Improved Portable and Folding Bedstead.

The object of this improvement is to construct a bedstead which may be capable of being folded together and easily transported, stowed away, or removed from the dwelling in case of fire. When ready for use it has the appearance of an ordinary bedstead, as seen in Fig. 1: but when folded for removal, or stowage, it presents the form seen in Fig. 2.

The side rails are made each in two parts, hinged at one end to the head and foot, and at the other together in the middle of the bedstead. The slat frame is also in two parts, one hinged to the head board and the other to the foot board. When in position for the reception of the bedding these frames rest on snugs, or pins, in the side rails. If the bedstead is to be packed or removed these frames are lifted respectively against the head and foot boards, and the side rails swung in, which brings the two ends of the bedstead together, when the whole is secured, as in Fig. 2, by a convenient hook under the head board that engages with a staple under the foot board.

This operation, or that of expanding the device, is the work of an instant, merely, and in either form the bedstead is convenient and easily handled. It can be easi y packed on any occasion, whether for removing or transportation. It is complete in itself and obviates the annoyances so often experienced by honseholders in their frequent removals, the structure being a whole with no loose patch.

One great advantage in a bedstead of this construction is that it has no loose parts liable to be lost or broken, and the whole structure can be removed complete from a burning house in much shorter time than would be required for the ordinary bedstead. Its construction is easily seen by a glance at the engravings

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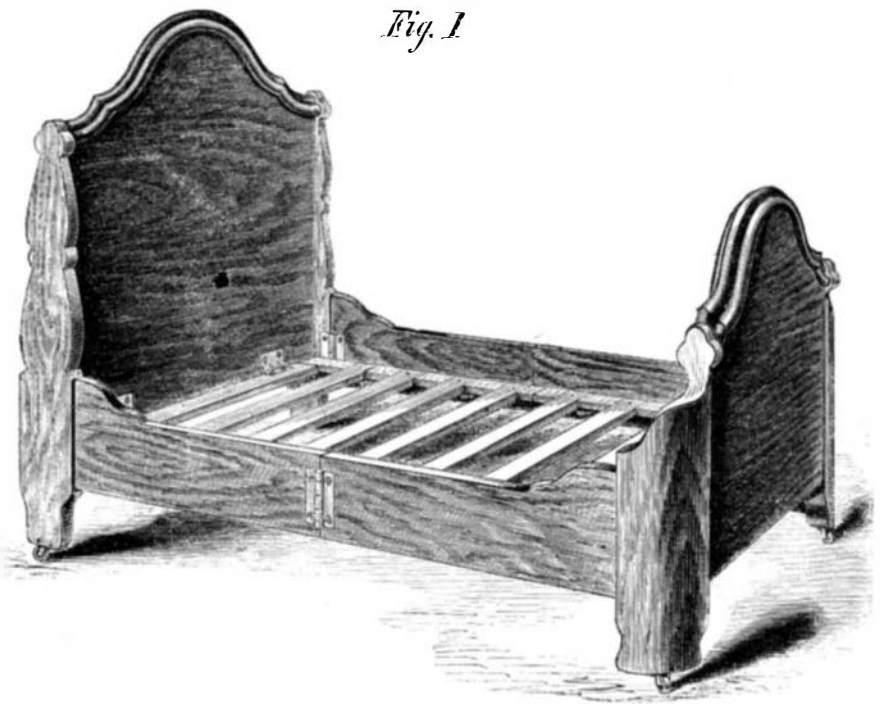
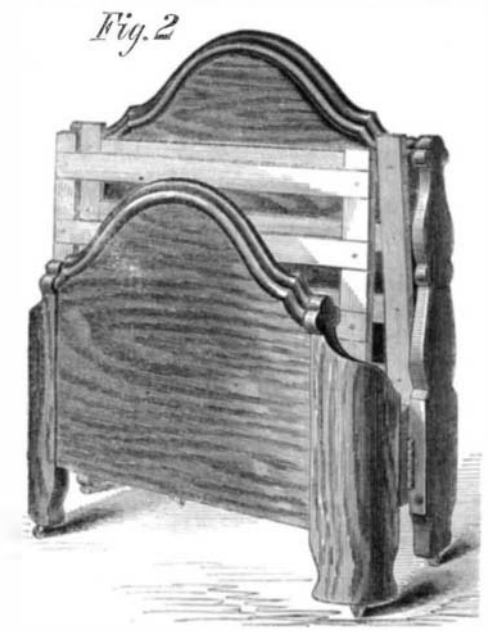
Fig. 1



WOODSIDE'S PATENT FOLDING BEDSTEAD.

