

No. 672,916.

J. S. & S. W. ROWELL.

Patented Apr. 30, 1901.

SEED DRILL HOE.

(Application filed Jan. 5, 1901.)

(No Model.)

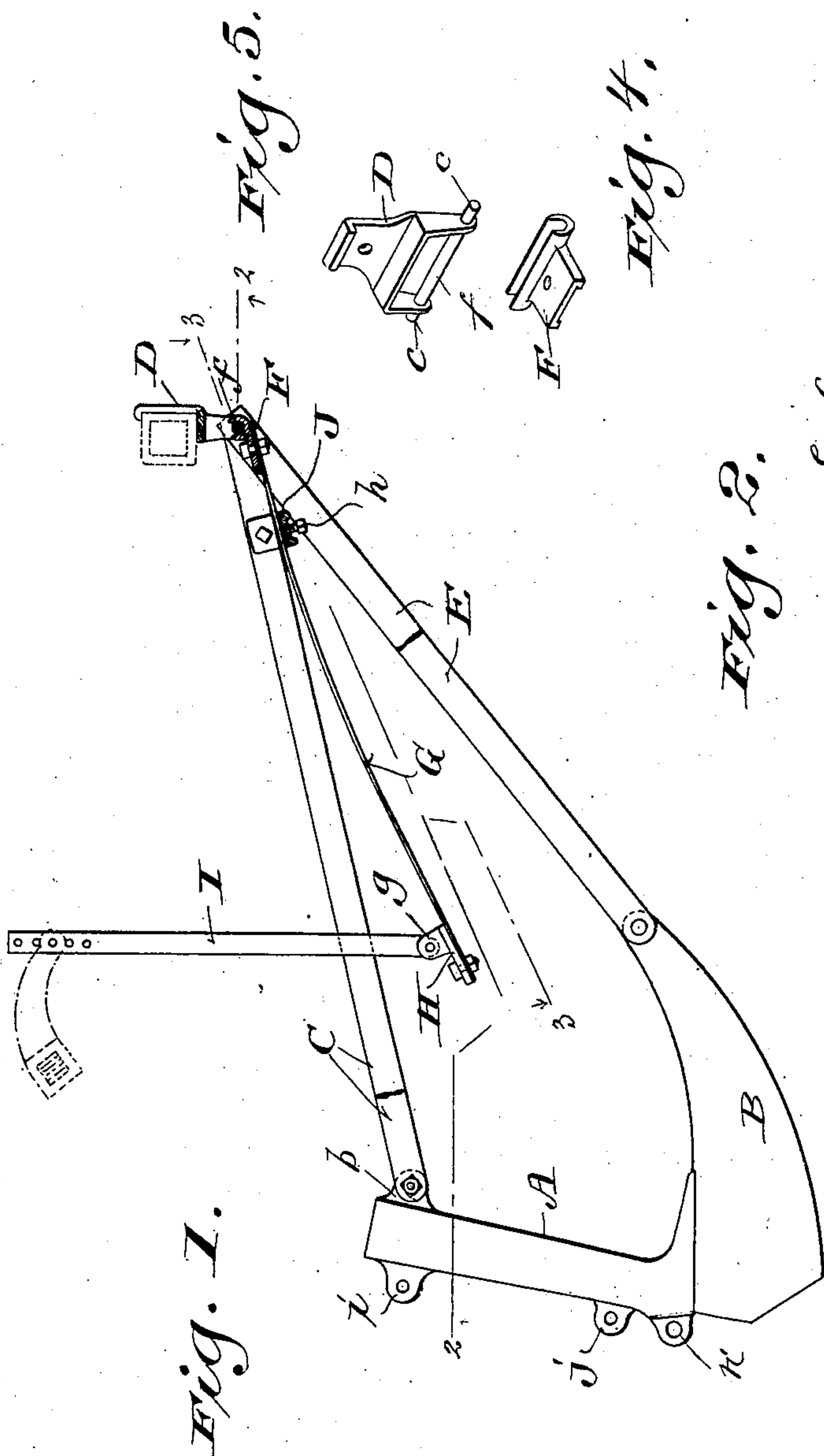


Fig. 1.

