No. 733,955. PATENTED JULY 21, 1903.

M. GALLY & J. HREN.

ADJUSTABLE INK ROLLER TRUCK.

APPLICATION FILED OCT. 2, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

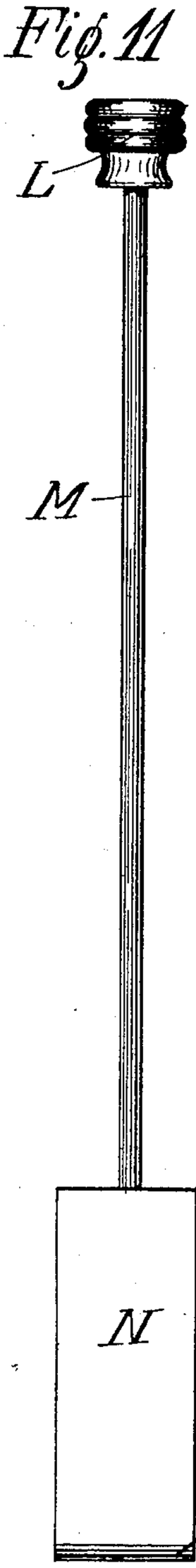


Fig. 11

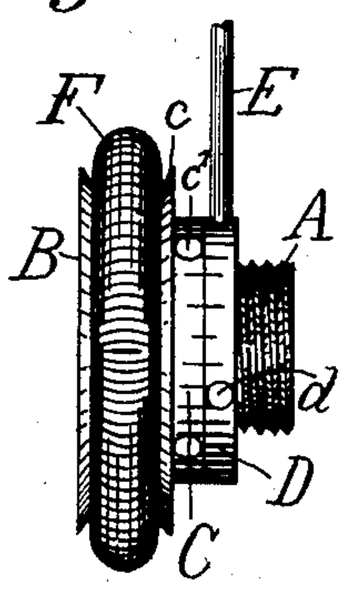


Fig. 2

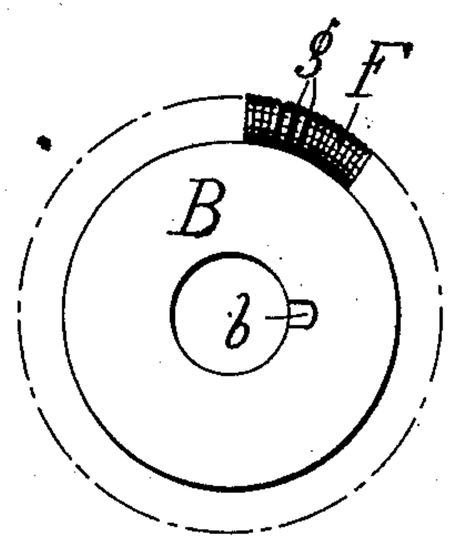


Fig. 3

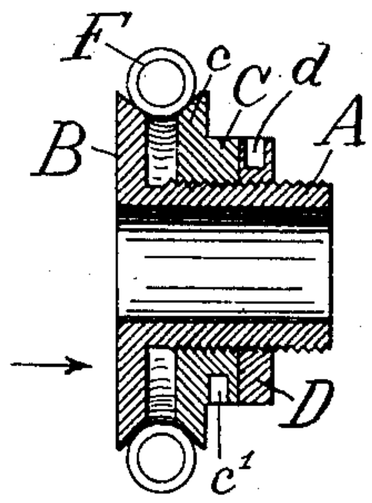


Fig. 4

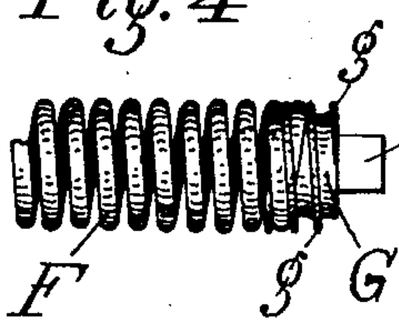


Fig. 5

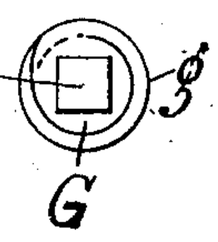


Fig. 6

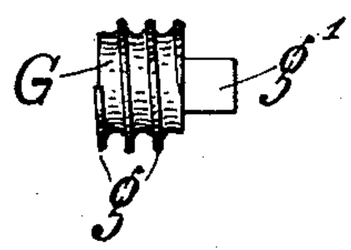
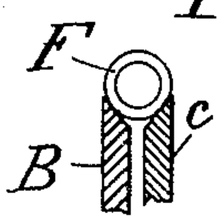


