

M. A. CUTTER.
CASTER.

No. 474,576.

Patented May 10, 1892.

Fig. 1.

Fig. 2.

Fig. 3.

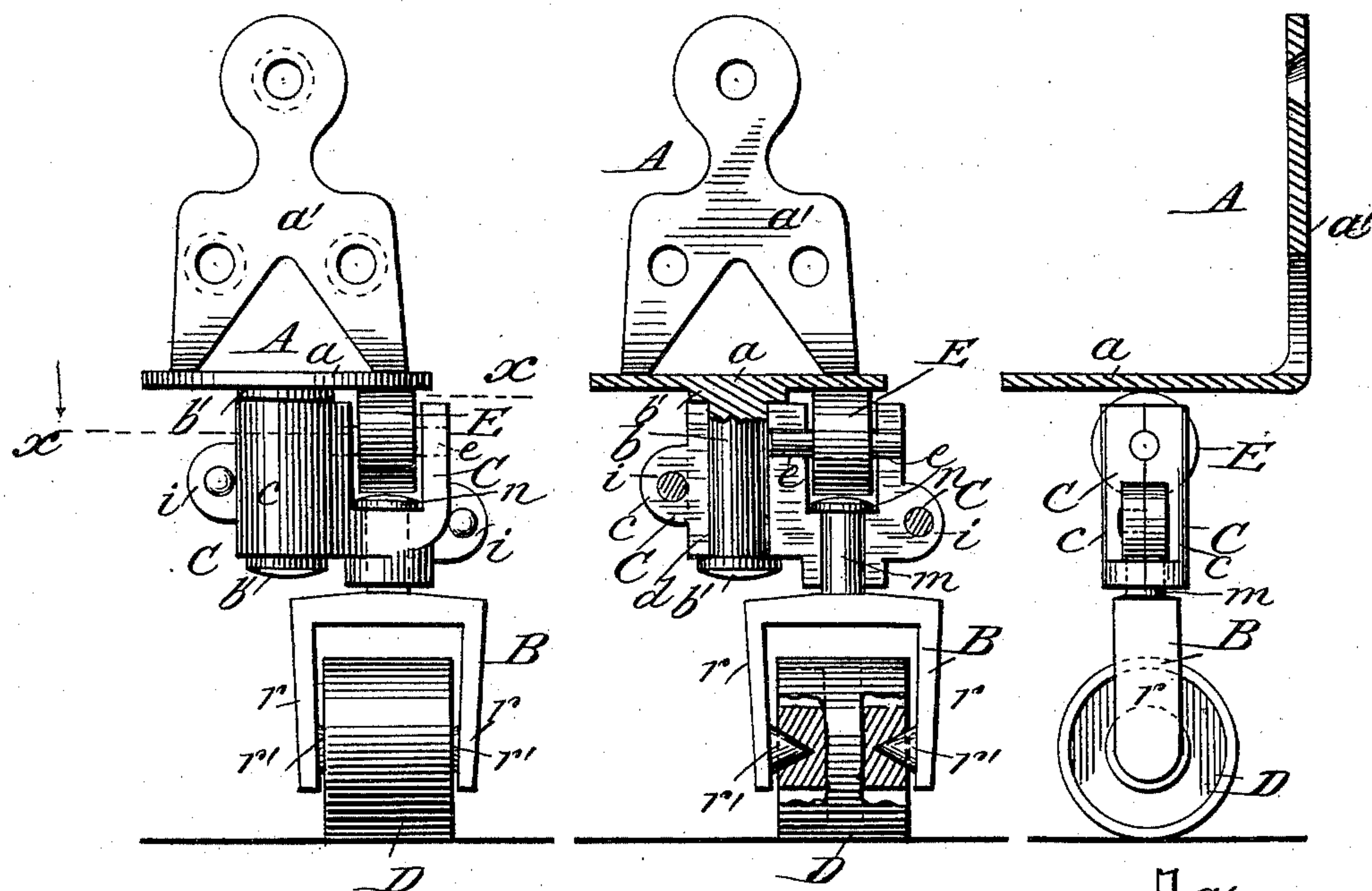
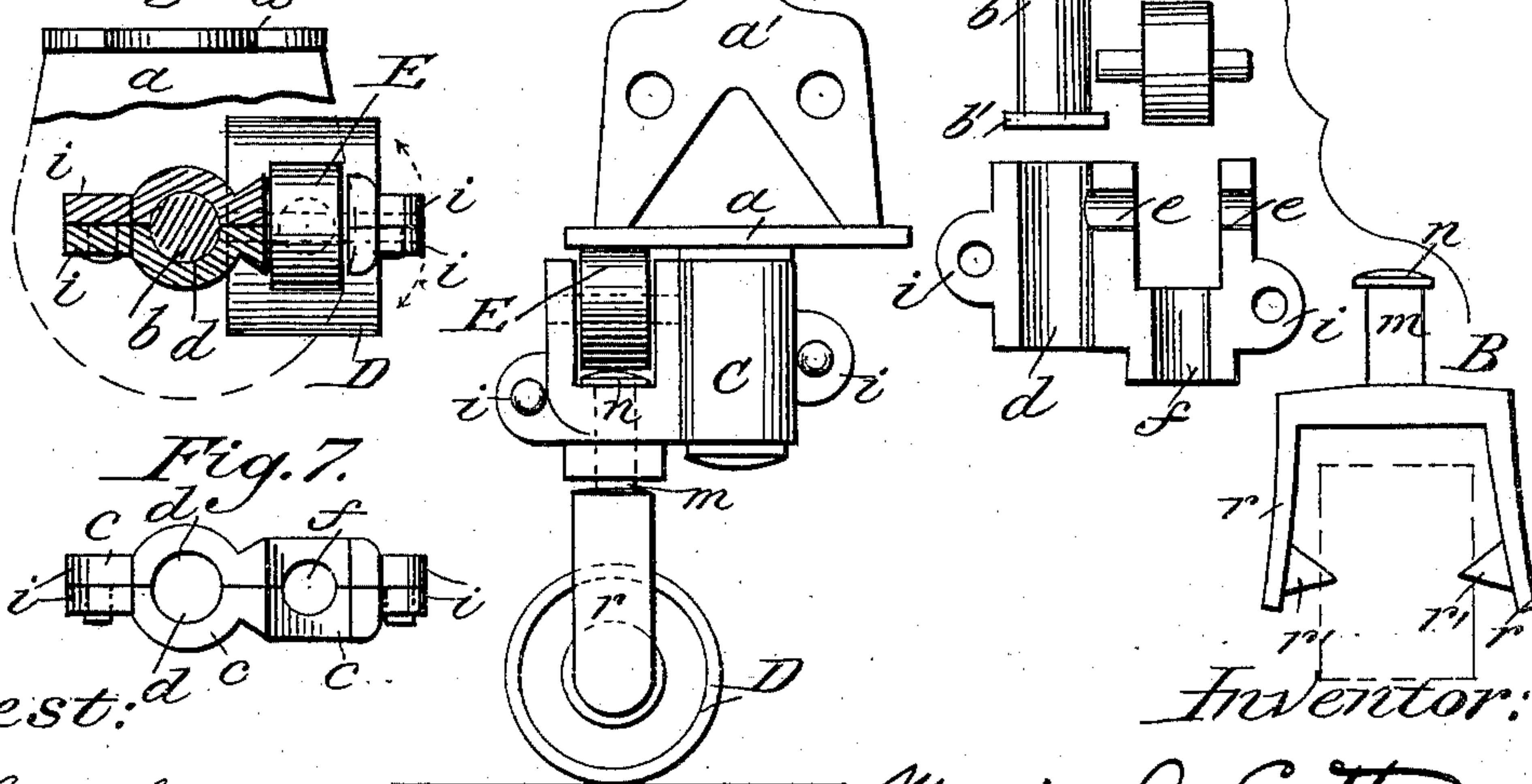


Fig. 4.

