

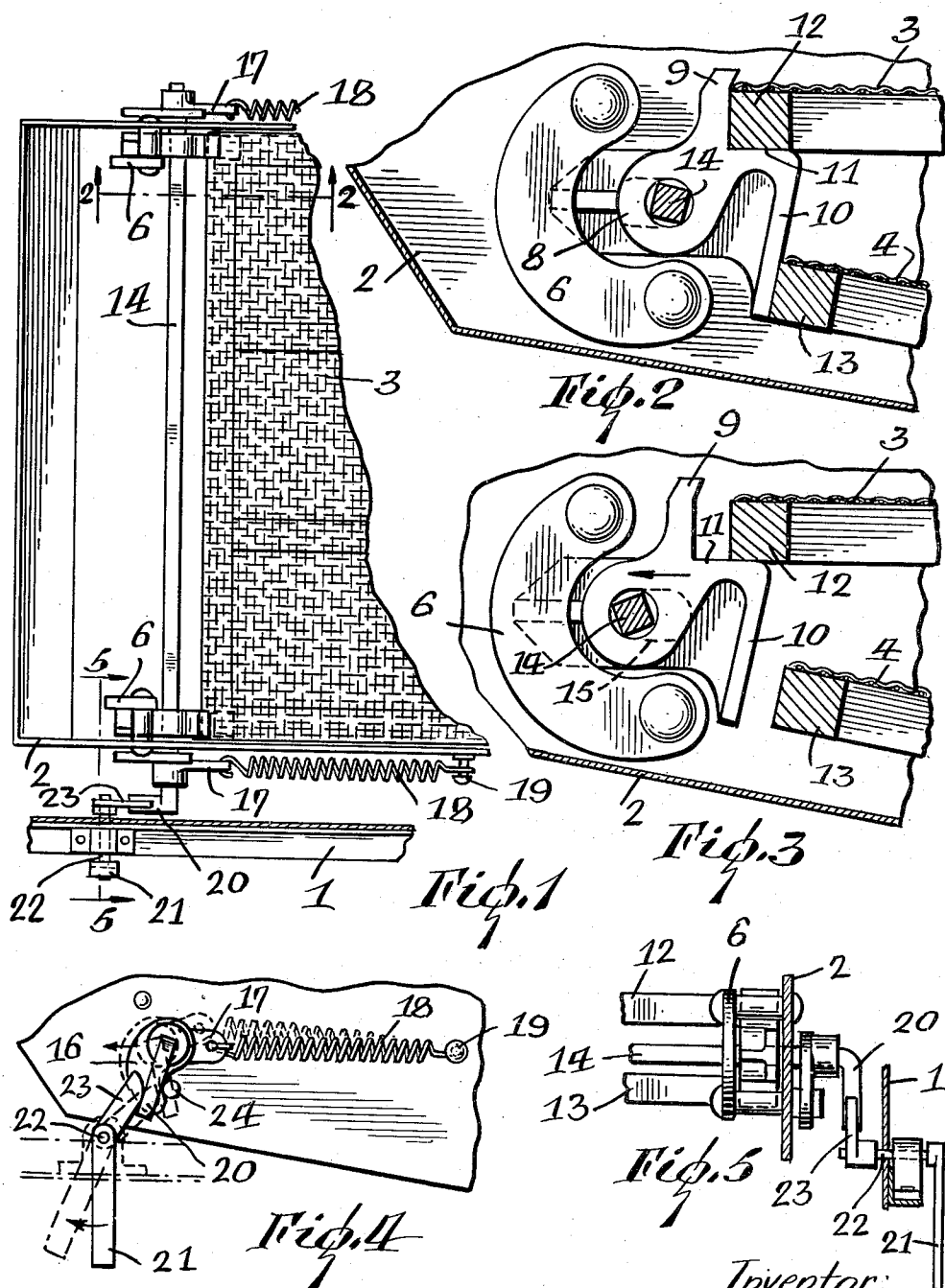
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SCREEN HOLDING DEVICE FOR THRESHING MACHINES

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SCREEN HOLDING DEVICE FOR THRESHING MACHINES

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The principal object of this invention is to provide a device for disengageably holding the ends of upper and lower screens in a threshing machine.

The removal of such screens for repair or replacement is a difficult and tedious operation. Another object of the invention is to provide a co-ordinated mechanism operable from one point or station to disengage the screen holding means. A further object is to provide a relatively simple and inexpensive construction for the purpose set forth.

