

No. 746,048.

PATENTED DEC. 8, 1903.

J. C. & R. A. DORING.
COLLAR STRETCHING AND MEASURING APPARATUS.

APPLICATION FILED JULY 16, 1903.

NO MODEL.

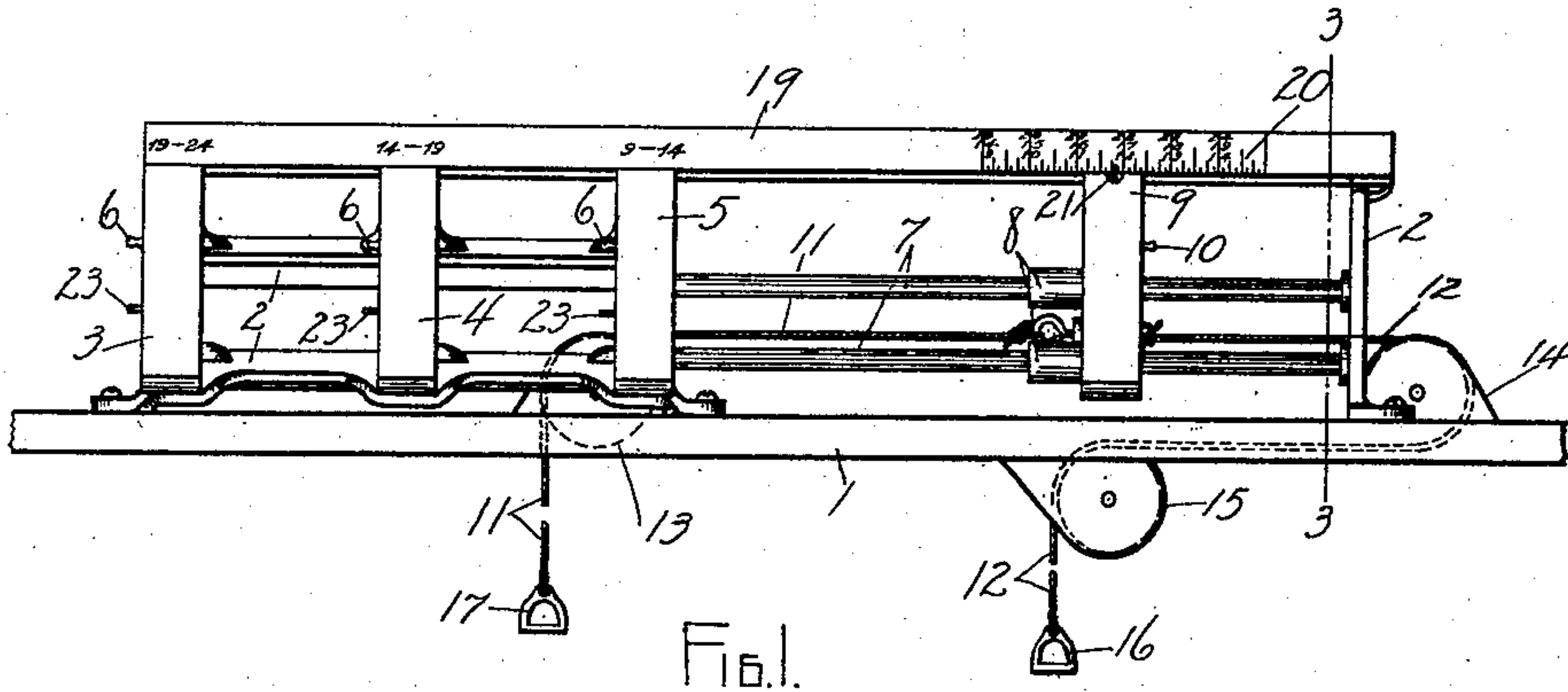


Fig. 1.