Fig. 2



The Russian Telegraph.

The complete success of the Atlantic telgraph cables has been the death blow of th is enterprise, which was started immediately after the loss of the cable of 1865. The San Francisco *Bulletin* of the 8th ult. gives the particulars of the arrival and experiences of the construction party which for two years and four months have been working on the northwestern coast. Their summers have been passed in a country in which for weeks it never grew dark, and in the winter the daylight does not last more than two hours and a half; in which the thermometer in winter goes down to 58° below zero, and in some places of Russian America to minus 69° F.

The company has explored the route of Russian America, and has located a practical route from the last station in British Columbia to the point where the line would leave the American continent, by a submarine cable, to reappear on the coast of Eastern Siberia, on the Asiatic continent. Since the company's ships left for San Francisco, in the autumn of 1866, seventy-five miles have been constructed in Russian America. In the northern part of British Columbia the work has also been going on within the past year. It has been demonstrated that the northern climate on this continent is not so inclement but what men can work in the winter, and also that extreme cold does not affect the electrical condition of the wire. As regards the northern portion of the continent, the work is now abandoned, all the valuable material and stores and all the constructors having been brought back, and the partially constructed line is left to the mercy of the elements and the good will of the Indians.

It is stated that during the three years the Western Union Telegraph Company have been engaged in this northern region, out of an average number of 250 men in summer and 150 in winter, they have not lost one by accident, by exposure, or by any disease incidental to the country or the work in which they were engaged.

The company had, in 1866, provided sufficient provisions with each party to support them until the vessels returned this year; and except where in traveling a party found unexpected obstacles, or were delayed, there were no cases of serious hardship. Those parties who were near the ports of the Russian Fur Company had the advantage of the Telegraph Company's credit. Those who were in the wilder parts of the country had to depend upon their guns and traps and Indian supplies for any extra delicacies at their tables. Deer and grouse were frequently obtained, and occasionally a little bear meat, and the party in the Upper Yonkton shot several moose. The Indians themselves were worse provided than usual, game and fish having comparatively failed the year before. In one or two Indian villages in the extreme north, the Indians were found reduced to that state of hunger which led them to commence eating their boots. It must be remembered, however, that the Indian stomach is able to derive more nutriment from a piece of old skin than the more delicate digestive organs of a white man would.

WICKERSHAM'S AMERICAN OIL FEEDER.

The advantages of automatic oil feeders over the old fashioned wasteful system of pouring the oil directly from the can into the journal box, are so obvious that none will be found now to question them. The ordinary oil cup has a central tube rising nearly to the top of the cup, the other end reaching the shaft, within which is a wick designed to lead the oil

to the journal by capillary attraction. Much practice is necessary to adjust the size of this wick to the amount of oil it is desired to deliver, which depends on the size and velocity of the shaft journal, weight, etc. If the wick fits too tight or the oil gets too low the supply of the lubricant is diminished, while if the wick is loose or the cup too full the amount delivered is too large. The cups, in fact, act on the principle of gravitation as well as of capillary attraction.

The one shown in the accompanying engraving is intended as an improvement on the ordinary metal cup, and has never yet failed to give perfect satisfaction. The cup itself is made of thick, but transparent glass, with a metallic hinged top for introducing the oil, and a metallic bottom with threaded stem for seating in the cap of the box. A central hollow stem is screwed into the bottom and reaches to the top. The leaders for the oil are syphons of wire, coated like bonnet or hoop skirt wire, and graduated by size and nature of covering to the amount of oil needed on the journal. The short foot of the siphon reaches into the oil, to the bottom of the interior of the cup if desired, and the longer end reaches the surface of the journal. From this description of its parts its operation, by the aid of the engraving, can be readily understood. It may be noticed that the engraving exhibits several siphons in one cup. This is merely to show their different sizes and qualities.

