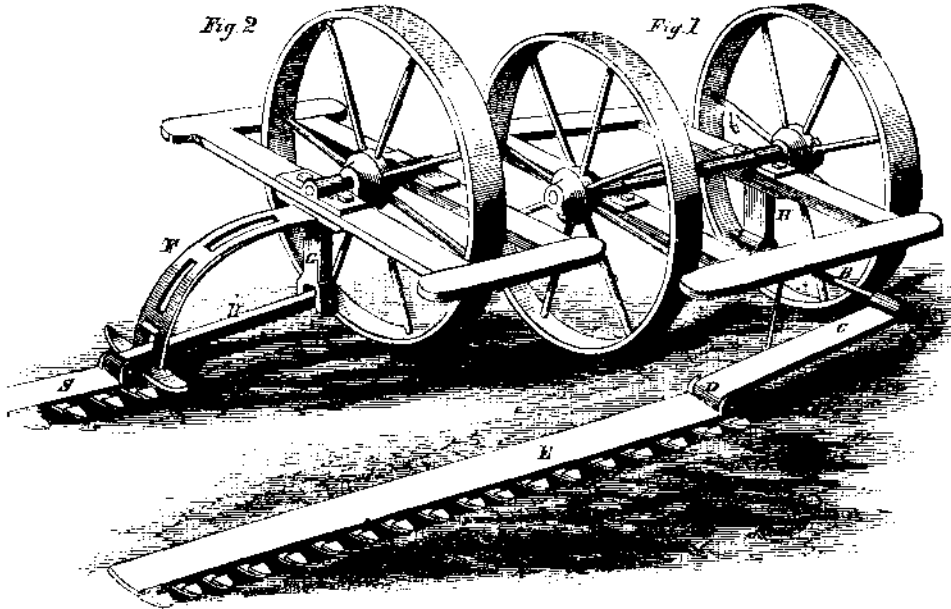


IMPROVED DOUBLE-JOINTED CUTTER-BAR FOR HARVESTERS.

The improvement in harvesting machines represented by the annexed figures is called the "double-jointed accommodating cutter-bar," and its object is to relieve the bar and frame of the machine from strain and side draft; also to permit a more perfect and easy accommodation of the cutter to the inequalities of the ground. The following description of the engravings will clearly explain how these results are secured by the invention.

Fig. 1 is a perspective view representing the accommodating hinged cutter-bar attached to the frame of a

machine having two wheels, the ordinary parts of which do not require to be described. A is a hanging bracket secured to one side of the frame; in its lower end is a socket in which there is an arm, B, extending to the front end of which is attached the bar, C, connected by a hinge, D, to the cutter-stock, E. It is to be understood that the cutters receive their reciprocating motion by any of the usual modes of gearing.



BROWN & BARTLETT'S DOUBLE-JOINTED CUTTER-BAR FOR HARVESTERS.

Fig. 2 represents the improvement applied to a slotted bow-hanger, F, at the center of the carriage frame, which has but one wheel. A bracket, G, is suspended below, and the jointed bar, H, is attached to it and passes through a slot in the lower end of the bow-hanger. The slot in the latter prevents the bar from having any side or lateral play, but permits of any easy accommodating up-and-down motion. The cutter-stock, S, is hinged or jointed to the bar, H, as in Fig. 1.

The merits of this simple arrangement will be readily appreciated. The attendant can easily lift the cutter-stock over any obstruction, and also unhinge it (by drawing out the pin) with facility, and thus permit the machine to move unobstructed, like a carriage, through the fields or on the road. When the cutter-stock is rigidly attached to a connecting bar or shoe, as in some other machines, a lifting strain is exerted on the entire machine when the outer end of the cutter-stock is raised by any inequalities of the ground or by any obstructions. On the other hand, when the heel or innermost end of the cutter-stock is raised by an elevation of the ground, the strain is exerted to lift the entire cutter-bar. The accommodating jointed cutter-bar here represented obviates the side draft and the evils pointed out, for, as the outer end of the cutter-bar is passing over an elevation or obstruction, the hinge at the inner end permits the extremity to rise without strain, while the inner end is maintained in its proper position. When the inner end passes over an elevation, the joint also permits it to accommodate itself, without strain, to the inequalities of the ground.

The cutter-bar may also be attached to a flexible arm which embraces the same principle of operation. When the cutter-bar is attached to the center of the carriage frame, less vibration is experienced, as the different parts are thus more nearly balanced; but, for convenience, the cutter-bar may, in some cases, be placed in front, as in Fig. 1.

It is believed that some manufacturers are unwittingly

out tipping the carriage." [See advertisement on another page.]

For further information address the patentees, J. E. Brown and Stephen S. Bartlett, at Woonsocket, R. I.

POLISHING SUBSTANCES—TRIPOLI.

Metals are polished, after they have been ground, by rubbing them with very soft earthy powder, such as impalpable calcined copperas, fine whiting, or tripoli. The latter substance has a high reputation for polishing brass, steel and other-metals. It is a natural production, but is found in very few places, such as Bohemia and Tuscany, in Europe; New Hampshire, U. S., and lately at Port Hope, in Canada West. It is composed almost entirely of silica, and appears to have been formed of the skeletons of minute animalculæ. We have received some samples of this substance from S. Lewis, of Port Hope (C. W.), which appear to be of a very superior quality; being dry and free from calcareous earth.

Articles of brass, copper, steel and tin may be cleaned and polished with a paste of tripoli and sweet oil, rubbed on with a piece of flannel, then "finished-off" with soft leather. Lacquered and gilded articles are spoiled by frequent rubbing, and by acids and alkaline leys. A fine color may be given to brass ornaments, when not gilt or lacquered, with a little sal ammoniac, in fine powder, moistened with soft water. The articles must be afterwards rubbed dry with whiting. Another plan is to wash the brass-work with a strong liquor of alum (1 oz. to water, 1 pint); and after rinsing it in clean water and drying, to "finish it off" with fine tripoli.

THE MINOT'S LEDGE LIGHT-HOUSE.—This structure is situated in Massachusetts Bay, in such a position that it is exposed to the extreme violence of the Atlantic storms, and it has been found difficult to here erect a light-house which would stand. One was constructed of wrought iron under the direction of Gen. Swift, one of the ablest and most thorough engineers in the country, but it was destroyed in a gale, April 16, 1851. The present building is of stone, 30 feet in diameter at the base, and when completed will be 114 feet in height to the top of the pinnacle. It was commenced in 1857, under the direction of Capt. B. S. Alexander, of the Corps of Engineers, U. S. A., and is now nearly finished. A lithograph view of it, with vertical and horizontal sections, has been published by B. A. Frink, one of the draughtsmen engaged on the work.

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