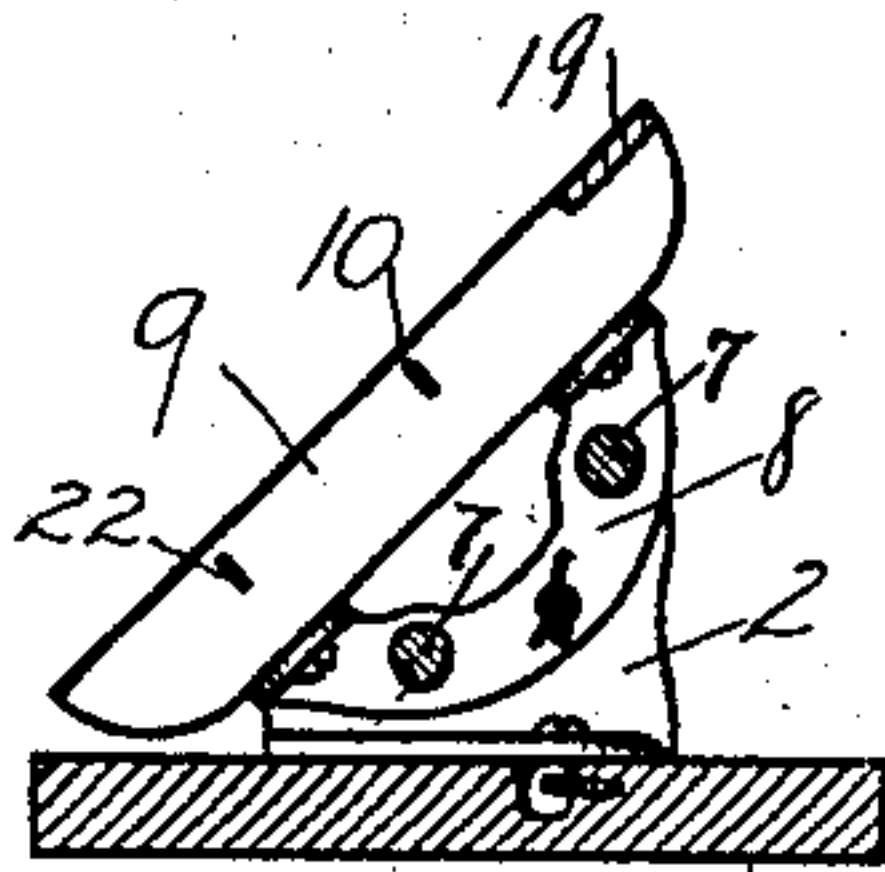


Fig. 3.