Fig. 5.

Fig. 6. A



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Attys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 8.

Fig. 9.

Fig. 10.

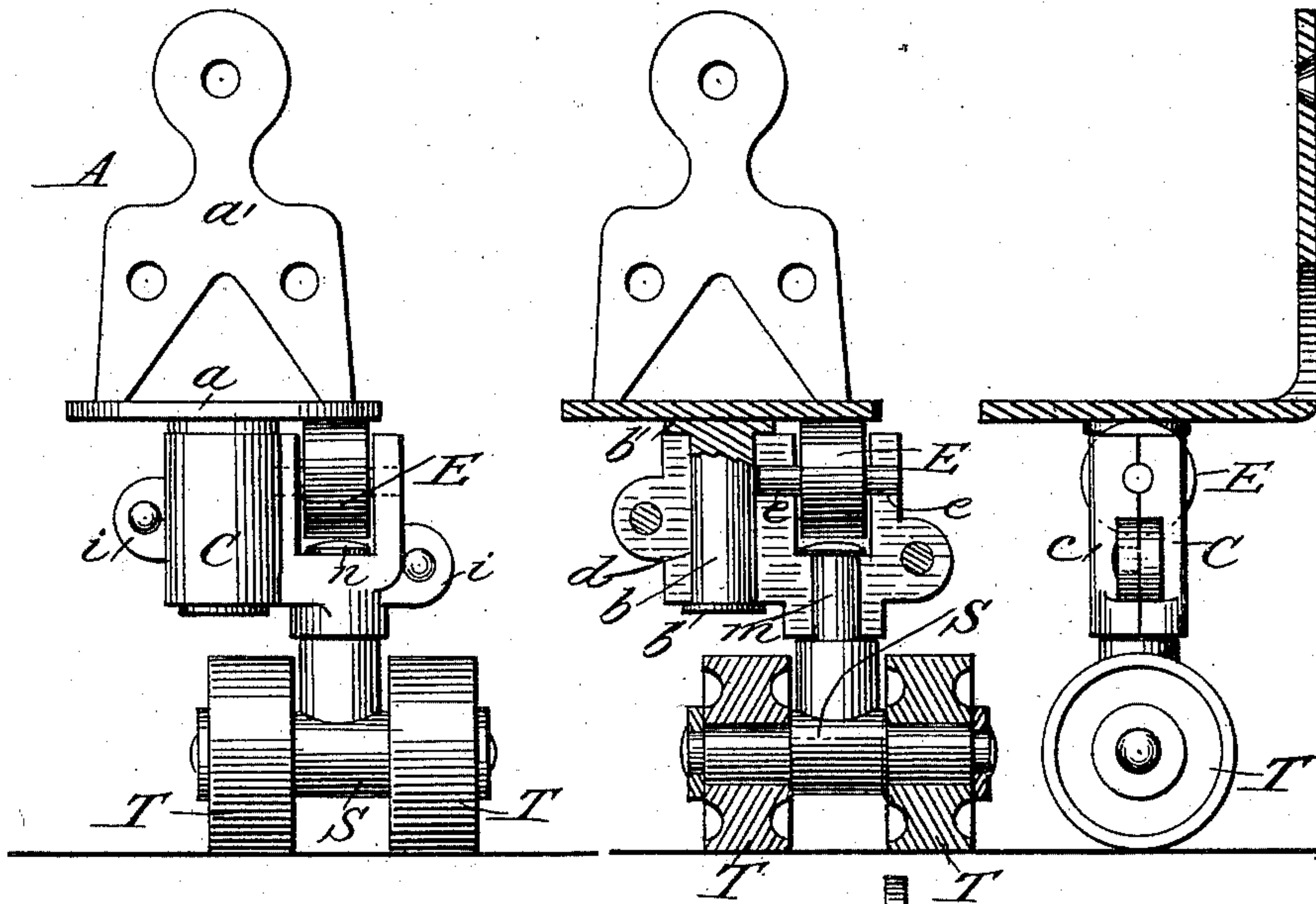
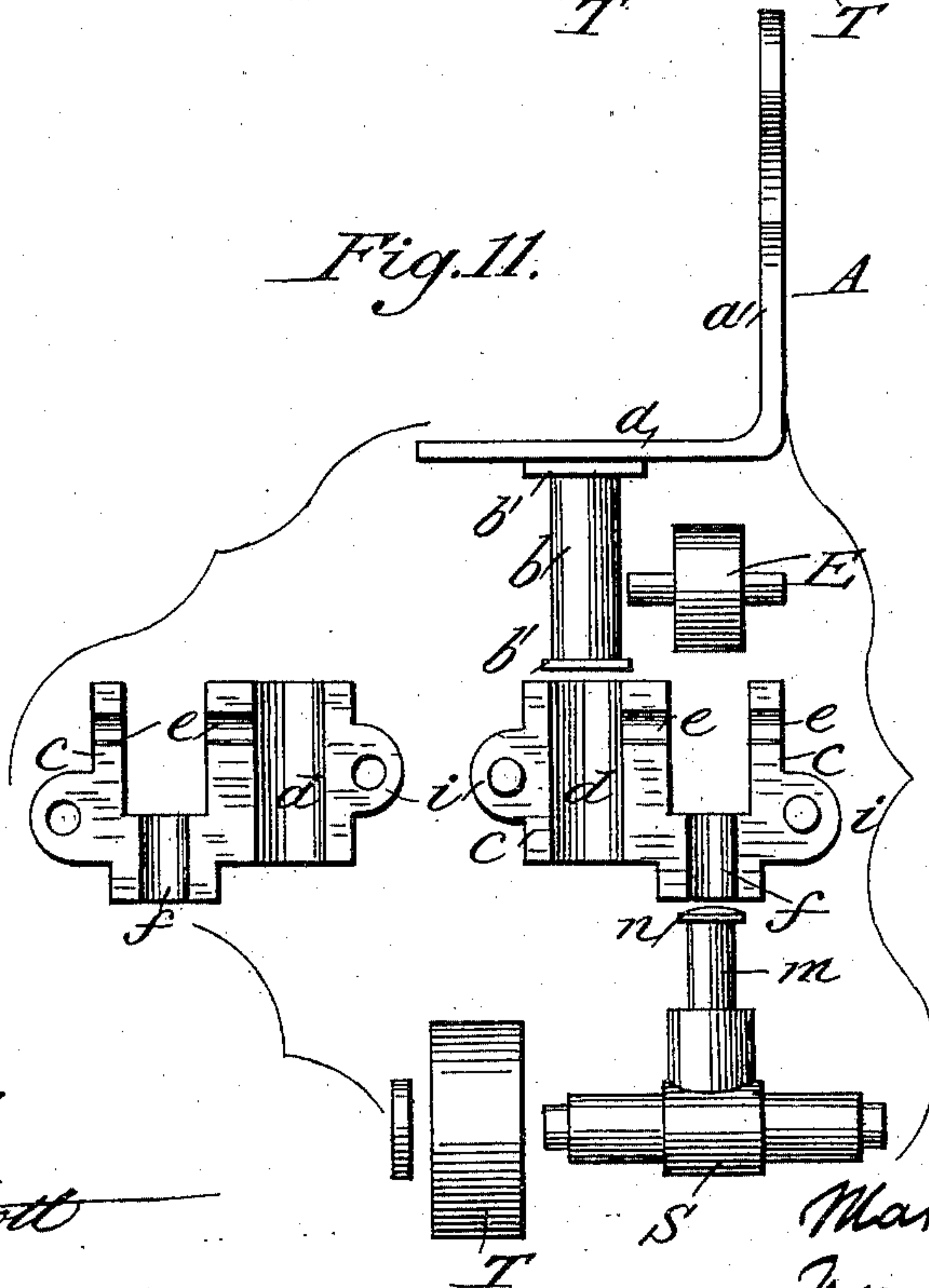


Fig. 11.



