

No. 774,127.

PATENTED NOV. 1, 1904.

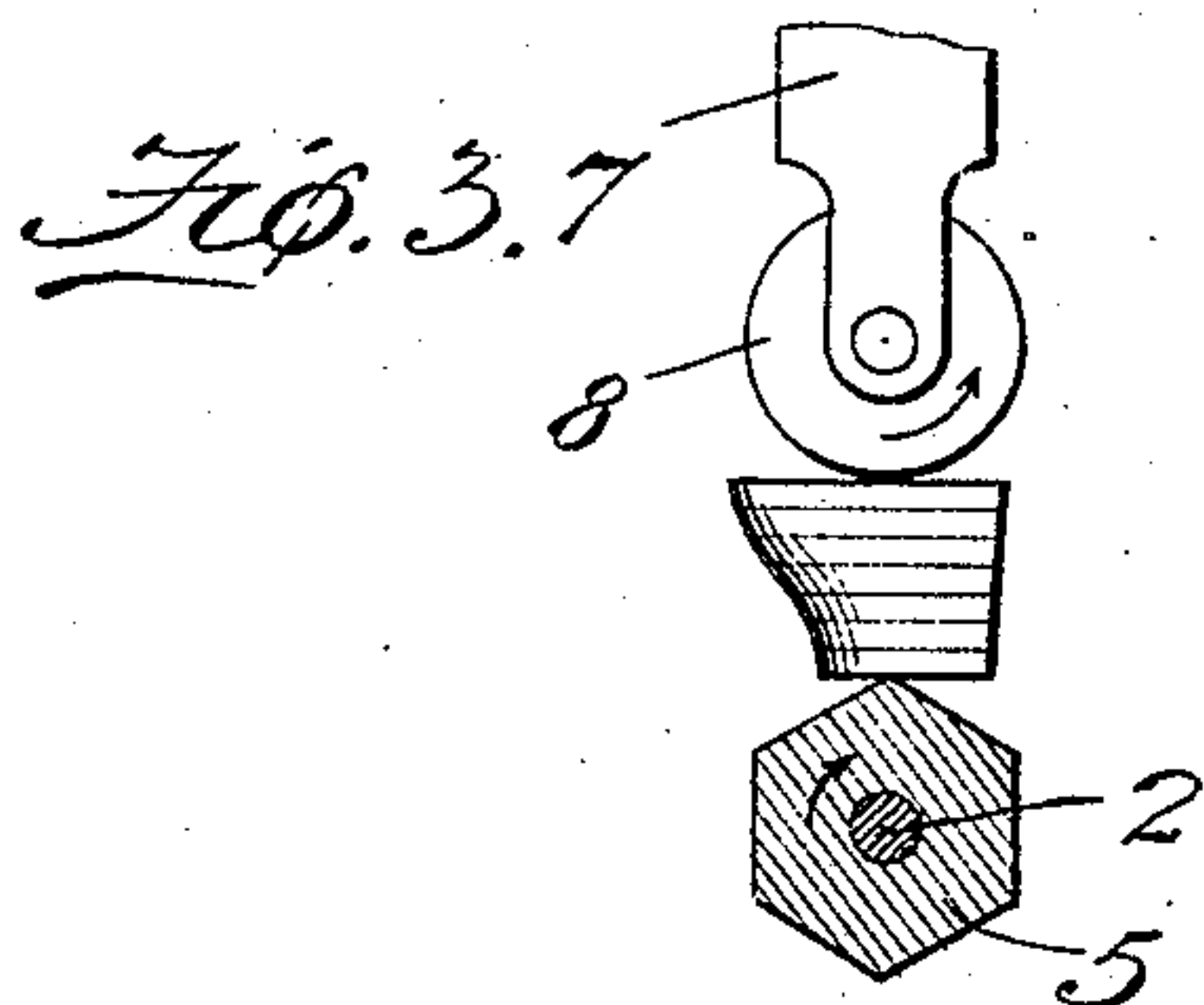