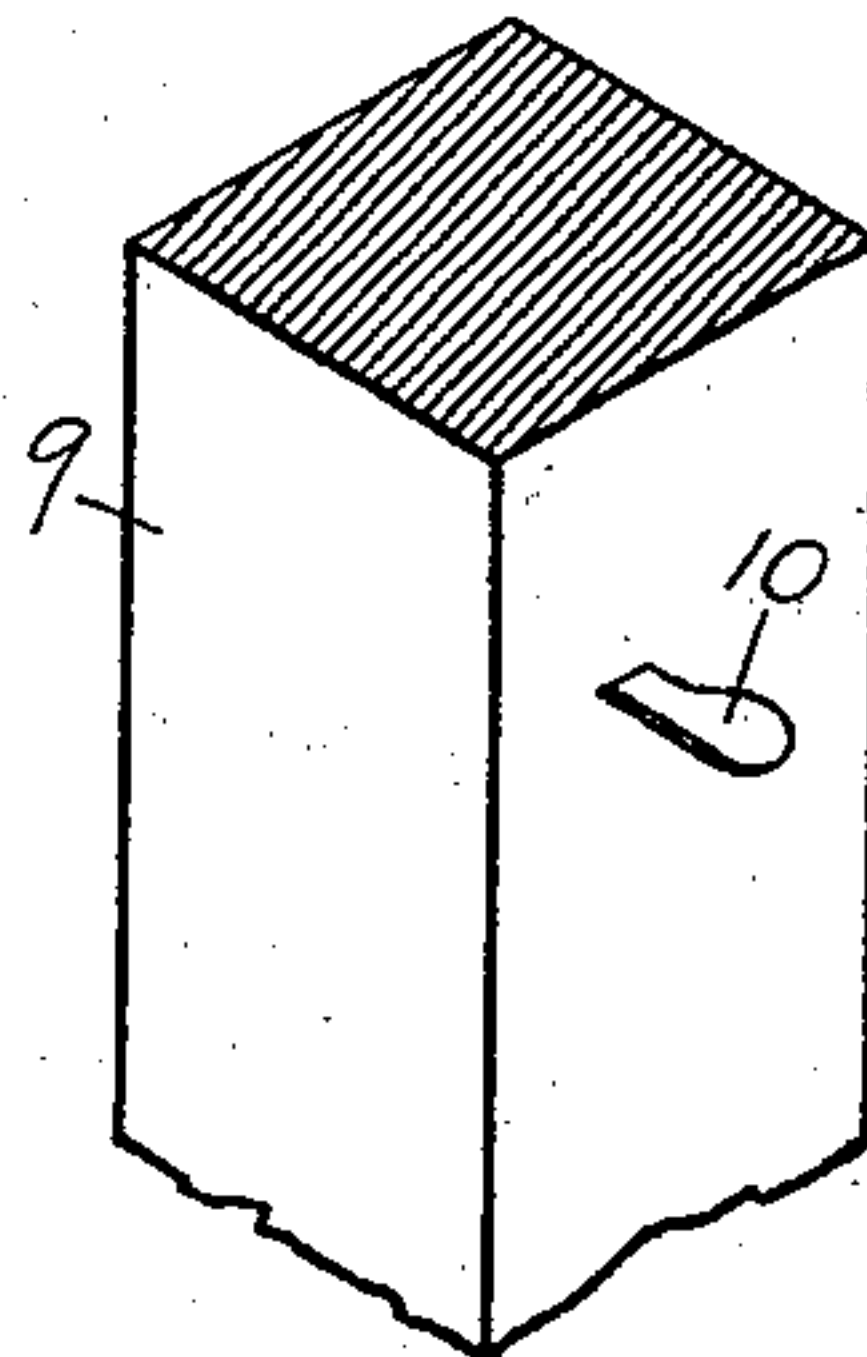


Fig. 4.

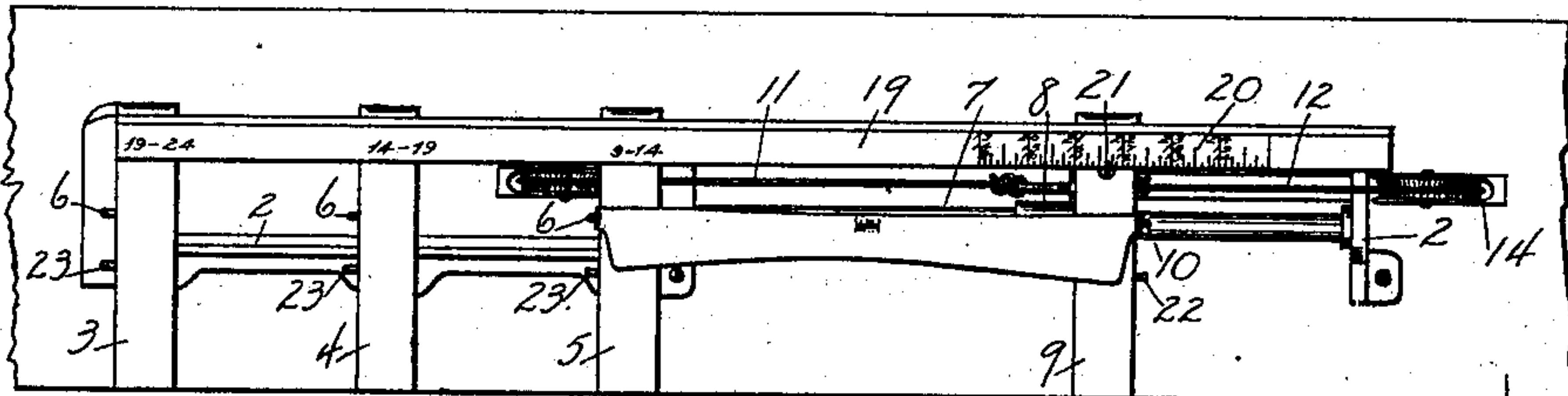


Fig. 2.

