

No. 694,314.

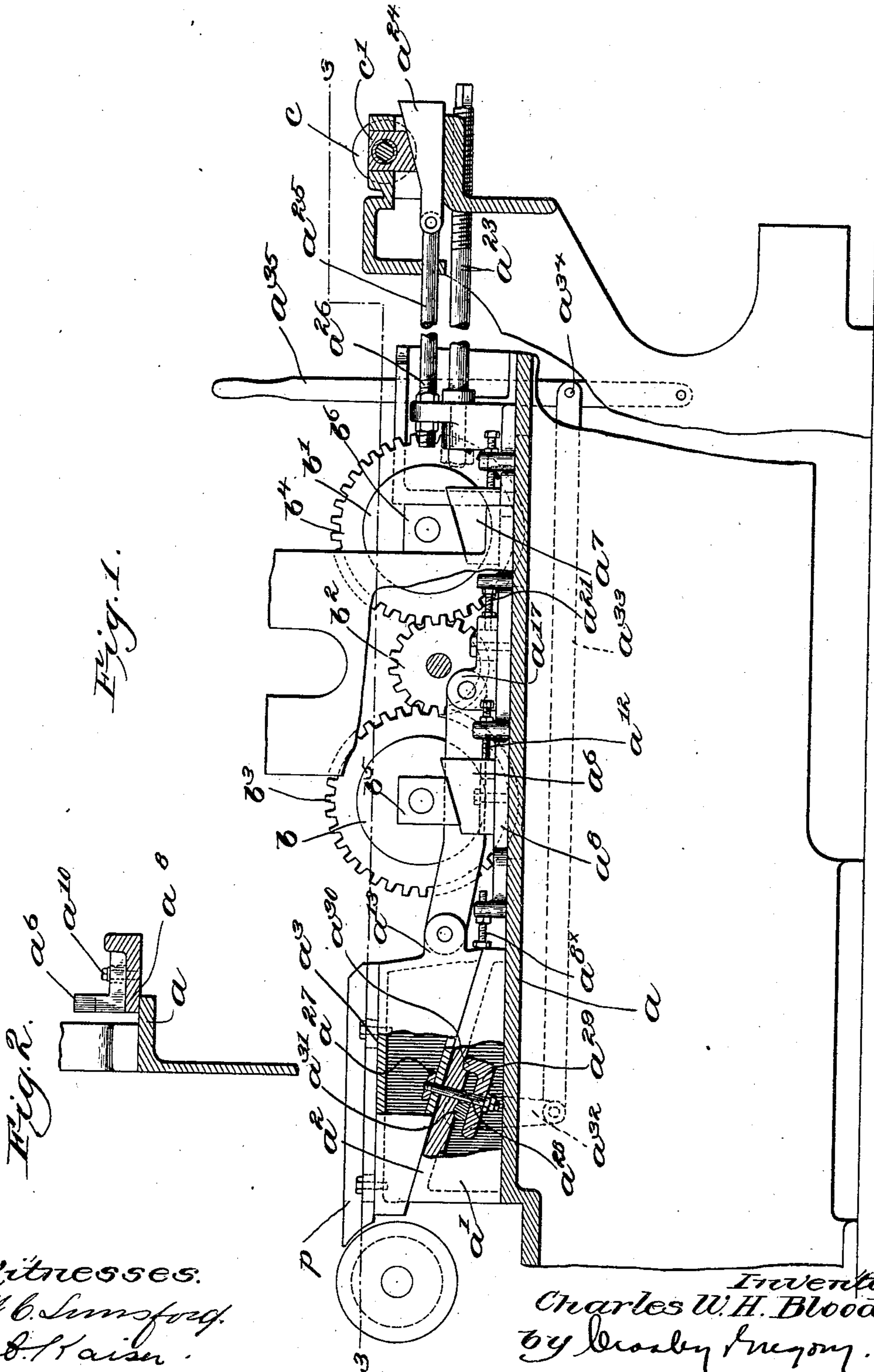
Patented Feb. 25, 1902.