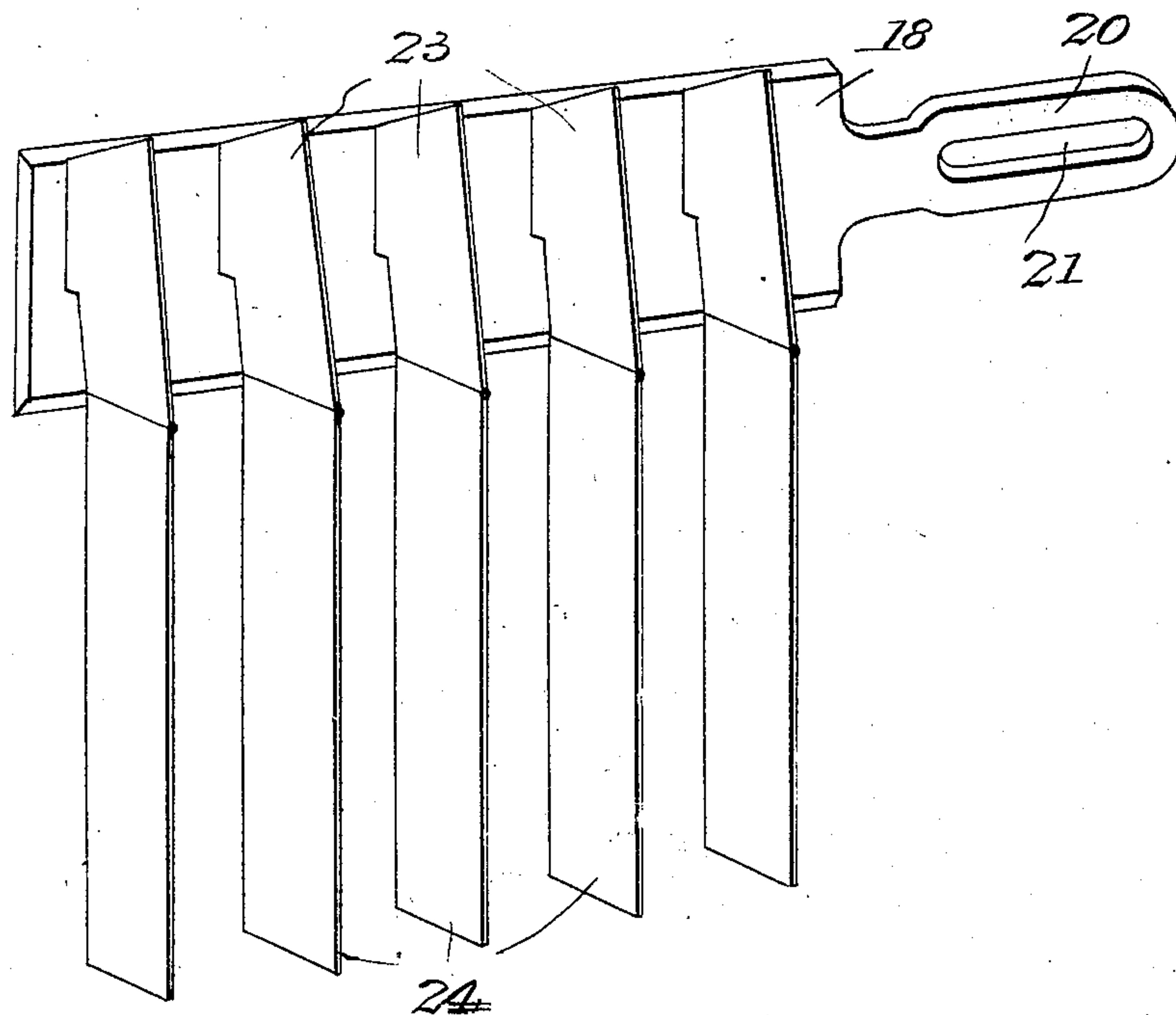
W. WOLFE.
GRADING MACHINE.

