

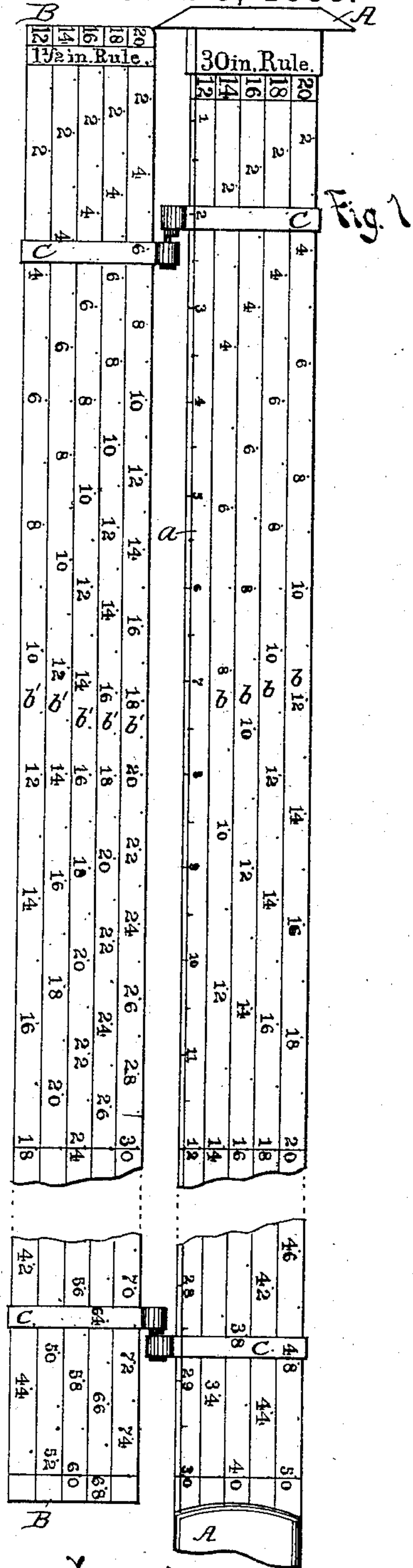
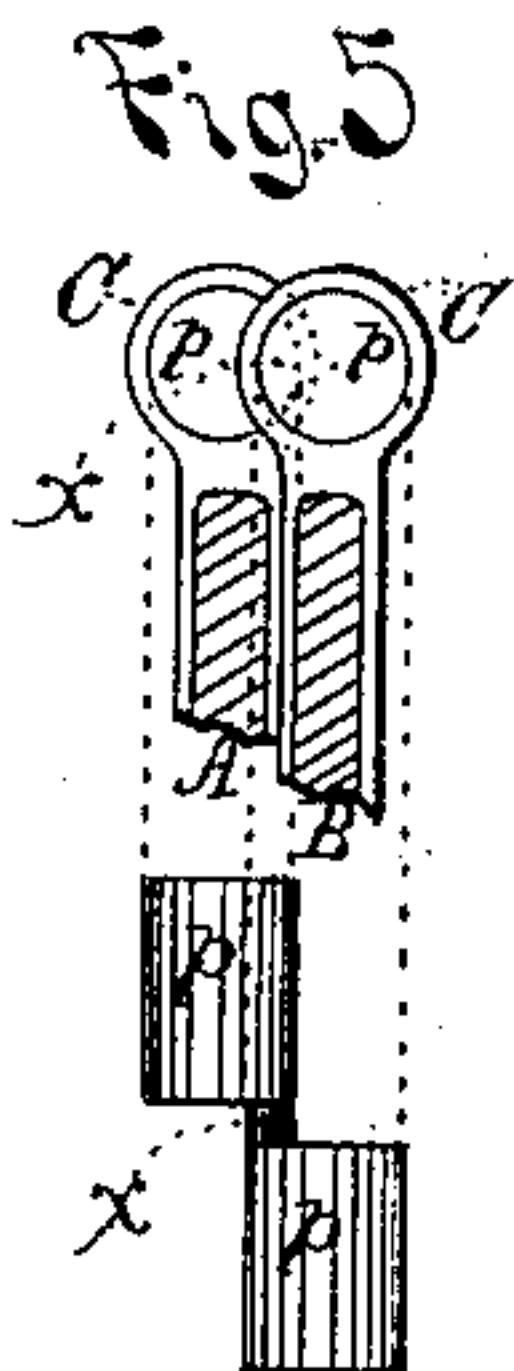