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UNITED STATES PATENT OFFICE.

MARTIN A. CUTTER, OF ALLEGHENY, PENNSYLVANIA.

CASTER.

SPECIFICATION forming part of Letters Patent No. 474,576, dated May 10, 1892.

Application filed August 31, 1891. Serial No. 404,326. (No model.)

To all whom it may concern:

Be it known that I, MARTIN A. CUTTER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Casters, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to improvements in casters, and has for its object the construction of a device that can be attached to the foot of a furniture-leg without boring or cutting the latter beyond that caused by the insertion of screws and by which the weight to be supported is carried directly, or nearly so, over the floor-wheel, thereby relieving the swivel of the great strain it usually sustains by being out of the direct line of pressure; and it has for its particular object the construction of a coupling-piece for connecting the swivel of the saddle of the floor-wheel with the spindle secured to the under side of the furniture-plate, in which the use of a nut or bolt or similar fastening is done away with, and in consequence the liability of the caster being injured by any of these fastenings becoming loose, and which allows the several parts forming the device to be assembled very quickly and secured.

The invention particularly consists in the construction of the coupling-piece connecting the furniture-plate and the saddle of the floor-wheel. The coupling-piece is made of two pieces of metal, one the counterpart of the other. Each piece is cast of any of the well-known compositions of metals adapted to the purpose and has formed in it semi-bearings for the journals of the several swivels and of the anti-friction wheel. The swivels have formed upon them shoulders, and the journals of the anti-friction wheel are made integral with the latter, so that when the several parts are placed in their proper relative positions and the two sides secured together they form a compact and strong construction.

The invention further consists in the novel combination and arrangement of parts, as will

be hereinafter more fully described, pointed out in the appended claims, and illustrated in the accompanying drawings.

In the accompanying drawings, in which similar letters of reference designate corresponding parts, Figure 1 is an elevation of a caster embodying the invention. Fig. 2 is a similar view, partly in section, and showing one of the sides of the coupling-piece removed. Fig. 3 is an elevation showing the side in which the anti-friction wheel is carried and also showing the furniture-plate partly in section. Fig. 4 is a horizontal section on the line $x x$ of Fig. 1. Fig. 5 is an elevation showing the reverse side of the coupling-piece to that shown in Fig. 1, the floor-wheel being turned at right angles. Fig. 6 is a detail view showing the different parts separated. Fig. 7 is a plan view of the coupling-piece. Fig. 8 is an elevation showing the invention applied to a caster having two floor-wheels. Fig. 9 is a similar view, partly in section, and with a side of the coupling-piece removed. Fig. 10 is an elevation showing a view taken from the side in which the anti-friction wheel is journaled. Fig. 11 is a detail perspective view showing the different parts separated.

Referring to the drawings by letter, A designates the furniture-plate, adapted to be secured to the foot of a furniture-leg; B, the saddle of the floor-wheel; C, the coupling-piece, to which the furniture-plate and the saddle are swiveled; D, the floor-wheel, carried by the saddle, and E the anti-friction roller journaled in the upper part of the coupling-piece and moving in contact with the furniture-plate.

The angle furniture-plate A consists of two parts a and a' , the part a forming a horizontal rest, upon which the foot of the furniture-leg is seated, and the vertical part a' is provided with screw-holes as a means for attachment. From the center of the under side of the horizontal part a the stem b projects, provided with shoulders $b' b'$ at each end, the space between the latter forming a journal.

