coal, also small articles like beans or peanuts. Fig. 6 shows a form for grading such small articles, in which the bars and tubes are

brought near together and the cross-wires are corrugated, by which means the spaces through which the articles pass are made small.

5 Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an assorting and grading machine, the combination of a stationary bed consist-
10 ing of longitudinal bars, a set of movable rods or tubes located above the bed intermediately of the bars, drive-chains passing around rollers, and cross-rods attached to the chains, which pass between the bars and
15 tubes, as and for the purpose specified.

2. In an assorting and grading machine, the combination of a main frame, a hopper, a stationary bed consisting of longitudinal bars, a trough provided with side rails and
20 longitudinal tubes resting above the bed, drive-chains running on sprockets and rollers, and cross-rods forming feeders running between the bed and trough, as herein set forth.

25 3. In an assorting and grading machine, the combination of a main frame, a stationary bed provided with longitudinal bars, a hop-

per, a trough provided with longitudinal tubes resting above the bed, stationary bearings at the ends of the machine provided with in-
30 clined slots in which rest pins on the trough, drive-chains running on sprockets and rollers, and cross-rods forming feeders running between the bed and trough, said trough being
35 movable endwise to produce vertical adjustment of the same to increase the size of the grading-passages, as herein shown and described.

4. The combination of a fixed bed provided with bars, a movable trough provided with
40 tubes resting above the bars, drive-chains running on sprockets and rollers, and cross-rods attached to the chains and passing between the bars and tubes, said rods being
45 corrugated as and for the purpose specified.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

JOHN H. RISLEY.
CHARLES W. PEASE.

Witnesses:

R. F. OSGOOD,
C. R. OSGOOD.