Fig. 7



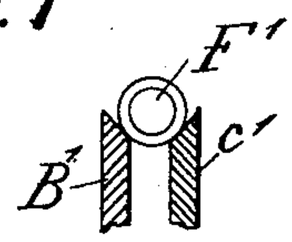


Fig. 8

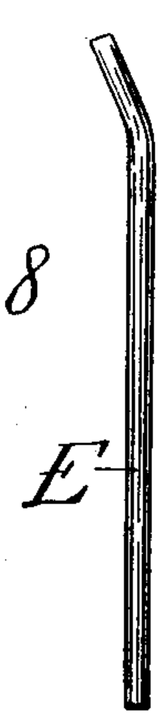


Fig. 9

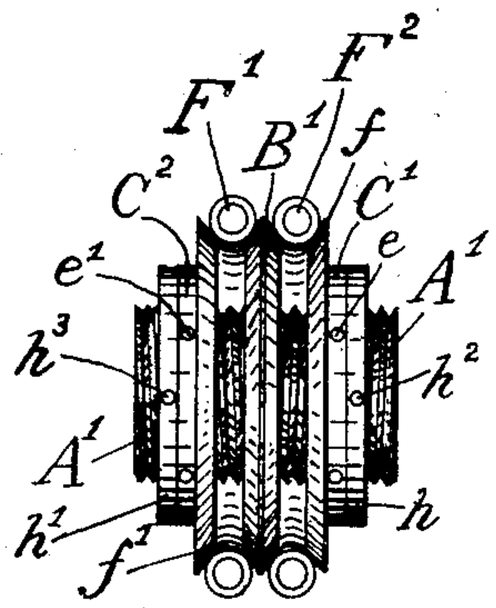
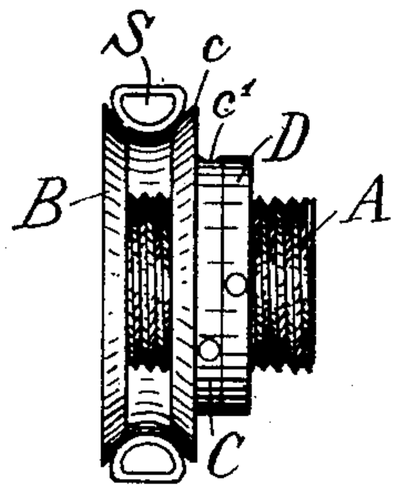


Fig. 10



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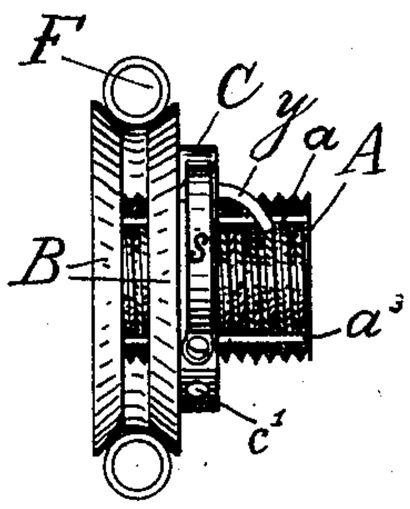
ADJUSTABLE INK ROLLER TRUCK.

APPLICATION FILED OCT. 2, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 11a