APPLICATION FILED AUG. 20, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM WOLFE, OF BATAVIA, OHIO.

GRADING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 774,127, dated November 1, 1904.

Application filed August 20, 1903. Serial No. 170,200. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WOLFE, a citizen of the United States, residing at Batavia, in the county of Clermont and State of Ohio, have invented a new and useful Grading-Machine, of which the following is a specification.

The present invention relates to improvements in machines of that general class employed for grading articles of different size.

The principal object of the invention is to provide a mechanism that will automatically separate articles of different thickness, such as soles or heels of shoes, articles of the same size being delivered to the same compartment.

A further object of the invention is to provide a device of this character in which the passage of the article operates to move the proper receiving-compartment in position to receive said article as it is delivered from the machine.

A further object of the invention is to provide a grading device in which a plurality of receiving-compartments or bins are so arranged that any one compartment may be placed in receiving position in accordance with the thickness of the article passing through the machine.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation of a grading-machine constructed in accordance with the invention. Fig. 2 is a detail view looking from the inner side of the slide that carries the delivery-chutes leading to the separate bins or receiving-compartments. Fig. 3 is a transverse sectional elevation of a portion of the machine on the line 3-3 of Fig. 1.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the drawings, 1 indicates a supporting-frame of any suitable construction. This frame is provided with bearings for the reception of a horizontally-disposed shaft 2, on the outer end of which are fast and loose pulleys 3 and 4, over which may pass a belt leading from any suitable source of power. On the shaft is secured a flat-faced feed-roller 5, the periphery of said roller being polygonal in form in order that it may the better engage the articles to be fed.

At a point above the roller 5 is a guide 6 for the reception of a vertically-movable slide 7, carrying at its lower end a roller 8 for engagement with the upper surface of the article to be graded. This slide is connected at its upper end to the longer arm of a lever 9, pivoted on a stud 10, and is carried by the upper portion of the frame. The shorter arm of the lever 9 is connected by a link 11 to a lever 12, pivoted on a stud 13 at a point near the base of the frame 1. The connection between the link 11 and lever 12 is at a point near the stud 13, so that comparatively small movement of the link will cause the outer end of the lever 12 to describe an arc of considerable length. The lever 12 is connected by a link 14 to the shorter arm of a lever 15, that is pivoted on a stud 16 at one side of the frame. The longer arm of lever 15 is connected by a link 17 to one end of a horizontally-movable slide 18, held in guideways 19 at the side of the supporting-frame. The slide 18 is in the form of a substantially rectangular plate provided at one end with a projecting arm 20, in which is formed an elongated slot 21 for the passage of a pin 22, that forms the connection between link 17 and the slide, and this slot is so disposed as to permit the slide to remain in a stationary position long enough to receive the article being delivered from the machine. The slide is provided with a number of vertically-disposed spaced plates 23, and to the lower end of each of said plates is connected a second plate 24, leading to a suitable receptacle at the base of the machine. The space between the several partitions and plates forms channels or chutes for directing articles of different size to different compartments, the articles passing between the rollers 5 and 8, serving by their

difference in size to move the slide 18 to different positions.

The movable plates 23 may in themselves be arranged to form receptacles or may be connected by the guide-plates 24 to the receptacles at the base of the machine. These plates 24 are preferably formed of very thin flexible metal to permit their ready movement with the slide.

In the operation of the machine the shoe soles or heels are fed either by hand or automatically between the rollers 5 and 8, and said roller 8 is raised for a distance corresponding to the thickness of the article. If the article is extremely thick, the slide 18 will be moved until the last of the compartments, or that one nearest the pivot-pin 22, is moved in alinement with the roller 5, and the article will be delivered from between the rollers and fall to the proper compartment, the delivery being accomplished while the pin 22 is receding toward the outer end of the slot 21. The heels or other articles are measured by the distance between the periphery of the roller 8 and the angle between two adjacent faces of the polygonal roller 5, thus insuring positive feeding and absolute accuracy of measurement, while at the same time permitting quick return of the parts to initial position.

The mechanism, while intended principally for measuring and grading heels and soles for boots and shoes, may be employed without change for the grading of articles of various character without departing from the invention.

Having thus described the invention, what is claimed is—

1. A guided slide, a plurality of receivers carried thereby, measuring devices of which one is movable from and toward the other, and means connecting the movable device to

the slide, there being means for permitting lost motion between the slide and its connections at the completion of each operative movement of the measuring devices.

2. In combination, a pair of measuring-rollers of which one is movable from and toward the other, a guided slide, a plurality of receivers carried thereby and movable with the slide to adjust any receiver in alinement with the rollers, and a system of levers connecting the movable roller to the slide.

3. In combination, a pair of measuring-rollers of which one is movable from and toward the other, a movable slide, a plurality of receivers carried thereby and adjustable into alinement with the rollers, and a plurality of levers connecting the movable roller to the slide, the terminal lever having a slotted connection with the slide in order to permit lost motion at the completion of each operative movement of the movable roller.

4. In combination, receivers, a pair of rollers of which one is movable from and toward the other, one of said rollers having a polygonal surface, and means for connecting the movable roller to the receivers.

5. In a measuring and grading device, measuring means including a pair of members of which one is movable from and toward the other, a guided slide constituting a portion of the receiving mechanism and connected to and receiving motion from the movable measuring member, and a plurality of hinged plates carried by said slide.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM WOLFE.

Witnesses:

A. J. GRIMES,
EDWARD STUMP.