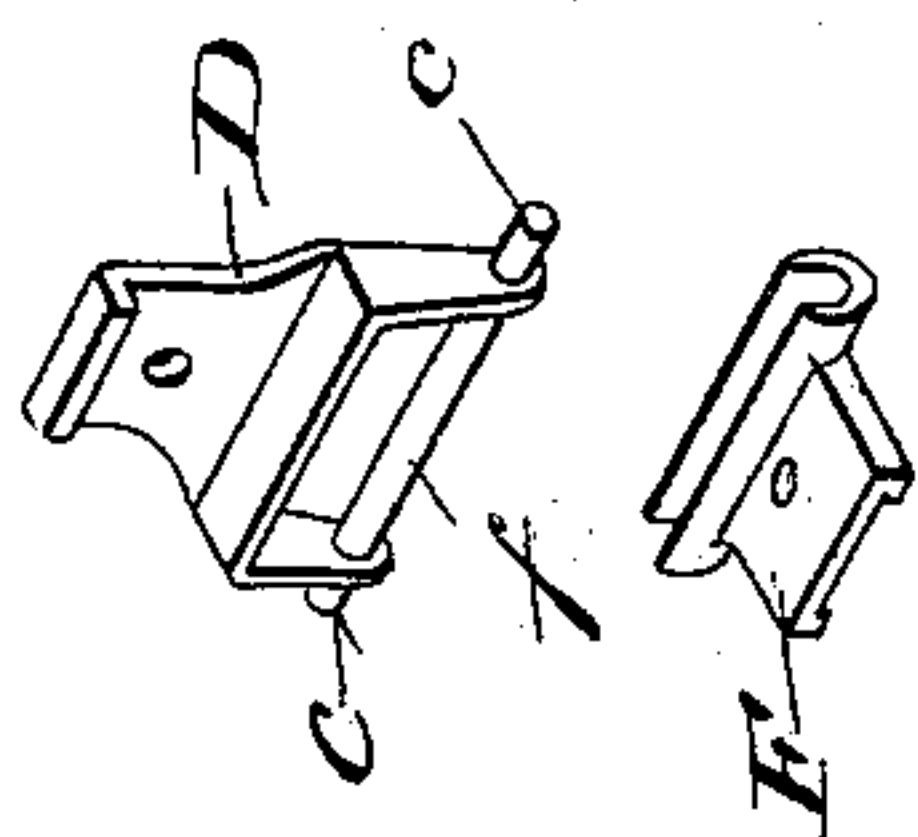


Fig. 2.

Fig. 4.

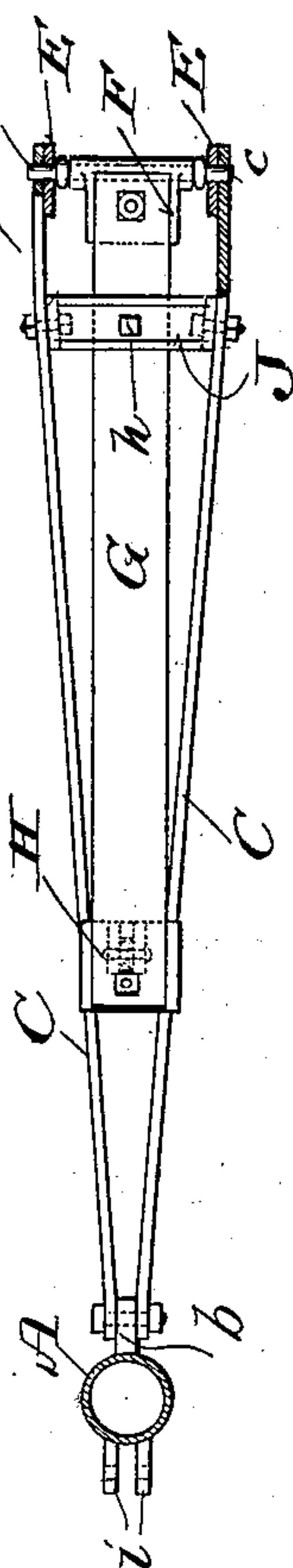


Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## SEED-DRILL HOE.

SPECIFICATION forming part of Letters Patent No. 672,916, dated April 30, 1901.

Application filed January 5, 1901. Serial No. 42,153. (No model.)

*To all whom it may concern.*

Be it known that we, JOHN S. ROWELL and SAMUEL W. ROWELL, citizens of the United States, and residents of Beaverdam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Seed-Drill Hoes; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to stiffen the shanks and shoes of drill-seeder hoes, as well as to insure of their being kept in line without interference with their ready automatic yield when meeting obstructions of more than ordinary resistance, said invention consisting in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a side elevation of one of our improved drill-seeder hoes, partly broken and in section; Fig. 2, a plan view of the same inverted and partly in horizontal section, as indicated by lines 2 2 in the first figure; Fig. 3, a partly-horizontal section plan view of a portion of the hoe, this view being indicated by lines 3 3 in said first figure; Fig. 4, a perspective view of a spring-clip that constitutes part of the hoe, and Fig. 5 a like view of a hanger engageable with the clip.

Referring by letter to the drawings, A indicates the hollow shank, and B the shoe, of our improved seed-drill hoe, these parts being of ordinary construction, except that said shank is provided with an upper forward ear *b*, to which the rear ends of a pair of forwardly-diverging metal brace-bars C are bolted or otherwise rigidly secured, the other ends of these bars being provided with apertures engaged by trunnions *c* of a hanger D, that is made to fit a seed-drill cross-beam and be fastened thereto, such a beam being illustrated by dotted lines in Fig. 1. Bolted or otherwise rigidly connected to the forward end of the shoe B and in loose fit on trunnions *c* of hanger D is another pair of diverging metal brace-bars E, the forward ends of these bars being lapped by the corresponding ends of the bars C aforesaid.