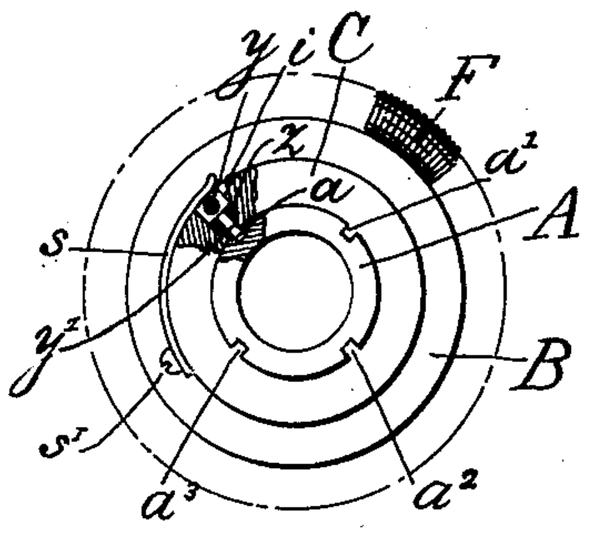
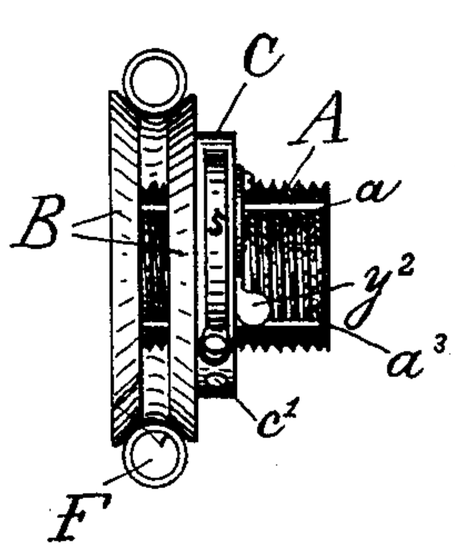


Fig. 12



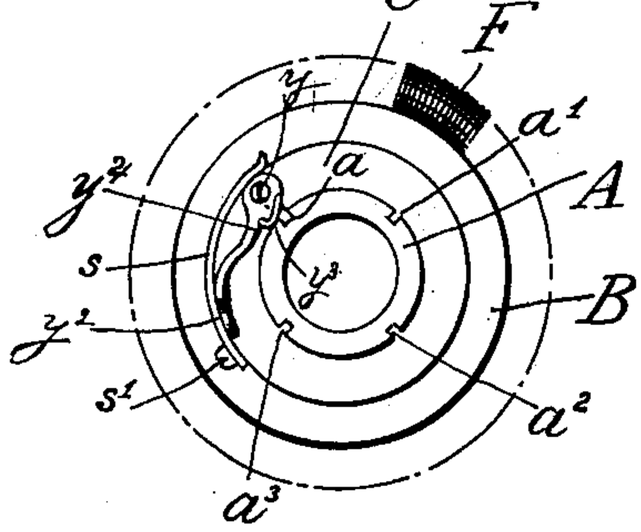


Fig. 13

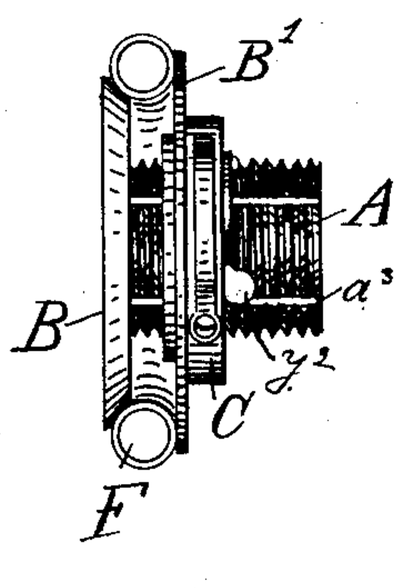
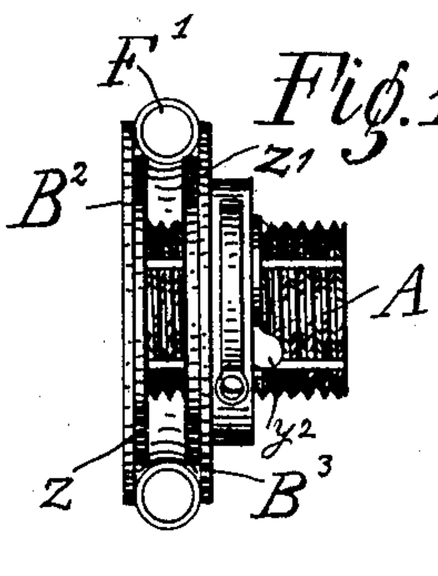
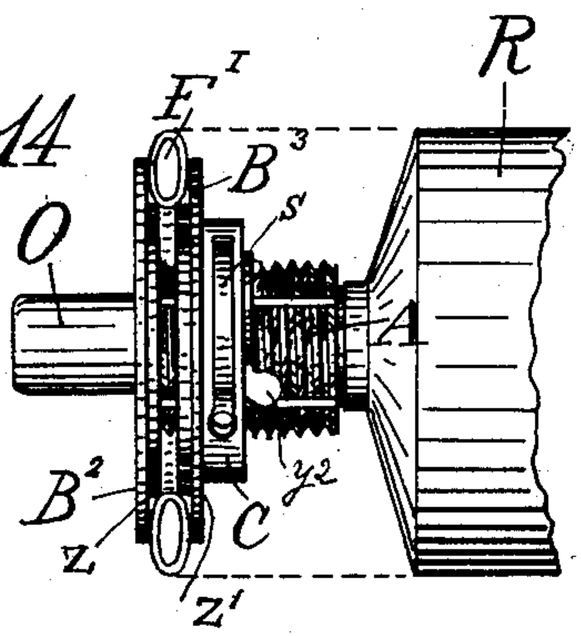