In the accomplishment of these objects, a pair of holding members engage the ends of the upper and lower screens. These members are slidably mounted in brackets on the usual shoe of the machine, whereby they may be retracted to release the screens. The members are normally held against the ends of the screens by springs.

In order to withdraw the holding members, a shaft is passed securely through both members. Outside of the shoe, the shaft carries a cam adapted to engage a fixed pin. A leverage system is provided for turning the shaft, to bring the cam against the pin. On continued turning of the shaft, the cam action against the pin retracts the shaft and the holding members against the action of the springs. The holding members are thereby released from the screens and are held released as long as necessary merely by maintaining the leverage system under pressure.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a detail plan view of the screen assembly;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a similar view showing a different position of the parts;

Figure 4 is a detail end view, and

Figure 5 is a section on the line 5—5 of Figure 4.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown the frame structure 1 of a threshing machine. In the frame is mounted a so-called shoe 2 which is given a back and forth vibratory movement by means known in the art. The shoe carries one end of upper and lower screens 3 and 4, and the remaining ends of the screens are supported by manners to be presently described.

To each side of the shoe 2, on the inner surface, is secured a bracket 6 forming a guide for

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a screen holding member. Each such member has a hub 8 that slides in the corresponding brackets 6 and is further formed with an upwardly extending finger 9 and a downwardly extending finger 10. Over the finger 10 is a shoulder 11 adjacent to the finger 9. The frame 12 of the upper screen 3 is normally supported on this shoulder and is abutted by the finger 9. The finger 10 normally abuts the frame 13 of the lower screen 4.

Through the hubs 8 is passed a square shaft or axle 14. This shaft is slidably supported in slots 15 in the sides of the shoe 2. On the ends of the shaft, outside the shoe, are secured cams 16 having ears 17. The ears are joined by springs 18 to fixed pins 19 on the shoe, whereby the shaft 14 is seated in one end of the slots. The holding members 8—10 are thereby drawn into engagement with the screen frames 12 and 13 to hold the screens, as shown in Figure 2.

For releasing the screens, one end of the shaft 14 is bent laterally at 20. A lever 21 is pivotally mounted on the frame and its pivot axis 22 carries a cam 23 in the inner side in order to engage arm 20. As lever 21 is turned, cam 16 engages a pin 24 on the shoe 2, and the action of the cam on the pin withdraws the holding members 8—10 from their normal seats in the slots 15, acting against the tension of the springs 18. The fingers 9 and 10 are thus freed from the screen frames 12 and 13 as shown in Figure 3, and the screens can now be removed for repair or replacement. The holding members are held in the release position as long as necessary by maintaining cam 23 in abutment with arm 20.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:

1. In a threshing machine, a fixed shoe, a pair of brackets mounted on opposite inner side walls of said shoe, a holding member slidably mounted on each bracket lengthwise of said shoe, upper and lower screens in said shoe, means formed on each member for engaging the ends of said upper and lower screens, a rotatable shaft passed through said members whereby said shaft slides with said members, a cam on said shaft, a pin on said shoe and engageable by said cam, said cam being positioned to be fulcrumed on the engaged pin to slide said shaft away from said ends of said screens, and means for turning said shaft,

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whereby said cam engages said pin and withdraws said shaft with said members on said brackets.

2. In a threshing machine, a fixed shoe, a pair of brackets mounted on opposite inner side walls of said shoe, a holding member slidably mounted on each bracket lengthwise of said shoe, upper and lower screens in said shoe, each member having a pair of fingers adapted to engage respectively the ends of said upper and lower screens, a rotatable shaft passed through said members whereby said shaft slides with said members, a cam on said shaft, a pin on said shoe and engageable by said cam, said cam being positioned to be fulcrumed on the engaged pin to slide said shaft away from said ends of said screens, and means for turning said shaft, whereby said cam engages said pin and withdraws said shaft with said members on said brackets.

3. In a threshing machine, a fixed shoe, a pair of brackets mounted on opposite inner side walls of said shoe, a holding member slidably mounted on each bracket lengthwise of said shoe, upper

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and lower screens in said shoe, means formed on each member for engaging the ends of said upper and lower screens, a rotatable shaft passed through said members, whereby said shaft slides with said members, a cam on said shaft, a pin on said shoe and engageable by said cam, said cam being positioned to be fulcrumed on the engaged pin to slide said shaft away from said ends of said screens, springs pulling said shaft toward said screens, and a lever for turning said shaft, whereby said cam engages said pin and withdraws said shaft with said members on said brackets.

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