A brace F of hanger D is made to constitute a pivot engaging the guttered head of a

clip F, said brace being in line with the trunnions aforesaid, and bolted or otherwise rigidly secured to the tail of the clip between longitudinal under side flanges of the same is the forward end of a comparatively short flat spring-bar G, the rear end of this spring-bar being a considerable distance forward of the hoe-shank and bolted or otherwise fastened between longitudinal under side flanges of another clip H, having an upper ear *g* in pivotal connection with a link-bar I, that extends up between brace-bars C to have pivotal union with a crank, such as is shown by dotted lines in Fig. 1, provision being had for varying the working throw of said link-bar. The clip H is made wide enough to come up against the under edges of the bars C when the spring G is relaxed, so that the hoe may be readily lifted clear of the ground by sufficient tilt of the aforesaid crank.

Bolted to the brace-bars C is an intermediate metal block J, arranged under the forward portion of spring-bar G, and a set-screw *h* is provided in the block central of same to serve as an adjustable fulcrum for varying the tension of said spring-bar when the hoe is in working position.

The hoe-shank is provided with rear ears *i j* for the connection therewith of the supporting-frame and tension-spring pertaining to a press-wheel, and another rear ear *k* on said shank is for the attachment thereto of a chain-coverer, these ears being common in the art to which our invention relates.

From the foregoing it will be readily appreciated that we provide a simple, very strong, and stiff seed-drill hoe that cannot swing sideways and get out of line when at work. Hence we avoid chafing of the flexible tube, that in practice engages the hoe-shank, and we also do away with the unsatisfactory spring-fork brace that is commonly arranged to have sliding movement longitudinally of said hoe-shank, these advantages being due to the brace and spring-bars arranged and connected as herein shown and described, all of said bars being pivotal on the same axis.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having



rear-end union with said shank, other forwardly-diverging brace-bars in rear-end union with said shoe, an intermediate spring-bar, means pivotally connecting the forward  
5 ends of all the bars on the same axis, and a spring-bar fulcrum in connection with a set of the brace-bars.

2. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having  
10 rear-end union with said shank, other forwardly-diverging brace-bars in rear-end union with said shoe, an intermediate spring-bar, means pivotally connecting the forward ends of all the bars on the same axis, and an  
15 adjustable spring-bar fulcrum in connection with a set of the brace-bars.

3. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having rear-end union with said shank, other forwardly-diverging brace-bars having rear-end  
20 union with said shoe, an intermediate spring-bar, means pivotally connecting the forward ends of all the bars on the same axis, a fulcrum for the spring-bar in connection with  
25 a set of brace-bars, and a clip fast on the rear end of said spring-bar, the clip being wide enough to come against the under edges of the uppermost brace-bars when there is sufficient lift of the aforesaid spring-bar.

4. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having rear-end union with said shank, forwardly-diverging brace-bars having rear-end union with said shoe, an intermediate spring-bar, a  
35 hanger with which the forward ends of all the bars are in pivotal connection on the same axis, and a spring-bar fulcrum in connection with a set of the brace-bars.

5. The combination of the hoe-shank and

shoe, brace-bars having rear-end union with  
40 said shank, other brace-bars having rear-end union with said shoe, a clip having a guttered head, a spring-bar fast at its forward end to the tail of the clip, a hanger with which the  
45 brace-bars and clip are in pivotal connection, a fulcrum for the spring-bar, and another clip fast on the rear end of said spring-bar, the latter clip being wide enough to come against the under edges of the uppermost  
50 brace-bars when there is sufficient lift of the aforesaid spring-bar.

6. The combination of the hoe-shank and shoe, brace-bars having rear-end union with said shank, other brace-bars having rear-end union with said shoe, a spring-bar, means  
55 pivotally connecting the forward ends of all the bars, and a block made fast between the uppermost brace-bars under the forward portion of the spring-bar.

7. The combination of the hoe-shank and shoe, brace-bars having rear-end union with  
60 said shank, other brace-bars having rear-end union with said shoe, a spring-bar, means pivotally connecting the forward ends of all the bars, a block made fast between the uppermost  
65 brace-bars under the forward portion of the spring-bar, and a set-screw in conjunction with the block in opposition to said spring-bar.

In testimony that we claim the foregoing we  
70 have hereunto set our hands, at Beaverdam, in the county of Dodge and State of Wisconsin, in the presence of two witnesses.

JOHN S. ROWELL.

SAMUEL W. ROWELL.

Witnesses:

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