Fig. 14





Witnesses
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Charles C. Paxton

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No. 733,955. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

MERRITT GALLY AND JOSEF HREN, OF BROOKLYN, NEW YORK.

ADJUSTABLE INK-ROLLER TRUCK.

SPECIFICATION forming part of Letters Patent No. 733,955, dated July 21, 1903.

Application filed October 2, 1902. Serial No. 125,691. (No model.)

To all whom it may concern:

Be it known that we, MERRITT GALLY and JOSEF HREN, residing at Brooklyn, in the county of Kings and State of New York, citizens of the United States, have jointly invented a new and useful Adjustable Ink-Roller Truck, of which the following is a specification.

Our invention relates to the adjustment of inking-rollers to position for the proper inking of forms for printing, &c.; and it consists in providing suitable means for adjusting the ink-roller trucks, securing proper relative diameters to the composition rollers, providing for the change in diameter of composition rollers when shrunken by drying out or when expanded by moisture.

In the accompanying drawings, Figure 1 is an edge view of the adjustable roller-truck with adjusting wrench-pin. Fig. 2 is a side view showing a section of the expansible and contractible rim or tire. Fig. 3 is a sectional view of the truck, showing the relative position of its parts. Fig. 4 is an enlarged view of a part of the coiled-spring tire, showing the means of joining the ends of the coil together to form the circular rim for the truck. Fig. 5 is an end view, and Fig. 6 a side view, of the connecting screw-plug. Fig. 7 is a cross-section of the expansible and contractible rim and a part of the beveled disks, showing the manner of expanding the rim by arrangement of the position of the disks. Fig. 8 is a bent-wire wrench-pin for turning the set-nuts of the truck for adjustment. Fig. 9 shows the truck with two rims or tires to increase the "tread" of the truck. Fig. 10 shows the rim of the truck flattened to increase its frictional contact with the bearer. Fig. 11 shows the adjusting-block with handle for adjusting the roller-trucks with face of rollers "type-high" or to proper pressure on the form. Fig. 11[a] shows the locking device for preventing derangement of adjustment of the truck. Fig. 12 is same as Fig. 11 in modified form. Fig. 13 shows one of the disks of the truck beveled and the other disk plane-faced, and Fig. 14 shows both of the disks of the truck plane-faced with the truck on the journal of the ink-roller.

The ink-roller R, (partly shown in Fig. 14,) has journals, as O, and on these journals are placed the adjustable roller-trucks.

The general features of the truck are shown in Figs. 1, 2, 3, the truck being made up of two disks B *c*, a thimble or hub C, and an expansible and contractible rim or tire F. The rim may be made of coiled wire, as shown, or of other elastic or expansible and contractible material. As shown in Figs. 1, 2, 3, the rim F is made of coiled wire, like a closely-wound spring. The ends are brought together, forming a ring to be used as a tire for the truck. The ends of the coil to form the tire are fastened together at *g*, Fig. 2, the fastening parts being shown enlarged in Figs. 4, 5, 6. A short screw-plug is placed within and between the ends of the coil, one or more of the turns of each end of the coil forming male threads to fit the female screw-plug. Fig. 4 shows a piece of the coiled tire with the screw-plug *g* screwed partly into one end of the coil, the other part of the plug remaining to fit into the other end of the coil to hold the ends together. Fig. 5 is an end view of the plug, showing the central body portion G squared, as *g'*, to be held by vise or pincers when screwing the plug into the first end of the coil. The other end of the coil is turned backward, while holding the plug firmly, twisting the coil sufficiently to have its reaction screw the last end of the coil onto the projecting end of the plug, thus bringing the two ends of the coil together, the inserted screw-plug holding them rigidly connected.