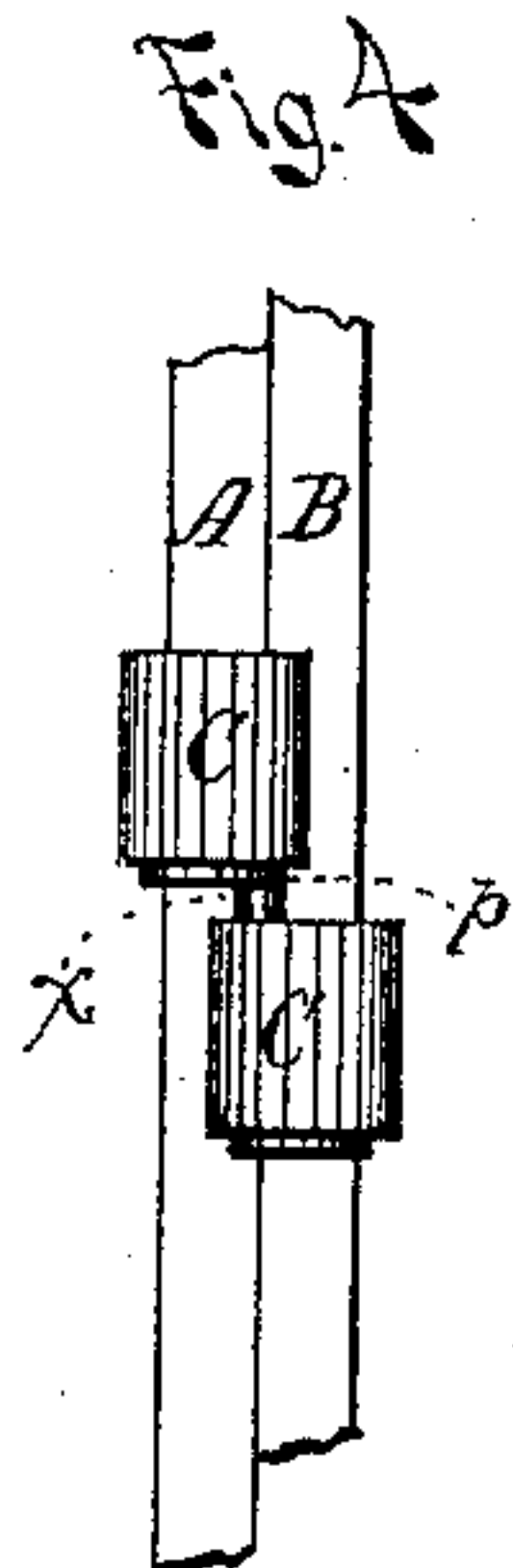
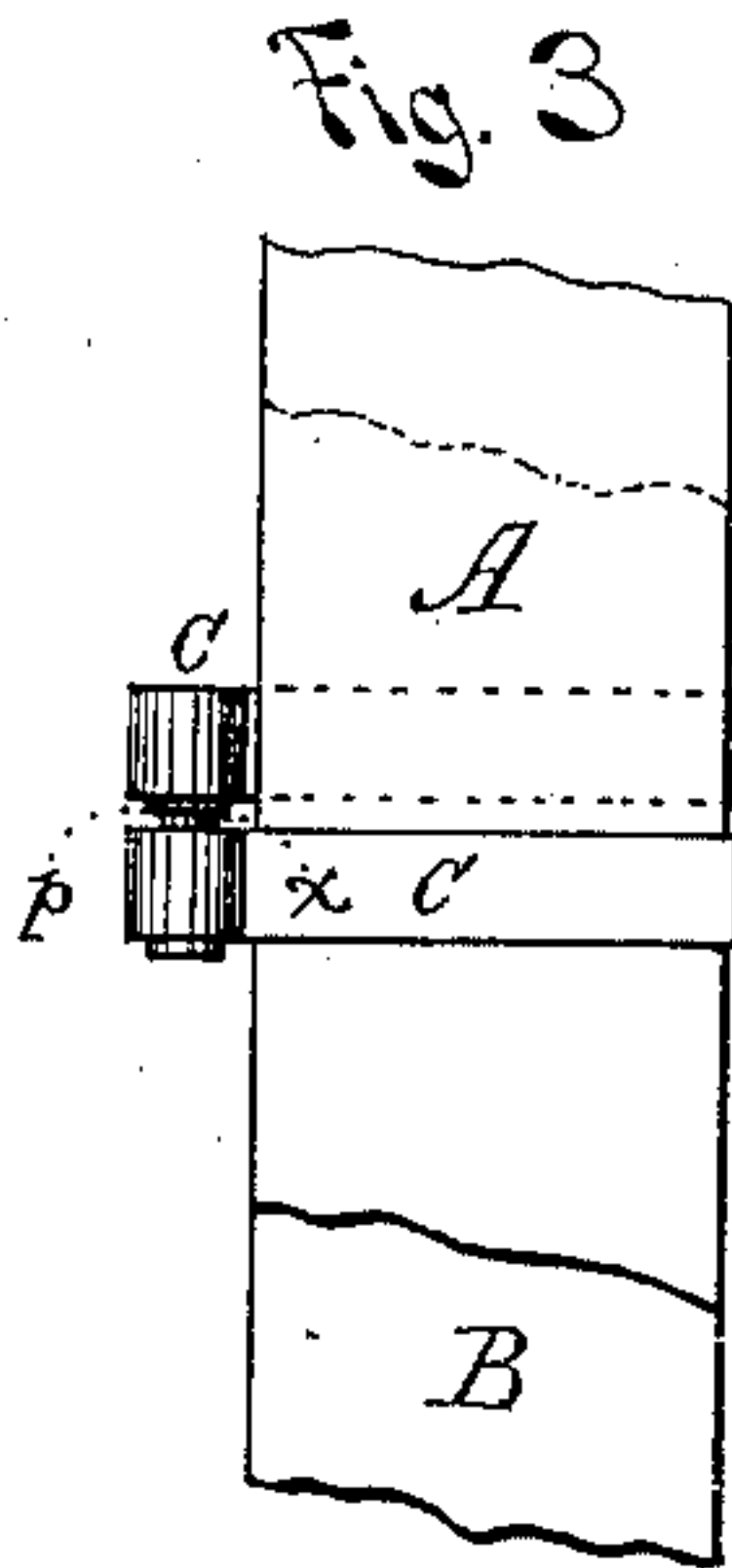
