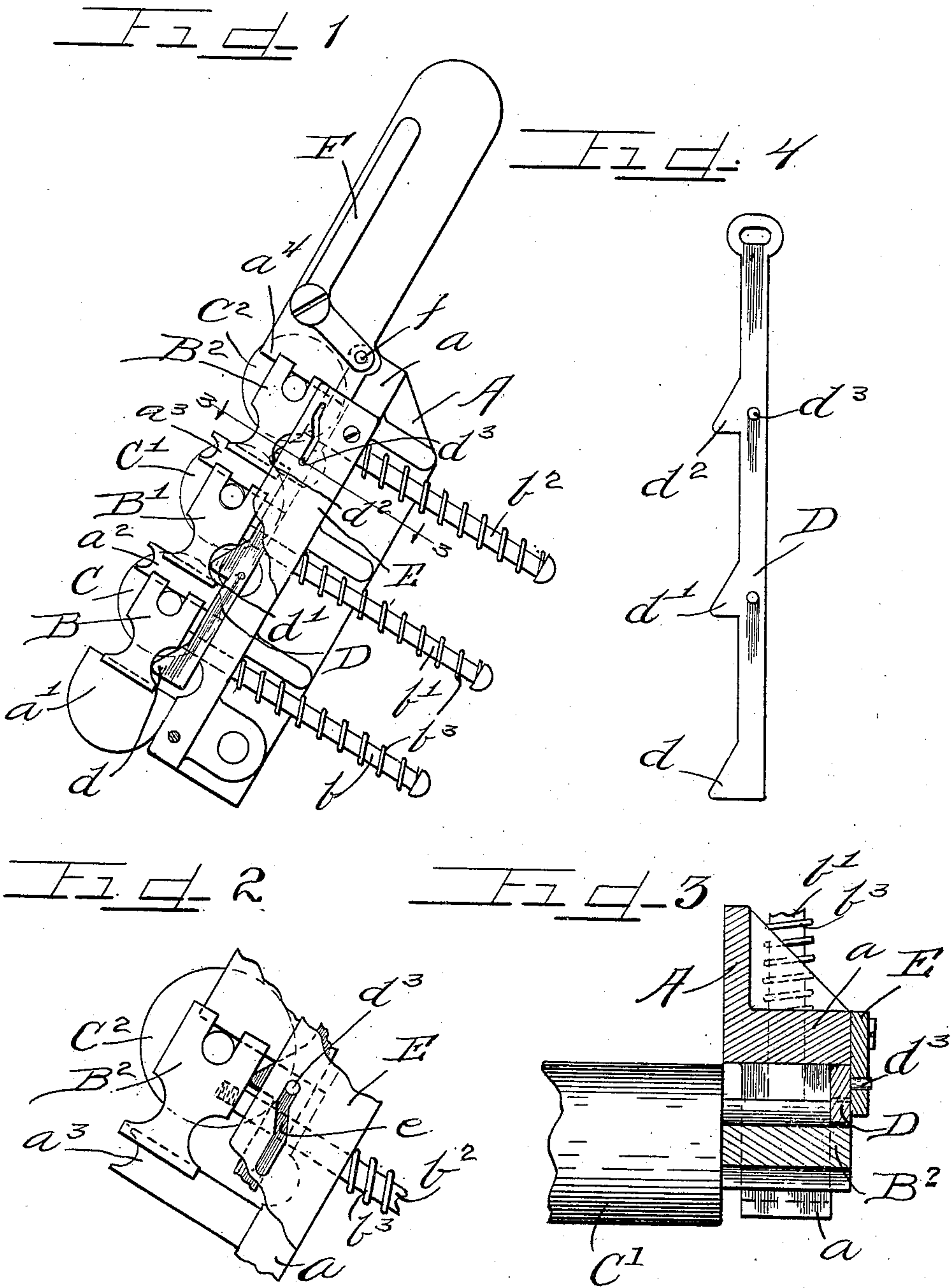


H. ROSENTHAL.
ADJUSTING MECHANISM FOR ROLLERS.
APPLICATION FILED NOV. 17, 1908.

991,544.

Patented May 9, 1911.



WITNESSES

J. W. Angell.

[Signature]

INVENTOR

Herman Rosenthal.

[Signature] Attorney

UNITED STATES PATENT OFFICE.

HERMAN ROSENTHAL, OF CHICAGO, ILLINOIS.

ADJUSTING MECHANISM FOR ROLLERS.

991,544.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed November 17, 1908. Serial No. 463,012.

To all whom it may concern:

Be it known that I, HERMAN ROSENTHAL, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Adjusting Mechanisms for Rollers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in adjusting mechanisms for rollers of that class set forth in my prior application for patent filed June 27, 1907, Serial No. 381,051.

Heretofore mechanisms of this class that have been provided for adjusting rollers away from other rollers or surface with which contacting, have proven unsatisfactory inasmuch as the rollers could never be shifted sufficiently to permit free access to the rollers or surface for repairing, cleaning or other purposes.

It is an object of this invention to provide mechanism for simultaneously adjusting a plurality of rollers out of contacting relation with other rollers or surface, a sufficient distance to permit free access to all of the rolls for any purpose whatsoever.