The coupling-piece C is made of two pieces $c c$, each of which is the counterpart of the other, except one the reverse of the other. In each piece, near one side, is formed a semi-bearing d . In the upper part of the side opposite that in which the semi-bearing d is

formed the horizontal semi-bearings *e e* are formed. Between the semi-bearings *e e* at *h* each piece is cut away to a width and depth equal to the width and diameter of the anti-friction roller *E*. Each of the pieces *c c* has projecting from its side edges ears *i i*. The ears of one of the pieces have eyelets formed in them, and the ears of the other piece have lugs projecting from them from points corresponding with the perforations of the other piece. The anti-friction roller *E* has a journal formed at each end made integral with the same. The saddle *B* has projecting from its upper part a swivel *m*, around the upper end of which projects the annular flange *n*. The portion between the flange and the saddle forms a journal. The arms *r r*, forming the lower bifurcated part of the saddle, have projecting from the inner faces of their ends the conical journals *r' r'*.

The floor-wheel *D* has formed in its ends conical-shaped bearings. To place the wheel in position, the arms of the bifurcation are bent apart and the wheel placed between them. The arms are then forced together, so that the conical journals will enter the bearings. The nature of the metal is such that this slight bending will not injure its strength and which will retain any position to which it is bent. The object in having this sort of a construction instead of having a pin for the journals of the floor-wheel is to avoid the liability to injury which the caster would have by the pin working loose in case it were used. The conical shape allows the lugs to enter the bearings at an angle which is not necessarily perpendicular to the vertical plane of the wheel. The floor-wheel having been previously journaled in its saddle, the several parts are assembled. The swivel *b* is placed between the semi-bearings *d d*, the swivel *m*, with its journal, between the semi-bearings *f f*, the journals of the anti-friction wheel between the semi-bearings *e e*, and the lugs of one of the pieces of the coupling registering with the eyelets in the other. The two pieces are then brought together and the lugs headed down, forming a casing for the journals of the swivels and of the anti-friction wheel, which is practically of one piece of metal. The shoulders of the swivels will limit all vertical play of the latter. The periphery of the anti-friction wheel will impinge upon the plate *a* and serve to transfer a portion of the

weight from the swivel *b* to the coupling-piece directly over the floor-wheel, thereby securing an easy movement of the caster free from cramping.

Figs. 8, 9, 10, and 11 show a construction in which a double floor-wheel takes the place of the single one. The construction of all the parts except the saddle is the same here as in the other construction. To the lower end of the swivel *m* a cross-bar *S* is secured, the ends of which are formed into journals, on which are carried the wheels *T T*, secured in any suitable manner.

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

1. In a caster, the combination of the furniture-plate, the swivel projecting from the under side of the said plate, the saddle having a swivel projecting from its upper part and carrying a floor-wheel between the ends of its bifurcated lower portion, the coupling connecting the swivels, secured to the furniture-plate and to the saddle, and the anti-friction roller journaled in the upper part of the coupling and impinging upon the furniture-plate, substantially as described.

2. In a caster, the combination of the furniture-plate, the swivel projecting from the under side of the said plate, the saddle carrying the floor-wheel and having a swivel projecting from its upper part, the coupling formed in two pieces, each of which has formed in one side a vertical semi-bearing *d*, and in the upper part of the other side horizontal semi-bearings *e e*, and in the same side, immediately below the horizontal semi-bearings, a vertical semi-bearing *f*, each side being recessed between the bearings *e e*, the two parts being secured together, the semi-bearings *d d* and *f f*, forming, respectively, bearings for the swivels, secured to the furniture-plate and to the saddle, the said swivels being provided with annular flanges to retain them in place, and the anti-friction roller seated in the recess in the upper part of the coupling, with its journals in the bearings formed by the semi-bearings *e e*, substantially as described.

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

MARTIN A. CUTTER.

Witnesses:

JOHN W. ROBINSON,
JOHN C. ANDERSON.