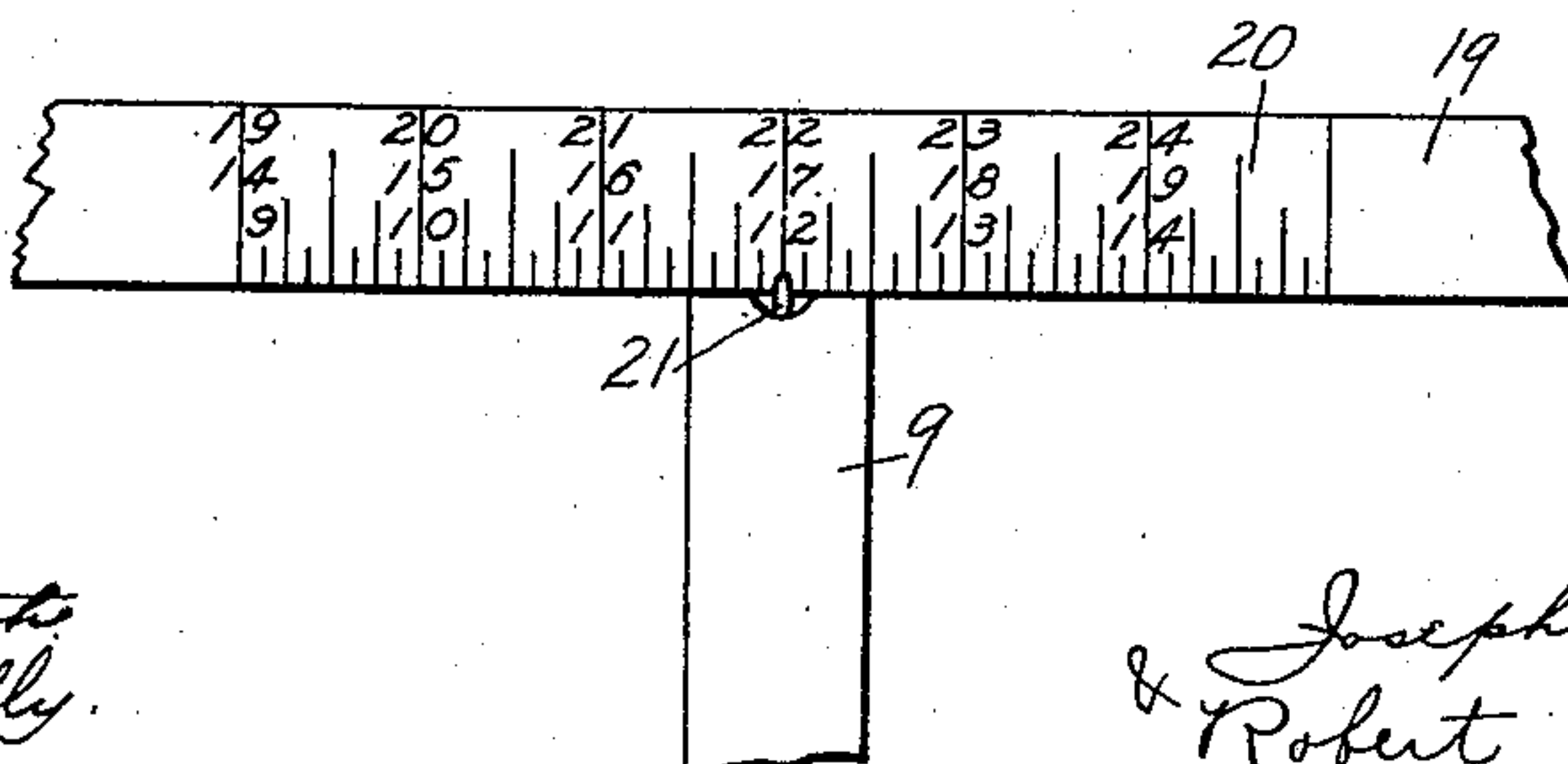


Fig. 5.