C. W. H. BLOOD.
PLANING MACHINE.

(Application filed May 31, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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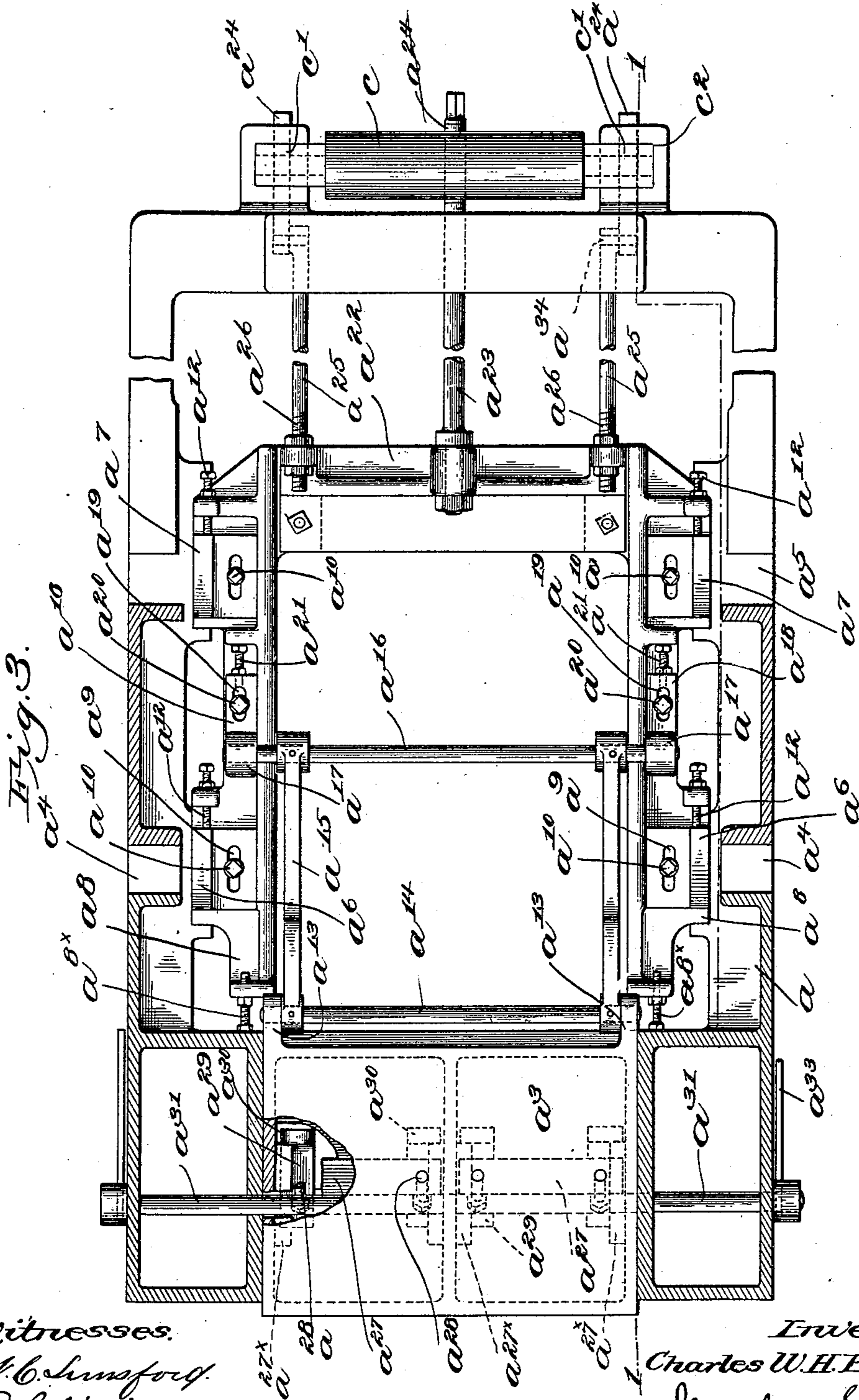
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UNITED STATES PATENT OFFICE.

CHARLES W. H. BLOOD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO S. A. WOODS MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PLANING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 694,314, dated February 25, 1902.

Application filed May 31, 1901. Serial No. 62,535. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. H. BLOOD, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Planing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to planing-machines, and has for its object the provision of means for adjusting the platen and feed-rolls vertically either simultaneously or separately, the simultaneous adjustment being for the purpose of causing the cutter to take a deep or shallow cut, as the case may be, and the separate adjustment being to take up wear.

My invention relates to that class of planing-machines in which the lower horizontal cutter is not adapted for different depths of cut, but the adjustment takes place in the bed of the machine. This arrangement is of special advantage for many reasons, and the mechanism which I have herein shown and which will be more particularly described later on effects its objects by means of an inclined surface or wedge action, the platen resting on an inclined projection or portion of the bed, and the journal-boxes of the feed-rolls being similarly provided with wedge-shaped supports, while also the idle roll at the front of the machine has the same general provision.