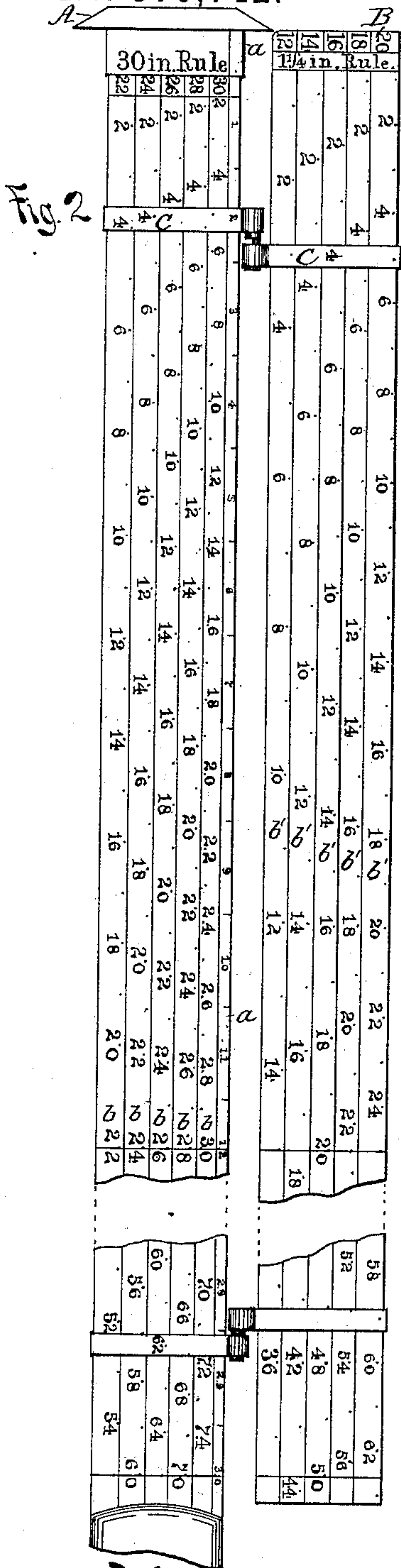
(No Model.)

