

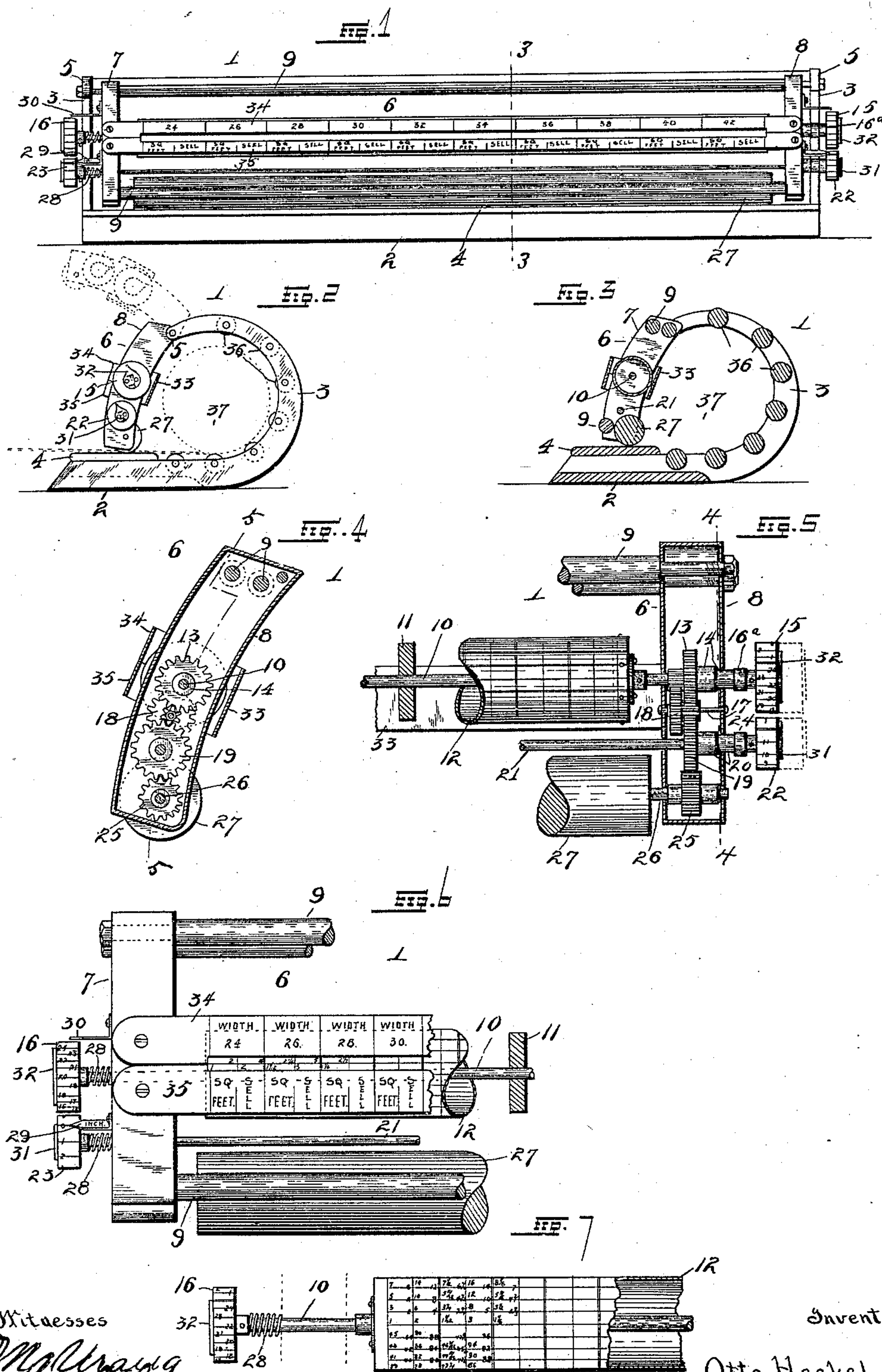
(No Model.)

O. HECKEL.

CLOTH COMPUTING AND MEASURING MACHINE.

No. 580,862.

Patented Apr. 20, 1897.



UNITED STATES PATENT OFFICE.

OTTO HECKEL, OF ST. LOUIS, MISSOURI.

CLOTH COMPUTING AND MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 580,862, dated April 20, 1897.

Application filed January 26, 1897. Serial No. 620,822. (No model.)

To all whom it may concern:

Be it known that I, OTTO HECKEL, of St. Louis, State of Missouri, have invented certain new and useful Improvements in Wire-Cloth Computing and Measuring Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in a wire-cloth computing and measuring machine; and it consists in the novel arrangement, construction, and combination of parts, as will be more fully hereinafter described, and set forth in the claims.

