T. C. RUSH.

DEVICE FOR MEASURING WOVEN WIRE.

APPLICATION FILED JULY 17, 1915.

1,172,052.

Patented Feb. 15, 1916.

2 SHEETS—SHEET 1.

Fig. 2.

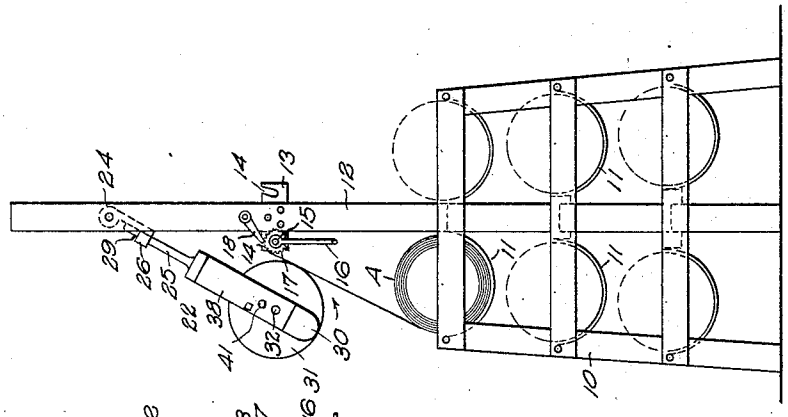
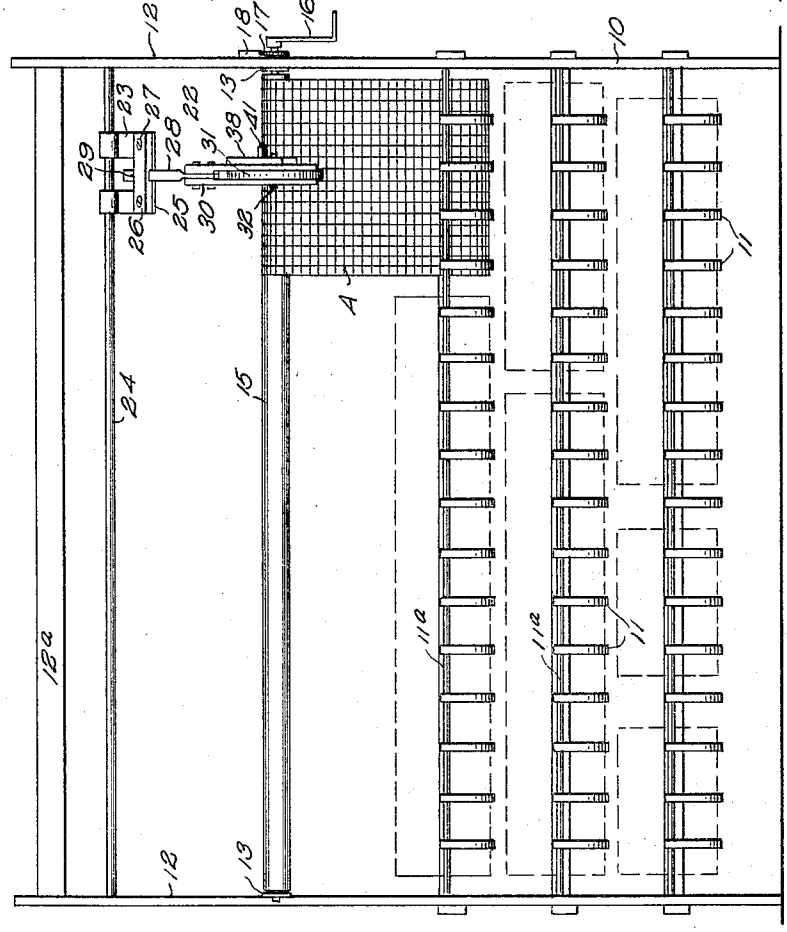


Fig. 1.



