

H. D. HODGE.
 MEANS FOR FEEDING CARTRIDGE SHELLS.
 APPLICATION FILED JAN. 9, 1909.

935,367.

Patented Sept. 28, 1909.
 2 SHEETS—SHEET 1.

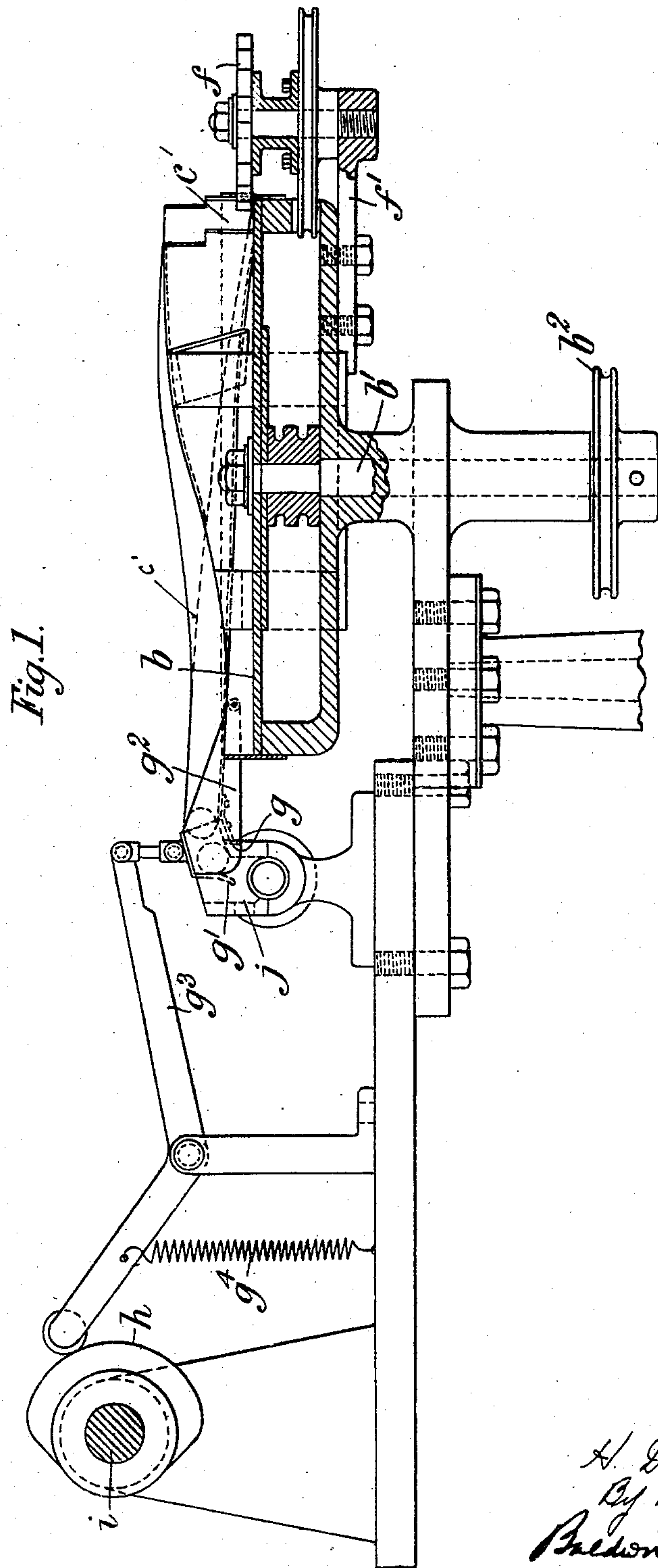


Fig. 1.