The two disks B and *c*, Fig. 1, are beveled at their edges, so that they form a V-shaped groove on the edge of the truck for receiving the elastic tire F. A thimble A is attached to or forms a part of the disk B and passes through the center of the disk *c*. The thimble or hub A has a screw-thread cut thereon, and the hub *c'* of the disk *c* has a female thread in its bore to match the male thread on the thimble A. The disks B and *c* are brought nearer to each other or farther apart by turning the disk *c* with the removable pin-wrench E, Fig. 8, inserted in pin-holes *c'*, Fig. 1. A set-nut D, to be turned by means of the pin-wrench E, is used to prevent the disk *c* from turning after being set until another adjust-

ment is required. Pin-holes *d* in the set-nut are for use in connection with the pin-wrench E.

When the disks B and *c* are brought nearer together, the bevels of their edges form a sharper V and expand the tire F, increasing the diameter of the tire to correspond with the diameter of a larger ink-roller. When the disks are set farther apart, the V is made wider and allows the tire to become smaller in diameter to correspond with a smaller or shrunken roller, as shown by Fig. 7.

The roller-trucks usually roll on bearers about type-high, forming a part of the press, each side of the type-form or separately placed within or at the side of the form, so that the face of the rollers will touch the face of the form with just the amount of pressure to properly apply the ink, and as composition inking-rollers are subject to considerable shrinkage and expansion from time to time it is very desirable to have adjustable trucks to accommodate these changes.

We are aware that roller-trucks with a single beveled bearing edge resting on an oppositely-beveled bearer for adjustment by shifting to right or left on the bearer have been used; but these are objectionable, as they require a wider-faced bearer and require a change in the press itself when applied to it and must be set out of line from a proper tread in relation to other parts of the machine. What seems desirable to us is a roller-truck adjustable within itself and applicable to any press having ordinary bearers, and this is what we have produced by our invention as so far described.

To increase the frictional tread of the truck to avoid slipping, the truck may be made of a greater number of disks and a greater number of tires combined, as shown in Fig. 9, in which F F^2 are two tires, B′ and *f* are additional disks, *h* and *h′* are set-nuts, and A′ A′ represent a double screw-thimble. From the figure, as shown, the combination will be readily understood.

Fig. 10 shows a modification of Fig. 1, the tire being flattened to increase its frictional rolling-tread. Fig. 11ª shows means for locking the movable disk after setting to position without the set-nut. Grooves *a a′* a^2 a^3 are cut into the thimble or hub A, and the tooth of a spring-catch when inserted in any one of these grooves prevents the adjustable disk from turning on the screw-thimble. The toothed catch *y′* has in Fig. 11ª a finger-lever *y*, by means of which it may be turned on its axis. A beveled cam *i* is cut into the face of the hub C, and as the lever *y* is swung on its pivot the tooth of the catch is withdrawn from the groove in the screw-thimble and the movable disk is free for adjustment. After adjustment the opposite movement of the lever allows the tooth to be made to enter the nearest groove in the thimble. The spring *s* holds the tooth-catch in position.

In Fig. 12 the lever is placed on the side of the hub C and has on it a lifting-cam articulating with the surface of the screw-thimble to free the catch-tooth.

Fig. 13 shows the truck made with one beveled disk and one plane disk instead of two beveled disks and is simply a modified form of the invention.

Fig. 14 shows both disks plane, the expansible and contractible rim being pinched between them more or less to produce the expansion and contraction, as will be seen from the two parts of the figure, the disks being B^2 B^3, the tire F′ F′. The thin hubs Z Z′ prevent the elastic tire of the truck from expanding inwardly, limiting the expansion to the increase of diameter of the tire.

The adjustable trucks are not only applicable to form-inking rollers, but to any ink-rollers on which such trucks are of use, and we claim their invention for such purpose.