Being made of glass, the condition of the contents of the cup may at all times be seen. It needs filling or replenishing only occasionally—once in three or four weeks, or once in as many months, according to the service required.

The patent dates Oct. 22d, 1867, and the oilers are manufactured by J. B. Wickersham & Son, 143 South Front street, Philadelphia, Pa., who may be addressed for any further information desired.

Mining Economy.

Commissioner J. Ross Browne, in concluding his last report upon the mineral and metallurgical wealth of the Pacific slope, calls attention to the necessity of a more economical working of mines, more saving processes being the desideratum, and not new fields. A thorough knowledge of metallurgy and mining engineering is necessary. To this end the commissioner thinks we should have a national school of mines in the heart of the mining region, conducted on strictly scientific and practical principles, under the control of none but scientific and practical men. The argument he makes on this subject will command attention. He states that the subject of the concentration and parting of ores is now attracting more attention than any thing else in our mineral developments. The immense loss of gold is shown by an estimate based on statistics collected with much care. If we suppose the yield of gold in 1867 to be $70,000,000, the loss would be rated at least 25 or 30 per cent. Better methods of separation and concentration would have made the yield fully $100,000,000. In Montana nearly all the mining is in free gold. Absurd inventions and new-fangled methods, imported from the East, where there is no experience in mining, makes the loss 30 per cent, although it should be much less than in other districts where the gold is more or less associated with other metals. In Idaho, California machinery is generally used, which is the best made. The lodes are worked to better advantage, and the mills do well and keep close to the assays. None of them, however, are yet working sulphurets, except one at Pioneer with results unknown, but probably successful. The loss in that territory is probably 20 to 25 per cent. In Nevada the lodes are mostly silver bearing. At Austin the mills profess to save 80 per cent. In some instances they work up to 90. The loss is probably not more than 15 to 18 per cent. The ores are roasted almost universally. On the Comstock lode the loss is much greater. The Comstock mills do not, probably, save more than 65 to 70 per cent, notwithstanding all the ingenious devices for saving in the tailings. In California there is a large number of excellent mills; and while in many cases the cost of mining and crushing has been reduced to a minimum, the saving is also frequently quite close. Sulphurets are best treated by chlorination, although there are various new processes for which much is claimed. The chlorination process is said to save 90 per cent. It is interesting to notice, in connection with the above, the following statement of the per centage of mining loss in other parts of the world, which is compiled from official documents: St. John del Bey, Brazil, 30; other mines in Brazil, 30 to 35; Piedmont, 35; Hungary and Tyrol, 50; Zell, 35 to 40; Chili, 66: Australia, 40. These figures further illustrate the importance of seeking and adopting the best means to reduce the per centage of loss.

Moisture and Mortality.

Rain, on the whole, would seem to exert a kindly and healthy influence. There is nothing very deadly in it. It may occasion catarrhs and rheumatic complaints, but these are curable with a little management and medicine. And we are apt to put to its credit the washing away of many of the most injurious causes of disease by a good flushing of the sewers. Summer diarrhœa, cholera, and typhoid fever would be likely to be greatly lessened by a copious rain fall. So says the London *Lancet*, and an examination of a meterological and mortality chart for last year shows that in this city the deaths from all diseases were fewest in numbers during times when the number of inches of rain was the greatest. Dr. Trench, the medical officer of health for Liverpool, has satisfied himself by a series of careful observations, extending over a number of years, that there is an inverse ratio between the amount of rain and the amount of mortality from infantile summer diarrhœa. To the same effect are the tables given by Mr. McPherson, illustrating the relations of moisture to the mortality of cholera in Calcutta. According to these tables, the least mortality from cholera in Calcutta occurs in the months of July, August, and September, which are emphatically the wet months.