E. EVANS.

DEVICE FOR ADJUSTING THE FEED MECHANISM OF SHINGLE MACHINES.

APPLICATION FILED APR. 26, 1915.

1,166,666. Patented Jan. 4, 1916.

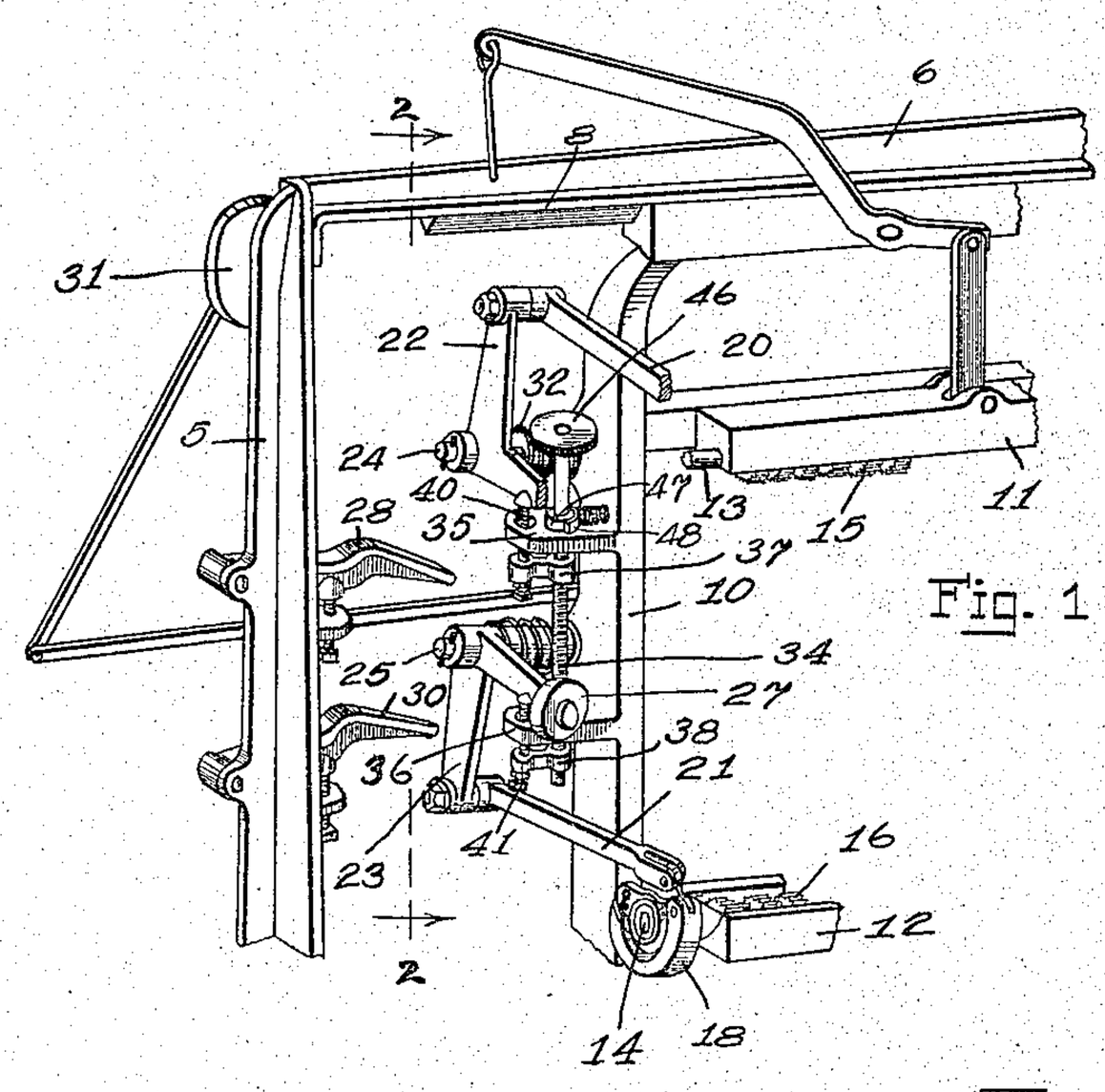

Fig. 1