The object of my invention is to construct a device in which a roll of wire-cloth or screening or other material may be placed, and by unwinding the same from this device it measures the length desired and calculates the number of square feet and gives the amount it will cost, according to the manipulation of the roller, which will be fully hereinafter set forth. In this device any width of cloth or such material may be applicable, and according to the graduations upon its computing-roller it will designate to a fraction what the cost of the different widths will be at so much per square foot. This can be instantly read from the face of the roller and the face-plates.

This invention has proven a wonderful time-saving device, as, for instance, in all stores the clerks are compelled to figure, first, by measuring the article with a rule; second, to figure out the square feet in this length, and, third, to figure out the cost at so much per square foot. All of this is unnecessary when using my device, as the calculating and measuring are done by simply withdrawing or unrolling the material through this device. The lineal measure is designated upon the graduated disks located at each end of the machine, and the square measure and price are designated upon the computing-roller.

Referring to the drawings, Figure 1 is a front elevation of my complete invention. Fig. 2 is an end view of the same, showing a portion of itself tilted in dotted lines. Fig. 3 is a vertical sectional elevation taken on the line 3 3 of Fig. 1. Fig. 4 is a vertical sec-

tional view of the chamber carrying the operating mechanism, taken on the line 4 4 of Fig. 5. Fig. 5 is a vertical sectional view taken on the line 5 5 of Fig. 4. Fig. 6 is a front view of a portion of my device to an enlarged scale. Fig. 7 is a face view of a portion of the computing-roller detached from the machine, showing the method of graduation.

In the drawings, 1 indicates my complete invention, which consists of a base 2, made of any desired material, and to each side of said base 2 is mounted a curved casting 3. Upon the base 2, from casting to casting, is mounted a table 4, over which the material to be unwound is passed. To the ends 5 of the castings 3 is pivotally mounted a frame 6, which is composed of two chambers 7 and 8, and are held together at the top and bottom by rods 9, which may be constructed in any desirable manner. At equal distance between the rods 9 and passing through said chambers 7 and 8 is a shaft 10, upon which are mounted disks 11, one on each end and an indefinite number between, according to the desire of the manufacturer. Over these disks 11 is secured, in any desirable manner, a sheet of celluloid 12 or other suitable material, and upon this sheet is placed the computing-scale.

Upon the shaft 10 and within the chamber 8 is mounted a double gear-wheel 13, provided at its one side with a double collar 14, acting as a guide for said wheel, keeping same in its position. To each end of said shaft 10 is mounted a disk 15 and 16, upon which are imprinted numbers and graduations from "1" to "25," but any number of figures and graduations may be imprinted thereon as desired, according to the size of said disk. Each of these graduations represents one lineal foot.

The disk 15 is in communication with the gear-wheel 13 by means of friction caused by a rubber ring 16^a or other flexible material placed upon the shaft 10 between the disk 15 and shoulder 14 of the wheel. By this friction the shaft 10 is revolved, as the gear-wheel 13 is loosely mounted thereon, and the disk 15 is secured to the shaft by a set-screw.

Beneath the double gear-wheel 13 and mounted upon a shaft 17, held by the sides of

the chamber 8, is a double gear-wheel 18, meshing with the gear-wheel 13, and beneath the double gear-wheel 18 and meshing with the smaller portion thereof is a gear-wheel 19, provided with a double collar 20, and is loosely mounted upon a shaft 21, said shaft 21 being also provided at each end with a disk 22 and 23, said disks graduated and numbered from "1" to "12," signifying inches.

Between the disk 22 and the collar 20 of the wheel 19 is also a friction-ring 24, similar in construction and purpose to the one 16^a previously described.

Beneath the wheel 19 and meshing therewith is a gear-wheel 25, firmly secured to a shaft 26, and upon said shaft is mounted a roller 27, the operation of which will be hereinafter fully set forth.

To the opposite end of the shafts 10 and 21 and between the outer casing of the chamber 7 and the disks 16 and 23 are spiral springs 28, which are for the purpose of keeping the collars 14 and 20 in close operative communication with the disks 15 and 22.

On the chambers 7 and 8 are mounted pointers 29 and 30. Upon the pointer 29 is imprinted the word "Inch" and upon the pointer 30 is the word "Feet." Also upon the disks are pointers 31 and 32. These are provided with the abbreviations of feet and inches, the pointer 31 provided with "In." and the pointer 32 with "Ft."

In the rear of the computing-roller and secured to each chamber is a guard 33. This is for the purpose of preventing the material being unrolled from coming in contact with and scratching the celluloid covering of the computing-roller.