Witnesses
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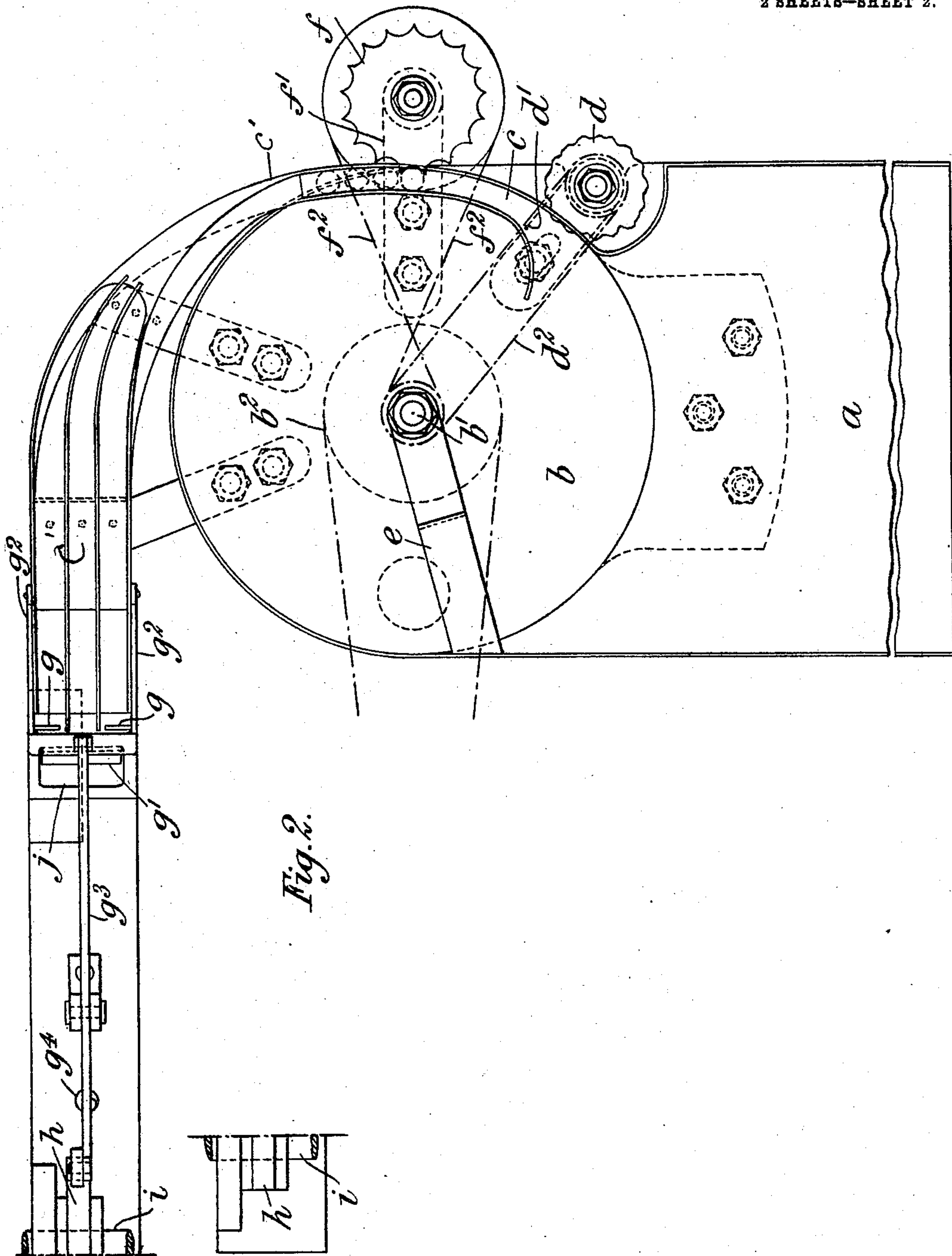


Fig. 2.

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UNITED STATES PATENT OFFICE.

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MEANS FOR FEEDING CARTRIDGE-SHELLS.

935,367.

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To all whom it may concern:

Be it known that I, HOWARD DOUGLAS HODGE, works manager of Waltham Factory, Nobel's Explosives Co. Ltd., a citizen of the United States, residing at the Joyce House, Waltham Abbey, Essex, England, have invented new and useful Improved Means for Feeding Cartridge-Shells, of which the following is a specification.

The object of this invention is to provide improved means for feeding the shells or cases of cartridges so that they may be presented one by one in any position that may be required.

Owing to the weight of their heads the shells may very readily be arranged upon a table head downward and the object of this invention is to provide means for changing their position and presenting them one by one in any desired position.