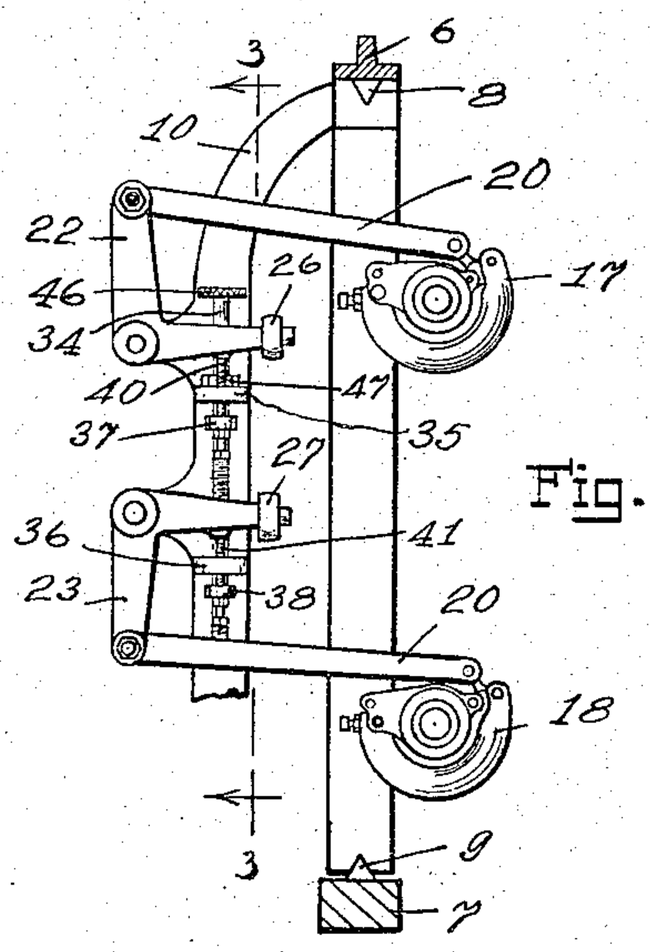

Fig. 2

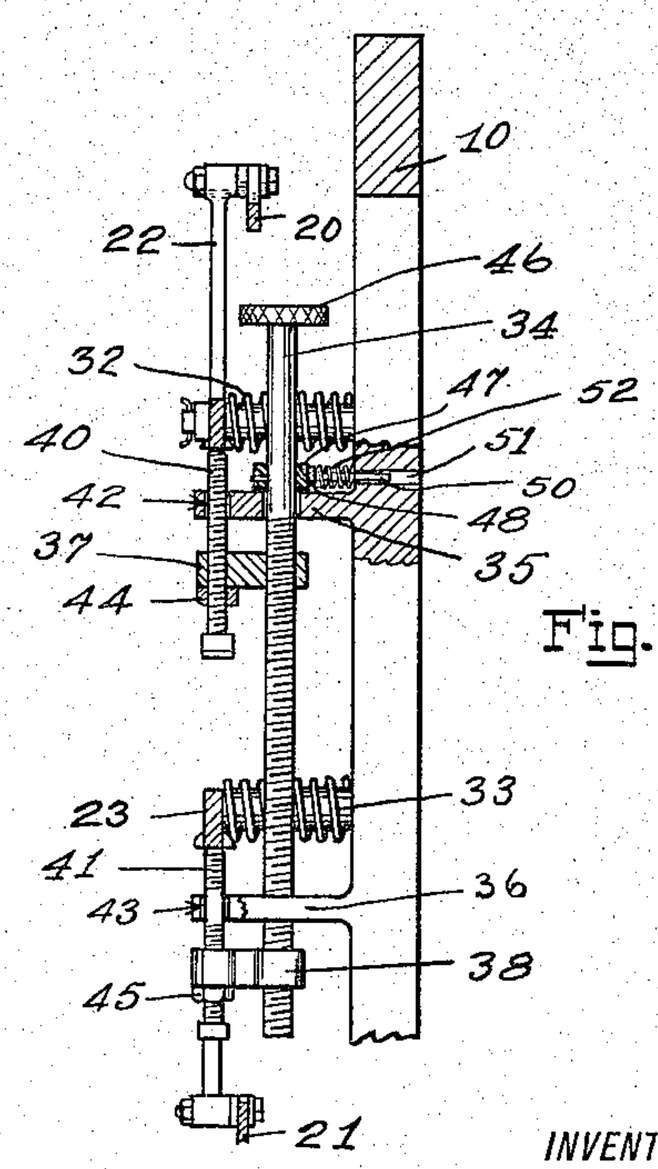

Fig. 3

WITNESSES:

J. A. Wasser

F. E. Mahoney

INVENTOR

Enos Evans

BY

Richard J. Cook

ATTORNEY

UNITED STATES PATENT OFFICE.