WITNESSES

F. D. Sweet.

J. L. McCauliffe

INVENTOR

T. C. Rush

BY Munn & Co

ATTORNEYS

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 5

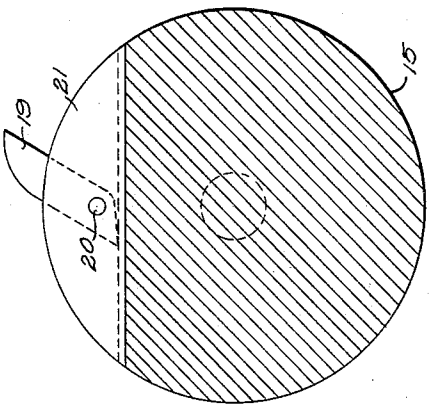


Fig. 6

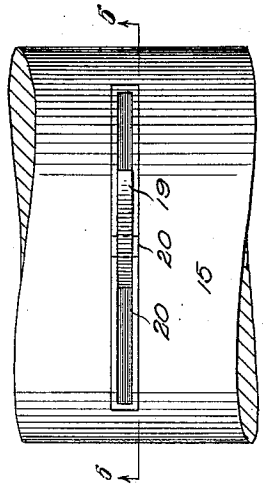


Fig. 3

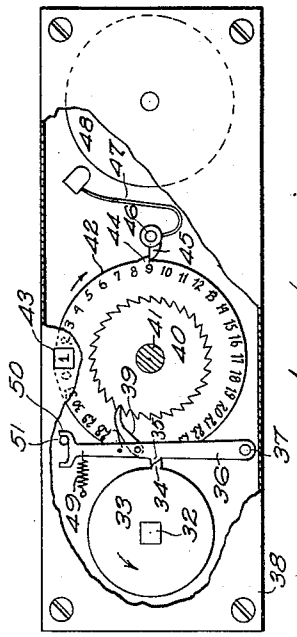
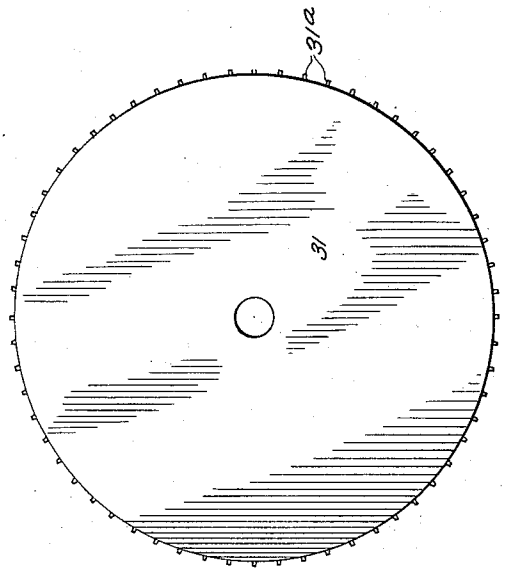


Fig. 4



WITNESSES

F. D. Sweet.

J. L. McAuliffe

INVENTOR

T. C. Rush

BY Munn & Co

ATTORNEYS

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

TURNER CLAY RUSH, OF LEXINGTON, KENTUCKY.

DEVICE FOR MEASURING WOVEN WIRE.

1,172,052. Specification of Letters Patent. Patented Feb. 15, 1916.

Application filed July 17, 1915. Serial No. 40,416.

To all whom it may concern:

Be it known that I, TURNER C. RUSH, a citizen of the United States, and a resident of Lexington, in the county of Fayette and State of Kentucky, have invented a new and Improved Device for Measuring Woven Wire, of which the following is a full, clear, and exact description.

My invention while capable of use for measuring sheet material generally, is more particularly constructed and arranged for measuring woven wire and is adapted to be arranged in connection with a stand equipped with a plurality of trays or rests to receive rolls of the wire cloth of varying widths, and if necessary, of varying mesh.

The distinguishing features of the invention and the novel structural elements entering into the specific form illustrated as an example will be particularly explained in the description following.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of measuring device embodying my invention showing the same applied to a structure for supporting rolls of wire cloth; Fig. 2 is an end view; Fig. 3 is an enlarged side view of the register, the casing of which is broken away; Fig. 4 is an enlarged side view of the actuating wheel of the register; Fig. 5 is an enlarged cross section of the winding shaft; and Fig. 6 is a fragmentary plan view showing a portion of the winding shaft.

My improved measuring device is adapted to be employed in connection with a stand 10, the detail form of which obviously may vary. The stand is provided with trays or rests 11 for receiving rolls of wire cloth indicated by the letter A. The trays 11 are preferably formed of curved slats or bars supported at the front on rods 11^a and at the back secured to any convenient members of the frame or structure 10. Two vertical series of seats 11 are provided there being one series at each side of uprights 12 which are continued above the uppermost seats 11.

On the standards 12 are secured transverse brackets or equivalent members 13, which present in their upper edges, slots 14, and provide bearings for a winding shaft 15, which thus ranges lengthwise of the structure 10 above the uppermost seats 11. There are slots 14 at each side of the standards 12 so that the shaft 15 may be shifted from one set of bearings to the other at the opposite side for the purpose of engaging the wire cloth from a roll at either side of the standard as hereinafter particularly referred to.

The winding shaft 15 is provided with any suitable means for turning the same, as, for instance, a crank handle 16. At one end on the shaft is a ratchet wheel 17, and on the adjacent standard 12 is a pawl 18 to engage the ratchet. The winding shaft 15 is equipped with teeth 19 in suitable number for the purpose of engaging the wire cloth A. The teeth are pivoted by pins 20 or the like; they are adapted to fold into transverse peripheral slots 21 in the shaft or to positions with the ends of the pins projecting beyond the periphery of the shaft as in Fig. 5. The formation of the inner end of each tooth 19 is such that it will contact with the bottom wall of the slot when moved outward at a given angle and its further swinging in the outward direction be thus prevented.