In order that the invention may be the more readily understood reference will now be made to the accompanying drawings in which—

Figure 1 is a sectional elevation and Fig. 2 a plan of a machine arranged to present the shells one by one with their axes horizontal.

a is a table which may be slightly inclined so that shells placed upon it head downward may readily slide toward a horizontal disk b on a vertical spindle b' constantly rotated by a belt and pulley b^2 . When standing upon this disk the shells are carried toward the funnel shaped mouth of a guideway c near which mouth may be situated an irregularly toothed wheel d carried by a bracket d' and rotated by a belt d^2 from the spindle b' in the same sense as the disk but as its center is outside the disk it moves back some of the shells and prevents jamming. Shells which get too near the center of the disk to enter the guide way are carried around until they meet an inclined fence e which causes them to move out toward the circumference of the disk so that they may enter the guide as they again come around.

Just beyond the wheel d may be a regularly toothed feed wheel f carried by a bracket f' and rotated by a crossed belt f^2 in the opposite sense so as to feed the shells forward at a definite rate along the guide way which narrows down until there is only room for one shell to pass at a time. Should there be any stoppage or the guide be full

the belt can slip and the wheel f will not rotate until the pressure is relieved and there is room for more shells in the guide. The guide leads the shells to a chute c' which may be bent gradually in any direction so that the shells which enter the chute with their axes vertical may as they pass along the chute be brought to any desired position for instance one in which their axes are horizontal.

At the end of the chute is arranged a pair of stops acting alternately so as to allow one shell to issue from the chute at a time. The first stop may consist of a pair of fingers g rising up through the floor of the chute while the second consists of a gate g' coming down in front of the foremost of the row of shells. The two are carried on a frame g^2 so arranged that as the gate rises to allow the foremost shell to pass from the mouth of the chute the fingers rise in front of the second shell to hold back the whole row. The frame may conveniently be carried by a lever g^3 intermittently rocked against the pull of a spring g^4 by a cam h upon a rotating shaft i .

For the sake of example an arrangement has been shown by which the shells are turned through a right angle and drop into a trough j but it is obvious that by suitably arranging the chute the shells may be presented in any position that may be desired.

What I claim is:—

1. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, and means for rotating the disk and wheel, substantially as described.

2. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, a feed wheel situated a short distance along the guideway, and means for rotating the disk and wheel, substantially as described.

3. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, a feed wheel situated a short distance along the guideway, and

means for rotating the disk and wheels, substantially as described.

4. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, means for rotating the disk and wheel, and a curved chute communicating with the guideway, substantially as described.

5. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheel, and a curved chute communicating with the guideway, substantially as described.

6. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheels, and a curved chute communicating with the guideway, substantially as described.

7. In apparatus for feeding cartridge shells, the combination of a horizontal disk, a guideway adapted to receive shells presented to it by the rotation of the disk and having a space between it and the center of the disk, means for rotating the disk, and an inclined fence projecting outward from the center of the disk, and adapted to force out toward the circumference such shells as may come against it substantially as described.

8. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, means for rotating the disk and wheel, and an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, substantially as described.

9. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheel, and an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, substantially as described.

10. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the

mouth of the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheels, and an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, substantially as described.

11. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, means for rotating the disk, a curved chute communicating with the guideway, and a pair of stops adapted to act alternately and to allow one shell to issue from the chute at a time, substantially as described.

12. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, means for rotating the disk, an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, and a curved chute communicating with the guideway substantially as described.

13. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, means for rotating the disk and wheel, an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, and a curved chute communicating with the guideway substantially as described.

14. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheel, an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, and a curved chute communicating with the guideway substantially as described.

15. In apparatus for feeding cartridge shells, the combination of a guideway, a horizontal disk adapted by its rotation to carry the shells into the guideway, an irregularly toothed wheel situated at the mouth of the guideway, a feed wheel situated a short distance along the guideway, means for rotating the disk and wheels, an inclined fence adapted to force out toward the circumference of the disk such shells as may come against it, and a curved chute communicating with the guideway substantially as described.

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Witnesses:

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PERCY PHILLIPPS.