In the drawings, in which I have illustrated a preferred embodiment of my invention, Figure 1 is a vertical longitudinal section taken substantially on the irregular line 1 1, Fig. 3. Fig. 2 is a transverse vertical sectional detail to be referred to. Fig. 3 is a horizontal section taken substantially on the broken line 3 3, Fig. 1, the platen being omitted.

It will be understood that the general details of the machine may be of any usual or preferred kind, there being herein shown merely sufficient of said details to enable my invention to be readily apprehended.

On the frame of the machine I provide a bed a' , having an inclined upper surface a^2 , and extending preferably entirely across the

machine, as is clearly shown in Fig. 3. Rest-
ing on the surface a^2 is a platen-wedge a^3 ,
having a lower inclined surface correspond-
ing in pitch to the surface a^2 , its upper sur-
face being horizontal for carrying a platen
proper, p . The lower feed-in rolls of the ma-
chine are indicated at $b b'$, being driven in
usual manner by a pinion b^2 , meshing with
gears $b^3 b^4$ thereof, said rolls having their
journal-boxes $b^5 b^6$ mounted in vertical ways
 $a^4 a^5$ in the frame of the machine (see Fig. 3) and
extending inwardly beyond said ways to be en-
gaged by wedge-blocks $a^6 a^7$. These wedge-
blocks are supported on slide-plates a^8 , resting
on ways a at the opposite sides of the machine,
limited in its forward movement by bolts a^{8x} ,
and are shown as adjustable thereon by means
of slots a^9 and bolts $a^{10} a^{12}$. At its forward end
the platen-wedge a^3 has ears a^{13} , receiving a
pivot-bar a^{14} , to which links a^{15} are connected.
At their opposite ends the links a^{15} are piv-
oted on a cross-bar a^{16} , secured at its ends
in ears a^{17} of blocks a^{18} , mounted on the slide-
plates a^8 and shown as adjustable thereon by
slots a^{19} and bolts $a^{20} a^{21}$. At their front ends
the slide-plates a^8 are connected by means of
a bridge-piece a^{22} , in which is swiveled an op-
erating rod or bar a^{23} , having suitable en-
gagement, as by means of screw-threads, with
the frame of the machine and provided at its
front end with suitable means for operating
it, herein shown as a squared end to receive
a crank.

At its front end the machine is provided
with a usual idle roll c , which also is made
adjustable vertically in order that it may be
simultaneously adjusted with the platen and
feed-rolls, having for this purpose its journal-
boxes c' , carried in vertical ways c^2 of the bed-
frame, said journal-boxes being supported on
wedge-blocks a^{24} , connected by rods or links
 a^{25} with the bridge-piece a^{22} , said rods being
adjustable in the latter by means of the thread-
ed ends a^{26} for the purpose of independent ad-
justment separate from the other parts of the
connected mechanism.

The platen-wedge a^3 may be locked in its
adjustment by any suitable means, being
herein shown as provided with a special clamp

comprising bars a^{27} , resting on ledges a^{27x} , projecting from the inner sides of the walls of the platen-wedge a^3 , connected by bolts a^{28} with a series of clamping-blocks a^{29} , resting at one end a^{30} against the under side of the projection a^{21} and at their other end being engaged by a rock-shaft a^{31} , having a flattened side, as is clearly shown in Fig. 1, said rock-shaft being operated by a crank a^{32} , connected by links a^{33} , pivoted at their forward end at a^{34} to an operating-lever a^{35} , the object thereof being to provide adjacent the front end of the machine the operating means of the parts when it is desired quickly to raise or lower the various parts, as will readily be understood.

From the above description it will be apparent that whenever it is desired to raise or lower the various rolls and platen the latter is simply unclamped by bringing the lever a^{35} to the position shown in Fig. 1 and then turning the operating-rod a^{23} one way or the other, as the case may be, so as simultaneously to pull or push the various parts along, thereby causing the platen to rise or lower by its movement along the inclined surface a^2 and causing the journal-boxes b^5 , b^6 , and c' to rise or lower by the movement thereunder of the wedge-blocks a^6 , a^7 , and a^{24} , respectively. If, on the other hand, any of these parts for any reason change their relative positions—as, for instance, by the wear of the parts—they may be independently adjusted, the platen being adjusted relatively to the other parts simply by moving the blocks a^{18} one way or the other and either feed-roll being adjusted by sliding the wedge-blocks a^6 a^7 , or any of them, one way or the other along the plate a^8 on the bed of the machine, and so the idle roll may be adjusted by adjusting either or both of the blocks a^{24} by means of the threaded rods a^{25} . It will be seen that by reason of the various bolts a^{12} a^{21} the parts are kept in rigid adjustment and prevented from slipping.