WITNESSES:

J. C. Booth
E. M. O'Reilly.

INVENTORS:

Joseph C. Doring
& Robert A. Doring,
By Mosher & Curtis,
attys.

UNITED STATES PATENT OFFICE.

JOSEPH C. DORING AND ROBERT A. DORING, OF TROY, NEW YORK.

COLLAR STRETCHING AND MEASURING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 746,048, dated December 8, 1903.

Application filed July 16, 1903. Serial No. 165,754. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH C. DORING and ROBERT A. DORING, citizens of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Collar Stretching and Measuring Apparatus, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described, and subsequently claimed.

Reference may be had to the accompanying drawings and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a view in front elevation of the improved collar stretching and measuring apparatus. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical cross-section of the same, taken on the broken line 3 3 in Fig. 1. Fig. 4 is a view in perspective of a broken-away portion of the movable cross-bar, with stud mounted thereon for insertion in an end buttonhole of a collar. Fig. 5 is a front view, on an enlarged scale, of the top rail of the frame of the machine, provided with a graduated scale of measurement and the neighboring end of the movable cross-bar provided with an index for reading said scale.

In laundering collars and like articles, such as cuffs and neckbands, it is found that articles cut to the same size vary greatly in length after being laundered, the variation being due largely to the difference in shrinkage which the articles undergo in laundering. In order to restore to proper size an article which has shrunk to a smaller size, it is a common expedient to pull or stretch the article more or less, as the case requires. This stretching has been commonly done by hand, the operator pulling upon one end of the article while the other end is held in a stationary clamp.

The object of this invention is to facilitate the stretching of buttonholed articles and to accomplish the same in a satisfactory and accurate manner.

Referring to the drawings, wherein the invention is shown in its preferred form adapted for stretching collars, 1 represents a bed or

table, upon which is erected the stationary framework 2, formed in part by the stationary cross-bars 3, 4, and 5, which occupy parallel positions, each being inclined in a vertical plane, as shown in Fig. 3. These bars are preferably of angular form in cross-section, as shown in Fig. 4, and are provided each on its outer side with a stud 6, adapted to receive the buttonholed end of a collar. The stationary frame is provided with a pair of horizontally-disposed parallel rods 7, upon which is mounted a slide-carriage 8, adapted to slide freely longitudinally of said rods. This slide-carriage supports a cross-bar 9, fixed thereupon, provided on its outer side with a stud 10, similar in shape and function to the studs 6. One end of the collar to be stretched is applied to one of the stationary studs 6, while the other end is applied to the stud 10 on the movable cross-bar 9, whereupon by a movement of separation of the movable cross-bar 9 from the stationary cross-bars the collar can be stretched as desired. Sliding movements are imparted to the slide-carriage in opposite directions by means of the cables 11 and 12, connected with the carriage and extending in opposite directions therefrom, the cable 11 passing over pulley 13 at one end of the path of slide movement of the carriage and the other cable 12 over the pulley 14 at the other end of said path of movement. The cable 12 also passes over a pulley 15 and is connected at its lower end with a stirrup 16, adapted to receive one of the feet of the operator, the cable 11 being provided with a similar stirrup 17, adapted to receive the other foot of the operator. A seat (not shown) is provided in front of the machine adapted to support the operator when both feet are inserted in said stirrups. The carriage is thus maintained at all times under the direct and positive control of the operator.