ENOS EVANS, OF EDMONDS, WASHINGTON.

DEVICE FOR ADJUSTING THE FEED MECHANISM OF SHINGLE-MACHINES.

1,166,666. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed April 26, 1915. Serial No. 24,119.

To all whom it may concern:

Be it known that I, ENOS EVANS, a citizen of the United States, residing at Edmonds, in the county of Snohomish and State of Washington, have invented new and useful Improvements in Devices for Adjusting the Feed Mechanism of Shingle-Machines, of which the following is a specification.

This invention relates to improvements in devices for adjusting the feed mechanism of shingle machines and the object of the improvement is to provide an adjusting device for the feed mechanism of a shingle machine that is strong and simple in construction, positive in its action, one that may quickly and easily be installed on upright shingle machines of a well known type and that may be operated without stopping the machine to vary the thickness of the shingles cut by such machine.

The invention consists in the novel combination and adaptation of parts of an adjusting device as will be more clearly described in the following specification, illustrated in the accompanying drawings and finally pointed out in the appended claims.

Referring to the drawings, Figure 1 is a view in perspective of the feed mechanism of a shingle machine of a well known type upon which my adjusting device has been installed; Fig. 2 is a view of the same on broken line 2, 2 of Fig. 1, showing parts of the feed mechanism in elevation and Fig. 3, is an enlarged sectional view on broken line 3, 3 of Fig. 2.

In upright shingle machines of the type herein illustrated it has heretofore been customary to vary the thickness of the shingles by performing two separate adjustments, one for the butt and one for the tip of the shingle. This makes it necessary to stop the machine and often results in an uneven adjustment of the two ends.

It is the purpose of the present invention to provide means for performing these two adjustments simultaneously without stopping the machine and to insure that the resulting variation in thickness of the tips and butts of the shingles due to the adjustment will be the same.

For the purpose of this application, the invention is shown as associated with an upright shingle machine of a well known type and in order to explain more clearly the operation of the invention, the construction and operation of this type of shingle machine will first be explained briefly.

Referring to the drawings throughout which like reference numerals indicate like parts the numeral 5 indicates a vertically disposed frame element of an upright shingle machine and 6 and 7 are upper and lower horizontal frame members respectively, to which are secured wedge shaped track bars 8 and 9 that serve as guides for a longitudinally reciprocating carriage consisting in upright members 10 and horizontal shingle block-holding bars 11 and 12. The block-holding bars 11 and 12 are provided with longitudinally extending shafts 13 and 14 upon which are secured a plurality of rolls 15 and 16 having spur teeth and adapted to grip the upper and lower faces of a shingle block, the block-holding bar 11 being adapted by suitable means to be lifted slightly to permit shingle blocks to be inserted between the rolls 15 and 16. The outer ends of the shafts 13 and 14 are provided with fixedly secured ratchets 17 and 18 that are connected by links 20 and 21 with the ends of bell cranks 22 and 23 which are fulcrumed on pins 24 and 25 in the upright members 10 and are provided on their opposite ends with rollers 26 and 27 that engage with cams 28 and 30 on the frame element 5 and are lifted thereby to turn the rolls 15 and 16 the cams 28 and 30 preferably being connected with a set works 31 of well known type by which they are lifted alternate different distances to move the top rolls 15 and bottom rolls 16 alternate different amounts to cut a portion of the shingles' butts from the top and tips from the bottom of a shingle block and a substantially equal portion in an opposite manner, tips from the top and butts from the bottom of the shingle block to obviate waste of lumber. The ratchets 17 and 18 are preferably of the friction type and are so constructed that they admit of no lost motion whatever in one direction thus making it possible by regulating the throw of the bell cranks 22 and 23 to secure any desired amount of turning of the rolls 15 and 16 and any desired thickness of shingle. After the bell crank levers 22 and 23 have been oscillated about the pivots 24 and 25 to feed the shingle blocks forward such levers are automatically returned to their initial position by springs 32 and 33 and it is the location of

this initial position that regulates the throw of the ratchets 17 and 18 and the advance of the rolls 15 and 16.