In front of the roller and secured to the chambers are graduated face-plates 34 and 35. The upper or plate 34 is provided with graduations of any desirable number, and within each graduation is the word "Width," and each has also a number designating the widths of material being unrolled.

The plate 35 has graduations corresponding with those upon the plate 34, and within its graduations are the words "Sq. feet" and "Sell."

The computing-roller has its graduations divided to correspond with the plates. Thus the figures that come in view between the two plates signify as follows: Those appearing over the space occupied by the words "Sq. feet" indicate the amount of square feet in the piece withdrawn from the machine, and the figures appearing over the space marked "Sell" indicate the cost or selling price of the piece containing the amount of square feet shown.

To the curved castings 3 are mounted bars 36, forming a support for the roll of material placed within the space 37, as shown by dotted lines in Fig. 2, the lower three bars acting as rollers, allowing the roll of material to revolve thereon when being unwound.

Any desirable width of roll may be placed

within the space 37, the device being so arranged, permitting the ends of the roll to extend beyond the ends of the device.

The operation of my invention is as follows: When the device is in operative position upon a table or counter and it is desired to place the roll of material within the device, the frame 6 is then raised, as shown by dotted lines in Fig. 2, the end of the cloth is brought to the outer edge of the table 4, and then the frame 6 is lowered, permitting the roller 27 to rest upon the material, and is kept in close contact therewith by means of the frame's gravity. The disk 15 is then pulled upon, as shown in dotted lines in Fig. 5, releasing the friction-ring from the wheel 13, and then the disk is turned so that its blank-mark is in line with the pointer secured to the side of the chamber. When the disk is released, the action of the spiral spring on the opposite side of the device places the friction-ring again in operative position. The disk 22 is also manipulated in like manner as the one just mentioned. When the cloth is being pulled from the machine, it operates the roller 27, which turns the gear-wheel 25, this wheel turning the gear-wheel 19, which revolves the shaft 21 and disk 22, which indicates inches, this wheel meshing with a wheel 18, which is in communication with a wheel 13, which operates the computing-roller and disk 15, indicating feet. The gearing is so constructed that by the revolving of the roller 27 the disk 22 revolves, each round indicating one foot, while the disk 15 revolves but from one mark to the other, each mark indicating one foot. Thus the disk 22 is revolved twenty-five times to once of the disk 15, this giving the lineal measure. The square feet and selling-price are found upon the computing-roller, as before clearly mentioned.

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

1. An improved wire-cloth computing and measuring machine, composed of a series of rollers mounted upon curved castings, a table placed upon the horizontal portion of said castings, a frame pivotally mounted to said castings, said frame having two chambers, a series of gearing carried in one of said chambers, a roller adapted to come in contact with the cloth and be revolved by said cloth when pulling it from the machine, said roller operating the gearing, a computing-roller and disks operated by said gearing for the purpose of designating the lineal measure, square feet and selling-price, substantially as shown and described.

2. An improved wire-cloth computing and measuring machine composed of a base, two curved castings secured to said base, rollers and bars secured to said castings, a frame pivotally secured to said castings forming a chamber between the rollers, bars, and frame, for the insertion of a roll of cloth, said frame composed of two chambers forming the sides

of said frame, said chambers held together by rods, a computing-roller carried by said chambers, an operating-roller forming the bottom of said frame, said roller operating 5 gear-wheels, said gearing located in one of said chambers, the computing-roller operated by said gearing, disks operated by said gearing, friction-rings placed between said disks and gear-wheel, a spiral spring placed upon 10 said shaft keeping the wheel and disk in contact with the friction-ring for the purpose of operating the computing-roller substantially as set forth.

3. An improved wire-cloth computing and 15 measuring machine composed of a frame pivotally mounted to two curved castings, said castings secured to a base, a table placed upon said base, a roller placed at the bottom of said frame, and resting upon said table said 20 roller operating gear-wheels, said gear-wheels

operating disks and a computing-roller, said disks and computing-roller carried by said frame, face-plates secured to said chambers of the frame, said plates bearing graduations, 25 a guard placed behind the computing-roller and secured to said chambers to prevent the wire-cloth from coming in contact with and scratching the said roller, rollers and bars placed between the curved castings for holding the roll of cloth, said computing-roller, 30 disks, and face-plates, used for the purpose of designating the lineal measure, square feet and selling-price instantaneously, substantially as set forth.

In testimony whereof I affix my signature 35 in the presence of two witnesses.

OTTO HECKEL.

Witnesses:

HENRY C. SATTLER,
ALFRED A. EICKS.