It is an important object of this invention to provide a multiple cam mechanism capable of affording at least twice the adjustment of any device of this class heretofore known.

It is also a very important object of this invention to provide an adjusting mechanism exceedingly easy to operate, simple and compact in construction, cheap to attach and capable of being secured to any machine.

The invention relates to the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 illustrates a side view of mechanism embodying my invention with the rollers in normal position. Fig. 2 is an enlarged fragmentary detail showing one of the rollers in adjusted position. Fig. 3 is a section taken on line 3—3 of Fig. 1. Fig. 4 is a side elevation of the adjusting cam bar.

As shown in the drawings: A indicates one of the end frame members or bars rigidly secured to which is an outwardly directed bar or flange a and guide bars a' — a^2 — a^3

and a^4 are secured to said bar a in any preferred manner.

Bearing blocks B—B' and B² are adjustably engaged between the guides and journaled therein are the shafts of the rollers C—C' and C². Each of said blocks, as shown, is provided with a cam notch or recess in the inner side thereof adjacent the bar or flange a and also a flat face adjacent the notch.

Stems b — b' — b^2 are rigidly secured at one end to the respective bearing blocks which extend through apertures in the bar or flange a and springs b^3 are engaged on the stems between the flanges and heads on the ends of the stems and act to return the rollers to normal as is usual.

Slidably engaged on the flange or bar a beneath the bearing blocks B—B' and B² and outside of the guide bars is a cam bar D integrally secured to which are the cams d — d' and d^2 , one adapted to fit in each cam notch or recess when the rollers are in normal position.

A guide plate E is rigidly secured to the flange or bar a and at all times retains the cam bar in position. Said plate is provided with obliquely inclined cam slots e which communicate at each end with slots extending parallel with the plate and pins d^3 rigidly secured to said cam bar D engage normally in the lower of said slots.

A lever F pivoted at any suitable place is provided at one end with a pin f which engages in a transverse slot in the end of the cam bar and is adapted when actuated to slide the cam bar longitudinally.

The operation is as follows: Each end of the rollers is provided with an adjusting mechanism. To adjust the rollers the lever F is actuated which shifts the cam bar transversely of the rollers. During the first half of the movement of said cam bar the inclined faces of the cams d to d^2 inclusive engaging on the edge of the cam notches easily and quickly forces the rollers away from the rollers or surface which they contact until the cams rest beneath the flat faces of the bearing blocks. At this time the pins in their respective slots have traversed the distance of the lower horizontal slots and engage in the oblique cam slots thereby continuously elevating the rollers until the pins engage in the upper horizontal slots.

It will be seen that the rollers may be adjusted any desired distance away from the

surface they contact by increasing the height of the plate E and consequently the length of the cam slots *e*.

Inasmuch as part of the adjustment is 5 afforded by the cams *d* to *d*² inclusive and the remainder by the pins and cam slots, an exceedingly easy and continuous adjustment is afforded and the plates E act to guide the cam bars in their movements.

10 Other forms of cam slots may be used and if an exceedingly great adjustment is found necessary, oppositely disposed cams may be secured on the cam bar as shown in my prior application, which increases the ad- 15 justment about one third.

Many details of construction may be varied and I therefore do not desire to limit this application for patent otherwise than necessitated by the prior art.

20 I claim as my invention:

1. In a roller shifting mechanism adjustable bearing blocks, cam bars, cams on said bars engaging beneath the blocks and adapted to adjust the rollers by movement of the 25 bar and means adapted to actuate the bar to further adjust the rollers after the limit of the adjustment by the cams.

2. In a device of the class described a bar, guides secured thereto, notched bearing 30 blocks adjustable on said guides, a cam bar between said blocks and bar, cams thereon engaging in the notches in said bearing block, a plate secured to the first named bar provided with cam slots and pins on the cam 35 bar engaging the cam slots.

3. In a roller adjusting mechanism, a bar,

guides thereon, bearing blocks having cam notches therein and adjustable on the guides, a plate secured to said bar having cam slots therein, a cam bar below the bearing blocks, 40 cams thereon engaging in the cam notches in the bearing blocks and means secured to the cam bar extending into the cam slots in said plate.

4. In a roller adjusting device a bar, 45 notched bearing blocks, a cam bar, cams thereon engaging in the notches in the block, a guide plate provided with horizontal slots and an oblique cam slot connecting the same and pins or projections engaged to the cam 50 bar and normally extending into one of the horizontal slots adapted to engage in the oblique cam slot.

5. In a device of the class described end frame members, an outwardly directed 55 flange secured thereto, a plurality of guide bars secured to the flange, bearing blocks adjustably engaged between the guides and provided with a cam notch in the inner side thereof, cam bars, cams on said bars engag- 60 ing in the notches beneath the bearing blocks and adapted to adjust the rollers by movement of the bar and means adapted to further adjust the rollers after the limit of the adjustment of the cams. 65

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

HERMAN ROSENTHAL.

Witnesses:

K. E. HANNAH,
J. W. ANGELL.