While I have herein described my mechanism in all its preferred details, I wish it understood that I am not limited thereto, as various changes and other arrangements may be resorted to within the spirit and scope of my invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a machine-frame, a horizontally-movable platen, horizontally-stationary feed-rolls, and means moving horizontally for vertically adjusting the feed-rolls and horizontally moving the platen, and co-operating means causing a vertical movement of the platen to result from its horizontal movement.

2. In a machine of the kind described, a platen, a support therefor, said support having an inclined upper surface, means for causing relative horizontal movement of said platen and support for adjusting the platen verti-

cally, a vertically-adjustable feed-roll, wedge-blocks supporting said feed-rolls and horizontally movable for the vertical adjustment of the feed-roll, slide-plates carrying said wedge-blocks, said slide-plates being horizontally movable on the frame of the machine, connections from said slide-plates to cause the said relative horizontal movement between said platen and its support, means for operating said slide-plates, and means for independently adjusting said wedge-blocks and said connections on said slide-plates.

3. In a machine of the kind described, a frame, slide-plates horizontally movable thereon, wedge-blocks adjustably mounted on said slide-plates, a plurality of feed-rolls vertically movable in the frame and supported therein on said wedge-blocks, and means for moving said slide-plates longitudinally of the frame of the machine.

4. In a machine of the kind described, a frame, slide-plates horizontally movable thereon, wedge-blocks adjustably mounted on said slide-plates, a feed-roll vertically movable in the frame and supported therein on said wedge-blocks, a platen provided with wedging means for raising the same, connections therefrom to said slide-plates, means for adjusting said connections on said slide-plates, and means for moving said slide-plates longitudinally of the frame of the machine.

5. In a machine of the kind described, a frame having horizontal ways at its opposite sides, slide-plates resting on and longitudinally movable along said ways, said plates having horizontal upper surfaces, wedge-blocks resting on said upper surfaces and provided with slot-and-bolt connections there-with for longitudinal adjustment, a platen, a support therefor, said platen and support having coöperating inclined surfaces, blocks mounted on said slide-plates, bolt-and-slot connections therewith for adjustment, links pivotally connected to said blocks and to said platen, a bridge-piece connecting said slide-plates, and means engaging said bridge-piece for moving said plate on said ways.

6. In a machine of the kind described, a frame having horizontal ways at its opposite sides, slide-plates resting on and longitudinally movable along said ways, said plates having horizontal upper surfaces, wedge-blocks resting on said upper surfaces and provided with slot-and-bolt connections there-with for longitudinal adjustment, a platen, a support therefor, said platen and support having coöperating inclined surfaces, blocks mounted on said slide-plates, bolt-and-slot connections therewith for adjustment, links pivotally connected to said blocks and to said platen, adjustable means for limiting the movement of said several blocks on said plates and the plates on said ways, a bridge-piece connecting said slide-plates, and means engaging said bridge-piece for moving said plate on said ways.

7. In a machine of the kind described, a bed,

a cutter and feed-rolls mounted on said bed, a movable platen for supporting the material fed by said rolls to said cutter, a support for said platen, having its upper surface inclined upwardly toward said cutter, and the platen having a cooperating inclined bottom surface, wedge-blocks supported to have horizontal motion and having their top surfaces inclined downwardly toward said platen-support for carrying the journal ends of said feed-rolls, and means for simultaneously moving said wedge-blocks and platen horizontally.

8. In a machine of the kind described, a bed having an inclined upper surface, a platen-support having an inclined under surface, inclined to cooperate therewith, means for relatively moving said two parts for vertically adjusting the platen, one of said parts containing ledges located adjacent said cooperating inclined surfaces, a bar engaging said ledges, clamping-blocks opposite said bar, and

means connected with said bar for moving said blocks into clamping position.

9. In a machine of the kind described, a bed having an inclined upper surface, a platen-support having an inclined under surface, inclined to cooperate therewith, means for relatively moving said two parts for vertically adjusting the platen, one of said parts containing ledges located adjacent said cooperating inclined surfaces, a bar engaging said ledges, clamping-blocks opposite said bar, an angular rock-shaft bearing against said blocks, and means to rock said shaft for operating the clamping-blocks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. H. BLOOD.

Witnesses:

GEO. H. MAXWELL,
GEO. W. GREGORY.