With the described construction it being desired to cut off a given length of wire cloth from any particular roll on the structure 10, the edge of the cloth of that roll is engaged over the pins 19 on the winding shaft 15 and when said shaft is turned in the proper direction, the cloth will be wound upon the shaft. The cloth having been wound in the desired quantity to suit a purchaser and the wound cloth then severed from the roll, a slight reverse movement of the shaft 15 will cause the teeth 19 to be disengaged from the cloth and folded within the slots 21 so that the cloth on the shaft may be slipped therefrom when the shaft is taken from its bearings or from one of them.

In order to measure the cloth wound by the shaft 15 from a roll, I provide a register designated generally by the numeral 22.

The said register is provided at the upper end with a suitable means for swingingly mounting the same. In the example shown, arms 23 are provided which have a swinging movement on a longitudinal rod 24 which extends between the standards 12 above the shaft 15. The standards may be braced by a top connecting bar 12ª above the rod 24. Arms 23 carry a cross head or a bar 25 at the lower ends, on which is a clamp plate 26 secured by suitable fasteners such as screws 27. A shank 28 carrying registering mechanism is held by the clamp 26, the arrangement being such that the shank may be given a partial turn about its axis for a purpose hereinafter explained. A transverse pin 29, or equivalent means, holds the shank 28 against dropping from the head 25.

Between arms 30 on the shank 28 is a measuring wheel 31 best shown in Fig. 4, which has on its periphery, radial teeth 31ª to engage in the meshes of the cloth A whereby as the shaft 15 winds the cloth thereon, the traveling cloth will turn the said wheel 31. Registering mechanism of suitable form is arranged to be actuated by the wheel 31.

The preferred form of the registering mechanism is shown in Fig. 3, and comprises elements as follows: On shaft 32 to which the wheel 31 is keyed there is keyed the initial registering wheel 33 which has a trip tooth 34 adapted to contact for each revolution of the wheel with a lateral tooth or projection 35 on a lever 36 which is fulcrumed at one end as at 37 in the register casing 38. Lever 36 carries a pawl 39 which is in engagement with a ratchet wheel 40 on a counter shaft 41. In fixed relation to the ratchet wheel 40 so as to turn therewith, is a dial or numeral wheel 42, one number of which may be viewed through an opening 43 in the casing 38. The arrangement is such that the wheel or dial 42 will be turned the distance of one tooth on the wheel 40 for each revolution of the initial wheel 33 and since the said wheel 32 is in fixed relation to the measuring wheel 31 and the latter in practice will have a peripheral length of given unit of measurement, as, for instance, one yard, the revolutions of the measuring wheel 31 will be indicated successively at the opening 43.

An alarm is provided to be sounded when the desired length of the material is wound on the winding shaft; thus the dial 42 has a tooth 44 at the periphery which is adapted to engage and trip an arm 45 on the clapper 47 of a bell 48, said clapper being pivotally mounted as at 46. The numeral wheel 42 may be manually turned to set it for sounding the alarm when the desired length of material has been measured. For this purpose, any suitable means may be provided as, for instance, the shaft 41 may extend laterally through the casing 48, to be grasped by the fingers of the vender.

The lever 36 is under the influence of a retractile spring 49 tending to turn the same after movement by the tooth 34. Also, the lever 36 has fork members 50 between which is a stop pin 51 whereby to limit the throw of the lever 36 in either direction.

The register gravitationally insures engagement of the measuring wheel 31 with the material A and the described construction provides for such gravitational engagement of the measuring wheel with the cloth at either side of the structure 10. In Fig. 2 the register is engaging cloth from a roll at the left of the standards 12. If it is desired to measure a length of cloth from a roll at the righthand side of the standards then the shaft 15 is shifted from the left slots 14 to those at the right; while the shaft it will be seen, can be displaced to permit the register to swing through an arc from the left of the standards to a position at the right, and the register may be slid longitudinally on the rod 24 to position the register centrally on the stretch of cloth, regardless of the width of the latter.

When the register is swung from the left to the right of the standards 12, the swiveled connection of the shank 28 with the head 25 will permit the register to be turned through an angle transverse to the plane of rotation of the wheel 31 in order that the direction of turning of the wheel by the material will not be changed.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

1. A measuring device for sheet material, including a structure having supports at opposite sides to receive rolled sheet material, a winding shaft, there being bearings on the structure at opposite sides thereof to receive the shaft and position the same relatively to the respective supports for the material, a register, a member carrying said register, said member being pivoted on the structure and movable on its pivot to carry the register from one side of the structure to the other according to the position of the shaft, the said register including a measuring member to be engaged and actuated by the sheet material as the latter is wound on the shaft, and means connecting the register with the pivoted member and adapted to permit reversal of the register to accord with the direction of movement of the cloth.

2. A measuring device comprising a structure having supports at opposite sides thereof to receive rolls of sheet material and having shaft bearings on opposite sides of the structure, a winding shaft adapted to be shifted to the bearings at either side, a pivotally mounted register device on said structure adapted to gravitationally engage the

material on the winding shaft, the said register being pivoted to be swung to either side of the structure to engage material at either side and being mounted on an axis to turn through an angle transverse to the plane of rotation of the registering wheel.

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

TURNER CLAY RUSH.

Witnesses:
G. R. COMBS,
A. L. CALHOUN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."