P. GLEASON.

RULE FOR MEASURING LUMBER.

No. 375,742.

Patented Jan. 3, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

PATRICK GLEASON, OF WAUSAU, WISCONSIN, ASSIGNOR OF ONE-FOURTH
TO GEORGE MANSON, OF SAME PLACE.

RULE FOR MEASURING LUMBER.

SPECIFICATION forming part of Letters Patent No. 375,742, dated January 3, 1888.

Application filed September 1, 1886. Serial No. 212,417. (No model.)

To all whom it may concern:

Be it known that I, PATRICK GLEASON, a citizen of the United States of America, residing at Wausau, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Rules for Measuring Lumber, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an improved lumber rule, and embraces, in brief, the following novel features: two rule-blades, the one about thirty inches long, exclusive of its head and handle, and the other about the same length, the latter blade being so hinged edgewise as to fold flatly upon either side of the former between said head and handle; also, said headed and handled blade having four or more parallel lines made on both sides between its edges, dividing said sides longitudinally into five or more parallel strips, the one which is on the front side and bounded by the hinging edge of said blade being graduated into a scale of thirty standard inches, while the other strips, on both sides of said blade, are graduated into respective scales of equal spaces of said thirty inches, commencing with the scale of fourteen said equal spaces to the foot on the strip next to said inch-scale, and so on with successively rising and numbered space scales throughout the whole series of said strips; also, the said folding-blade having its sides similarly divided into strips and said strips into respectively graduated space-scales, running, on the front of the pendent blade, from forty-five to seventy-five equal spaces to said thirty-inch scale, and, on the reverse face of the same, inversely from thirty-seven and a half to sixty-two and a half of said spaces to said standard scale; also, having, on both sides of said blade, respectively, indicative head-numbers to said space-scales, running from twelve to twenty; and, finally, said blades having duplicate pairs of flatly duplex folding hinges, all of which and their purposes are hereinafter more fully described, and illustrated by the accompanying drawings, in which like letters designate identical parts of said invention in the different figures, respectively.

Figure 1 illustrates the front faces of said rule-blades unfolded and hanging edgewise the

one to the other, and showing the dividing-line of said series of scale-strips, the latter graduated into said thirty-inch standard rule and several space-scales. Fig. 2 illustrates the reverse faces of said rule-blades, showing their dividing lines and respective strip-scales. Fig. 3 is a cross sectional portion of said double-bladed rule, showing one blade flatly folded, the one upon the other, by one pair of said duplex-folding hinges. Fig. 4 is a rear view of said sectional portion; and Fig. 5 is a vertical cross-section of said rule-blades, showing both the end view of one pair of said hinges and the side view of their independently and eccentrically moving pintle.

As lumber is now generally cut in even lengths varying from twelve to thirty feet, and in uneven widths and thicknesses varying, respectively, from three to eleven inches in width and from one inch to two inches and a half in thickness, it is impossible to measure lumber fully and correctly by the scale-rules now in use, as they are not graduated to scale boards of over twelve inches in width and of the fractional portions of inches in thickness, and especially in lumber cut over twenty feet in length. Therefore the present invention is made to remedy said defective measurement and to improve upon said rules in use by providing said several space scales for said fractional dimensions and overlengths.