By the use of a plurality of stationary cross-bars it is possible to confine the movement of the movable cross-bar within very narrow limits. Thus the end of a very long collar can be connected with the stud on the stationary cross-bar 3, the end of a very short collar with the stud on the stationary cross-bar 5, or the end of a collar of medium length with the stud on the intermediate cross-bar 4, the other end of the collar in each instance being connected with the stud 10 on the mov-

able cross-bar, and in every case only a slight movement of the slide-carriage and movable cross-bar will be required to properly stretch the collar whatever its size. The top-rail 19 of the stationary frame is provided with a graduated scale 20 in connection with three sets of numbers for convenience in reading said scale in connection with the several stationary cross-bars. The top rail 19 is also provided adjacent to each stationary cross-bar with two numbers which indicate the extreme numbers which can be read on the scale 20 in connection with said bar. Thus when the stationary bar 5 is employed the numbers "9" to "14" adjacent thereto indicate that collars from nine to fourteen inches in size can be stretched in connection with said bar, the lowest row of numbers on the scale 20 being employed to indicate the size of such collars, and in like manner the middle stationary cross-bar 4 is used for stretching collars sizes 14 to 19, the middle row of numbers on the scale 20 being employed to indicate the size of such collar, and in like manner the outer stationary cross-bar 3 is used for stretching collars sizes 19 to 24, the top row of numbers on the scale 20 being employed to indicate the size of such collars. The movement of the slide-carriage is thus limited to a distance approximately the length of the scale 20 for all sizes of collars, so that a limited movement of the feet of the operator only is necessary to operate and control the slide-carriage at all times.

The movable cross-bar 9 may be provided with an index 21 for convenience in reading the scale 20.

If desired, the operator can relieve the pull of the studs upon the buttonholed ends of the collars by holding such ends by hand against the respective cross-bars; but this would not ordinarily be necessary, as the studs project from the vertical surface of the cross-bars, causing the ends of the collar to be bent sharply over the corners of said bars with resultant friction sufficient to prevent undue strain upon the buttonholed portions of the collar.

This improved apparatus permits the operator to determine at a glance as soon as the collar is applied to the cross-bars the amount of its deficiency in length, which is shown by the distance of the index 21 to the left from the mark on the scale 20, which indicates the proper size of the collar. To correct such deficiency, it is ordinarily only necessary to stretch the collar until said index has been moved to an equal distance on the opposite side of such mark, the elasticity of the collar causing it to contract about one-half as much as stretched.

The movable cross-bar may be provided with a second stud 22 and each of the station-

ary cross-bars with a second stud 23, adapted for use in stretching cuffs.

In Fig. 2 a collar is shown applied to the cross-bars in position to be stretched.

What we claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the class described, and in combination a slideway; a pair of cross-bars, one movable toward and from the other along said slideway; means for moving said movable cross-bar; and studs on the respective bars adapted to enter buttonholes in an article to be stretched.

2. In an apparatus of the class described, and in combination a plurality of stationary cross-bars; a slideway; a cross-bar movable along said slideway toward and from the stationary cross-bars; means for moving the movable cross-bar; and studs on the several cross-bars adapted to enter buttonholes in an article to be stretched.

3. In an apparatus of the class described, and in combination a slideway; a pair of parallel cross-bars of angular form in cross-section, one movable toward and from the other along said slideway; means for moving the movable cross-bar; and studs projecting outwardly from the vertical sides of the respective cross-bars adapted to enter the buttonholes of an article to be stretched.

4. In an apparatus of the class described, and in combination a plurality of stationary cross-bars either one of which is adapted to support one end of an article to be stretched; a cross-bar adapted to support the other end of said article movable toward and from the stationary cross-bars; means for moving the movable cross-bar toward and from the stationary cross-bars; and a frame provided adjacent to the path of movement of the movable cross-bar with a graduated scale adapted to be read in connection therewith, and having in connection with such scale a separate series of characters of notation for each of the separate stationary cross-bars.

5. In an apparatus of the class described, and in combination, a pair of cross-bars, one movable toward and from the other adapted to support the opposite ends of an article to be stretched; a pair of foot-supports adapted to be engaged by the respective feet of the operator; and connections between the respective foot-supports and said movable cross-bar whereby the latter is positively moved in opposite directions.

In testimony whereof we have hereunto set our hands this 15th day of July, 1903.

JOSEPH C. DORING.
ROBERT A. DORING.

Witnesses:

FRANK C. CURTIS,
GEO. A. MOSHER.