For the purpose of regulating the return movement of the bell crank levers 22 and 23 and the consequent advance movement of the shingle block on each reciprocation of the carriage I have provided a screw shaft 34 that extends downwardly through holes in two outwardly projecting plates 35 and 36, formed integral or otherwise rigidly connected with the upright carriage members 10 and is provided with arms or brackets 37 and 38 that are screwed thereon and provided at their outer ends with set screws 40 and 41 adapted to project upwardly through holes 42 and 43 in the plates 35 and 36 to form stops for the bell crank levers 22 and 23. The set screws 40 and 41 are screwed through the arms 37 and 38 and are secured against turning by jam nuts 44 and 45. The top end of the screw shaft 34 is provided with a hand wheel 46 by which it may be turned and such shaft is supported vertically by a collar 47 that is fixedly secured thereto and is adapted to rest on the plate 35.

48 is a fork that straddles the collar 47 and has a shank 50 that projects within a hole 51 in the member 10 and is provided with a compression spring 52 that exerts a pressure on the fork 48 and causes it to frictionally engage with the collar 47 to prevent turning of the shaft 34 due to the jar of the machine and at the same time to permit such shaft to be turned by the hand wheel 46.

The operation of the invention may be described as follows: When the machine is in operation and it is desired to cut a shingle of greater thickness the screw shaft 34 may be turned in one direction to cause the arms 37 and 38 to be screwed downwardly thereon and permit a greater amount of oscillation of the bell crank levers 22 and 23 thus increasing the length of stroke of the links 20 and 21 and consequently increasing the amount of turning of the rolls 15 and 16 and the amount of forward movement of the shingle block. If it is desired to reduce the thickness of the shingles the shaft 34 is turned in an opposite direction to lift the arms 37 and 38 and reduce the amount of oscillation of the bell crank levers 22 and 23 and consequently reducing the amount of outward movement imparted to the shingle block on each reciprocation of the carriage.

The plates 35 and 36 are usually provided on shingle machines of the class illustrated in the accompanying drawings and it is only necessary when this invention is installed on such machines to drill holes for the shaft 34 and to drill or enlarge existing holes for the set screws 40 and 41 and the shank 50 of the fork 48.

Obviously my adjusting device may be applied to various types of machines other than the one herein shown and described.

What I claim and desire to protect by Letters Patent, is:—

1. A device of the class described comprising lever arms, a threaded shaft, supports for said shaft, arms adapted to screw onto said shaft and stud pins disposed to project upwardly from said arms to engage with said lever arms to limit the downward movement thereof.

2. A device of the class described comprising a shingle machine that is provided with bell crank levers, a threaded shaft disposed in brackets on said shingle machine, arms adapted to screw onto said threaded shaft and having stud pins disposed to project upwardly through said brackets to limit the movement of said bell crank levers, said arms being adapted to be moved vertically by rotation of said shaft, a collar provided on said shaft and adapted to engage with one of said brackets to support said shaft and a spring pressed friction member to engage with said collar to resist turning of said shaft.

3. A device of the class described comprising a shingle machine that is provided with bell crank levers, a threaded shaft secured in brackets on said shingle machine, arms screwed onto said shaft, and set screws adapted to project upwardly from said arms and to engage with said bell crank levers to limit the movement thereof said set screws being adapted to be moved vertically by rotation of said threaded shaft.

4. A device of the class described comprising elements adapted for limited movement, and devices for varying the limit of movement of said elements said devices consisting in a threaded shaft that is supported in brackets, arms screwed on said brackets and adapted to be moved vertically by rotation of said threaded shaft and means associated with said arms and engaging with said movable elements whereby the limit of movement of all said elements may be changed simultaneously.

ENOS EVANS.

Witnesses:
G. A. WASSER,
E. B. HERALD.