The letter A designates said handled and headed blade, B said folding blade, and C their said flatly duplex-folding hinges. The said rule-blades are each respectively divided into longitudinal scale-strips, and said strips, respectively, graduated into said thirty-inch standard scale *a* and the others into said respectively varying space-scales *b* and *b'*, the one kind, *b*, being graduated into even and equal spaces proportional to said standard inch-scale, as shown, and the other kind, *b'*, graduated upon said folding blade-strips into the fractional proportions of said inch-scale—namely, into one-inch-and-a-half space-scales on one side of said blade B and one-inch-and-a-quarter space-scales on the other side the same, as shown. Said space-scales are thus graduated to respectively designate, the one kind, *b*, the amount of board-feet in any piece of lumber, the correct total of width and even

length and thickness being taken together, the given or known length of the same being indicated by one of said scale head-numbers, as shown. The other kind, *b'*, respectively designate the correct amount of board-feet contained in any piece of lumber, the said length, width, and fractional thickness being taken together and indicated by that number upon the space-scale which marks said total amount in accordance with the numbers which respectively mark the known or measured length and width of said piece. For instance, suppose you wish to have the correct contents of a piece of lumber with the found or known length of eighteen feet, width of eight inches, and thickness of one inch. By looking upon the rule-blade A for the head-number 18, as indicating said board-length, then for 8 on said inch-rule *a*, as indicating said board-width, and then above said number 8 in said space-scale 18, you will find the adjacent number 12, which designates the number of board-feet contained in this said piece of lumber. Again, suppose said board-piece to be fourteen feet long, twenty-eight inches wide, and two inches thick. Look for head-number 14, as before, on blade A as the indicative space-rule of length, then for 28 on the inch-rule of widths, and the dot-mark above said last number in said space-rule will indicate thirty-three feet as the amount of board-feet contents of a board-piece of one inch in thickness, which, doubled, gives the correct total of measurement, taking notice, according to trade rule, that all fractions of a foot over six inches count ahead and under six inches count back. And, finally, as lumber is generally cut in said fractional thicknesses of one-and-one-half inch and one and one-fourth-inch boards only in lumber of the even lengths of twenty feet and under, suppose the said chosen piece measures eighteen feet long, eleven inches wide, and one and one-half inch thick. By first looking for number 11 on said inch-rule on blade A, and then for said head number 18 in said space-rule on blade B, and then tracing along said space-rule until you reach the dot which marks the number 25, directly below said inch-number 11, the said number 25 gives the number of said board-feet of contents. Or, suppose said chosen piece of lumber is of similar length and width to the last above, but of one and one-fourth inch thickness. Trace along the 18 head-number space-

scale on the one-and-one-fourth inch rule side of said blade B until you reach the dot marking 21 directly above said inch-rule number 11, and said number 21 gives the amount of the board-feet contents, as before. The said duplex flatly-folding hinges C consist each of a pair of bifurcated straps, which closely and flatly clasp said rule blades A and B, and are secured together each by an independently and eccentrically turning pintle, *p*, having a pair of duplex centered cylinders rigidly connected by a longitudinally-concentric bar, *x*, as shown, which gives an independently-reciprocal motion to each of its said swing-straps, and consequently to their respectively enclapsed rule-blades, which motion causes said rule-blades to flatly fold together, either side of each one upon the other, as shown, for the purpose of convenient packing and transportation, without liability to fracture or their springing from proper shape.

Therefore what I claim as new, and desire to secure by Letters Patent, is—

1. The pair of hinged and flatly-folding rule-blades, the headed and handled one of which is equally divided on both sides into five or more scale-strips, the inner blade edging ones of which are graduated to a thirty-inch scale, and the others into space-scales proportional to said standard inch-scales, and, in accordance with the indicative numbers heading said scale-strips, to be used in combination with the other or folding blade, having similar scale-strips graduated on one side to one-and-a-half-inch proportional space-scales and on the other side into proportional one-and-a-quarter-inch space-scales, also in accordance with their said respective head-numbers, substantially as and for the purposes herein specified.

2. The flatly-folding rule-blades divided into scale-strips graduated according to their respective head-numbers, indicating lengths, widths, and thicknesses, in combination with the duplex and flatly folding hinges having each the blade-clasping swing straps and the independently-reciprocal pintles, substantially as and for the purposes herein specified.

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

PATRICK GLEASON.

Witnesses:

CHAS. V. BARDEEN,
LOUIS MARCHETTI.