Fig. 11 shows a test-block used in combination with the adjustable roller-truck for accurately setting the truck.

The best time to set the roller-trucks to their proper diameter is when no type-form is in the press, as the face of type-form is often made up of parts and sometimes does not reach near to both of the trucks and in such cases does not provide in itself proper means for alining the ink-roller. For the purpose of quickly and accurately adjusting the trucks to proper diameter we use the test-block, Fig. 11, when no form is in the press. This tester consists of a type-high block N with handle LM. The rollers being rolled to the position over the form-bed, the block is slid along the face of the bed until it comes under the ink-roller or in contact therewith. The edge *n* of the block is beveled or rounded to avoid abrading the face of the soft roller, and being passed under the roller near the truck the truck is changed in its diameter until it touches the bearer on which it is to roll. Both ends of the roller must be then adjusted. The test-block then being removed and the type-form placed on the face of the bed, the adjustment is proper for operation, determining the amount of pressure desired on the face of the form by the pressure on the test-block. The desirability of the use of this test-block in setting the trucks will be apparent when it is considered that many type-forms occupy only a small portion of one side or center of the face of the press-bed, and it would be very difficult to set the two end trucks on such form and secure an exact alinement with the face of the form. By using the test-block near each and both of the trucks at the extreme ends of the roller and setting both exactly alike alinement with the face of the form will be absolute.

The bevel of the test-block serves not only for preventing injury to the tender surface of the soft composition form-roller, but also when setting the trucks in determining the

pressure of the roller on the form. Thrusting only the bevel under the roller and setting the truck thereto, the position of the roller on the bevel will determine the pressure of the roller.

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

1. An ink-roller wheel or truck, comprising a cylindrical elastic and expansible rim formed of coiled wire; and movable disks between which the rim is interposed.

2. An ink-roller wheel or truck, comprising disks, one or more of which are conical or bevel-edged, the disks movable to and from each other, and an interposed cylindrical elastic rim, formed of a coiled-wire spring, expanded by said disks when the disks are placed or moved nearer to each other, and allowed to contract when the disks are moved farther from each other.

3. An ink-roller having a journal; a disk mounted to rotate with the journal; a second disk; one of the disks having a movement farther from or nearer to the other for adjustment; and a cylindrical expansible and contractible coiled-wire rim.

4. An ink-roller having a journal; a disk mounted thereon, and having a threaded hub or sleeve; a second disk, threaded to screw onto the hub or sleeve of the other disk; and a cylindrical expansible and contractible coiled-wire rim.

5. An ink-roller wheel or truck, having a journal; a conical or beveled-edged disk; a second disk; a cylindrical expansible and contractible coiled-wire rim between the disks; the disks being relatively adjustable to one another, one of the disks having a threaded hub or sleeve, and the other disk threaded to screw onto the sleeve.

6. An ink-roller wheel or truck, comprising a cylindrical expansible and contractible coiled-wire rim composed of a coiled spring bent into ring shape, and a threaded plug screwed into the spring ends for holding the ends together.

7. The ink-roller wheel or truck comprising two disks, relatively adjustable one to the other; a cylindrical coiled-wire rim interposed between the disks; a threaded sleeve or hub on one of the disks; the other disk threaded to screw onto the sleeve or hub; the threaded sleeve or hub of one of the disks grooved for receiving a stop-catch; and a stop-catch attached to one of the disks for articulating with the groove or grooves of the sleeve or hub of the other disk.

8. The ink-roller wheel or truck comprising two disks relatively adjustable one to the other; a cylindrical expansible and contractible coiled-wire rim; a stop-catch; and a threaded hub on one of the disks grooved to receive the tooth of the stop-catch and a cammed finger-piece for relieving the stop-catch when making readjustment of the disks.

9. The ink-roller wheel or truck having a cylindrical coiled-spring rim or tire with a flattened face, to secure breadth of "tread" or contact with the track of the wheel.

10. An ink-roller wheel or truck provided with a plurality of cylindrical expansible and contractible coiled-wire rims.

11. The adjustable roller-truck, comprising a disk having a beveled edge; a second disk; a cylindrical coiled-wire rim placed between the edges of the two disks, and against the bevel of the first disk; and means for forcing the bevel against and under the curved face of the coils to expand the rim.

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